VIA CHARACTER STRENGTHS: THEORY, RESEARCH AND PRACTICE

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VIA CHARACTER STRENGTHS: THEORY, RESEARCH AND PRACTICE

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Editorial: VIA Character Strengths: Theory, Research and Practice

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Editorial on the Research Topic

VIA Character Strengths: Theory, Research and Practice

Since the introduction of positive psychology (Seligman and Csikszentmihalyi, 2000), the study of Character Strengths (CS) has been at the forefront of research on human well-being and optimal functioning. Originally developed to provide the field with a foundation for research on what enables and promotes good character and the good life (Peterson and Seligman, 2004), the CS and virtue classification is now considered one of the main building blocks of positive psychology. This classification stems from the early efforts of a group of 55 scientists who undertook the task of systematically reviewing existing psychological, philosophical, and theological literature to identify, classify, and measure universally valued positive traits (Peterson and Seligman, 2004; Dahlsgaard et al., 2005). More specifically, this effort resulted in the identification of 24 CS that serve as "the psychological ingredients—processes or mechanisms—that define the virtues" (Peterson and Seligman, 2004, p. 13). CS can be measured through a variety of assessments (McGrath, 2019), the most popular being the VIA[1] Inventory of Strengths (VIA-IS), which has been administered to 13,000,000 people worldwide allowing for the ongoing exploration of CS makeup and structure. While originally CS were conceptually categorized under six broad virtues (**Table 1**), the ongoing administration of the VIA-IS has allowed researchers to empirically examine and update the virtue categories and their ingredients in terms of CS.

The study of CS has influenced scholarly work across the numerous sub-domains of positive psychology. In the domain of *positive health and wellness*, scholars have explored the relationship between diverse CS profiles and health and well-being, as well as between strengths interventions and well-being (Ghielen et al., 2018; Ruch et al., 2020). Specifically, benefits have been documented in valued outcomes such as general and domain-specific well-being, personal resources, personal growth, performance, and optimal functioning (for reviews, see: Niemiec, 2013; Ghielen et al., 2018; Miglianico et al., 2019; Lavy, 2020; Yan et al., 2020). In the domain of *positive work- and organizational psychology*, scholars have conducted dedicated work on how employees use strengths (Miglianico et al., 2019), employee strengths profiles (Gander et al., 2012), and strengths-based career counseling (Littman-Ovadia et al., 2014). In the domain of *positive clinical psychology*, scholars have reframed psychopathology and clinical symptoms in terms of strengths over-or underuse (Freidlin et al., 2017; Hall-Simmonds and McGrath, 2019). Finally, in the domain of *positive educational psychology*, scholars have investigated strengths-based school counseling (Park and Peterson, 2008) and strengths interventions for children and adolescents (Proctor et al., 2011; Quinlan et al., 2018), among others. It is therefore not surprising that more and more practitioners

[1] VIA originally stood for "Values in Action" however the name was changed to emphasize the focus of this work which is the scientific exploration of character, not values per se. "VIA" is a word that stands on its own, in Latin meaning "the path" (Littman-Ovadia and Niemiec, 2016).

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TABLE 1 | CS and virtues classification.

Virtues	CS
Wisdom and knowledge	1. Creativity 2. Curiosity 3. Judgment 4. Love of learning 5. Perspective
Courage	6. Bravery 7. Perseverance 8. Honesty 9. Zest
Humanity	10. Love 11. Kindness 12. Social intelligence
Justice	13. Teamwork 14. Fairness 15. Leadership
Temperance	16. Forgiveness 17. Humility 18. Prudence 18. Self-regulation
Transcendence	19. Appreciation of beauty and excellence 20. Gratitude 21. Hope 22. Humor 23. Spirituality

are applying strength approaches in clinical, counseling, organizational, or educational settings, while others set out to examine and implement CS in novel domains.

Given the time that has passed and the large and varied body of research that has accumulated, we feel that research on strengths has become substantial enough so as to examine its achievements to date, to pause momentarily and evaluate the avenues that have been proposed but left unexplored or understudied, as well as to suggest completely novel directions. As such, the current collection includes 14 articles and illustrates a snapshot of the latest innovative work in CS theory, research and practice.

PAST, CURRENT AND FUTURE PERSPECTIVES ON CHARACTER STRENGTHS

The Research Topic (RT) opens with Mayerson's overview of the history of the VIA initiative on character science. Mayerson summarizes research findings on CS to date to offer an integrative model of the role of CS in individual, collective, and species success. He describes "The CS response" as our ability to successfully respond to and navigate various and dynamic life circumstances with the aid of our CS. Because the CS response shows great promise to help our generation, and generations to come, to live good and successful lives, Mayerson argues that there is an urgent need to allocate greater financial and other resources to CS science.

An additional article by Niemiec and Pearce provides a point-in-time examination of crucial CS concepts, definitions and practices. Specifically, they delineate appropriate terminology to distinguish between CS, as well as within CS, in research and practice. Finally, they provide several soaring, emerging and ripe-with-potential CS practices that have been explored to various degrees in research, encouraging cooperation between researchers and practitioners.

Three articles examine the makeup and co-occurrence of the components of good character, each from a different and unique perspective. Ruch et al. provide an account of the co-occurrence of virtues and strengths, measuring the relationships and consistency between CS and their respective virtues, as well as how they are used as ingredients of "good character." Giuliani et al. provide an additional perspective on the relationship of CS and virtues by introducing a novel "layperson's excellent enactment of highest strengths" paradigm. Specifically, this paradigm demonstrates that describing CS through excellent enactments results in revealing the original six-virtue organization presented by Peterson and Seligman (2004). McGrath and Brown review the VIA Classification of CS and Virtues as an agent to advance the psychological science of virtue, beyond its classic role in the study of positive functioning. In particular, the authors evaluate the available evidence for a three-dimensional cardinal virtue model, including moral, self-regulatory and intellectual domains, to illustrate the evolutionary value of those three domains and provide thoughts on the nature of practical wisdom.

WELLNESS AND CS ACROSS LIFE DOMAINS

The current collection expands on the already rich literature on the positive effects of CS in various life domains, further establishing the extensive role of CS in positive functioning. Martínez-Martí et al. empirically examine the associations between CS, subjective well-being, and mental health over the course of a month, during the recent COVID-19 outbreak. The longitudinal design of this study demonstrated a causal relationship in which CS positively affect a variety of outcomes in times of adversity.

Further evidence is presented on vocational CS research. Gander et al. present a novel approach that examines both individual and vocational CS profiles, thereby introducing the person-environment fit paradigm into CS and workplace research, offering additional insight into CS and the effects they have on life and job satisfaction. A supplementary perspective is provided by Gander et al., looking at associations between CS and team roles, and how they affect both individual and team level work outcomes (e.g., performance). They also consider team composition, as rated by the individual CS profiles of team members, and how they affect a variety of outcomes. Huber et al. offer insights into the CS and virtue profiles of medical students and physicians, a previously unexamined population of medical professionals. They subsequently explore relationships and effects on well-being and work engagement.

The final study in this section expands into a wider variety of domains, as Wagner et al. explore the associations between CS and CS-related behaviors, and excelling in the domains of work, education, relationships and leisure. They discuss differences in

CS profiles across these domains, considering the interplay and effects of these strengths on a person flourishing.

BREAKING NEW GROUND

The current collection also includes articles that take CS into previously unchartered territories, inaugurating a novel sub-field of spiritual positive psychology. Littman-Ovadia and David ignite a discussion that suggests expanding positive psychology into spirituality, touching on the paradoxes of the non-dual, framing VIA CS as the classification of the human spirit, and unleashing their potential as both pathways into and derivatives of the spiritual life. Niemiec et al. further expand the discussion of parallels between CS and spirituality, offering a complimentary discussion on the capacity of CS to promote and deepen spiritual practices and vice versa, exploring various levels and avenues of integrating spirituality in the VIA framework, including the consideration of a novel superordinate virtue.

Closely related to spiritual positive psychology are suggestions originally made regarding CS's value-laden and moral nature (Peterson and Seligman, 2004). Lavy and Benish-Wesiman propose a framework that links CS and values, suggesting CS can serve as behavioral and social manifestations. Initial empirical support is then provided, presenting the mediating role of the CS of gratitude between the value of self-transcendence and peer-rated prosocial behavior and peer acceptance in adolescent samples. Finally, Stahlmann and Ruch directly tackle the moral criterion of the VIA CS that theoretically distinguishes these traits from others, such as talents and abilities. In creating ultra-short stories describing CS-related behaviors, with and without positive consequences, they present initial evidence that suggests that all CS are rated as positively moral (albeit to different degrees) by laypersons.

DISCUSSION

Looking back at the current state of scientific work on CS (including the articles in this collection), we conclude that great strides have been made to consolidate CS science as a relevant sub-domain of positive psychological research, holding great potential to contribute to the cultivation of the good life. Looking forward, we encourage CS scholars to continue their line of work, addressing one or several of the following five avenues for future research.

First, an important instance in CS research includes the very criteria that define them, examples including their fulfilling nature (i.e., contributing to individual's satisfaction and happiness), and the moral value of these traits in their own right, regardless of the benefits they may entail [see Peterson and Seligman (2004), for a full review]. While certain criteria, like the former, have been robustly researched, the latter has not undergone systematic empirical examination until this collection of articles—almost two decades into CS research. Another criterion demanding greater empirical attention includes CS as elevating and non-diminishing others, and calls to address this have been made previously (Freidlin and Littman-Ovadia, 2020). Future research would benefit from revisiting the work conducted under the various criteria, identifying understudied areas, and setting the stage for bridging the gaps to gain a deeper and wider understanding of CS. Research on the classification itself should also continue to refine our knowledge of CS and develop updated versions, in the same way, the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification has evolved over the years. As Peterson and Seligman (2004) state, "we anticipate that our classification of strengths will similarly evolve, by adding or deleting specific strengths of character, by combining those that prove redundant, by reformulating their organization under core virtues, and by more systematically evaluating them *vis-à-vis* our 10 criteria" (p. 31).

Second, while initial research on CS has provided valuable knowledge on the prevalence and associations of these traits with various positive outcomes, it has entered a second phase in the last decade, expanding through applied research into new areas of inquiry and advanced methodologies. It is of paramount importance that scholars pursue this path and conduct robust studies using experimental and longitudinal designs to allow for a causal explanation of purported relations (Ghielen et al., 2018; Schutte and Malouff, 2019), and provide professionals with intervention protocols on which they can confidently rely (Bakker and van Woerkom, 2018; Ruch et al., 2020).

Third, we suggest that there is great potential in further expanding our research focus by exploring the novel antecedents and outcomes of CS and virtues. In terms of antecedents, scholars may seek inspiration in the extensive work on the individual and environmental factors that influence the development of personality (Wrzus and Roberts, 2016), or talent and expertise (Gagné, 2015; Ullén et al., 2016). In terms of outcomes, we would like to emphasize ambitions previously delineated for positive psychology (Seligman, 2019) and encourage research that looks beyond the benefits of CS for individual well-being and functioning, to explore benefits for relationships, groups, communities, society, and our planet.

Fourth, we foresee a particularly important role for multi-level theorizing, -data, and -analysis in advancing the science of CS and virtues. On one hand, a multi-level lens is needed to expand our hitherto limited understanding of the composition, use, and value of individual CS in groups, such as study groups, project/work teams, or communities (see Gander et al. in this collection as an example). On the other hand, a multi-level lens is required to gain novel insights into *within-person* processes and *between-person* factors that contribute to change in CS and virtues. To date, little is known about both long-term- (i.e., development) and short-term change (i.e., moment-to-moment fluctuations) in individual CS and virtues, as well as their application.

Fifth, the COVID-19 pandemic of 2020 brought with it enormous challenges, opening up novel opportunities for the research and practice of CS. While our current understanding of CS is an understanding of the construct in times of prosperity, we hope that future research will lead to novel insights into CS in times of crises and hardships (see Martinez-Marti et al. in this collection as an example). The past year has shown that understanding the benefits of CS for personal resilience and

post-traumatic growth is more relevant than ever. The benefits of adapting to change and dealing with vague and unfamiliar situations warrants an in-depth examination. CS undoubtedly plays a role in dealing with crises on the personal level, but what happens on the communal, national and international levels? What is the role of strengths in dealing with loneliness and physical distance, in individuals from different age and personal status groups? The answers to these questions are important for the development of a stronger and more cohesive community. We see an opportunity to expand the place of CS in building a better human future, while learning from past experiences.

CONCLUSION

A year ago, we initiated a call for collecting articles in the field, with a desire to mark and celebrate 20 years of CS research and practice. We aimed to examine research conducted to date and lay foundations for future developments. Following the world pandemic, which began shortly after the call for the current RT, the way we live together, interact, work, educate our children, and travel changed drastically. Strengths play a key role both in a prosperous society and a society in crisis and distress, and we must gain deeper knowledge on how to utilize them as paths to creating a better, stronger, and more moral human society.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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PERSPECTIVE
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Character Strengths as Manifestations of Spiritual Life: Realizing the Non-Dual From the Dual

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There is a noticeable increase in interest in the study of spirituality within the context of positive psychology. A review of the literature shows several parallels between dimensions of spirituality as explored within psychology of religion and spirituality and those of the VIA model of character strengths (CSs) as developed in positive psychology. However, coming from the domain of psychology rather than theology, these studies do not go deeply into the paradoxes that exist at the heart of various traditions regarding the nature of the spiritual or non-dual. Moreover, these studies lack a more comprehensive view of the nature of CSs and virtues. Our suggestion is to expand CS science to a wider context, extend the perspective from the individual to the transcendent, and understand the actualization of the capacity of CSs to be pathways to spiritual life. We argue that the actualization of all CSs allows for microcosms of a realization of unity. We believe that framing VIA's CSs as a classification of the positive human spirit, and therefore rightfully placing it in the domain of human spirituality, holds great potential for both domains. We start by considering common basic assumptions emerging from various spiritual traditions and continue with a suggestion that CSs be seen as various pathways from duality to non-duality and by illustrating ways in which spirituality can be understood and practiced by the use of CSs.

Keywords: virtues, character strengths, VIA, spirituality, non-duality, duality, paradox, transcendence

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> *Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? Why does the universe go to all the bother of existing?*
>
> –Stephen Hawking, A Brief History of Time

INTRODUCTION

The increase in the number of studies on spirituality within the context of positive psychology is not surprising given the fact that both fields focus on what is needed for individuals to be good and to live well. Spirituality, as explored within the psychology of religion and spirituality, and the VIA model of character strengths (CSs) and virtues, as developed by positive psychology, both highlight the moral importance of cultivating dispositions such as generosity, courage, humility, love, and honesty. The question of human goodness is also central in applied virtue theory, which has recently become a vibrant area in the field of applied ethics, and indeed virtue philosophers emphasize the moral importance of character traits (Axtell and Olson, 2012).

However, these studies do not address the wider context of spirituality in general or of transcendence in particular. Moreover, these studies lack a wide perspective on the spiritual

nature of CSs and virtues. We argue that actualization of CSs allows for microcosms of a realization of unity/wholeness or, in more spiritual terms, touching the paradox of realizing the non-dual from the dual. Thus, this paper proposes a new perspective for understanding the relationship between elements of spirituality and CSs. We believe that framing VIA's CSs and virtues as a classification of the positive human spirit, as well as connecting it with the domain of human spirituality, holds great theoretical and practical potential for both domains. We start out by considering common basic assumptions emerging from the study of various spiritual traditions, we continue with a suggestion that the CSs of the VIA classification should be seen as both manifestation and realization of spirituality, and we end with a discussion of the implications of the proposed perspective.

SPIRITUAL COMMON ASPECTS

The term spirituality means different things to different people. It originates from the Latin word spiritus, meaning vapor, breath, air, or wind. Webster's dictionary defines spirituality as: "relating to, consisting of or affecting the spirit; relating to sacred matters; concerned with religious values; related to, or joint in spirit" (Spirituality, 2019). Mitroff and Denton (1999) defined spirituality as the desire to find one's ultimate purpose in life and to live accordingly. Another scientific definition of spirituality is "search for the sacred," where the sacred is characterized by three qualities: transcendence (a sense of being in touch with something beyond ordinary experience), boundlessness (lacking the boundaries and limits of ordinary life), and ultimacy (the quality of being "basic and elemental" or deeply true) (Pargament, 2007, p. 39). However, a review of the literature determined that there is no single agreed-upon definition of the term spirituality among those who conduct research in this field.

Moreover, disagreement exists not only on the definition of spirituality but also regarding whether there is a common denominator among the different spiritual traditions. Perennialism (or perennial wisdom) is a perspective on spirituality that views all the world's spiritual traditions as sharing a single, metaphysical truth or origin, one universal reality that is experienced through multiple paths (Tyson, 2012). Constructivism is a perspective that is closely related to pluralism, relativism, and subjectivism and asserts that there is no objective reality or innate experience that is independent of mental and cultural constructs. Thus, it is the specific spiritual tradition in question that determines what "reality" is as well as how to achieve spiritual union with it (Tyson, 2012).

In the perennialism vs. contextualism debate, we adopt Smith's (1987) suggestion that despite these two approaches often being seen as opposed alternatives, both are actually shaped by a set of complementary epistemological assumptions. This also suggests that different theological classifications (such as monism and monotheism) can be seen as complementary views of the ultimate, which means that both a unique and personal experience of a benevolent God by a Christian mystic and a metaphysical recognition of a Zen master can be seen as different aspects of divine presence.

The landscape of spirituality is immense, so we will focus on two basic claims. The first being the existence and primacy of an ineffable knowledge, a unity that escapes all attempts at being defined or categorized via any concepts or abstractions. This non-dual knowledge is at the core of different and diverse mystical teachings, is prior to concepts, and is therefore resistant to any attempt at capturing its essence using concepts or definitions (Wildman, 2006).

The second claim is the existence of an inevitably paradoxical connection with this knowledge, which stems from the fact that while the essence of existence is non-dual, experience can only occur in what appears to be a dualistic world of objects and subjects. While explaining the non-dual is impossible (as any concept implies a context in which it can be understood, thereby necessitating duality), through the ages, varied traditions developed methods to point to it (e.g., Farley, 2011; Zaki, 2019). This attempt to touch the non-dual is the transcendence element mentioned in most definitions of spirituality and shown to be spirituality's central aspect in a review of 22 papers (McCaroll et al., 2005). An integrative research review of 20 studies published between 2007 and 2017 showing the health benefits of transcendence also mentions it as the central aspect of spirituality (Counted et al., 2018).

Duality stems from a seeming division between a belief in a reality "out there" experienced by a someone "in here." It enables concepts, thoughts, and, consequently, – science (Servajean, 2008). In an attempt to avoid dualism, which would imply dimensions beyond the grasp of science, a philosophy of physicalism or materialism that rejects any spiritual aspects was adopted by many scientists (see discussion on this topic in Gebelein, 2013). This philosophy has proven useful, but while aimed at achieving a unified, consistent understanding of reality, it ironically perpetuates the very dualism it tries to avoid because unlike a unified reality prior to concept formation, material objects are always conceptual models built from experiences of a necessarily separate subject.

Despite rivalries in their interpretation, spirituality and mysticism have influenced prominent developers of modern physics (Marin, 2009). . . . "*it is the hallmark of any deep truth that its negation is also a deep truth*" (Delbrück, 1986, p. 167). This quote by Niels Bohr introduces a recurring aspect of spirituality: the inherent paradoxes that arise when attempting to make sense of spiritual insights.

These paradoxes do not imply an error in reasoning but rather a limitation of reasoning when attempting to grasp that which exists even prior to reason, or, in spiritual terms, when attempting to comprehend, using dualistic tools, non-dual truth, a truth that already exists before any personal experience, thought or memory and yet something we all have direct and intimate access to. Disentangling from a limited perspective of self and realizing a deeper dimension of consciousness or the nature of truth is the essence of spirituality, and observing spiritual exemplars (Scarlett, 2012; Vos, 2018) shows a strong association between this realization and CSs and virtues. We propose that the VIA model of CSs and virtues is an appropriate framework for understanding, practicing, and experiencing the paradoxical relationship between the *personal* and the *transcendent*.

THE VIA CHARACTER STRENGTHS AND VIRTUES

Positive psychology has changed the face of the field over the last two decades, setting a mission of creating a world where psychologists do not simply treat mental illness but rather help individuals to improve and live a full life (Park et al., 2004). A core endeavor in the field of positive psychology has been the identification of positive individual traits (Seligman and Csikszentmihalyi, 2000). The first substantial effort to achieve this goal took the form of a manual defining good character and describing the right and the positive about individuals – the CSs and Virtues (CSV) classification of strengths (Peterson and Seligman, 2004).

The development of the CSV was achieved through an extensive 3-year research project examining the philosophical and religious traditions of China (Confucianism and Taoism) and South Asia (Buddhism and Hinduism) and those of the West and Ancient near East (Ancient Greek philosophy, Judaism, Christianity, and Islam). In order to identify CSs from the gathered material, a number of criteria were established, such as traits having to be morally valued regardless of beneficial outcomes their use may lead to and being non-diminishing of other individuals.

This effort resulted in the classification of 24 CSs that reflect durable positive individual tendencies for feeling, behaving, and thinking, categorized across six universally valued virtues. CSs are viewed as the "psychological ingredients – processes or mechanisms – that define virtues" (Peterson and Seligman, 2004, p. 13) and provide distinguishable ways to display each virtue. The virtue of wisdom can be achieved through creativity, curiosity, love of learning, critical thinking, and perspective. Courage is composed of the CSs of bravery, honesty, persistence, and zest. Humanity includes kindness, love, and social intelligence. Justice envelopes teamwork, fairness, and leadership. The path to temperance is paved by forgiveness, modesty, prudence, and self-regulation. Transcendence includes spirituality, appreciation of beauty, gratitude, hope, and humor.

VIA's CSs: TO SPIRITUALITY AND BACK

As the VIA framework offers a comprehensive model that is not based on or limited to a single spiritual tradition, and as hundreds of studies consistently provide support for the beneficial nature of VIA CSs and their contribution to a wide range of desirable outcomes (Littman-Ovadia and Niemiec, 2016), we suggest that VIA's CSs be framed as a classification of the positive human spirit. From a top-down perspective, we suggest that CSs be viewed as the various ways in which non-duality is manifested in duality (human conduct), as implied by the VIA founders' belief that strength and virtue are an essential aspect of the transcendent that exists within each human being:

> *According to the Judeo-Christian account of the genesis of human life, the physical entity that was the first human became fully alive only after God breathed "the breath of life" into him. Through that . . . act of intimacy he imparted an essential, enlivening, divine, and sacred aspect of himself into each human being. This divine breath of life . . . is believed to be the source of human strength and virtue. the source of the capacity for creativity . . . the capacity for love, intimacy, harmony, growth, compassion, goodness, and optimism* (Peterson and Seligman, 2004, p. 602).

Viktor Frankl's ideas about spirituality and virtues, and Wong's (2014) extensions of this work, seem highly consistent with the top-down perspective espoused here. According to Frankl (1985), self-transcendence is the ultimate end in life and the main purpose of human existence, as self-transcendence involves a purposeful life that is dedicated to loving others or serving a cause greater than one's self. The pursuit and attainment of transcendental values leads to the deepest satisfaction because it satisfies the deepest yearning of our spiritual nature. According to Wong (2014), this is why Frankl has argued that we become fully functioning human beings only when we lose ourselves in self-transcendental pursuit.

From a bottom-up perspective, we suggest that CSs be viewed as various pathways from duality to non-duality. The most obvious of these is the *transcendence* virtue, characterized by the common theme of allowing individuals to forge connections with the larger universe, thereby providing meaning to their lives. *Spirituality* refers to a belief in and commitment to the non-materialistic aspects of life and having coherent beliefs about the higher or ultimate purpose and meaning of the universe and of the individual's life within it. People with this strength prioritize moral values and have an interest in the pursuit of goodness. *Appreciation of beauty and excellence* describes noticing and appreciating beauty and excellence in different domains of life. This CS is part of the virtue of transcendence because it connects those who possess it to something larger than themselves, whether it be beautiful art or music, a skilled athletic performance, the majesty of nature, or the moral brilliance of other people. *Gratitude* describes having a sense of thankfulness in response to a tangible or abstract gift provided by a specific or non-specific other person or by nature or the universe. *Hope* describes thinking about the future, expecting the coming of desired events and positive outcomes, feeling confident that these might well ensue given appropriate efforts, and finally, making these efforts. Hope represents having an attitude that is turned toward the goodness that the future might hold, be it specific positive outcomes or broader desires. *Humor* describes a tendency to laugh and gently tease, to make others smile, to see the light side of life situations, and to make the human condition more bearable by drawing attention to its contradictions or by building social bonds. As humor is rarely mentioned explicitly by philosophers and theologians, Peterson and Seligman (2004) classified it as a value-added strength – most praiseworthy when coupled with another strength (Peterson and Seligman, 2004).

But, as mentioned above, not only the *transcendence* virtue is essential for realization. As can be seen in spiritual exemplars, a common characteristic of those who live the depth of this truth is conduct that is abundant in love, kindness, humility, patience, compassion, equanimity, joy, emotional stability, critical thinking and clarity, spontaneity, leadership, persistence, and a grounded inner strength that enables them to face any adversity. In other

words, they exhibit a powerful manifestation and integration of all CSs and virtues (Scarlett, 2012; Vos, 2018).

Character strengths and virtues can serve as pathways to transcending the deterministic game. While psychology can and does study various limitations of free choice or how its perceived existence influences behavior, it cannot answer age-old metaphysical questions on its meaning or validity (Baumeister, 2008). Spirituality suggests that the confusion regarding personal freedom is derived from confusion regarding a separate personal self, and the journey into higher virtues is one of exercising choice by transcending the perceived self in a given situation. The following analogy illustrates a Jewish perspective of the process.

> *"When two armies are locked in battle, fighting takes place only at the battlefront. If one side gains a victory at the front and pushes the enemy back, the position of the battlefront will have changed. The situation is very similar with regard to [moral choice]. With each good [choice] successfully carried out, the person rises higher in spiritual level; that is, things that were previously in the line of battle are now in the area controlled by the [good inclination] and actions done in that area can be undertaken without struggle and without [choice]"* (Dessler, 1978, p. 52–54).

As choice always exists for a limited self, paradoxically, the ultimate choice is to have no choice. The journey of spirituality can thus be viewed as a movement from vice (ignorance, lack of choice to act virtuously due to a low level of consciousness) to virtue (enlightenment, lack of choice to succumb to vices due to a higher level of consciousness). Growing in virtue can be achieved by the act of dissolving rigid concepts through the transcendence that usually follows deep introspection rather than from following preconceived external laws or notions of morality (Yan, 2009; Snow, 2016). The source of virtue is at the place where separation between the internal and external dissolves. When viewed from the perspective of separation, it is manifested as the correct application of CSs in the dualistic world that we are all familiar with. In practice, the process of acquiring virtue and spirituality is one that combines growing our humanity from the outside-in as well as from the inside-out (Vos, 2018) until the point when the very separation of inside and outside is seen as the illusion it is, although it is a very necessary illusion that is required for celebrating life.

Finally, we argue that CSs allow us to approach all spiritual components and paradoxes: bridging opposites and including the entire spectrum of experience (e.g., perspective), connectedness/wholeness (e.g., kindness), being able to see beyond cause and effect (e.g., love), allowing identification of the right action, "the next obvious step" (e.g., social intelligence), and seeing through the separate self (e.g., humility). Additional examples, in the form of the non-dual manifestations of the six virtues, are presented in **Table 1**.

CONCLUSION AND IMPLICATIONS

There are numerous advantages to this spiritual perspective on the VIA, as well as to a strengths perspective on the spiritual life.

Conceptually, it opens up a new language for researching both fields, as well as providing an opportunity to bridge them. VIA and spirituality are both morally based and thus share similar aims. We believe that every CS can be seen as a gateway to

TABLE 1 | Non-dual manifestations of virtues.

Virtues	From vice to virtue: Non-dual manifestations
Wisdom	• Shifting from a self-focused, defensive orientation, toward a greater view that facilitates learning and growth (Crocker, 2008; Crocker et al., 2017)
	• Practical wisdom serves as a steppingstone to transcendent wisdom – worldly perfection that leads to divine enlightenment. This virtue includes understanding what is meaningful and lasting and having insight into transcendent ends rather than practical means (Peterson and Seligman, 2004)
Courage	• Shifting from a defensive and self-threatening orientation regarding failures and setbacks toward accepting responsibility and improving one's self abilities (Crocker, 2008; Crocker et al., 2017)
	• Achievement of a healthy intimacy with Nothing-Infinite Eternal, fearlessness, allowing one to engage with what causes fear (Barnesmoore and Fisher, 2019)
Humanity	• Moving from a self-focus, which may facilitate loneliness, toward focusing on others, thereby building relationships and closeness (Crocker, 2008; Crocker et al., 2017)
	• Includes strengths that often represent self-transcendent emotions, often encouraging individuals to put aside their own needs and desires in favor of someone else's (Stellar et al., 2017)
Justice	• Replacing the conflict and competition that may be fostered by a self-focus with collaborative and supportive relationships, fostered by a larger view (Crocker, 2008; Crocker et al., 2017)
	• Includes strengths that value social bonds, building and sustaining relationships in reflection of a self-transcendent, rather than a self-enhancing, orientation (Peterson and Seligman, 2004)
Temperance	• Moving from self-centered to eco-considerate goals, reflecting a shift from obsessive to harmonious passion (Crocker, 2008; Crocker et al., 2017)
	• This virtue includes countering the natural tendency to value oneself more than others and attending to what is truly of value in all persons (Morgan, 2001)
Transcendence	• Shifting from such self-focused emotions as pride and shame, to other-focused ones, including appreciation and gratitude (Crocker, 2008; Crocker et al., 2017)
	• This virtue is thought to be most directly related to belief and commitment to the immaterial. Within it are paths to excellence, goodness, a dreamed-of future, and direct connection to troubles and contradictions by means of pleasure rather than anger or fear (Peterson and Seligman, 2004)

realization, as every CS is a reflection of spirituality, representing the reciprocal linkage between the fields.

Practical implications include the notion that nurturing strengths can increase the degree to which individuals and collectives can realize and celebrate the unity and connectedness of all things. Building a healthier and more moral society is possible through combining inside-out with outside-in efforts. An enlightened society will be created by having enlightened individuals in it, and enlightened individuals will emerge through their discovery of their true nature. This is related to top-down, i.e., non-dual understanding, to dual manifestation. Enlightened individuals can also emerge by following the laws of an enlightened society (it also includes emulating exemplars). This is related to bottom-up realization: following, practicing, and learning (the manifested) virtues, eventually connecting to the non-dual. In practice, there is always an interplay between top-down and bottom-up, inside-out and outside-in approaches on the way to an enlightened individual and society, but ultimately the realization is that there is no real inside or outside, top or down and that all is the play of the divine.

Of course non-dual truth, like existence, is not something that can be falsified, however, the central ideas in this paper can and should indeed be subject to possible falsification, for example, finding counter-examples to spiritual maturity being conducive to behavior that manifests human virtues. Also, more empirical studies on the correlation between non-dual wisdom and virtuous behavior could further substantiate the claims.

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All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Does the Excellent Enactment of Highest Strengths Reveal Virtues?

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Two studies examined the assumption that character strengths enable virtues and facilitate the good life. Study 1 validated a "layperson's excellent enactment of highest strengths paradigm". This paradigm states that more appropriate assignments of character strengths to virtues are obtained when based on descriptions of highest character strengths enacted in an excellent way, than when based on lowest character strengths, or typical enactments. A sample of *N* = 230 German-speaking participants provided descriptions of situations in which they enacted their highest and lowest strengths excellently and typically and rated these situations on the degree of the six core virtues, strength expression, fulfillment, and intellectual and moral quality. Behavior examples of highest strengths excellently enacted were rated higher and with higher differentiation in the dependent variables than typical enactments or lowest strengths, thus confirming the paradigm. In Study 2, we applied the paradigm: A second sample of *N* = 113 German-speaking participants rated a selected subset of strengths–behaviors of layperson's excellent enactment of highest strengths collected in Study 1 in regard to their degree of the six core virtues. Results confirmed previous convergent and discrepant findings with the theoretical VIA classification. We can conclude that the excellent enactment of highest strengths does indeed reveal virtues. Future studies should use the paradigm and examine culturally diverse samples with different methods for further examining the VIA classification.

Keywords: character strengths, virtues, VIA classification, fulfillment, intellectual quality, moral quality, immorality

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INTRODUCTION

In 2004, Peterson and Seligman introduced the VIA classification: a hierarchical classification of 6 virtues and 24 corresponding character strengths. Modeled on the Linnaean classification of species, the VIA classification (see **Supplementary Appendix A**) is composed of three conceptual levels ranging from the abstract to the specific: (1) virtues, which are defined as core characteristics valued by moral philosophers and religious thinkers, are the most abstract entries of the classification; (2) character strengths, morally valued traits that define the virtues; and (3) situational themes, specific habits that allow people to manifest given character strengths in present situations.

For the development of the VIA classification, researchers followed three steps. First, they searched for culturally and historically ubiquitous virtues and found six universal virtues (Dahlsgaard et al., 2005), which are wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. Second, they generated and defined character strengths by applying up to 12 criteria (Peterson and Seligman, 2004; Ruch and Stahlmann, 2019): the trait must (1) be ubiquitous, (2) contribute to various fulfillments, (3) be morally valued in its own

right, (4) not diminish other people, (5) have a non-felicitous opposite, (6) be trait-like in that it is stable over time and across situations, (7) measurable, (8) be distinct from other positive traits, (9) be embodied in consensual paragons, (10) have observable prodigies, (11) be possibly non-existent in some people, and (12) be sustained in the larger society by institutions and rituals intended to cultivate it. Third, they assigned the character strengths to the corresponding virtues based on theoretical considerations. They argued that character strengths are "the psychological ingredients—processes or mechanisms—that define the virtues" (p. 13). In other words, character strengths are "distinguishable routes to displaying one or another of the virtues" (p. 13). For example, the virtue of wisdom and knowledge can be achieved through creativity, curiosity, love of learning, open-mindedness, and perspective. Character strengths of a virtue also share a common function: wisdom and knowledge, for example, is composed of "cognitive strengths that entail the acquisition and use of knowledge" (pp. 29–30).

So far, only a few studies have empirically examined the assignment of character strengths to virtues, even though the study of this link is highly important, for three main reasons. First, the assignment of character strengths to virtues is the theoretical core assumption in the VIA classification. Second, as Peterson and Seligman (2004) suggested, virtues can be displayed and achieved by the application of various character strengths, and it is our goal to empirically detect these character strengths. Third, from a practical point of view, the knowledge of the classification forms the basis for the development of programs aimed at cultivating good character. More precisely, people can be encouraged to practice applying character strengths (a character strength of each virtue) in an excellent way, which in turn should lead to a reinforcement of the six virtues, and consequently results in the development of good character. With the present set of studies, we aim to provide more empirical information about these important theoretical assumptions. We aim to empirically study this assignment, based on the enactment of character strengths in specific situations, that is, character strengths–behaviors. Before that, however, we need to determine how characteristics of character strengths and virtues can be best investigated. Specifically, for our study aim, we need to identify the best suited (most appropriate) strengths–behaviors for the study of the assignment of strengths to virtues that should yield the most valid results. For that, we are going to establish a "layperson's excellent enactment of highest strengths paradigm."

Previous Studies Testing the Link Between Character Strengths and Virtues

Two previous publications tested the proposed classification of character strengths to virtues. In the first publication (Ruch and Proyer, 2015), 70 experts from psychology, philosophy, and theology, and 41 laypeople rated how prototypical the strengths are for each of the six virtues. The results supported the validity of the classification, with participants indicating that the strengths were very good (open-mindedness, love of learning, perspective, bravery, love, kindness, fairness, self-regulation, and spirituality), good (creativity, curiosity, persistence, honesty, zest, social intelligence, teamwork, modesty, prudence, beauty, and hope), or acceptable markers (leadership, forgiveness, and gratitude) of their virtues. Only one strength, humor, failed to reach the cutoff score for its assigned virtue (transcendence). Humor seemed to be a marker for humanity, but it was also prototypical for wisdom. A few other strengths were also found to be stronger indicators of different virtues than the one they were initially assigned to: Teamwork and gratitude were more prototypical for humanity; forgiveness was more prototypical for humanity and justice; and leadership was more relevant for courage and for wisdom. Furthermore, four character strengths marked their own virtue best, but were also good markers for another virtue. This was the case for honesty, which also marked justice; social intelligence and prudence, which also marked wisdom; and fairness, which also marked humanity.

In the second publication on this topic, Ruch et al. (2019) tested the connection between character strengths and virtues in two studies: In the first study, German-speaking laypeople wrote short behavioral descriptions of both a typical and an excellent example of their highest character strength (determined by the highest-ranking strengths based on the results of a self-report questionnaire, the VIA-IS; Ruch et al., 2010). For excellent enactments, Ruch et al. (2019) instructed participants to write about enactments in which they were able to bring the strength to "fully bloom", to show it in a particularly outstanding way, and to use it to a very high degree. In contrast, for typical enactments, participants were asked to write about enactments in which they showed the strength to a lesser extent and used it in the typical way just like in everyday situations. Participants were then asked to score the strengths–behaviors in terms of their degree of virtuousness (i.e., the degree of wisdom, courage, humanity, justice, temperance, and transcendence). The second study (Ruch et al., 2019, study 2) tested the common features (functions) of character strengths. Though all strengths corresponding with a given virtue are distinct, they are expected to serve a common function, i.e., strengths of wisdom and knowledge should serve the same purpose, namely, the acquisition and use of knowledge. German-speaking participants indicated to what degree each of the 24 character strengths fulfilled its purported function. For each character strength, the rating on the originally assigned virtue was compared with the average ratings of the other virtues in both studies.

Overall, the results of Ruch et al. (2019) corresponded fairly with the VIA classification (correlations of mean ratings: $r = 0.38$ and $r = 0.50$ for study 1 and study 2, respectively) and Ruch and Proyer (2015); $r = 0.68$ and $r = 0.72$) results. The findings of both studies of Ruch et al. (2019) and the study by Ruch and Proyer (2015) were in line with each other for 16 out of the 24 character strengths; these 16 strengths received the highest rating for the same virtue across all three studies, while for 13 of these 16 character strengths, the virtue corresponded with the original assignment of Peterson and Seligman (2004). The exceptions were the character strengths of forgiveness, gratitude, and humor that received the highest ratings for the virtue of humanity, in disagreement with the assignment by Peterson and Seligman (2004). If these results are replicated using different methods

and culturally more diverse samples, then one could start a discussion of a potential reclassification of strengths and address these strengths first. For the remaining eight character strengths, the assignment to virtues corresponded in two out of the three studies; for six of these strengths, the assignment was in line with the VIA classification. Thus, for two further character strengths—teamwork and leadership—a reclassification (to the virtues of humanity and courage, respectively) might be considered.

The Layperson's Excellent Enactment of Highest Strengths Paradigm

Overall, these studies advanced the empirical validation of the VIA classification considerably. The links between strengths and virtues should generalize across different methods of assessment, but only a few methods of assessment were utilized so far. While there is some convergence, we nonetheless argue that the previous studies were limited in some regards: Two of the three studies (i.e., Ruch and Proyer, 2015; Ruch et al., 2019, study 2) used a very abstract approach to verify the VIA classification by analyzing the correspondence of virtues and character strengths at the level of abstract concepts. That is, participants were directly asked whether a strength is a good example of a virtue, or whether a strength fulfills a function associated with a virtue. This seems a rather difficult task also for expert raters, and assignments could be influenced by lay conceptualizations of the virtues or by lay conceptualizations of the associations between strengths and virtues. We argue that specific strengths–behaviors as employed by Ruch et al. (2019), study 1 should be considered instead of abstract concepts. In their study, the same participants provided the strengths–behaviors and the ratings of the six core virtues. However, for obtaining a more objective assessment it would be better if one group of people provides the strengths-behaviors while another group provides the virtue ratings.

Furthermore, when analyzing the assignment of character strengths to virtues on the level of specific behaviors, one could hypothesize (in line with Ruch et al., 2019) that the most valid results should be obtained when focusing on specific behavioral examples in which a strength was shown to a very high degree. When reflecting upon which people would be best to provide such behavior examples, one might consider those people who possess a strength to a very high degree: They should have a profound knowledge of this strength and have a rich history of displaying this strength, also to a high degree, and/or in an excellent manner.

Therefore, we argue that the next step in the empirical evaluation of the VIA classification should be based on strengths–behaviors that are rated in terms of their virtuousness (with regard to the core virtues) by people unrelated to those who provided the strengths–behaviors for obtaining a more objective and scientifically more rigorous picture. However, the expectation that strength enactments of high scorers in an excellent way are more valid for the study of the assignment of strengths to virtues should be empirically examined. Thus, we propose a "layperson's excellent enactment of highest strengths paradigm", which assumes that the most appropriate assignments of strengths to virtues are obtained when strengths–behaviors are provided by individuals who possess the strength of interest to a high degree or when individuals display the strength in an excellent manner.

This paper presents two studies, which aim at expanding upon the studies by Ruch and Proyer (2015) and Ruch et al. (2019). In study 1, we aim to evaluate the assumptions underlying the "layperson's excellent enactment of highest strengths paradigm" and demonstrate that enactments of a strength that are best suited for the study of the assignment of strengths to virtues can be found for individuals' highest strength compared to individuals' lowest strength. Additionally, excellent enactments of strengths should be more appropriate compared to typical enactments of strengths. After having evaluated this paradigm, it will be possible to select strengths–behavior examples that are best suited for studying the association of character strengths to virtues in study 2. While in study 1, the raters judge the degree of the six virtues of their self-experienced enactments of strengths, the raters in study 2 are unaffiliated with the persons who provided the strengths–behaviors examples, and will judge the degree of the virtues based solely on the written material. Thus, the most appropriate examples of strengths–behaviors identified in study 1 are used to verify the VIA classification.

The present set of studies differs from earlier studies (Ruch and Proyer, 2015; Ruch et al., 2019) in two main regards: First, we examine what kind of informants (i.e., high vs. low scorers) and what type of information (i.e., excellent vs. typical enactment) yield the most appropriate information about strengths (study 1). Second, we collected core virtue ratings of people unaffiliated with those who provided the strengths–behaviors descriptions (study 2).

STUDY 1

Study 1 aims at validating the "layperson's excellent enactment of highest strengths paradigm". We suggest that if the properties of character strengths are examined on the basis of strengths–behaviors, one should only examine (i) persons who "possess" the strength of interest to a high degree, and (ii) behavior examples, in which these strengths were shown to a very high (i.e., excellent) degree. For the purpose of testing this assumption, we compared behavior examples of excellent and typical enactments of people who do have a strength to a very high degree (i.e., the strength is their individual highest-ranking strength) and people who do have a strength to a very low degree (i.e., the strength is their individual lowest ranking strength).

We set up six criteria [(1) Degree of strengths expression, (2) Fulfillment, (3) Morality, (4) Virtuousness, (5) Differentiation between core virtues, (6) Consistency] to answer the question whether ratings of excellent strengths–behaviors provided by high scorers are more appropriate for studying the assignment of strengths to virtues:

First, the manifestation of character strengths should be higher in more appropriate strengths–behaviors, that is, the strength of interest should be displayed clearly in the behavioral act; otherwise, situational influences might bias the ratings of virtuousness. Therefore, we asked participants to rate the degree

to which a strength was shown in the described strengths–behaviors ("degree of strengths expression").

Second, since strengths should "contribute to various fulfillments which constitute the good life, for oneself and for others" (Peterson and Seligman, 2004; p. 17), we expect excellent strengths–behaviors of high scorers to be most fulfilling. Various studies have confirmed the robust relationships between character strengths and different aspects of the good life (e.g., Park et al., 2004; Hausler et al., 2017; Wagner et al., 2020), as consequences of these fulfillments. In the present study, participants were asked to indicate the degree of fulfillment they experienced while enacting the strength. By definition, strengths–behaviors best suited for the study of the assignment of character strengths to virtues should be rated as more *fulfilling* than strengths–behaviors that are less suited for the study of the assignment of character strengths to virtues.

Third, "each strength is morally valued in its own right, even in the absence of obvious beneficial outcomes" (Peterson and Seligman, 2004; p. 18) and therefore appropriate strengths–behaviors should be rated high in morality. As Peterson and Seligman's definition of morality follows Aristotle's ideas on morality, we decided to use Aristotle's concept of morality, which distinguishes between the two components "intellectual and moral quality." We asked participants about the moral quality of the strengths–behaviors, in line with Aristotle (2000) ideas: Moral quality refers to the heart and is characterized by a high degree of selflessness, charity, and self-control. It helps to act morally and ethically. A person who acts with moral quality is responsible and has the well-being of others in mind. Since Aristotle (2000) distinguished between moral and intellectual excellence, we also asked about the intellectual quality of the strengths–behaviors. Intellectual quality refers to the intellect and is characterized by a high degree of knowledge, paired with intellect and life experience. It helps to properly assess specific situations and to find suitable ways and means to do the right thing. Furthermore, we also asked participants whether the strengths–behaviors were free of immorality, to ensure that enactments do not include immoral elements, but would rather be fully morally valued. Immorality can be described as something reprehensible, as a shameful act, or as a bad habit. These behaviors cause harm to individuals, groups, and societies. Immorality does not refer to pathological behaviors, but to immoral and unethical ones (see Beermann and Ruch, 2009).

Fourth, since strengths theoretically represent different ways of displaying the core virtues, more appropriate strengths–behaviors should be considered more virtuous by showing a higher degree of wisdom and knowledge, courage, humanity, temperance, and transcendence.

Fifth, more appropriate strengths–behaviors should make it possible to distinguish more clearly between the patterns of core virtue ratings. Therefore, we have also analyzed the degree of *differentiation* among the core virtue ratings. Similar ideas have been brought forward with regard to vocational interests—for example, having more strongly differentiated profiles of vocational interests goes along with more stable vocational choices (see Villwock et al., 1976; Holland, 1996). More precisely, when confronted with an appropriate strengths–behavior, one can easily tell which of the six core virtues is especially highly expressed and which is expressed to a lesser degree. For example, the enactment of creativity should be rated as a clear expression of wisdom.

Finally, there should be a higher consistency among the rating patterns in the core virtues; ratings of more appropriate acts should be more consistent than ratings of less appropriate acts.

In summary, we hypothesized:

H1a: Enactments based on the individual highest strength will be rated higher in the degree of strengths expression, the six core virtues (i.e., wisdom and knowledge, courage, humanity, justice, temperance, and transcendence), fulfillment, and moral and intellectual quality, and rated lower in immorality than descriptions based on lowest strengths.

H1b: Enactments based on excellently enacted strengths will be rated higher in the degree of strengths expression, the six core virtues (i.e., wisdom and knowledge, courage, humanity, justice, temperance, and transcendence), fulfillment, and moral and intellectual quality, and rated lower in immorality than descriptions based on typically enacted strengths.

H2a: Enactments based on the individual highest strength will show a higher differentiation in their core virtue ratings than descriptions based on lowest strengths.

H2b: Enactments based on excellently enacted strengths will show a higher differentiation in their core virtue ratings than descriptions based on typically enacted strengths.

H3a: Enactments based on the individual highest strength will show a higher agreement among raters who judge strengths-behaviors based on the same character strength than descriptions based on lowest strengths.

H3b: Enactments based on excellently enacted strengths will show a higher agreement among raters who judge strengths-behaviors based on the same character strength than descriptions based on typically enacted strengths.

Method

Participants

A total of N = 230 German-speaking participants (81.3% women, 18.3% men, 0.4% other/not specified) aged 16 to 76 (M = 34.55 years; SD = 15.70) completed the study. This sample is comprised of 44.3% Germans, 40.4% Swiss, 10% Austrians, and 5.2% citizens from other countries. Most participants held a degree from a university or a university of applied sciences (39.1%) or held a diploma that would allow them to attend such universities (47.8%). In addition, 9.6% completed vocational training, 2.6% had completed secondary education, and 0.9% did not graduate from school.

Instruments

The *Character Behavior Task* served to collect strengths–behaviors. Participants were asked to recall situations in which

they enacted their highest and lowest strengths in an excellent and typical way. First, participants' highest and lowest character strengths were determined by the VIA-IS (Ruch et al., 2010). The VIA Inventory of Strengths (VIA-IS) assessed the 24 character strengths included in the VIA classification with 240 items (10 for each strength) on a five-point scale from 1 = very much unlike me to 5 = very much like me (for reliability and validity see Ruch et al., 2010). Then, participants were provided with definitions of the highest and lowest character strengths identified [taken from Ruch and Proyer (2015); based on Peterson and Seligman (2004) descriptions] and were asked to list five situations for each of the four conditions (i.e., highest/lowest character strength in an excellent/typical way). Participants were not informed that the selected character strengths represent their highest and lowest strengths. After that, they were asked to describe two of these situations (enactments) in more detail. They answered the following questions: Where did the situation take place? Who was there? What caused the situation, what was going on, which thoughts, feelings, and motivations did you have? How did the situation end? How can someone recognize that you used the strength? What relevant behaviors have been shown to exert the character strength? Participants wrote about two enactments per condition, which sums up to eight enactments in sum. **Table 1** shows an example of each of the four conditions.

In the *Virtue Judgment Instrument*, participants were asked to rate the degree of the six core virtues of wisdom, courage, humanity, justice, temperance, and transcendence in the strengths-behaviors described previously. They received definitions of the virtues based on Ruch and Proyer (2015) and rated the strengths–behaviors on a visual analog scale ranging from 0 (= the virtue is not shown at all) to 100 (= the virtue is shown to an extremely high extent).

Additionally, *ratings of the degree of strength expression* were collected. Participants were asked to rate the degree a strength was displayed in a particular strengths–behavior using a visual analog scale ranging from 0 (= the strength is not shown at all) to 100 (= the strength is shown to an extremely high extent).

In "*Ratings of Fulfillment, Intellectual and Moral Quality, and Immorality*", participants were asked to rate their behaviors on a nine-point scale from 1 ("fulfillment/intellectual quality/moral quality/immorality not at all pronounced") to 9 ("fulfillment/intellectual quality/moral quality/immorality extremely pronounced"). For ratings of intellectual and moral quality, participants were provided with descriptions of the concepts based on Nicomachean Ethics (Aristotle, 2000). The description of immorality was based on the study by Beermann and Ruch (2009). The instructions can be found in the online **Supplementary Appendix B**.

Procedure

No ethics approval was required for this study according to the university guidelines. Participants were recruited via university mailing lists, psychology magazine websites, social platforms, and personal inquiry. Participants gave their written consent for participation and received partial course credit and/or an individual character strengths profile. Parts of the data (i.e., the virtue ratings with regard to the enactments of the highest character strengths) were reported previously in the study by Ruch et al. (2019). Participants first completed the VIA-IS, then they described eight situations in the *Character*

TABLE 1 | An example of a description of enactments for the strength of creativity in all four conditions.

Highest Strength excellently enacted	**Lowest Strength excellently enacted**
I've invented new Zentangle patterns. I can't paint, I spontaneously tried these patterns with a pen and had fun. I thought there had to be many more patterns—and found the art form centangle on the Internet. I painted patterns every day but didn't show them to anyone. After half a year, I posted pictures on Facebook—and received positive feedback from all over the world. By mistake I invented my first own pattern. I had neither the intention to invent something new with this pattern nor with the following patterns. Every new pattern fills me with great joy and gratitude. These feelings multiply very much through the loving and appreciative comments on Facebook—and I almost burst with joy when other people paint my patterns! I paint patterns unintentionally. I can tell that I have used the strength by the fact that other people ask me for instructions for my pattern—so it's something new that they can't paint without further ado, but would like to. The behavior when using the strength is accompanied by unintentionality, joy of playing, fun in painting, innocence, and individuality; I follow my feelings.	I didn't feel comfortable in the office and wanted a change. I was disturbed by the furnishing of the office, the positioning of my workstation, the many people walking around and the noise of the coffee machine. So, I suggested that my colleague move the office. We came up with a short plan and spontaneously rearranged the whole office. I feel much better now, and the problems and disruptive factors have been eliminated. I was very unbalanced earlier, couldn't concentrate well and was often annoyed by the staff who didn't care about us. The situation turned out to be that I feel very comfortable and my teammates and boss are also very satisfied. The office looks bigger and more open. I appreciate myself so much that I am not very creative, original and have great ideas. In everyday life, I may have great ideas such as cooking recipes, gift ideas, excursion ideas. Otherwise, I'm not very innovative. In this situation I used my ingenuity, because it was necessary (to solve the problem). My behavior was very deliberate. I compared different institutions and decided on the best idea.
Highest Strength typically enacted	**Lowest Strength typically enacted**
Before I got into software, I played with electronics. I built myself a digital clock, alone, in my nursery. Unfortunately, I had underestimated the quite high power requirements of the whole LEDs of the segment displays. If it was not 11:11 am, the clock's power would not be enough. The solution was just awesome. I always have only a 7-segment display, so only one digit of the time displayed simultaneously. And so I switched so quickly between the segments that the human eye did not notice. It always looked as if all 4 digits were always lit. I had no notable thoughts and feelings. The problem was solved, it felt good.	This situation often happens in the evening when I come home hungry. Usually I cook for myself alone, because my roommate often works in the evening. I then inspect the fridge and see which food is still there. Then I think about which ingredients and which way of preparation I could use to cook a tasty dish. Often, I cook the best dishes under such circumstances. One recognizes the strength in which I managed to cook a tasty dish from ingredients or leftovers that do not seem to fit together without a ready-made recipe.

Examples have been translated from German and abbreviated.

Behavior Task, and finally they rated the strengths–behaviors described previously as explained in the *Virtue Judgment Instrument* and the *Ratings of Fulfillment, Intellectual and Moral Quality, and Immorality*. The order of strengths–behaviors to be rated was randomized.

Results

Preliminary analyses of the intercorrelations of the dependent variables suggested positive relationships among most variables without indicating redundancy (**Table 2**).

The exception was immorality, which was negatively related to most variables. The degree of strengths expression went along with fulfillment, intellectual and moral quality, and all core virtue ratings. Fulfillment was positively related to intellectual and moral quality, wisdom, courage, and transcendence, and showed a small negative relationship to temperance. Intellectual quality showed positive relationships with moral quality, and all core virtue ratings, except for humanity. Moral quality was positively related to all core virtues, except for courage. Finally, most ratings of core virtues showed small positive correlations with each other, while the relationship between humanity and justice was of moderate size.

For the main analyses, we examined whether the levels of the virtue ratings, the differentiation among the ratings, and the agreement among participants were related to the rank of character strengths and the type of enactment. First, we analyzed whether the levels of the dependent variables (i.e., the degree of strengths expression, the six core virtues, fulfillment, intellectual quality, moral quality, and immorality) were related to the type of enactment and rank of character strengths. The sample sizes, means, and standard deviations of the dependent variables for the highest and lowest strengths in excellent and typical enactments are given in **Table 3**.

Table 3 shows that regardless of the condition, the strengths–behaviors were considered fulfilling, of intellectual and moral quality (all mean ratings >5), and of low immorality (all mean ratings <3). Overall, a pattern can be observed: Mean values of the dependent variables decreased (and increased for immorality) from the highest strengths excellently enacted to the lowest strengths typically enacted. For courage, humanity, and moral quality, however, the mean values of the highest strengths and lowest strengths excellently enacted were followed by the highest strengths and lowest strengths typically enacted. Results for justice and temperance on the other hand showed a mixed pattern.

In order to test for differences among the conditions, we computed a set of factorial repeated measurement ANOVAs, with the type of enactment (typical vs. excellent) and the rank of character strengths (lowest vs. highest strength) as repeated factors, predicting the dependent variables (see **Table 4**).

Table 4 shows that while there were no interactions between type of enactment and rank of character strengths in all dependent variables, both main effects were significant in two of the six core virtues, strengths expression, fulfillment, and intellectual quality: Participants indicated higher degrees of wisdom, courage, strengths expression, fulfillment, and intellectual quality for the situations in which they displayed their highest strengths compared to the situations in which they displayed their lowest strengths. For the same variables, ratings were higher when participants rated an excellent display of a strength than when they rated a typical display of a strength. Furthermore, in three dependent variables, only the main effect of enactment was significant: For humanity, transcendence and moral quality ratings of an excellent display of a strength were rated higher than a typical display of a strength. **Figure 1** shows an example illustration of the results for the dependent variable strength expression.

Second, we analyzed whether the differentiation in the ratings of core virtues (i.e., the difference between the highest and lowest rating within a person) was related to the rank of character strengths and type of enactment. We computed a factorial repeated measurement ANOVAs with type of enactment (excellent vs. typical) and rank of character strengths (highest vs. lowest) as repeated factors, and the difference between the highest and the lowest rating of the core virtues as dependent variable. Results showed no interaction effect [$F(1, 188) = 1.20$, $p = 0.274$, $\eta_p^2 = 0.006$], but main effects for both enactment type [$F(1, 188) = 7.07$, $p = 0.009$, $\eta_p^2 = 0.036$] and rank of

TABLE 2 | Intercorrelations of strengths expression, fulfillment, intellectual and moral quality, immorality, and the six core virtues in studies 1 and 2.

	Strengths Expression	Fulfillment	Intellectual Quality	Moral Quality	Immorality	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
Fulfillment	0.37***										
Intellectual Quality	0.26***	0.25***									
Moral Quality	0.15***	0.13***	0.29***								
Immorality	−0.12***	−0.15***	0.00	−0.07**							
Wisdom	0.26***	0.16***	0.50***	0.09***	−0.09***		0.12***	0.08***	0.21***	0.11***	0.01
Courage	0.22***	0.15***	0.14***	0.04	0.01	0.13***		0.08***	0.15***	0.07***	−0.02
Humanity	0.08**	0.04	0.03	0.44***	−0.12***	0.03	0.04		0.35***	−0.01	0.03
Justice	0.06*	−0.02	0.13***	0.37***	0.03	0.08**	0.09***	0.37***		0.13***	0.03
Temperance	0.07**	−0.10***	0.10***	0.17***	0.03	0.02	0.06*	0.05	0.16***		0.06**
Transcendence	0.13***	0.18***	0.08**	0.12***	−0.08**	0.12***	0.04	0.14***	0.04	0.01	

*Below diagonal: Study 1, N = 203–230 (1588–1740 ratings). Above diagonal, Study 2: N = 113 (2712 ratings). Given are within-person correlations (Bland and Altman, 1995). Strength expression, fulfillment, intellectual and moral quality, and immorality were not analyzed in Study 2. *p < 0.05, **p < 0.01, ***p < 0.001.*

TABLE 3 | Mean ratings of strengths expression, six core virtues, fulfillment, intellectual and moral quality, and immorality for the highest and lowest strengths excellently and typically enacted.

	Highest strength				Lowest strength			
	Excellently enacted		Typically enacted		Excellently enacted		Typically enacted	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Strengths Expression	80.45	16.65	73.06	20.07	73.09	22.18	65.41	22.68
Wisdom	61.22	27.22	59.18	26.67	57.76	27.47	53.89	26.60
Courage	53.39	32.18	44.02	31.11	52.04	31.23	38.28	31.10
Humanity	58.06	31.90	55.55	33.17	57.17	32.62	52.36	31.98
Justice	40.64	31.21	38.02	32.66	39.52	33.01	40.01	33.51
Temperance	41.12	30.30	39.87	29.57	41.43	31.64	43.03	30.99
Transcendence	33.88	36.46	31.59	33.92	30.84	32.03	29.06	31.75
Fulfillment	6.48	1.98	6.25	1.68	5.99	1.97	5.53	1.89
Intellectual Quality	6.13	1.54	6.01	1.48	5.93	1.65	5.55	1.64
Moral Quality	5.96	1.77	5.63	1.79	5.77	1.94	5.61	1.89
Immorality	2.52	1.63	2.59	1.61	2.73	1.69	2.73	1.70

N = 203–230. Strengths expression, wisdom, courage, humanity, justice, temperance, and transcendence were rated on a scale ranging from 1 to 100, while fulfillment, intellectual quality, moral quality, and immorality were rated on a scale ranging from 1 to 9.

character strength [$F(1, 188) = 17.52$, $p < 0.001$, $\eta_p^2 = 0.085$], with a higher differentiation in ratings of excellent enactments and highest strengths. Thus, people who possessed a character strength to a high degree and described an excellent (as opposed to a typical) enactment showed a higher differentiation in the core virtues.

Third, for every character strength, we computed the interrater reliabilities (ICC1; one-way ANOVA random effects model, average measures) among the participants in their ratings of the enactments with regard to the six core virtues. Thereby, we obtained a score of agreement among participants who rated, for example, an excellent enactment for the highest strength of creativity. Overall, results suggested that agreement increased, when highest (vs. lowest) strengths were rated and when excellent (vs. typical) enactments were rated. The median of the ICCs across all 24 strengths were ICC = 0.70 (highest strength, excellent enactment), ICC = 0.65 (highest strength, typical enactment), ICC = 0.54 (lowest strength, excellent enactment), and ICC = 0.43 (lowest strength, typical enactment). Thus, as expected, there was the highest agreement with regard to the core virtues when people possessed a character strength to a high degree and described an excellent enactment.

Discussion

The results of Study 1 partly confirmed our expectations and thereby validated the basic assumptions of "the layperson's excellent enactment of highest strengths paradigm": strengths–behaviors were rated higher in strengths expression, fulfillment, wisdom, courage, and intellectual quality, when the highest strengths and excellent enactments were considered. Exceptions were humanity, transcendence, and moral quality, which only related to the type of enactment, while justice, temperance, and immorality were unrelated to both the rank of the strengths and the type of enactment. Further, the results suggested that clearer distinctions in the ratings of the core virtues were made, while also a higher interrater reliability was obtained for excellent strengths–behaviors of highest-ranking strengths. Overall, we conclude that strengths–behaviors in which a high-ranking character strength was displayed in an excellent manner serve as a better basis for ratings of core virtues and for an examination of the VIA classification than behaviors based on general strengths–behaviors. So far, this is the first study that investigated which strengths enactments are best suited for the study of the assignment of character strengths to core virtues. We suggest that studies based on such a preselection of strengths–behaviors should provide more valid results than earlier studies that did not take this into account.

Therefore, we conducted a second study based on the results of Study 1 for examining the association of character strengths with core virtues. In Study 2, we further refined these excellent strengths–behaviors of highest-ranking strengths and asked a second group of participants (blind to the source of the descriptions) to rate these behaviors with regard to the six core virtues.

STUDY 2

Study 2 intends to expand upon Ruch et al. (2019) study in which self-described strengths–behaviors were self-rated according to virtuousness, by using ratings of other people, unaffiliated with the people who provided the strengths–behaviors. We further refined the strengths–behaviors described in study 1, selecting only the most appropriate behaviors. We investigated whether an unrelated group of people rate the strengths–behaviors as virtuous in terms of the core virtues and whether these ratings are in line with the VIA classification—with the exception of some strengths where deviations from the VIA classification have been reported earlier. We hypothesized:

TABLE 4 | Results of factorial repeated measures ANOVA of relationships of character strengths rank (highest vs. lowest character strength) and enactment type (excellent vs. typical enactment) on the ratings of the strengths expression, six core virtues, fulfillment, intellectual and moral quality, and immorality.

	F	*p*	Partial η^2
Strengths Expression	*F*(1, 185)		
Rank	28.12	<0.001	0.132
Enactment	66.82	<0.001	0.265
Rank × Enactment	1.71	0.192	0.009
Wisdom	*F*(1, 188)		
Rank	10.394	0.001	0.052
Enactment	11.03	0.001	0.055
Rank × Enactment	0.86	0.354	0.005
Courage	*F*(1, 188)		
Rank	5.16	0.024	0.027
Enactment	59.74	<0.001	0.241
Rank × Enactment	1.24	0.267	0.007
Humanity	*F*(1, 188)		
Rank	0.69	0.408	0.004
Enactment	12.19	0.001	0.061
Rank × Enactment	1.49	0.224	0.008
Justice	*F*(1, 188)		
Rank	0.11	0.744	0.001
Enactment	2.27	0.133	0.012
Rank × Enactment	0.94	0.335	0.005
Temperance	*F*(1, 188)		
Rank	1.59	0.209	0.008
Enactment	0.19	0.663	0.001
Rank × Enactment	0.75	0.388	0.004
Transcendence	*F*(1, 188)		
Rank	3.79	0.053	0.020
Enactment	12.73	0.000	0.063
Rank × Enactment	0.06	0.804	0.000
Fulfillment	*F*(1, 208)		
Rank	17.21	<0.001	0.076
Enactment	16.49	<0.001	0.073
Rank × Enactment	2.54	0.113	0.012
Intellectual Quality	*F*(1, 204)		
Rank	13.39	<0.001	0.062
Enactment	12.20	0.001	0.056
Rank × Enactment	4.09	0.045	0.020
Moral Quality	*F*(1, 204)		
Rank	0.81	0.370	0.004
Enactment	11.86	0.001	0.055
Rank × Enactment	0.63	0.429	0.003
Immorality	*F*(1, 204)		
Rank	3.12	0.079	0.015
Enactment	0.69	0.408	0.003
Rank × Enactment	0.05	0.832	0.000

N = 189–208. Rank = Whether the described enactment was based on the individual lowest (=0) or highest (=1) ranking character strength. Enactment = Whether the described enactment represented a typical (=0) or an excellent (=1) display of the character strength.

H1: The ratings of other people, unaffiliated with the people who provided the strengths–behaviors will recognize the core virtues in these descriptions (cutoff $\leq$ 40).

H2a: All enactments of character strengths (with the exception of forgiveness, gratitude, humor, teamwork, and leadership) will show a higher rating for the core virtue theoretically suggested in the VIA classification than for the other five core virtues averaged.

H2b: The enactments of the character strengths forgiveness, gratitude, humor, and teamwork will show higher ratings for the core virtue of humanity, and enactments of leadership will show higher ratings to the core virtue of courage, than for the other virtues averaged. These expected reclassifications are in line with earlier findings (Ruch and Proyer, 2015; Ruch et al., 2019).

Method

Participants

The sample consisted of N = 113 German-speaking participants (76.1% women) with a mean age of 25.73 years (SD = 11.27, ranging from 18 to 81 years). The majority of participants (77.9%) were Swiss citizens, 16.8% were German citizens, and 5.3% had citizenship from different nations. The sample was rather well educated: 18.6% held a degree from a university or a university of applied sciences and 76.1% held a diploma allowing them to attend a university or a university of applied sciences, 4.4% completed vocational training, and 0.9% had completed primary or secondary school. Most of the participants did not know the VIA classification (79.6%), 12.4% have heard about the VIA classification, but did not know about the assignment of the character strengths to the virtues, and 4.4% did know the VIA classification and would be able to assign the character strengths to the virtues, if they were shown a list of the character strengths[1]

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Instruments

As in study 1, the *Virtue Judgment Instrument* (Ruch et al., 2019) was used. Participants rated the degree of the six core virtues of wisdom, courage, humanity, justice, temperance, and transcendence in the strengths–behaviors on a visual analog scale ranging from 0 (= the virtue is not shown at all) to 100 (= the virtue is shown to an extremely high extent).

Excellent signature strengths enactments rating task

Based on the strengths–behaviors presented in study 1 (total of 976 strengths–behaviors), the most appropriate strengths–behaviors were selected, which is in total 144 situations; i.e., six strengths–behaviors for each of the 24 character strengths. We selected the 144 strengths–behaviors from the 976 strengths–behaviors applying the following criteria: (1) The character strengths displayed (according to the person who provided the enactments) was recognized by at least one of two independent raters (in 65.27% of the behaviors, both raters recognized the strength). (2) The strengths–behaviors were rated unambiguous with regard to character strengths according to the two raters [i.e., as few character strengths as possible were recognized; in the

[1]Analyzing the data without participants with a good knowledge of the VIA classification did not change the results; therefore, all analyses were conducted including these participants.

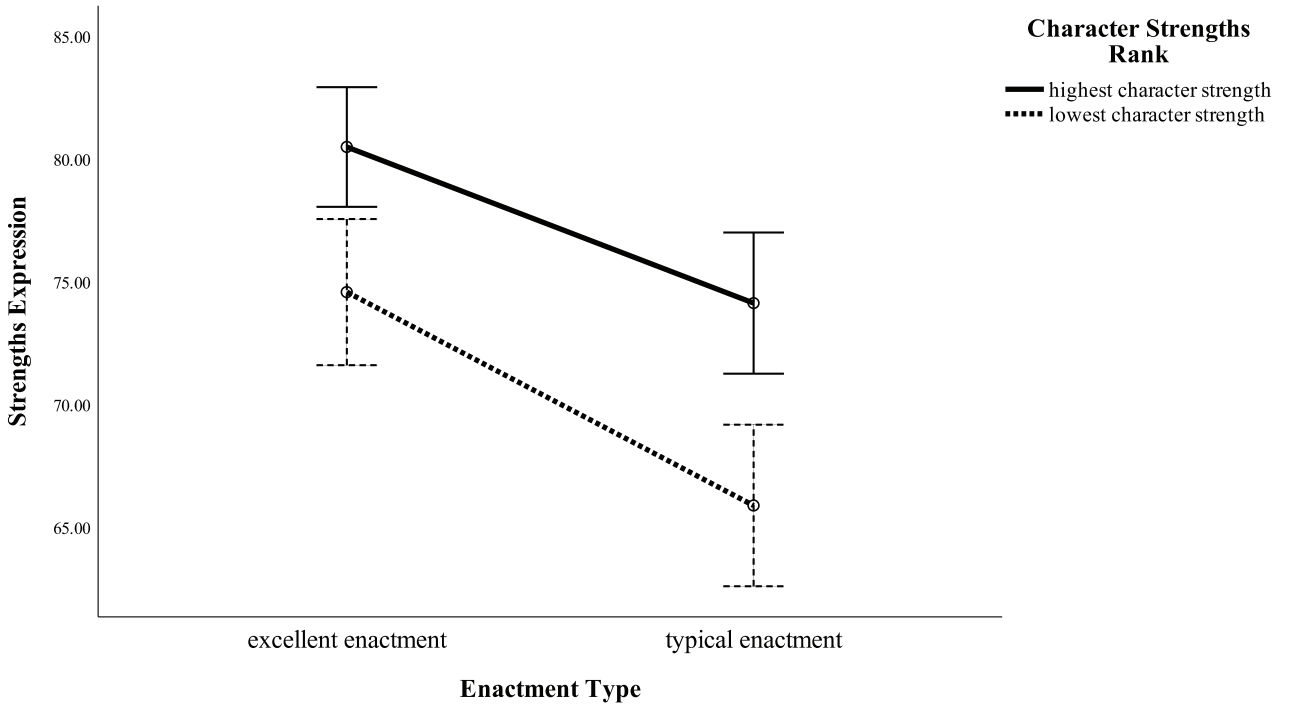

FIGURE 1 | Degree of strengths expression for highest and lowest strengths under typical and excellent enactment conditions. Error bars represent 95% confidence intervals.

selected strengths–behaviors, one (86.11%), two (9.03%), or three (4.86%) character strengths were recognized]. (3) The extent of strength expression was as high as possible ($M = 86.58$, $SD = 14.55$ across the selected enactments).

The resulting 144 strengths–behaviors were rated by the participants; each participant rated 24 enactments—one enactment for each character strength—with the *Virtue Judgment Instrument*. The order of strengths–behaviors to be rated was randomized.

Procedure

No ethics approval was required for this study according to the university guidelines. The study was conducted online, and participants were recruited via university mailing lists, psychology magazine websites, social platforms, and personal inquiry. Participants gave their written consent for participation. The participants were not compensated, but could receive partial course credit and/or a summary of the study results.

Results

First, we analyzed the extent to which participants agreed in their evaluations of situations depicting character strengths with regard to the six core virtues, intellectual and moral quality, and immorality, by computing interrater reliabilities (ICC1; one-way ANOVA random effects model, average measures). Results suggested that agreement between participants is very high, ICC = 0.99 (across all variables). For a more detailed overview of the interrater reliabilities of all variables, see online **Supplementary Appendix C**.

Sample sizes, means, and standard deviations of the virtue ratings for all behavior descriptions are given in **Table 5**.

For facilitating the interpretation, we used a score of ≥ 40[2] as cutoff for being a good marker of a virtue. All strengths fulfilled the cutoff of at least one virtue, while several strengths exceeded the cutoff for two virtues (i.e., curiosity, perspective, bravery, social intelligence, humor, and spirituality), three virtues (i.e., judgment, perseverance, honesty, kindness, fairness, and gratitude), or four virtues (i.e., leadership and forgiveness). A total of 18 strengths were markers for the virtue they were originally assigned to by Peterson and Seligman (2004). The exceptions were teamwork, forgiveness, humility, prudence, hope, and humor.

We computed *t* tests for dependent samples to compare the mean ratings of the theoretically assigned virtue of a character strength with the mean ratings across the other five virtues (see **Table 6**).

Table 6 shows that 17 of the 24 character strengths received higher ratings in the theoretically assigned virtue than in the mean of the other five virtues [$t(112) \geq 4.01$, $p < 0.001$, Cohen's $d_z \geq 0.47$]. Humor, in contrast, received lower ratings in the theoretically assigned virtue than in the mean of the other five virtues, $t(112) = -8.86$, $p < 0.001$, Cohen's $d_z = -0.09$.

Additionally, we compared our ratings with the assignment of character strengths to core virtues based on the empirical findings

[2]While an earlier study (Ruch et al., 2019) used a cutoff of ≥50 for being a good marker of a virtue, we lowered the cutoff because we obtained, as expected, overall lower ratings than when using self-reports.

TABLE 5 | Mean virtue ratings of the 24 character strengths in study 2.

	Wisdom		Courage		Humanity		Justice		Temperance		Transcendence	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Creativity	**44.18**	**34.87**	27.77	30.22	27.35	32.85	11.81	22.45	11.60	22.45	16.81	26.04
Curiosity	**44.98**	**31.64**	**40.05**	**32.34**	32.05	32.50	12.35	23.41	24.53	29.06	18.89	27.77
Judgment	**51.67**	**28.40**	39.04	34.04	**40.39**	**33.01**	39.27	34.98	**43.46**	**35.37**	17.12	26.62
Love of learning	**64.47**	**28.53**	37.72	33.93	25.19	33.21	18.96	29.04	21.42	29.58	21.56	31.49
Perspective	**60.21**	**30.60**	29.03	30.76	**60.41**	**28.78**	36.39	34.38	20.74	27.89	15.42	25.80
Bravery	31.09	30.76	**69.00**	**30.77**	**40.73**	**38.10**	25.10	32.68	29.52	32.65	19.48	29.43
Perseverance	**51.35**	**29.50**	**48.04**	**36.89**	15.81	25.83	13.25	25.52	**44.68**	**34.74**	18.29	29.50
Honesty	37.97	32.17	**55.81**	**31.50**	**40.57**	**34.98**	**45.53**	**34.39**	28.53	34.15	20.04	29.95
Zest	36.83	30.35	**49.60**	**34.53**	36.66	32.88	17.01	30.00	24.89	33.18	26.21	33.12
Love	33.22	34.36	24.88	31.35	**66.55**	**31.45**	20.52	31.09	18.42	27.92	17.60	26.56
Kindness	**41.56**	**33.67**	34.73	33.05	**82.17**	**25.25**	**51.27**	**38.66**	29.75	34.05	31.62	35.84
Social intelligence	**51.74**	**31.06**	37.12	34.44	**75.24**	**26.23**	32.96	35.52	29.32	31.77	17.72	27.43
Teamwork	38.04	30.16	28.70	28.69	**53.63**	**34.46**	35.24	35.15	34.95	34.72	17.85	28.86
Fairness	**46.47**	**32.71**	35.94	33.77	**49.65**	**31.99**	**58.79**	**33.49**	31.69	35.03	18.20	28.60
Leadership	**63.33**	**26.73**	**42.33**	**32.40**	**49.31**	**32.85**	**42.19**	**35.25**	33.55	34.91	20.82	31.93
Forgiveness	**47.30**	**30.36**	**41.42**	**33.81**	**59.99**	**29.03**	**42.03**	**36.10**	37.29	31.82	20.06	28.17
Humility	28.50	29.35	11.50	19.78	**43.63**	**34.58**	27.69	31.79	39.58	38.04	16.58	27.43
Prudence	**50.97**	**33.09**	28.93	33.55	21.89	27.77	13.89	25.10	34.47	36.09	12.11	22.51
Self-regulation	39.61	32.25	29.41	33.59	15.46	26.06	7.84	18.99	**73.38**	**31.74**	14.14	26.17
Beauty	30.05	31.10	14.64	23.80	23.72	31.60	8.28	17.21	20.93	29.30	**43.94**	**35.86**
Gratitude	**48.76**	**30.88**	31.19	31.42	**50.42**	**35.52**	26.47	32.39	27.61	32.01	**43.39**	**37.42**
Hope	**40.96**	**32.78**	37.99	36.93	25.96	30.04	14.08	26.47	36.62	35.27	32.20	37.22
Humor	32.65	29.90	**40.82**	**32.30**	**54.63**	**31.39**	16.95	28.21	16.84	27.18	13.65	22.80
Spirituality	34.51	32.51	28.68	33.89	**44.97**	**34.45**	17.12	27.70	25.53	31.34	**72.27**	**33.43**

N = 113. The N refers to the number of raters per character strength, and not per enactment (for a detailed overview of the ratings, see ***Supplementary Appendix D****). All means (and associated standard deviations) exceeding the cutoff (≥40) are printed in boldface. Beauty = Appreciation of Beauty and Excellence.*

of Ruch and Proyer (2015) by reclassifying leadership to courage, and teamwork, forgiveness, gratitude, and humor to humanity. In this revised model, 21 out of the 24 character strengths marked the assigned virtue (i.e., ratings above the cutoff $\geq$ 40). The exceptions were humility, prudence, and hope.

When comparing the ratings of the assigned core virtue with the average of the other assigned virtues, results suggested a better fit for most of these strengths to this reclassified model. With the exception of leadership, these character strengths received higher ratings on the postulated virtue than on the averaged ratings of the other virtues [teamwork: $t(112) = 7.51$, $p < 0.001$, $d_z = 0.79$; forgiveness: $t(112) = 7.85$, $p < 0.001$, $d_z = 0.91$; gratitude: $t(112) = 4.61$, $p < 0.001$, $d_z = 0.50$; humor: $t(112) = 10.79$, $p < 0.001$, $d_z = 1.17$]. Thus, when taking earlier empirical findings into account, only leadership and hope did not fit to such a reclassified model.

Finally, we examined the overall convergence of the ratings with previous studies by correlating the matrix of the ratings (i.e., 24 character strengths × 6 virtues) in the present study with the VIA classification (coding the character strengths assigned to a virtue as 1 and the non-assigned strengths as 0) and the results of earlier studies. Results suggested a fair convergence with the VIA classification [$r(142) = 0.51$, $p < 0.001$] and the means reported in the second study of Ruch et al. (2019) [$r(142) = 0.53$, $p < 0.001$] and a good convergence with results by Ruch and Proyer (2015) [$r(142) = 0.79$, $p < 0.001$] and the first study by Ruch et al. (2019) [$r(142) = 0.77$, $p < 0.001$].

Discussion

Study 2 applied "the layperson's excellent enactment of highest strengths paradigm" and provided further validation of the VIA classification (Peterson and Seligman, 2004) by showing that the core virtues in strengths–behaviors can also be perceived by people who were not involved in the situation, where the character strength was displayed. While, as expected, lower ratings in the core virtues were obtained than when collecting ratings from the people who also provided the strengths–behaviors, the pattern of results mostly followed the expected pattern: The ratings of core virtues based on strengths–behaviors widely confirm the theoretical assignment of the VIA classification. When looking at absolute ratings, most (i.e., 18 out of the 24 character strengths) can be considered markers of the originally assigned virtue. At the same time, most character strengths (i.e., 15 out of the 24 character strengths) can be considered markers for more than one virtue, thus suggesting that a better fit of character strengths to core virtues would be obtained when taking a polytomous classification (i.e., allowing a strength to belong to more than one virtue), as discussed in-depth by Ruch and Proyer (2015) and Ruch et al. (2019). When looking at relative ratings (i.e., the ratings of a core virtue in

TABLE 6 | Comparison of ratings in the virtue that was suggested by Peterson and Seligman (2004) with the averaged ratings in the other virtues in study 2.

	t (df = N – 1)	p	Cohen's d_z
Creativity	6.82	< 0.001	0.91
Curiosity	6.42	< 0.001	0.74
Open-mindedness	6.89	< 0.001	0.64
Love of learning	12.91	< 0.001	1.51
Perspective	11.02	< 0.001	1.07
Bravery	12.35	< 0.001	1.49
Persistence	5.67	< 0.001	0.68
Honesty	7.76	< 0.001	0.76
Zest	6.83	< 0.001	0.74
Love	13.84	< 0.001	1.60
Kindness	14.99	< 0.001	1.75
Social intelligence	14.85	< 0.001	1.70
Teamwork	0.22	0.825	0.02
Fairness	7.23	< 0.001	0.81
Leadership	0.12	0.903	0.01
Forgiveness	−1.61	0.111	−0.19
Modesty	4.01	< 0.001	0.47
Prudence	2.59	0.011	0.32
Self-regulation	16.30	< 0.001	2.01
Beauty	6.64	< 0.001	0.86
Gratitude	1.77	0.079	0.21
Hope	0.29	0.771	0.04
Humor	−8.86	< 0.001	−0.88
Spirituality	11.31	< 0.001	1.48

N = 113. Beauty = Appreciation of Beauty and Excellence.

relation to the average ratings of the other core virtues), 17 out of the 24 character strengths received higher ratings in the originally assigned virtue than for the other virtues.

For both absolute and relative ratings, a better fit was received when taking earlier empirical findings into account: When assigning character strengths to core virtues according to the findings of Ruch and Proyer (2015), 21 character strengths marked the corresponding virtue, while for 22 strengths, the assigned virtue was rated higher than the other virtues. Thus, only for the four strengths of hope (in both absolute and relative ratings), humility and prudence (absolute ratings), and leadership (relative ratings) was no fit to this revised classification found in the present study. It is hypothesized that this discrepancy is due to the fact that character strengths can correspond to multiple virtues (Ruch et al., 2019).

For hope, earlier studies (for a summary, see Ruch et al., 2019) suggested a good fit of hope to the virtue courage in addition to the originally assigned virtue of transcendence. In the present study, although the numerically highest ratings were obtained for the virtue of wisdom and knowledge, the ratings for the virtue of courage were rather close (i.e., the ratings of courage and wisdom differed by less than a tenth of a standard deviation in the ratings) and not far below the used cutoff of $\geq$ 40. The two strengths originally assigned to temperance, humility, and prudence received the numerically highest ratings in the present study for humanity, and wisdom and knowledge, respectively. Finally, also leadership (originally assigned to justice) was rated highest on wisdom. Again, all these relationships have already been reported in earlier studies (Ruch et al., 2019) in addition to the original assignments. Thus, while there are some discrepancies between the findings of the present study and earlier works, these are mostly small in size and widely confirm the previously reported patterns.

GENERAL DISCUSSION

The present studies extend knowledge about character strengths in two ways. First, the results suggested that when studying properties of character strengths based on strengths–behaviors, "the layperson's excellent enactment of highest strengths paradigm" should be used. The paradigm states that for the investigation of character strengths, one should focus on behavior examples of people who possess a strength of interest to a high degree and displayed the strength in an excellent manner. With regard to "the layperson's excellent enactment of highest strengths paradigm," results showed that strengths–behaviors based on the highest character strength in an excellent way were rated higher in fulfillment, moral excellence (as suggested by two criteria of character strengths; contributing to fulfillments, and being morally valued in its own right), intellectual excellence, and the six core virtues than behavior examples based on typical enactments, or the lowest character strength. Furthermore, a higher differentiation in the ratings and a higher agreement among raters was found. Thus, we conclude that the "layperson's excellent enactment of highest strengths paradigm" offers a valuable pathway for studying basic characteristics of character strengths.

Interestingly, also displays of the lowest strengths in typical enactments were, on average, rated as rather fulfilling (means were above the theoretical scale midpoint ranging from "fulfillment not at all pronounced" to "fulfillment extremely pronounced"). Thus, while it is more fulfilling to display a high-ranking strength in an excellent manner, displaying a low-ranking strength in a typical manner can also be considered somewhat fulfilling. This finding confirms Peterson and Seligman's (2004) hypothesis about fulfillment: strengths indeed contribute to fulfillment; both high-ranking and low-ranking strengths do so. Furthermore, this result might partially explain why experimental studies that contrasted interventions based on the highest-ranking strengths with interventions based on the lowest-ranking strengths usually did not find any differences between the interventions with regard to their effectiveness for increasing well-being (e.g., Rust et al., 2009; Proyer et al., 2015; see also Ruch et al., in press).

The second main contribution of the present set of studies is that they provide further empirical information on the assignment of character strengths to virtues by applying "the layperson's excellent enactment of highest strengths paradigm" and using different groups of people for providing the strengths–behavior's and the core virtue ratings. Overall, the results converged well with the assignment suggested in the VIA classification for most of the 24 character strengths. However,

the convergence increased when taking into account earlier empirical findings and re-assigning the strengths of teamwork, leadership, forgiveness, gratitude, and humor to other virtues than originally suggested by Peterson and Seligman (2004). Although some discrepancies between the expected and the data-driven assignment of strengths to virtues remained, similar findings have already been noted in earlier studies.

Overall, there is growing evidence that while the assignment of character strengths in the original classification seems to withstand empirical testing for most strengths, some adjustments should be considered. We do not suggest specific changes at the present moment but instead encourage further research using different methods and approaches before summarizing existing evidence and concluding on a revised, empirically backed classification. Nonetheless, we want to summarize the current state of findings. For the three character strengths of gratitude, forgiveness, and humor, the present study and all earlier empirical studies on this subject (Ruch and Proyer, 2015; Ruch et al., 2019) unequivocally suggest a reassignment to the core virtue of humanity. Thus, these three strengths seem to be the most dominant candidates for a future reassignment. The next best candidate would be teamwork, with most studies pointing to a better assignment to the core virtue of humanity. For leadership, the case is less clear: Across several studies, no dominant assignment to a virtue emerged; instead, leadership seems to fit well to several core virtues, predominantly wisdom and knowledge, courage, humanity, and justice. Recently revised versions of the self-report instruments for assessing character strengths (McGrath and Wallace, 2019) presumably even further reduced the associations of leadership to the core virtue of justice due to focusing more strongly on general leadership abilities than on fair leadership, as in the original instrument (Peterson and Seligman, 2004). Similarly, there are some inconsistencies with regard to the findings for prudence, humility, and hope. In earlier studies, prudence and humility yielded a good fit to the originally assigned virtues of temperance but also the virtues of wisdom and knowledge (prudence), and humanity (humility), which was also confirmed in the present study. For hope there is some evidence for its original classification (transcendence), but also to other virtues, including courage and wisdom, as in the present study.

Furthermore, one consequence of a potential reclassification of character strengths should be discussed: When using a dichotomous assignment, as in the original VIA classification (i.e., each character strength is assigned to only one core virtue), a potential reassignment of forgiveness and leadership would leave the core virtue of justice with only one character strength, namely, fairness. This would contradict the idea that the character strengths assigned to one virtue represent *different* routes for displaying this virtue, and only one such route would remain for the virtue of justice. Instead, due to their empirical co-occurrence (Ruch et al., 2019), and their strong conceptual similarity, as already noted by Peterson and Seligman (2004), one might consider unifying the virtues of humanity and justice to a general virtue related to improving other's welfare. On the other hand, one might also argue that the differences between the two virtues are rather subtle and it is therefore difficult to disentangle the two virtues by the applied methods. Thus, further research with a special focus on the differences between humanity and justice, ideally using more elaborate descriptions of the core virtues, is encouraged. Furthermore, there is still a need to study the mechanism between character strengths and virtues. As Miller (2019) states, the characterization of the link between character strengths and virtues is very compact in Peterson and Seligman (2004) book, and because of this, various interpretations about the link between both are possible. Thus, further research on the relationships between the character strengths (e.g., humor) and the associated virtues (e.g., humanity) is warranted.

Limitations and Directions for Future Research

Of course, the results presented here need to be interpreted in light of some limitations. First, the strengths–behaviors investigated are based on remembered experiences. This could have led to shortcomings in the recalling process. For example, it is possible that participants could have remembered the enactments described in a more positive way than they were, which in turn could have an influence on the ratings of all dependent variables. In future studies, other methods could be applied, such as experience sampling methods, journaling, or behavioral observations, to obtain a more accurate impression of the enactments and more accurate ratings of the dependent variables. Second, we analyzed enactments of character strengths and found that, in study 1, at least one virtue was recognized in 93.17% of the enactments of highest strengths and in 88.90% of the enactments of lowest strengths (cutoff: ratings $\geq$ 50). In study 2, strangers recognized at least one virtue in 90.97% of the enactments (cutoff: ratings $\geq$ 40). Thus, we conclude that strengths enactments are in most cases considered virtuous in terms of the six core virtues. However, in future studies, the comparison with enactments of other traits, motivations, interests, or performances is needed. While we do not expect that the enactments of other traits will be virtuous, fulfilling, intellectually and morally excellent, or reach the same level of virtuousness, fulfillment, and both intellectual and moral excellence, this hypothesis will need to be tested in a future study. Third, specific enactments of character strengths as used in the present study were not always "pure"; for several enactments (i.e., about 14% of the enactments in study 2), the raters perceived a second or a third character strength in the enactment. While we did not find evidence for a systematic bias in the results, it cannot be ruled out that this also affected our findings. Furthermore, while we found that enacting character strengths is perceived as intellectually and morally excellent, we did not examine whether character strengths are morally valued in their own right, without the absence of beneficial outcomes. Fourth, the characteristics of our samples could be seen as a further limitation of the study, particularly the fact that the participants are mainly highly educated women. Highly educated people, as well as women, might express their character strengths in a different way than less educated people or men. It could be hypothesized that well-educated people express different virtuous behavior than less educated people. Furthermore, higher educated people may have more facilities in recognizing virtuousness in the enactment

of character strengths compared to less educated people, and it could be further debated whether or not women and men rate the degree of virtuousness differently from one another. In future studies, it would be profitable to study whether less educated people or men report qualitatively different situations of strengths enactment, and whether their virtue ratings differ.

Further research using "the layperson's excellent enactment of highest strengths paradigm" is also needed. First, the present study was done with educated participants in one language region and is therefore not generalizable. We do not know how excellent enactment of a strength might vary with age, social class, or education. More importantly, culture might influence the results and one can easily imagine that individualistic cultures might develop different patterns than collectivistic one. Likewise, religion might play a role. More precisely, basic characteristics of character strengths such as the 12 criteria (e.g., fulfillment, morally valued) or characteristics of signature strengths are recommended to be studied by interviewing people who possess the character strength to a high degree and enact that strength in an excellent way, as these people can be seen as the natural experts on character strengths. Furthermore, we also encourage to apply the paradigm when developing character interventions or programs promoting virtues. People who do possess the character strength to a high degree and enact that strength in an excellent way will provide valid information on how strengths actually lead to virtuous behavior and how virtues can be promoted.

CONCLUSION

In conclusion, the present set of two studies introduced and evaluated "the layperson's excellent enactment of highest strengths paradigm." This paradigm states that focusing on excellent behavior examples of people who possess a strength to a high degree yields more appropriate results with regard to basic properties of character strengths than when considering other behavior examples. Results widely confirmed this assumption and suggest that the paradigm offers a valuable approach for future research endeavors when studying fundamental questions with regard to character strengths. Further, the studies provided further empirical information on the assignment of character strengths to virtues based on a more rigorous approach than previous studies, and mostly supported previous findings on convergence and discrepancies with regard to the original VIA classification.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the Swiss Psychological Association with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. According to the university guidelines (University of Zurich), the present study did not require a formal approval.

AUTHOR CONTRIBUTIONS

FGi, WR, and FGa conceptualized and designed the work, analyzed and interpreted the data, critically revised the manuscript, and approved the final version of the manuscript. FGi collected the data. FGi and FGa drafted the manuscript. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.01545/full#supplementary-material

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Character Strengths: Person–Environment Fit and Relationships With Job and Life Satisfaction

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Several studies demonstrated the relevance of character strengths in the workplace. For example, it has been shown that they positively relate to performance and are strong predictors of job satisfaction. Furthermore, it was demonstrated that occupational groups differ in their average levels of character strengths. However, little is known about the effects of the congruence between a person's strengths profile with the average profile within an occupational group (environmental congruence) on well-being. In a nationally representative sample (N = 870) of employed adults, we analyzed data on character strengths ($t1$), and measures of job and life satisfaction at three different time points ($t1$–$t3$; separated by 1 year). We studied (1) whether employees in different occupational groups differ with regard to their levels and configurations of character strengths, (2) how levels and configurations of character strengths relate to concurrent and predictive job and life satisfaction, and (3) whether a fit between strengths of a person and the environment goes along with current and future job and life satisfaction. Results confirmed previous findings that small, but meaningful, differences in character strengths among employees in different occupational groups can be found and that character strengths positively relate to current and prospective job and life satisfaction. Furthermore, results suggested that a better person–environment fit goes along with higher job and life satisfaction. These results suggest character strengths and could play an important role in vocational and career counseling.

Keywords: job satisfaction, person job fit, life satisfaction, person–environment (P–E) fit, character strengths

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INTRODUCTION

Character strengths are a set of 24 positively valued traits, as summarized in the Values in Action (VIA) classification (Peterson and Seligman, 2004). Several character strengths were found to positively relate to numerous desirable outcomes at work, such as work performance or satisfaction, and the occurrence of fewer undesirable outcomes, such as stress or counterproductive work behavior (e.g., Harzer and Ruch, 2014, 2015; Littman-Ovadia and Lavy, 2016; Heintz and Ruch, 2020). Specifically, higher expressions in character strengths make better and more satisfied employees, as summarized by Peterson et al. (2009); p. 229: "No matter the occupation, character matters in the workplace." While many character strengths indeed are beneficial at work regardless of the occupation, the congruence between strengths of the person and those demanded by the environment might also

play a role. When interested in finding the best job for a person—for example, the goal of vocational, and career counseling settings—one frequent approach is taking both the characteristics of the person and those of the environment into account and searching for an optimal fit between the two. Thus, in line with this notion, one would not only expect that character strengths in general are beneficial to workplace outcomes, but specific strengths of the person that are suited to certain workplaces are most beneficial. In line with this, a recent review by Van Vianen (2018) summarized the research on person–environment fit theory and concluded that best outcomes can be expected when the characteristics of the person and the environment are compatible. At the workplace, this conclusion is supported by findings on the fit of vocational interests to the workplace tasks (for reviews and meta-analyses, see Spokane et al., 2000; Kristof-Brown et al., 2005; Nye et al., 2017).

This idea of congruence is also one of the core tenets of Positive Psychology: Peterson and Seligman (2004) suggested that optimal outcomes are achieved when someone displays his or her highest character strengths on a regular basis. Applied to the workplace, this idea suggests that people should look for occupations in which their specific set of strengths (or at least some of them) is asked for and can be displayed. So far, there is only little research on the role of environmental congruence with regard to character strengths, even though it has been argued early on that character strengths might make an important addition to vocational and career counseling and might help in guiding people to occupations in which they are able to experience a high work and life satisfaction (Jungo et al., 2008).

In the present study, we study person–environment congruence with respect to character strengths on the level of occupational groups. We examine whether congruence between a person's character strengths profile and the typical character strengths profile in his or her occupation goes along with higher job satisfaction and life satisfaction. Furthermore, we aimed at extending earlier research on the role of character strengths at the workplace in two regards. We study differences in character strengths among employees in different occupations using a comprehensive classification of occupations and a representative sample of the workforce. Finally, we examine the associations of character strengths with concurrent and predictive (i.e., assessed at a later time point) job and life satisfaction.

Character Strengths in Different Occupations

There are several empirical hints toward differences among occupations with regard to the prototypical character strengths profile of the people working in these occupations. This was already shown by Peterson et al. (2009) who compared the average levels of character strengths among selected occupational groups, namely, managers, professionals, administrator, clerks, blue collar workers, and homemakers. They reported higher scores for professionals and managers in the strengths of creativity, curiosity, judgment, love of learning, perspective, perseverance, hope, and zest. Homemakers scored higher in kindness and love, while clerks and blue collar workers reported higher scores in humility. A recent study (Heintz and Ruch, 2020) compared the levels of character strengths across eight selected occupations (i.e., nurses, physicians, supervisors, clinical psychologists, office workers, social workers, and educators, economists, and teachers) and found group differences for all strengths except for kindness, self-regulation, and humor. These differences mostly followed the expected pattern; for example, social workers scored higher in teamwork than on average, psychologists in social intelligence, and supervisors and teachers in leadership. While in both studies the effects among different occupations were relatively small and some occupations (e.g., managers) scored highest in most strengths, the existence of such differences allows for comparing an individual's profile across all 24 strengths with the typical profile within a given occupation. This comparison might be useful for career counseling or placement decisions.

So far, all studies compared selected occupations, and, to the best of our knowledge, no study has examined group differences in character strengths using a comprehensive classification such as the International Standard Classification of Occupations (ISCO; International Labour Office [ILO], 2012). We argue that this is relevant since it allows for considering all existing occupations in an internationally comparable framework. This study aims at closing this gap by investigating a representative sample of the Swiss workforce.

Character Strengths and Job and Life Satisfaction

Various studies have been conducted on the relationships of character strengths with different indicators of well-being. Overall, findings suggest that almost all character strengths positively relate to subjective and psychological well-being (Hausler et al., 2017; Wagner et al., 2020), physical well-being (Proyer et al., 2013), general health (Gander et al., 2020), as well as life satisfaction (Buschor et al., 2013), and job satisfaction (Jungo et al., 2008; Heintz and Ruch, 2020). The exceptions are the strengths of modesty, prudence, appreciation of beauty and excellence, and judgment, for which often small negative relationships (modesty), no relationships, or small positive relationships with well-being (prudence, beauty, and judgment) are reported. For both job satisfaction and life satisfaction, usually the same set of five strengths (i.e., zest, hope, curiosity, love, and gratitude) yield the strongest relationships, while there were also some differences depending on the occupational group (Heintz and Ruch, 2020). While the existing studies focused on specific occupations, they also focused on concurrent relationships (i.e., assessed at the same time) of character strengths with well-being, but did not examine whether character strengths are also associated with future well-being. Thus, the current study aims at closing this gap by including three measurement time points for the assessment of job or life satisfaction.

Person–Environment Fit

Person–environment fit theory suggests that "people have an innate need to fit their environments and to seek out environments that match their own characteristics" (Van Vianen,

2018; p. 77). Overall, congruence can be studied on the level of individuals, groups, occupations, or organizations. An important distinction has been made between supplementary congruence (i.e., an individual "supplements, embellishes, or possesses characteristics which are similar to other individuals"; Muchinsky and Monahan, 1987; p. 269), and complementary congruence (i.e., a "weakness or need of the environment is off-set by the strength of the individual, and vice versa"; Muchinsky and Monahan, 1987; p. 271). Thus, supplementary fit is given, when the individual and his or her environment is similar, while complementary fit describes situations in which an individual provides aspects to the environment that are currently not represented (but demanded). Van Vianen (2018) describes person–vocation fit (e.g., a person's vocational interests match the vocational characteristics) and person–job fit (e.g., a person's abilities match those demanded by the job) as examples for complementary fit, while person–supervisor, person–team, and person–organization fit (e.g., a person's attributes or values match those of the supervisor, team, or organization) are examples for supplementary fit.

Overall, both types of fit were found to go along with positive individual outcomes at work (Kristof-Brown et al., 2005). Furthermore, while fit shows the strongest associations to attitudinal outcomes, such as work satisfaction, it is lesser associated with behavioral outcomes such as work performance or turnover intentions. In addition, the direction of misfit (e.g., whether a person's abilities exceed or are inferior to those demanded by the job) and the level of fit (e.g., whether a person with high abilities is in a job demanding high abilities, or a person with low abilities is in a matching job) seem to be of lesser relevance, thus supporting central tenets of person–environment fit theories (Van Vianen, 2018). While these theories have also been criticized (e.g., Edwards, 2008), they represent nonetheless a crucial concept within organizational behavior research.

Character Strengths and Person–Environment Fit

The fundamental proposition of person–environment fit theories goes along very well with basic theoretical assumptions of character strengths. Peterson and Seligman (2004) suggested that displaying one's highest character strengths goes along with beneficial outcomes for the individual. Thus, individuals should report the highest well-being, if they are in an environment, which asks for and benefits from the individuals' strengths (cf. complementary fit). The idea of examining character strength-based person–environment fit at the workplace emerged early in the field of character research. Peterson et al. (2009) investigated whether those character strengths that are more typical for a specific occupation show stronger relationships to job satisfaction (supplementary fit), or whether those strengths that are "rare" within an occupation yield stronger relationships to job satisfaction (complementary fit). In their analyses, they correlated the group means of a character strength with the correlation between this character strength and life satisfaction in the respective group (i.e., they analyzed whether the average level of a strength in a given group goes along with this strength's association with life satisfaction in this group). The authors report small negative correlations between the level of character strengths and the relationships between the strengths and job satisfaction within each studied occupation. Peterson et al. (2009) interpreted these relationships as supporting the idea of complementary fit and contradicting the notion of supplementary fit. Yet, one important limitation of this study is that the inference leading to a conclusion of complementary fit does not necessarily hold true: Simply because a strength is uncommon in a given occupation does not necessarily mean that it is also important in this occupation. Furthermore, this study did not directly examine fit by examining the congruence of each individual to his or her occupation, but relied on indirect inferences, by looking at the relationships between group levels of strengths and their relationships with job satisfaction.

Several studies have been conducted on the applicability of character strengths at work (e.g., Harzer and Ruch, 2012, 2013; Lavy and Littman-Ovadia, 2017; Höge et al., 2020; Huber et al., 2020; Strecker et al., 2020). These studies examined whether and how many of one's highest character strengths, the so-called *signature strengths*, can be applied by individuals in their occupation (i.e., whether these strengths are encouraged, perceived as useful and important, and are actually displayed). Harzer et al. (2017) argued that this could be considered an example of complementary fit. In general, a positive association between the number of character strengths that can be applied and various positive outcomes, including job satisfaction, has been confirmed repeatedly (e.g., Harzer and Ruch, 2012; Harzer et al., 2017; Lavy and Littman-Ovadia, 2017; Huber et al., 2020). Yet, in these studies, the need for a particular strength at the workplace is often confounded with the frequency of this strength being displayed at the workplace and being considered as useful for completing tasks. Thus, this conceptualization of fit might overestimate the importance of person–environment fit, since it not only covers the needs and demands of the workplace. Overall, existing research hints toward positive effects of person–environment fit with respect to character strengths and work-based outcomes, but more research is needed that disentangles the information that serves into the indicators of fit.

The Present Study

The aims of the present study were threefold. First, we examined whether occupational groups differ with regard to their levels and configurations of character strengths: We assume that occupational groups differ with regard to what character strengths are demanded; for example, social occupations should require higher levels of strengths of humanity, while academic occupations might require higher levels of cognitive strengths.

Following the suggestion that "individuals strive toward fit" (Van Vianen, 2018; p. 81) we therefore assume that the average levels of character strengths in employees of different occupational groups reflect those differences in demand. For categorizing the occupational groups, we used the ISCO (International Labour Office [ILO], 2012) that distinguishes among 10 occupational groups: (1) managers; (2) professionals; (3) technicians and associate professionals; (4) clerical support workers; (5) service and sales workers; (6) skilled agricultural,

forestry, and fishery workers; (7) craft and related trades workers; (8) plant and machine operators and assemblers; (9) elementary occupations; and (10) armed forces occupations (the latter two groups were not considered in the present study due to the small number of participants in these occupations). We conducted all analyses using the absolute scores of character strengths ("levels"). Additionally, for reducing the influence of possible response biases, we also analyzed ipsative scores of character strengths (i.e., *z*-standardized within the individual; "configurations"); when using ipsative scores, people do not differ in their levels across all strengths (i.e., whether someone scores higher in all strengths), but only with regard to the configurations of their character strengths (i.e., whether someone scores higher in one strength than in another strength). As an example for illustrating the difference between these two approaches, assuming we consider three self-reported characteristics A, B, and C (rated on a scale ranging from 1 and 5) of two individuals *X* and *Y*. These individuals should be compared regarding how well their profile across these three characteristics fits to an optimal profile for a specific occupation, which is A = 5, B = 4, and C = 3. Person *X* reported scores of 4, 5, and 3, and Person *Y* scores of 3, 2, and 1, for A, B, and C, respectively. Thus, when considering absolute scores, Person *X* fits better to this occupation (sum of deviations from optimal profile = 2) than Person *Y* (sum of deviations = 6). However, we also note that Person *X* reported higher scores across all three characteristics than Person *Y*. Thus, instead of absolute scores, we might also look at the rank order of the characteristics (as a simple version of ipsative scores). Thereby, we would see that while Person *Y* perfectly replicates the rank order of characteristics demanded by the job (i.e., A > B > C) and would therefore be an optimal fit for the job, this is not the case for Person *X* (B > A > C). Overall, the two approaches might lead to different conclusions. Ipsative scores have the advantage that they are less prone to response biases but the disadvantage that also potentially important information is lost—that Person *X* reported higher scores across all three characteristics than Person *Y* might also be an adequate evaluation of their characteristics. Therefore, we decided to report results on both approaches with the idea to make use of all the information contained in absolute scores while also comparing these findings with results on less biased ipsative scores.

We are extending earlier findings on group-level differences (Peterson et al., 2009; Heintz and Ruch, 2020) by using a nationally representative sample of the workforce, a comprehensive classification of occupations, and considering both differences in levels and configurations of character strengths. We expected, in accordance with earlier findings (Peterson et al., 2009), higher scores in cognitive strengths (i.e., creativity, curiosity, judgment, love of learning, and perspective), as well as perseverance, hope, and zest in managers and professionals, and higher scores in leadership in managers as compared to the average across all occupational groups (grand mean).

> Hypothesis 1: Occupational groups differ with regard the (a) levels and (b) configurations of character strengths.
>
> Hypothesis 2: Managers report higher absolute and ipsative scores in the strengths of (a) creativity, (b) curiosity, (c) judgment, (d) love of learning, (e) perspective, (f) perseverance, (g) hope, (h) zest, and (i) leadership than on average.
>
> Hypothesis 3: Professionals report higher absolute and ipsative scores in the strengths of (a) creativity, (b) curiosity, (c) judgment, (d) love of learning, (e) perspective, (f) perseverance, (g) hope, and (h) zest than on average.

Second, we studied the relationships of levels and configurations of character strengths with concurrent and predictive job and life satisfaction (assessed three times, separated by 1 year each). We are extending previous findings (e.g., Heintz and Ruch, 2020) by also considering the predictive validity of character strengths for job and life satisfaction as well as considering a nationally representative work force of a country (as compared to investigating selected groups of occupations). In line with earlier findings, we expected positive correlations for most strengths, with the highest relationships for zest, curiosity, hope, gratitude, and love. Furthermore, we expected that similar relationships (but smaller in size) are obtained for the assessments of job and life satisfaction at later time points.

> Hypothesis 4: The absolute scores of (a) zest, (b) curiosity, (c) hope, (d) gratitude, and (e) love positively relate to concurrent and predictive job and life satisfaction (i.e., measured 1 and 2 years later).
>
> Hypothesis 5: The ipsative scores of (a) zest, (b) curiosity, (c) hope, (d) gratitude, and (e) love positively relate to concurrent and predictive job and life satisfaction (i.e., measured 1 and 2 years later).

Third, we were interested in whether there is an effect of environmental congruence with regard to character strengths on the level of occupational groups. Following the assumptions that differences among occupational groups in character strengths are meaningful representations of those character strengths demanded in those occupations, and that displaying one's strengths is fulfilling, we expected positive relationships of environmental fit to well-being. We analyzed whether the convergence between an individual's strengths profile with his or her occupational group's strengths profile is related to job and life satisfaction, both concurrent and predictive. We studied both job and life satisfaction, since given that people spend a lot of time at work, we assumed that person–environment fit would not only affect job satisfaction but also life satisfaction. We are extending earlier findings (Peterson et al., 2009; Harzer et al., 2017) by estimating the degree of congruence between each participant and his or her occupational group with regard to levels and configurations of character strengths. Furthermore, we are extending previous studies by also considering predictive validity of environmental congruence on job and life satisfaction. In line with person–environment fit theory, studies on vocational interests (e.g., Kristof-Brown et al., 2005), and findings on aspects of complementary fit (Harzer et al., 2017), we expected that the better one's character strengths profile converges with his

or her occupational group, the higher levels of job and life satisfaction are reported.

> Hypothesis 6: The absolute fit of an individual's character strengths profile with the profile of the corresponding occupational group positively relates to concurrent and predictive job and life satisfaction (i.e., measured 1 and 2 years later).
>
> Hypothesis 7: The ipsative fit of an individual's character strengths profile with the profile of the corresponding occupational group positively relates to concurrent and predictive job and life satisfaction (i.e., measured 1 and 2 years later).

MATERIALS AND METHODS

Sample

The data of $N = 870$ adults (51.6% women) aged between 27 and 57 ($M = 44.35$; $SD = 8.27$) at $t1$ was analyzed. All participants were working and living in Switzerland. The sample was representative of the Swiss workforce. A large part of the sample (37.9%) completed tertiary education (e.g., university), about half of the sample (52.1%) completed secondary education (e.g., vocational training), 3.7% completed primary education, while 6.3% had another educational background or did not indicate their educational level. Most ISCO groups (i.e., 8 out of 10) were represented in the sample: managers (11.5%); professionals (31.7%); technicians and associate professionals (20.9%); clerical support workers (10.2%); service and sales workers (10.2%); skilled agricultural, forestry, and fishery workers (3.0%); craft and related trades workers (8.5%); plant and machine operators, and assemblers (3.9%). Due to the small number of people in elementary occupations (eight participants), this occupational group was excluded from further analyses. In addition, there were no people working in armed forces occupations, in line with the expectations. Most participants (56.6%) worked full time, while overall, participants were working between 10 and 100% ($M = 85.54\%$; $SD = 19.96\%$; full-time equivalent).

Of those who completed $t1$, $n = 690$ completed $t2$ and $n = 677$ completed $t3$, while $n = 587$ (67.5%) completed both waves. Analyses of dropouts revealed no differences at $t1$ for gender [$\chi^2(1, N = 870) = 0.00$, $p = 0.994$], education [$\chi^2(3, N = 870) = 5.51$, $p = 0.138$], occupational group [$\chi^2(7, N = 870) = 7.66$, $p = 0.364$], nor job satisfaction [$t(866) = 0.47$, $p = 0.638$], or life satisfaction [$t(868) = 0.14$, $p = 0.892$]. However, those who missed at least one assessment were on average 1.62 years younger [$t(868) = 2.70$, $p = 0.007$] than those who completed all three assessments.

Measures

The *Character Strengths Rating Form* (CSRF) is a 24-item self-report instrument for the assessment of the 24 character strengths of the VIA classification (Peterson and Seligman, 2004). It utilizes one short description for each of the strengths that is rated on a 9-point Likert-style scale (from 1 = "not like me at all" to 9 = "absolutely like me"). A sample item is "Curiosity (interest, novelty-seeking, and openness to experience): Curious people take an interest in all ongoing experience in daily life for its own sake and they are very interested in, and fascinated by, various topics and subjects. They like to explore and discover the world, they are seldom bored, and it's easy for them to keep themselves busy." Ruch et al. (2014) report good convergent validity with the standard instrument for assessing character strengths, the VIA Inventory of Strengths (VIA-IS; Peterson et al., 2005), and Gander et al. (2020) provided information on its stability and criterion validity when predicting external criteria such as life satisfaction, mental health problems, or general health.

The *Satisfaction with Life Scale* (SWLS; Diener et al., 1985; used in the German adaptation as used by Ruch et al., 2010) is a five-item self-report instrument for the assessment of life satisfaction. The SWLS uses a 7-point Likert-style scale (7 = "strongly agree" to 1 = "strongly disagree"). A sample item is "In most ways, my life is close to my ideal." The SWLS has frequently been used in research and shows good psychometric properties (Pavot and Diener, 2008). Internal consistency in the present sample was high at all measurement time points ($\alpha = 0.89/0.90/0.92$), and the ratings were stable across the 3 years ($t1$–$t2$: $r_{tt} = 0.74$; $t2$–$t3$: $r_{tt} = 0.72$; and $t1$–$t3$: $r_{tt} = 0.68$).

Job satisfaction was assessed with five self-report items developed for this study (Massoudi, 2009) based on an adaption of the Minnesota Satisfaction Questionnaire (Weiss et al., 1967). The items cover different aspects of job satisfaction, including satisfaction with supervisor and colleagues, job security, salary, and working conditions and use a 4-point Likert-style scale (1 = "not satisfied at all" to 4 = "very satisfied"). A sample item is "I am satisfied with my working conditions." Internal consistency in the present sample was satisfactory ($\alpha = 0.70$ at all measurement time points), and the scores were rather stable ($t1$–$t2$: $r_{tt} = 0.61$; $t2$–$t3$: $r_{tt} = 0.59$; and $t1$–$t3$: $r_{tt} = 0.52$).

Procedure

Participants were part of a national longitudinal research project conducted during seven consecutive years (NCCR-LIVES project: Swiss National Center of Competence in Research LIVES—Overcoming vulnerability: Life course perspectives; Maggiori et al., 2016). Participants were randomly sampled based on information of the Swiss Federal Statistics Office. They completed the surveys on phone, paper, online, or a combination of phone/paper, phone/online. As an incentive for participation, all participants received gifts worth 20 Swiss Francs upon the completion of every year. In this article, we have used data from years 2 (=$t1$), 3 (=$t2$), and 4 (=$t3$) since character strengths were not assessed in the first project year. All participants provided informed consent for participation. No formal ethics approval was required for this study. All data used in this study are available upon request: https://forsbase.unil.ch/project/study-public-overview/14369/0/.

All analyses were controlled for influences of gender and age. We did not control for education, since the ISCO occupational groups are strongly related to education levels, and we consider the education level an important aspect of an occupation group, and not a confounding variable. In addition, from the perspective of vocational counseling, clients have often not reached their

highest education level at the moment of the counseling, and thus, this information is not available at this point in time. Therefore, we conducted the main analyses without controlling for education, but additionally report a short summary of the findings when additionally controlling for education. A table of zero-order correlations among all studied variables is provided as an Online Supplementary.

RESULTS

Differences in Strengths Among Occupational Groups

Means and standard deviations of character strengths in all eight occupational groups are provided as an online supplementary (see Online **Supplementary Table A**). In a multivariate analysis of covariance (MANCOVA), we compared the scores in all 24 character strengths (dependent variables) among the occupational groups (independent variable) while controlling for gender and age (covariates). Results suggested that the occupational groups differ with regard to the mean levels of character strengths, Pillai's trace: $V = 0.26$, $F(168, 5{,}901) = 1.36$, $p = 0.001$, $\eta_p^2 = 0.037$, in line with the expectations and replicating earlier findings.

We repeated the same analysis with ipsative scores within the participants by computing within-person *z*-scores. That is, for all strengths, we subtracted a participant's mean score across all 24 character strengths and divided the results by a participant's standard deviation across all 24 character strengths. Thus, the resulting strengths profiles do not differ in the level among participants but only in the configuration (the mean across all strengths within a participant equals 0, and the standard deviation equals 1). Results of the MANCOVA using ipsative scores also suggested differences in the character strengths across the occupational groups, Pillai's trace: $V = 0.26$, $F(161, 5908) = 1.42$, $p < 0.001$, $\eta_p^2 = 0.038$, in line with the expectations.

To investigate the quality of the mean level differences, we computed univariate ANCOVAs for each character strength separately (again, for absolute, and ipsative scores). To determine which occupational groups differed, we computed *post hoc* tests (using an alpha error level of $p < 0.05$), contrasting each occupational group with the grand mean (see **Table 1**).

Table 1 shows that for the absolute scores, differences in eight character strengths were observed: managers, and/or professionals scored higher than the other groups in six strengths: the strengths of wisdom (i.e., creativity, curiosity, judgment, love of learning, and perspective), and social intelligence. Additionally, managers scored higher in leadership. Moreover, professionals, technicians, and service and sales workers scored lower than average in the strengths of bravery, leadership, and perspective, respectively.

Highly similar results were obtained for ipsative scores, although no group differences for perspective, social intelligence, and leadership were found. Yet, technicians and associate professionals and skilled agricultural, forestry, and fishery workers scored higher in team work and prudence, and managers scored lower in prudence as compared to the other groups, instead. However, again, managers, and/or professionals scored higher in the remaining strengths of wisdom, while professionals showed lower scores in bravery.

When conducting the same analyses while also controlling for education, no group differences could be observed in the MANCOVAs, Pillai's trace: $V = 0.193$, $F(168, 5{,}880) = 1.00$, $p = 0.506$, and $\eta_p^2 = 0.028$ (absolute scores); Pillai's trace: $V = 0.207$, $F(161, 5{,}887) = 1.11$, $p = 0.157$, and $\eta_p^2 = 0.030$ (ipsative scores). Univariate analyses (not shown in detail) suggested that no group differences in the strengths of wisdom were present when controlling for education, while the pattern for the other strengths remained unchanged, in line with the expectations.

Relationships With Job and Life Satisfaction

For examining the relationships of character strengths with job and life satisfaction, we computed partial correlations between the character strengths at *t*1 with job and life satisfaction at *t*1, *t*2, and *t*3 while controlling for gender and age (see **Table 2**). Again, we repeated these analyses with absolute and ipsative scores.

Table 2 shows that almost all character strengths (absolute scores) positively related to life satisfaction at all time points; exceptions were humility, prudence, and appreciation of beauty and excellence. Most character strengths also showed positive correlations to job satisfaction, with the most consistent relationships (i.e., present at all three time points) observed for hope, zest, love, kindness, gratitude, perspective, social intelligence, leadership, and forgiveness. Fewer relationships were obtained when using ipsative scores: The strengths of zest, love, and hope yielded consistent positive relationships, and the strengths of humility and prudence yielded consistent negative relationships with life satisfaction. For job satisfaction, consistent negative relationships were found for humility and prudence, equivalent to the findings for life satisfaction. These patterns remained widely unchanged when additionally controlling for education. Job and life satisfaction were moderately positively correlated, $r = 0.34$, $p < 0.001$.

Relationships of Convergence Between Individual and Occupational Profile With Job and Life Satisfaction

Next, we were interested in the convergence of an individual's strengths profile with the profile of his or her occupational group. For this purpose, we computed the Euclidian distance between a person's strengths profile and the profile of his or her occupational group (i.e., the square root of the sum of the squared difference between every strength of the individual and his or her occupational group). The resulting fit index is a measure of dissimilarity, with higher scores denoting a lower fit of the person to the profile of his or her occupational group and lower numbers indicating a higher fit. Such fit indices were computed for both, absolute and ipsative scores in character strengths. Then, we computed partial correlations between these fit indices and job and

TABLE 1 | Analysis of covariance (ANCOVA) results for differences among occupational groups in means and ranks of character strengths, controlled for sex and age.

	Absolute scores				Ipsative scores			
	F(7, 859)	*P*	Partial η^2	Contrast	*F*(7, 859)	*p*	Partial η^2	Contrast
Creativity	2.95	0.005	0.023	2 > *M*	3.05	0.004	0.024	2 > *M* > 4
Curiosity	2.73	0.008	0.022	2 > *M*	2.80	0.007	0.022	2, 8 > *M* > 6
Judgment	4.51	0.000	0.035	1, 2 > *M*	4.71	0.000	0.037	1, 2, 3 > *M*
Love of learning	3.68	0.001	0.029	1, 2 > *M*	4.15	0.000	0.033	1, 2 > *M* > 6
Perspective	2.41	0.019	0.019	1 > *M* > 5	1.51	0.161	0.012	–
Bravery	2.45	0.017	0.020	1 > *M* > 2	2.78	0.007	0.022	*M* > 2
Perseverance	1.05	0.393	0.008	–	0.33	0.939	0.003	–
Honesty	1.97	0.057	0.016		0.70	0.670	0.006	–
Zest	1.84	0.076	0.015	–	1.71	0.104	0.014	
Love	1.77	0.089	0.014	–	0.95	0.466	0.008	–
Kindness	1.42	0.194	0.011	–	0.61	0.751	0.005	–
Social intelligence	3.31	0.002	0.026	1, 2 > *M*	1.52	0.157	0.012	
Teamwork	0.45	0.869	0.004	–	2.36	0.022	0.019	3 > *M*
Fairness	1.34	0.229	0.011	–	1.04	0.401	0.008	–
Leadership	2.53	0.014	0.020	1 > *M* > 3	1.46	0.180	0.012	
Forgiveness	1.45	0.181	0.012	–	0.76	0.619	0.006	
Humility	0.98	0.447	0.008	–	1.82	0.080	0.015	
Prudence	1.35	0.225	0.011	–	2.11	0.041	0.017	6 > *M* > 1
Self-regulation	1.29	0.254	0.010	–	1.54	0.151	0.012	
ABE	1.19	0.305	0.010	–	1.19	0.309	0.010	–
Gratitude	0.80	0.591	0.006	–	1.10	0.361	0.009	–
Hope	1.14	0.334	0.009	–	0.19	0.988	0.002	–
Humor	0.55	0.795	0.004	–	1.05	0.393	0.008	–
Spirituality	1.40	0.201	0.011	–	1.21	0.293	0.010	–

N = 870. ABE, Appreciation of Beauty and Excellence. Contrasts: 1, managers; 2, professionals; 3, technicians and associate professionals; 4, clerical support workers; 5, service and sales workers; 6, skilled agricultural, forestry, and fishery workers; 7, craft and related trades workers; and 8, plant and machine operators, and assemblers. M = average across all occupational groups. Example: "1 > M > 2" indicates that managers scored higher and professionals scored lower than the average across all occupational groups ($p < 0.05$).

life satisfaction, while controlling for gender and age (see **Table 3**).

Table 3 shows that a better fit (lower scores in the fit indices) did go along with higher ratings of life satisfaction for both, absolute and ipsative scores (although not at *t*2 for absolute scores). Job satisfaction was negatively related to the fit indices when using ipsative scores (indicating that a better fit goes along with higher satisfaction) but showed no relationships when using absolute scores. The same pattern was obtained when additionally controlling for education. The fit indices for absolute and ipsative scores showed small positive correlations, $r = 0.16$, $p < 0.001$.

DISCUSSION

The present study examined the levels and configurations of character strengths with regard to differences between occupational groups, and the relationships to concurrent and predictive job and life satisfaction, and studied the relationships of person–environment fit (environmental congruence) in character strengths with concurrent and predictive job and life satisfaction.

Most importantly, our results showed higher levels of congruence between the character strengths of a person and those of the employees in his or her occupational group to go along with higher levels in current and future job and life satisfaction, providing evidence for effects of person–environment fit. Thus, our results were mostly in line with our expectations based on person–environment fit theory (e.g., Van Vianen, 2018) and earlier findings on effects of character strengths congruence (Harzer et al., 2017).

When looking at operationalizations of fit that have been used in past research, our findings disagree with some results by Peterson et al. (2009): They computed, for each occupational group separately, the average level of each character strength and the relationship of the character strength with work satisfaction within this group. Afterwards, they correlated the group means with the correlation between the character strengths and life satisfaction and found negative relationships (e.g., the higher the average level of a strength within a group, the lower the work satisfaction). While Peterson et al. (2009) conducted their analyses on the levels of occupational groups, we conducted our analyses based on the individuals, which has the advantage that it uses a larger data basis. When repeating the same analyses as Peterson et al. (2009); not shown in detail, we could not

TABLE 2 | Partial correlations of character strengths (*t*1) with job satisfaction and life satisfaction (*t*1–*t*3), controlled for sex and age.

	Absolute scores						Ipsative scores					
	Job satisfaction			Life satisfaction			Job satisfaction			Life satisfaction		
	*t*1	*t*2	*t*3	*t*1	*t*2	*t*3	*t*1	*t*2	*t*3	*t*1	*t*2	*t*3
Creativity	0.11**	0.14***	0.07	0.16***	0.12***	0.13***	0.03	0.06	0.01	0.03	0.03	0.01
Curiosity	0.06	0.08*	0.04	0.17***	0.12***	0.13***	−0.02	0.01	−0.02	0.02	0.00	−0.02
Judgment	0.08*	0.06	0.07*	0.15***	0.10**	0.10**	−0.01	−0.04	0.00	−0.03	−0.06	−0.08*
Love of learning	0.07*	0.08*	0.06	0.17***	0.13***	0.16***	−0.02	0.01	0.00	0.00	0.01	0.01
Perspective	0.10**	0.09**	0.08*	0.20***	0.17***	0.16***	0.03	0.00	0.04	0.04	0.04	0.02
Bravery	0.09**	0.08*	0.01	0.17***	0.16***	0.14***	0.02	0.03	−0.04	0.00	0.04	−0.01
Perseverance	0.10**	0.08*	0.00	0.21***	0.11***	0.15***	0.02	0.00	−0.08*	0.05	−0.01	0.02
Honesty	0.10**	0.08*	0.05	0.16***	0.13***	0.10**	0.01	−0.01	−0.04	0.00	0.00	−0.06
Zest	0.16***	0.14***	0.10**	0.31***	0.27***	0.27***	0.08*	0.08*	0.06	0.16***	0.16***	0.14***
Love	0.15***	0.14***	0.13***	0.31***	0.26***	0.29***	0.05	0.04	0.06	0.17***	0.15***	0.15***
Kindness	0.16***	0.14***	0.11**	0.15***	0.10**	0.10**	0.04	0.02	0.01	−0.05	−0.08*	−0.07*
Social intelligence	0.12***	0.12***	0.15***	0.24***	0.20***	0.24***	0.02	0.03	0.11**	0.05	0.06	0.09**
Teamwork	0.09**	0.06	0.11**	0.13***	0.10**	0.13***	0.01	−0.05	0.05	−0.07*	−0.03	−0.03
Fairness	0.12***	0.06	0.10**	0.11***	0.09*	0.13***	0.00	−0.04	0.02	−0.09*	−0.06	−0.03
Leadership	0.14***	0.13***	0.08*	0.23***	0.16***	0.23***	0.08*	0.08*	0.04	0.10**	0.07	0.11***
Forgiveness	0.13***	0.12***	0.13***	0.14***	0.11***	0.16***	0.05	0.05	0.08*	−0.03	0.00	0.03
Humility	0.01	−0.03	0.01	0.00	−0.04	−0.02	−0.07*	−0.12***	−0.09*	−0.17***	−0.17***	−0.17***
Prudence	0.03	0.03	0.00	0.05	0.01	0.05	−0.09**	−0.07*	−0.11**	−0.14***	−0.15***	−0.13***
Self-regulation	0.07	0.05	0.06	0.14***	0.09*	0.15***	−0.03	−0.03	0.00	−0.02	−0.05	0.01
ABE	0.07*	0.07	0.08*	0.07	0.04	0.09**	−0.03	−0.01	0.04	−0.13***	−0.10**	−0.05
Gratitude	0.13***	0.11**	0.10**	0.23***	0.19***	0.21***	0.03	0.00	0.02	0.06	0.03	0.06
Hope	0.13***	0.13***	0.09*	0.34***	0.28***	0.29***	0.03	0.05	0.02	0.20***	0.18***	0.16***
Humor	0.11**	0.10**	0.07	0.20***	0.17***	0.18***	−0.02	−0.01	−0.02	0.02	0.04	0.03
Spirituality	−0.03	0.03	−0.02	0.08*	0.09**	0.07*	−0.10**	−0.03	−0.07*	−0.07*	−0.03	−0.07*

*N = 868–870 (t1), N = 684–690 (t2), and N = 668–677 (t3). ABE, Appreciation of Beauty and Excellence. *p < 0.05, **p < 0.01, and **p < 0.001 (two-tailed tests).*

replicate their findings either: While they reported negative relationships between the (group) level of the character strength and its relationship to job satisfaction in all occupations, we found both positive and negative rank-order correlations job life satisfaction, depending on the occupation group [median $r_s(22) = 0.20$, $p = 0.349$].

While for life satisfaction, the positive effect of congruence was found for both the levels and configurations of character strengths (supporting hypotheses 6 and 7 for life satisfaction), only effects for configurations were found for job satisfaction (supporting hypothesis 7 but not 6 for job satisfaction). Thus, discrepancies to the typical profile in an occupation that are only due to differences in levels seem to be of lesser relevance, while differences in configurations of strengths are relevant for both job satisfaction and life satisfaction. The latter finding is especially relevant, since it cannot be explained by response patterns such as acquiescence biases; while absolute scores of character strengths (levels) contain more information, ipsative scores (configurations) are less susceptible to such biases, and findings based on these scores are presumably more robust. Future research might more often consider studying both approaches—while generally stronger associations of strengths with outcomes can be expected when using absolute scores, some relevant findings might also be hidden by the differences in the levels of character strengths, especially when interested in character strengths profiles. For practical purposes, using ipsative scores might be especially interesting, for two main reasons: first, the reduction in response biases, which might be particularly relevant when strengths are also used in assessment situations, and second, clients can easily relate to the concept of a rank order and it breaks down the complexity of 24 strengths into a hierarchy that people can associate with.

Furthermore, the results showed positive relationships of most strengths with job satisfaction and life satisfaction that were widely in line with expectations and earlier findings (e.g., Ruch, 2008; Heintz and Ruch, 2020): When analyzing the levels of strengths, robust relationships were obtained for zest, love, gratitude, and hope, while curiosity was only related to life, but not job satisfaction (thus, supporting hypothesis 4 for all strengths except for curiosity). Instead, other strengths, such as perspective, kindness, social intelligence, leadership, and forgiveness showed positive relationships with both outcomes across all three time points. When looking at the configurations of strengths, consistent positive associations were found for zest, love, and hope for life satisfaction and consistent negative relationships for humility and prudence for both job and life satisfaction. Thus, hypothesis 5 was only supported for zest, partially supported for love and hope (with regard to life

satisfaction), and not supported for curiosity and gratitude. Thus, for most strengths, the level of the strength seems to play a much more important role than the configuration. Only for zest, love, hope, humility, and prudence the relative standing within an individual also plays a role. Interestingly, the size of the correlations across the different time points only differed marginally; thus, character strengths seem to be also helpful for predicting future job and life satisfaction.

Finally, the results suggested differences in configurations and levels of occupational groups (in support of hypothesis 1). Again, these were mainly in line with our expectations and earlier research (Peterson et al., 2009): Managers scored higher in perspective and leadership, professionals scored higher in creativity and curiosity, and both scored higher in judgment and love of learning than on the average. The expectations with regard to other strengths (i.e., perseverance, hope, and zest) were not confirmed. Results were mostly parallel when looking at the configurations of strengths (with the exception of perspective, and leadership). Thus, hypothesis 2 (with regard to managers) was supported for judgment, love of learning, partially supported for perspective and leadership (only effect for absolute scores), and not supported for creativity, curiosity, perseverance, hope, and zest. Hypothesis 3 (with regard to professionals) was supported for creativity, curiosity, judgment, and love of learning, and not supported for perspective, perseverance, hope, and zest.

Interestingly, it was mostly professionals and managers who stood out from the remaining occupations with regard to character strengths, and it was mostly cognitive strengths that distinguished between these and other occupations. While the finding that cognitive strengths are higher in managers and professionals is not surprising since these occupations in general go along with a higher cognitive demand and higher educational requirements, it is interesting that no specific patterns for the other occupations were observed. One possible reason is the comparably smaller sample sizes in other occupations. However, one might also argue that the ISCO classification does not necessarily represent the psychological differences between occupations; for example, technicians and associate professionals represent a highly heterogeneous group covering occupations in the health, business, engineering, legal, and information technology domain; other categorizations, for example based on Holland's (1997) typology, might be better suited for analyzing psychological differences.

Several further limitations have to be taken into account. First, most relationships were rather small by conventional standards. This can partially be explained by the use of a short form for the assessment of character strengths (i.e., the Character Strengths Rating Form; CSRF); studies that compared findings of this instrument with the standard instrument (i.e., the VIA-IS) confirmed that, when using the CSRF, relationships are generally underestimated but show a highly similar pattern (Ruch et al., 2014; Gander et al., 2020). Nonetheless, most participants scored rather high in most strengths, and more fine-grained measures of character strengths might yield more appropriate estimates. Second, despite the use of a large database, sample sizes for some occupations were rather small, while elementary and armed forces occupations were not represented. Thus, the reported findings are most representative for managers, professionals, and technicians and associate professionals while potentially less reliable for the remaining occupations. Fourth, the ISCO classification represents a categorization at the broadest level, and more proximal measures would certainly allow for a more precise estimation of person–environment fit (Spokane et al., 2000). Thus, future studies might include individual descriptions of one's job for corroborating our findings. Fifth, the use of discrepancy measures does not allow for determining the direction of the discrepancy, and questions such as whether it is better to score higher than lower in comparison to one's occupation group remain unanswered (see also Edwards, 2008). Especially with regard to character strengths, for which it has been suggested that there is no such thing as having "too much" of a strength (Peterson and Seligman, 2004), it seems at least debatable whether one assumption of person–environment fit theory—that the direction of misfit is of lesser importance—holds. The same goes for the assumption that the congruence on a high level (i.e., a highly creative person in a job requiring high levels of creativity) is equally beneficial as the congruence on lower levels. Further studies using more sophisticated techniques such as response surface analysis (Edwards and Parry, 1993) could help answering these questions. While these were not applicable in the present study due to the design (comparison of individuals with their occupational group), future studies using individuals' descriptions of one's job could apply such analytic approaches. Sixth, the present study is not able to distinguish selection effects from adaptation effects. A low level of congruence might be ameliorated by job crafting (Wrzesniewski and Dutton, 2001); employees might alter their tasks or their relationships with coworkers. Alternatively, in line with Peterson and Seligman's (2004) assumption that character strengths are stable but still malleable, employees might also adapt themselves and become more typical for a given occupation over time. Both aspects might also have affected the results of the present study. Furthermore, as shown in previous research and the current study, character strengths differ in their relationships to job and life satisfaction. While one might argue that considering only those strengths that yielded the strongest relationships

TABLE 3 | Partial correlations of job satisfaction and life satisfaction (*t*1–*t*3) with the fit of an individual's character strengths profile with the profile of the corresponding occupational group (*t*1), controlled for sex and age.

	Fit (absolute scores)	Fit (ipsative scores)
Job satisfaction		
*t*1	0.03	−0.10**
*t*2	0.04	−0.03
*t*3	0.03	−0.08*
Life satisfaction		
*t*1	−0.11***	−0.09**
*t*2	−0.06	−0.07*
*t*3	−0.13***	−0.08*

*N = 868–870 (t1), N = 684–690 (t2), and N = 668–677 (t3). Absolute fit = Euclidian distance between the character strengths raw scores of an individual and his/her occupational group's scores. Relative fit: Euclidian distance between the character strengths ipsative scores of an individual and his/her occupational group's ipsative scores. *p < 0.05, **p < 0.01, and **p < 0.001 (one-tailed tests).*

with well-being for the analysis of fit would suffice, we think that considering all 24 strengths is important and we assume that the importance of fit also generalizes to other work-related outcomes. One goal of the present article was to argue for the consideration of character strengths profiles and environmental congruence in research and practice. Analyzing the complete profile seems like a good starting point, and future studies might provide more information on what strengths should be considered for which outcomes.

Overall, the present study further corroborated the notion that character strengths theory can benefit from theories of person–environment fit theories. At the same time, there are several future avenues for research that should help to develop stronger theories (Edwards, 2008), including a more precise understanding of the conditions under which person–environment fit in character strengths is beneficial, the comparison of different aspects of person–environment fit (e.g., the fit to a supervisor, the team, the organization, the job, and the organization, etc.), or the effects of interventions or character strength-based vocational counseling on person–environment fit and well-being. At the same time, the present manuscript further corroborates some basic assumptions about character strengths, namely, that people in environments in which their strengths are demanded and can be displayed report higher well-being. While certainly more research is warranted, the results of the present study might be relevant for vocational and career counseling or placement decisions. Considering character strengths might help to guide people to occupations they fit best and in which they are able to experience higher levels of work and life satisfaction. Of course, more fine-grained information on the demanded levels of character strengths in different occupations would be needed for this purpose. In addition, while the present study further corroborates the notion that character strengths play an important role at work, future studies should also examine whether considering character strengths in addition to more traditional variables in career counseling (such as vocational interests, the big five personality traits, or general intelligence) indeed yields an incremental benefit in the prediction of relevant work outcomes.

CONCLUSION

With above-mentioned limitations in mind, we tentatively conclude that (1) environmental congruence (i.e., fit between one's character strengths and those typical in an occupational group) with regard to the configuration of strengths goes along with higher concurrent and predictive job and life satisfaction; (2) character strengths configurations and levels go along with present and future job and life satisfaction; (3) most consistent and robust associations are found for strengths such as zest, love, and hope; and (4) there are meaningful differences among occupational groups with regard to levels and configurations of character strengths; mostly cognitive strengths distinguish between managers, professionals, and other occupations.

DATA AVAILABILITY STATEMENT

All data used in this study are stored in a repository and available upon request: https://forsbase.unil.ch/project/study-public-overview/14369/0/.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the Swiss Psychological Association. All subjects gave written informed consent in accordance with the Declaration of Helsinki. According to the guidelines of the University of Zurich, no formal ethics approval was required for this study.

AUTHOR CONTRIBUTIONS

FG: conception and design of the work, data analysis, and drafting of the manuscript. FG, JH, and WR: interpretation of data analysis and final approval of the published version. JH and WR: critical revision of the manuscript. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.01582/full#supplementary-material

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CONCEPTUAL ANALYSIS
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The Character Strengths Response: An Urgent Call to Action

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A model on the role of character strengths in individual, collective, and species success is proffered. It is derived from viewing character strengths from a species perspective as opposed to one of individual differences/personality psychology. The history of the VIA initiative on character science is overviewed, and results to date are summarized in terms of promoting well-being, helping to accomplish aspirational intentions, and allowing the greater good of the collective to grow. "The character strengths response" is described as the response capacities that character strengths may enable for helping us fulfill the human promise of surviving, thriving, and successfully creating a next-generation so that individuals and the collective flourish while also living in harmonious balance with other species. An argument is presented that there is an urgent need for advancing population-wide psychological maturity to be better prepared to navigate the difficult decisions that accompany growing technological powers, and that the character strengths response warrants special attention of research funding to accomplish this imperative.

Keywords: character strengths, personality, positive psychology, character, strengths, humanity

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PATHWAYS TO HUMAN FLOURISHING

Let's assume that humans, like other life forms, are endowed with and develop capacities to perpetuate the species. This requires that individuals survive, grow, and produce a successful next generation *without* substantially diminishing or debilitating the greater collective from doing the same. Otherwise, to the degree individuals would use their capacities for self-interest only, without consideration of the impact on others, a species would dwindle, much like the attrition that is experienced in the well-known game of "musical chairs." Each round of the game reduces the group until there is only one left sitting at the end. *Capacities that promote the individual without diminishing others' success thereby take on a special importance.* The VIA character strengths (Peterson and Seligman, 2004) are such capacities.

Character strengths enable individual flourishing while at the same time allowing for others to do the same, and sometimes may even enable flourishing in others via inspiration and improved cooperation. They also contribute to resilience in the face of challenges and difficulties, and, as will be described herein, may serve to temper the aggressive and avoidant behaviors that are aroused in the face of perceived threat, commonly known as the fight-or-flight reflex. In this latter role, they can help prevent naturally adaptive defense strategies from deforming into exaggerated misappropriations of violence, and can prevent maladaptive escapism from real problems that are in need of attention. Finally, character strengths can contribute to successfully establishing a next generation. Looking at character strengths from the long-range evolutionary perspective of species success illuminates ways in which character strengths can be deployed robustly to advance the current lives of individuals and their communities.

Thanks to the authors represented herein, and many other pioneering researchers and practitioners, we are expanding our knowledge of these positive psychological characteristics

that Drs. Peterson and Seligman (2004) illuminated 20 years ago in their groundbreaking book *Character Strengths and Virtues* and that was presciently recognized by Dr. Howard Gardner as ". . .one of the most important initiatives in psychology of the past half century " (comment noted with the publication of *Character Strengths and Virtues, 2004*).

A YOUNG AND URGENT SCIENCE

The 20 years since the inception of the *VIA Institute on Character's* initiative on character strength science may seem like a long time, but it's really not when framed in terms of how long humans have existed and may exist into the future. Modern human beings are estimated to be about 200,000 years old, and it is arguable that we did not begin to apply scientific methods to understand ourselves psychologically until Wilhelm Wundt established the first psychological laboratory 141 years ago in 1879. So, relatively speaking, scientific understanding of our psychological dimension is a very new epistemological pursuit. And, it has only been the past 20 years that a deliberate effort has been going on to create a cohesive scientific knowledge of character strengths. In the big picture of how long our species has existed and how much longer we hope to exist, character strength science is in its infancy. Gott (1993) statistically calculates that, at a 95% confidence interval, we could survive as long as 8 million years and points out that our direct ancestor, Homo Erectus, survived 1.4 million years while Neanderthals lasted only about 300,000 years. While no one knows how long the human species will last, it seems reasonable that we may survive for many more generations to come and that our scientific attention to our psychological nature is young. So, it is only in the last seven one-hundredths of one percent of our life to date that we have been scientifically delving into our psychological nature, and only the past 20 years of those 141 years have we specifically been targeting our strengths of character! Given that we may possibly have *millions* of years yet in front of us, we have many, many years of discovery to which we can look forward.

As you review this volume, you will see we've learned a lot in this relatively brief period of time. We are at the very beginning of a long journey ahead which undoubtedly will uncover so much more about the positive personality characteristics with which we are endowed and how they can be utilized to achieve the promise of our human species to actualize our own success without diminishing the same for other people or other living species. It excites the imagination to wonder what the future of this initiative holds in store for us!

Another perspective worth considering as we take this moment in time to reflect on the past 20 years of the VIA character strength science initiative, is one that highlights *the urgency* of this work. People born in the late 19th century came into a world without commercially available motorized vehicles, airplanes or televisions, without home computers, cell phones, or the Internet, without nuclear weapons or remote controlled drone bombers, without genetic engineering capabilities to design life and clone mammals, and with only rudimentary scientific understanding of the psychological dimension of being human. In a mere two or three generations, of the thousands of generations human beings have been around, scientific discoveries have been profoundly rapid and related innovations remarkable. We now live in a world in which:

1. 4.4 billion passengers book airline flights globally, physically connecting everyone on the planet in unprecedented ways.
2. The Internet and cell phones instantly offer connections between 4 billion people globally.
3. Eight mammalian species have been successfully cloned, including sheep, horses, dogs, wolves, and cats.
4. CRISPR technology makes genetic engineering cheaper and faster such that it can be more readily performed, leading to a report in 2018 of the first gene-edited human babies (Ledford, 2019).
5. Artificial intelligence is leading not only to robots that do household chores such as vacuuming, but also that can become "emotionless", unbiased decision makers when it comes to killing in war, life and death decisions in hospitals, and criminal sentencing.
6. Medical advances now enable the artificial extension of individuals' lives longer than ever before with life-sustaining medical devices.
7. Military weaponry now includes nuclear weapons which are proliferating and remote-controlled drones capable of bombing and surveillance.
8. Increasing numbers of people have voice-activated assistance devices listening in on them continuously and personal information stored in the public sphere of the Internet.

With these advances in scientific knowledge come ethical decisions requiring wisdom and psychological maturity (Grinbaum and Groves, 2013; New Scientist, 2017). The ethical issues inherent with the above technological advancements may be obvious. With the advent of contagious disease, how do we control transmission given our physical interconnectedness related to global transportation? How do we manage the Internet so as to connect people positively and purvey accurate news and information while controlling it from being a forum for leveraging hate, misinformation, and criminal activity? How will we decide what smart machines to develop and how to deploy them? How will we decide what genetic engineering of plants, animals, and humans will be done despite lack of knowledge of off-target effects? Whose vision of the way things "should be" will guide those decisions? Will we design population control programs and, if so, who will select populations and characteristics to eradicate? How will we resolve our geopolitical conflicts without unleashing untoward damage from weapons of mass destruction and cyberwarfare?

In this paper I suggest that science-based answers to the above questions, and the many like-kind questions that will continue to accrue as we expand our physical science knowledge, reside in the science of human psychology, especially the science of character strengths and virtues. It is asserted herein that the rate of growth in this psychological knowledge is lagging far behind the rate

characterizing our physical science knowledge, and that this ever-growing differential defines an emerging "danger gap" worthy of our immediate attention.

At a conceptual level a graph plotting progress over time in growing our knowledge and capabilities regarding our physical and psychological domains reveals the following. **Figure 1** below shows the top line which indicates our growth in knowledge from our physical sciences and the technological innovations resulting from this knowledge. It shows a steep positive slope. This is not a curve plotted with actual data points, but instead only meant to indicate a strong rate of growth. These advancements have been nothing short of amazing. Then, the bottom line shows growth related to understanding ourselves psychologically, and it is relatively flatter, despite advancements in treating psychological suffering and the evidence indicating that a person born today is less likely to die directly at another person's hands than in the past (Pinker, 2011). Again, the depicted curve is not based on actual data points but only meant to convey a slower rate of growth compared to the top line. How much can we claim to be more mature than our predecessors when it comes to resolving conflict better, living with each other and our environment more harmoniously, and avoiding misappropriations of our aggression, fear, greed, envy, lust, jealousy, and power? To what degree can we claim advancements in our levels of wisdom, transcendence, temperance, humanity, justice, and moral courage? It is the author's opinion that while incremental improvements might be argued to have occurred over time, they pale in comparison to the growth in physical science-based technologies. This graph reveals that, over time, the gap between our technological advancements and our psychological maturity is ever widening. As this gap grows, the risks inherent in missteps of judgment as regards the application of these technological innovations grow as well, thereby warranting the label of "danger gap" for this growing divergence. In this context it should be noted that, though Gott (1993) estimated an outside range for human survival at 8 million years, his calculation indicates that on the short end our species might only survive another 5,000 years! Without a deliberate effort to advance our psychological capacities much more rapidly, this gap will continue to widen and the danger to us all will grow more ominous. This article aims to make the case that character strengths science is currently the most promising psychological framework for becoming the focal point of intense exploration to narrow the danger gap.

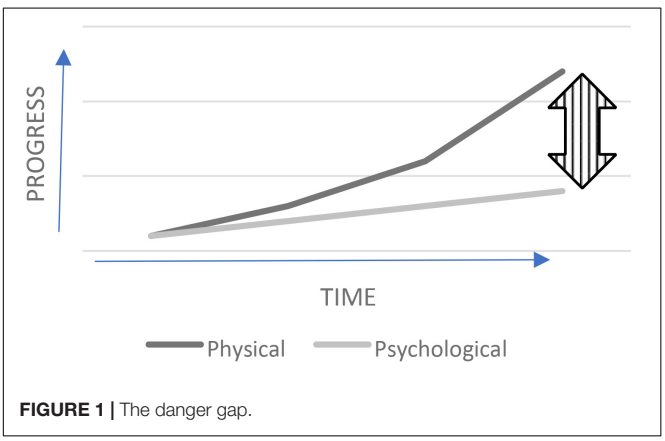

FIGURE 1 | The danger gap.

THE VIA INITIATIVE: A NEW SCIENCE OF CHARACTER STRENGTHS

This journey to create a dedicated scientific effort to understand what's best in human beings and how we can use those characteristics to build good lives for ourselves and others began in 1999 when Dr. Neal H. Mayerson contacted Dr. Martin E.P. Seligman. The latter was President of the American Psychological Association and was conceiving of a new "positive psychology" to complement the profession's emphasis on remediating human suffering from psychological disorders. As a practicing clinical psychologist, business entrepreneur, and philanthropist, Dr. Mayerson found Dr. Seligman's vision compelling. Dr. Mayerson determined to provide the philanthropic support needed to build out what Dr. Seligman conceived to be the "backbone" of this new positive psychology effort, namely the illumination of personal characteristics that propel positive emotions and behaviors and which can be nurtured by social institutions. Good fortune touched this initiative at its beginning when Dr. Christopher Peterson became enamored of this vision enough to sign on to dedicate 3 years of his professional life full-time to co-leading this initiative. Over the next 3 years Drs. Peterson and Seligman spearheaded an unprecedented effort to take a snapshot of what, to that point, was the best thinking on the key psychological characteristics people possess that help us build fulfilling lives and good societies. Parenthetically, though positive psychology quickly became focused on happiness, it can be noted that the originating vision was to build a much broader science, one that looks at the full breadth of what constitutes "a good life" throughout all of the up and down phases we all experience in our lives.

Recognizing the long-term nature of understanding the psychology of character strengths scientifically, Dr. Mayerson established the non-profit organization *VIA Institute on Character* to support this work and pledged to Drs. Seligman and Peterson to have this organization steward the initiative into the future and disseminate its work broadly. The *VIA Institute's* 3-year project collaborated with 55 psychology scholars and leading figures in the field of positive youth development. The main purposes of the initiative were to lay the intellectual foundation for this new science and to offer the two basic tools any science needs to make progress – namely a *nomenclature* with operational definitions of the main topics of interest, and tools for *measuring* these key constructs in adults and youth. A comprehensive overview of thinking was performed covering the major religions and philosophies from Eastern and Western traditions as well as notions from major works in the humanities and contemporary schema of organizations such as the Boy Scouts and Girl Scouts of America. An effort to capture most of this knowledge into broad categories resulted in the 6 categories now known as the VIA Virtues – wisdom,

courage, humanity, justice, temperance, and transcendence. The task then became to detail out these broad constructs with their component elements or dimensions. For example, the construct of Temperance was assigned the component parts of forgiveness, humility, prudence, and self-control. A rigorous process was established using a set of 10 selection criteria for reviewing the multitude of specific characteristics considered as candidates. Among the most important considerations were that the characteristic be elemental in terms of not readily being understood as a combination of other elemental characteristics, that it be universally considered as positively valued across cultures, including some of the most remote indigenous areas on the planet (Biswas-Diener, 2006), and that it be malleable. The resulting 24-character strengths were then conceptually assigned to one of the Virtue categories, with the understanding that as empirical knowledge accumulated and warranted changes in classification or removal altogether, that the scientific evidence would lead the way forward. After articulating the VIA Classification of Character Strengths and Virtues, psychometrically sound measures were developed for use with both adults and youth, known as the VIA Inventory of Strengths (VIA-IS, or VIA Survey) and VIA Inventory for Youth. The totality of this initiative was summarized and published as *Character Strengths and Virtues: A Handbook and Classification* and authored by Drs. Peterson and Seligman (2004) with substantial contributions from the 55 scholars.

After about a year of offering the VIA measurement tools and a free results report online, the response worldwide indicated that the work on character strengths resonated broadly. Along with markers indicating that positive psychology was taking hold, such as national and international conferences, professional journals, book publications, and media coverage, the VIA Institute staffed up to be able to steward this work into the future. Despite the tragically premature death in 2012 of the genius behind this work, Dr. Chris Peterson, the testament to his genius and Dr. Seligman's has been the continuous growth of this work. At the time of this writing, on average, a person takes the VIA Survey every 10 seconds of *every minute* of every hour of the year, and that rate has been accelerating every year! It has been translated into over 41 languages, and over 700 research articles have been published on the VIA character strengths, their classification, and measurement (Via Institute on Character, 2020a,b). Thought leading books have translated this emerging science into practical guides for coaches, mental health professionals, managers and educators as to how they can apply character strengths in their work (Niemiec, 2018) and how laypeople can develop any of their 24-character strengths to improve their lives (Niemiec and McGrath, 2019).

WHAT WE'VE LEARNED ABOUT CHARACTER STRENGTHS

In terms of the basic aims of establishing a nomenclature for building a new scientific effort along with tools of measurement, we have learned the following. First, as Peterson and Seligman initially presented, the VIA Classification was intended to be an intellectual framework to begin generating meaningful scientific activity despite it admittedly being an imperfect beginning point. Given the above mentioned volume of research articles that have been published, the VIA Classification has been doing its job to initiate what promises to be a long road of scientific inquiry. And, despite some debate on its merits (Banicki, 2014; McGrath, 2018; Snow, 2018), the Classification has been largely supported by empirical research (McGrath et al., 2018; Ruch et al., 2019). There has not yet been an accumulation of compelling evidence to suggest the need for modifying the Classification [but see initial efforts by Ruch and Proyer (2015)].

Regarding measurement, efforts at continuous improvement have been ongoing, with the most recent suite of measurement tools being released in 2018 by the VIA Institute. Results to date indicate that we are able to measure the 24-character strengths and the six virtues in accordance with conventional psychometric standards (see technical report for the suite of VIA assessments, McGrath, 2019).

As the beam of 24-character strengths has been passed through the prism of scientific inquiry, three notable refractions have become evident, as described below and depicted in **Figure 2**.

The first refraction has to do with well-being. Character strengths define essential aspects of our personal identity, and well-being is related to congruence between who we are and what we do. Robust associations between character strengths expressions and a variety of broad constructs indicative of well-being have been found (Wagner et al., 2019), and positive emotions that are markers of well-being have been associated with character strengths (Güsewell and Ruch, 2012). Since the character strengths have been selected based on being universally valued, which has been empirically supported (McGrath, 2015), conceptually they are expected to be reinforced generally by others when we display them. This leads to feelings of acceptance and appreciation that also are important contributors to well-being. In addition to being externally reinforced, character strengths are intrinsically fulfilling – we feel good when we recognize them in ourselves and when we express them. Thus, even in environments that are not supportive of a signature strength, expressing the strength can nonetheless be fulfilling. For example, a person might have creativity as an important element in their identity, and, despite living in an environment that does not encourage nor reward creativity, the person might nonetheless find meaningful fulfillment from privately creative behavior. Peterson and Seligman (2004) described this as being akin to the Aristotelian notion of eudaemonia in which actions are intrinsically fulfilling in and of themselves, despite whether or not they produce valued outcomes.

A second refraction revealed by character strengths science has to do with their instrumentality. Character strengths direct us into meaningful and engaging activities to which we aspire, both as individuals and in relationships with others. They help us succeed in what we aim to accomplish. They fuel productivity. First, the fact that the character strengths were selected based on being positively valued throughout the ages and across cultures as pathways to "a good life" inherently aligns them well as catalysts of valued outcomes. Seligman has described in his PERMA model of human flourishing (2012) how character strengths

are important pathways to each of the elements of flourishing: positive emotions, intrinsic engagement, positive relationships, sense of meaning and purpose, and accomplishments. And, character strengths have been associated with productivity at work, in the classroom, and in personal goal achievement (Linley et al., 2010; Lavy and Littman-Ovadia, 2016; Weber et al., 2016). They help us achieve what we want to *do* in life, and as such they promote "well-doing" (Lottman et al., 2017).

These two refractions suggest that character strengths function as psychological connective tissues, engaging who-we-are with what-we-do so as to produce fulfilments. Findings showing associations between character strengths and engagement in jobs (Lavy and Littman-Ovadia, 2016; Bakker et al., 2019), classrooms (Park and Peterson, 2008, 2009; Wagner and Ruch, 2015), and relationships (Veldorale-Brogan et al., 2010; Guo et al., 2015; Kashdan et al., 2017) support this insight.

The third refraction, and one that differentiates character strengths from many other personality characteristics such as neuroticism or aggressiveness, is that while they are advancing the interests of the individual, they are not diminishing others' opportunities to do the same. They drive the non-zero behaviors that play such an important role in human progress (Wright, 2000), and may even promote expression of character strengths in others. Early evidence is coming together to support this latter assertion. Haidt (2003) described the phenomenon of "elevation" as a positive emotion experienced upon witnessing virtuous acts, and that it motivates individuals to act more virtuously themselves. Numerous studies now show this emotion of elevation, which is a dimension of the character strength known as appreciation of beauty, leads people to not only *be motivated* toward goodness but to *actually behave* prosocially (e.g., Schnall and Roper, 2011). And, while emotional contagion, both negative and positive, has been reported for quite some time (Hatfield et al., 1994), more recently *positive* emotional contagion has been noted to spread in surprising ways through real life social networks (Fowler and Christakis, 2008) and even to transfer through virtual social networks such as Facebook (Kramer et al., 2014). In sum, this third refraction emphasizes how character strengths hold the substantial potential for contributing to the collective good.

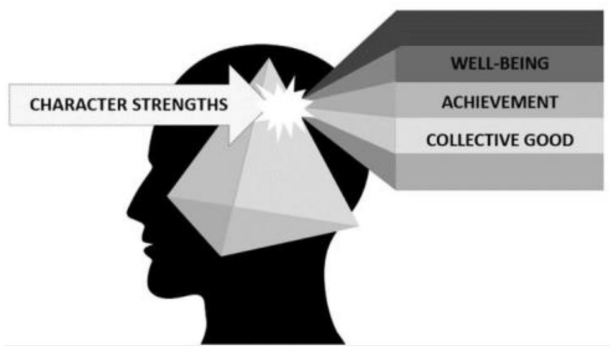

FIGURE 2 | Utility of character strengths.

TOWARD A THEORY: THE CHARACTER STRENGTHS RESPONSE

At the outset of the VIA initiative on character strengths and virtues there was a retreat held in Glasbern, Pennsylvania with a diverse group including leading practitioners in the field of positive youth development, professionals who played a significant role in developing the DSM diagnostic manual of mental illnesses, psychologists, philosophers, educators, and a representative from the field of botany familiar with taxonomic development. At that meeting it was underscored that a true taxonomy requires an underlying theory regarding its components. Recognizing that no consensually agreed upon theory of character strengths and virtues existed at the time, it was decided that the appropriate aspiration was a *classification* as opposed to a true taxonomy. Hence, the VIA *Classification* of Character Strengths and Virtues. At this point, 20 years later, there still is no consensually agreed upon theory, but there is thinking that is leading toward such a theory. While character strengths science emerged mainly from the perspective of individual differences/personality psychology, further insights about them can be gleaned from an evolutionary perspective.

As described at the outset of this article, species succeed by having their individuals *survive*, *grow*, and *successfully establish a next generation*. A primary focus of positive psychology has been thriving, which can be understood as the growing toward one's positive potentials. While a secondary focus has looked at resilience in the face of difficulties, exploration of the role of character strengths in producing resilient and aspiring offspring is in its early stages, and exploration of their role in our repertoire of survival instincts and strategies has not yet begun.

Figure 3 below summarizes a model of the role of character strengths that emerges from the perspective of species success, and that will be fleshed out in the sections to follow. It highlights "the character strengths response" which can be understood as our capacity to respond to life circumstances with our character strengths so as to optimize individual and collective success, and a response that can be developed from unconscious competence, or incompetence, into conscious competence. This model shows a facilitating role of character strengths toward thriving, resilience, and successful creation of a next generation through their influences on individuals' intentions and cooperative relationships. And it shows an attenuating influence on our aggression and avoidance impulses that are fundamental to our innate survival response. This attenuating effect over the primitive fight-or-flight *survival* reflex is proposed to keep those instincts from running amok into maladaptively excessive aggression and avoidance, thereby giving promise to promoting more peaceful cohabitating.

Thriving

Early in the advent of positive psychology Frederickson (2001) described the "broaden and build" theory. It describes how during times of threat our attention narrows to focus on the danger at hand, "negative" emotions such as fear and anger are aroused, and then behavioral responses to either fight or flee

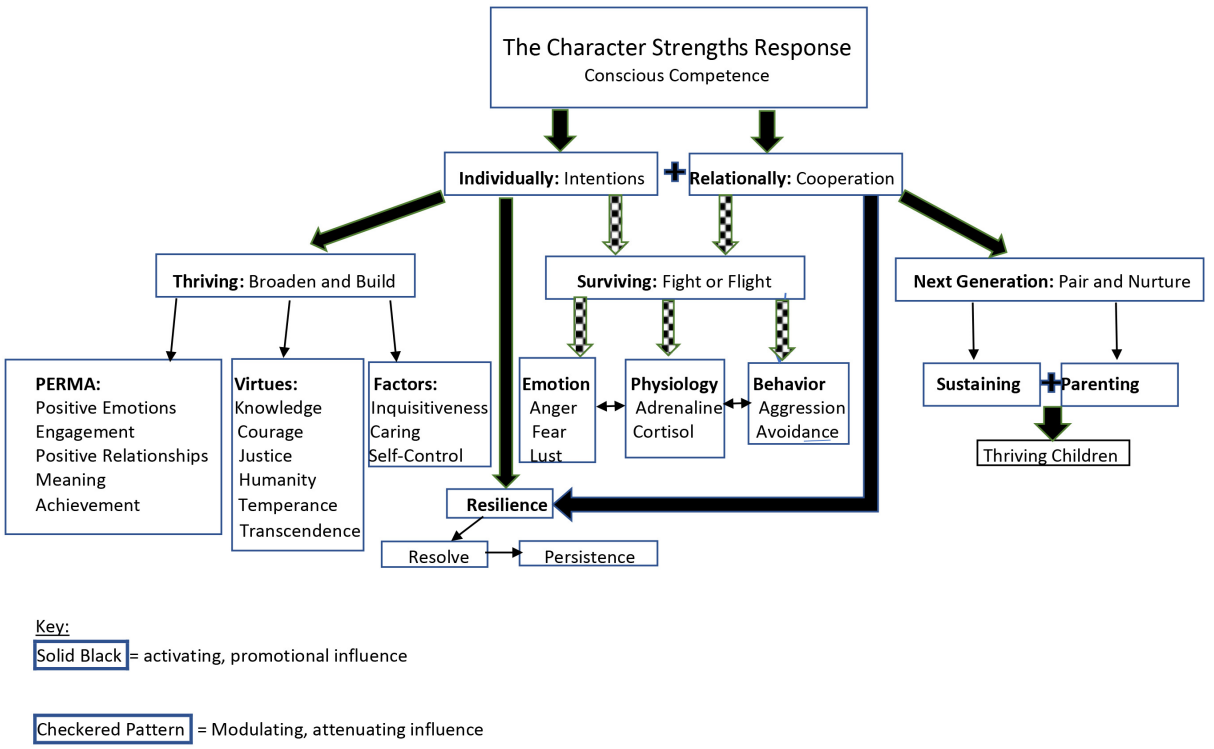

FIGURE 3 | A model of character strengths purposes.

get set in motion reflexively, but, when threat is less present, and positive emotions have more breathing room to emerge, they produce a broadening of attention allowing new learning and building of capacities for future surviving and thriving. This theory has garnered popularity as it is a useful way of thinking not only about the roles of positive emotions, but more generally the processes underlying positive psychological growth. Growth is promoted by a broadening of our attentional bandwidth that results in expanding opportunities for building new skills. Might it be that when our sense of threat is lower, and our sense of safety is higher, that our character strengths also move to the forefront to help us grow toward our highest potential, individually *and* collectively? It could be especially during these windows of perceived safety that we broaden our capacities to survive and thrive by "building-up" lesser strengths and "building-upon" already prominent strengths. Advancement in building-upon strengths can be accomplished by improving our expertise in minimizing overuse and underuse and in finding the golden mean of expression – the right strength in the right proportion in the right circumstance. This hypothesis has yet to be tested.

Soon after Frederickson introduced her theory of positive emotions, Seligman (2002a) introduced his model of "authentic happiness" which later was modified into his PERMA model of human flourishing Seligman (2012). The latter model describes key elements contributing to flourishing, namely: positive emotions and relationships, engaging and meaningful activities, and achievement. This describes *what* we can direct ourselves to *broaden* and *build* in order to create good lives for ourselves and others. Character strengths are posited as important pathways to each of these elements and we can deploy them to build positive relationships, positive emotions, and the other elements in this model. For example, curiosity can lead toward engagement, positive relationships, and positive emotions. Developing *conscious competence* in deploying our character strengths to build out the key elements of flourishing is a way for humanity to advance toward its positive potential. Conscious competence results when automatic responses that occur subconsciously are made conscious and their activation becomes deliberate and practiced. For example, my automatic inclination toward critical thinking can be made conscious and thereby managed better so that it is not my first response in situations where kindness or love, for example, might be more appropriate.

More recently McGrath (2018) published compelling findings from extensive factor analytic studies indicating three primary factors appearing in VIA's world database of character strengths. He named these factors "inquisitiveness", "caring", and "self-control" and described the confluence of this structure with prior conceptual models of virtue. This empirical approach suggests an underlying structure of the 24-character strengths and provides another perspective of *what* specific capacities we can direct our use of character strengths toward in order to broaden and build. Namely, by broadening our capacities for *acquiring knowledge*, establishing *positive relationships* of caring, and *managing impulses* in service of successful performance and goal attainment, we build our pathways to thriving. As

individuals, and as a collective, our lives improve as we broaden and build ourselves in each of these three domains.

Figure 3 depicts the above models, along with the original six virtues model of the VIA Classification, as examples of targets toward which we can direct our character strengths in order to help us broaden and build toward thriving. These examples are not definitive nor exhaustive, and the model described in **Figure 3** is agnostic to theories of thriving. Instead, this model simply asserts that, as key elements of thriving are illuminated, character strengths can likely help us pursue these elements successfully.

Surviving/Resilience

While clarity is growing that character strengths are psychological capacities that help us grow and thrive, their utility extends further. As Seligman initially postulated, a focus on positive characteristics not only promises to lead us to greater flourishing, but, at the same time, might illuminate ways to prevent problems and become more resilient in facing them (Seligman and Csikszentmihalyi, 2000; Seligman, 2002b). Common experience teaches us that character strengths can be forged in the crucible of the stresses and strains we encounter in life, and that they can be instrumental in getting us through those challenges. Niemiec (2019a,b) elaborated on the roles character strengths can play in resilient coping with stress, while Harzer and Ruch (2015) found that character strengths were connected with improved coping with work stress and that they decreased the negative effects of experienced stress. Shoshani and Slone (2016) found that character strengths were associated with resilience among adolescents exposed to lengthy periods of war, terrorism, and political conflict. Peterson et al. (2008) even reported the provocative finding that the *more* traumatic events an individual reported the *higher* their character strength scores were. And, Chopik et al. (2020) found stability of character strengths pre and post military deployment.

And we can look at virtually any crisis that communities have experienced and recount how character strengths came forth to not only help ourselves weather the storm, but also to reach out and help others. Peterson and Seligman (2003) compared scores for people who completed the VIA Survey online 2 months before the September 11, 2001 terrorist attack with those individuals who completed the VIA Survey in the 2 months after the attack, and found seven character strengths showed increases that endured 10 months after the attack. Of course, limitations of their methodology render the results suggestive of actual changes in character strengths (Lamade et al., 2020) and not indicative. Or, consider stories of *righteous gentiles* and *upstanders* during the Holocaust, when people exercised bravery, kindness, creativity, fairness and most of the other character strengths, despite great peril to themselves (Paldiel, 2007). In the ordinary course of life, many of us discover how strengths such as hope, perspective, and compassion help us through tough losses, such as the loss of a loved one, as well as helping us cope with disappointments of various intensities. As stated by Niemiec (2019), "character strengths offer an important role in buffering, reinterpreting, managing, and transforming the adversities and problems of life", and he notes that all 24 strengths have been linked scientifically at some point with resilience. This enables us to emerge from challenges with strengths intact for moving forward positively.

Examining character strengths from the perspective of species success points to how, in addition to helping us be resilient, character strengths may play a role in helping us modulate over-reaction of our fight-or-flight response, exemplified by levels of aggression or avoidance out of proportion to the actual threat at hand or misapplied to innocent targets. This fight-or-flight reflex has physiological, behavioral, and emotional components, which activate our motivation and capacity to effectively fight or flee (Russel and Lightman, 2019). Fear, anger, and lust, as examples, fuel aggressive behavior, as does activation of physiological bursts of cortisol and adrenaline. Emotions, cognitions, and physiological responses supporting fighting or fleeing surge with mutually amplifying effects on each other. We get amped up to deal with danger. Unchecked, these physiological, cognitive, and emotional fuels can explode into grotesque aggression that is misdirected and produces unnecessary collateral damage that is not only maladaptive but also morally offensive. Again, consider the Holocaust in which ordinary Germans, feeling economically and culturally vulnerable, came to *inaccurately* perceive a highly *distorted level of threat misattributed* to the Jewish race, unleashing aggressive capacities designed for adaptive protection that deformed into the vulgarities which mark this darkest period in modern human history.

The proposed modulating effects of character strengths may enable us to defend ourselves with wisdom, courage, temperance, humanity, justice and transcendence. For example, it has been found that the strengths of honesty, persistence, and love moderate aggression (Park and Peterson, 2008). Many of us can relate to times when our anger response ignited and we felt adrenaline rushing into our body, only to have both impulses moderated by finding perspective or love, as examples, thereby bringing us to a more measured and appropriate response. Future research and theory development into the role of the character strengths response in modulating our survival instincts is needed to determine the conditions under which, and the degree to which this modulation can occur.

Creating the Next Generation

At a species level, successfully creating a next generation depends on establishing and sustaining positive relationships that produce offspring and bring necessary resources to rearing them to be successful in life. Setting aside issues about the relevance of whether children are reared by biological parents or others, or single parents, it makes sense that the challenges of child-rearing are substantial and that having more resources of emotional, financial, cognitive, and relational supports furthers successful child-rearing compared with the resources of one person alone (Amato, 2001). As such, positive relationships between healthy people sharing parenting responsibilities can be expected to further the species-level goal of successful reproduction. This points us to look at the role of character strengths in sustaining positive relationships with others who have roles in raising children.

Guo et al. (2015) reported that marriages with greater levels of satisfaction were associated with children having greater levels of

character strengths. And Waters and colleagues have found that strengths-based parenting has a positive effect on child academic achievement, stress coping, and life satisfaction (Waters, 2015a,b; Waters et al., 2019). Kashdan et al. (2017) studied a community sample of couples living together in a romantic relationship for at least 6 months and found that relationships were stronger along a number of dimensions when partners recognized and appreciated character strengths in one another. And, the role of character strengths in child rearing is further highlighted by findings that parental well-being is associated with improved child outcomes (e.g., Dumas and Wekerle, 1995; Leung and Slep, 2006) and that character strengths are positively associated with well-being.

So, character strengths can contribute to the well-being of parents, to the positive relationship of parents with one another and others involved in child-rearing, and to raising children with improved health and well-being. Much more research on this topic is needed.

Cooperating

The character strengths response model depicted in **Figure 3** indicates that character strengths exert their influence through us as individuals, but also posits that they may help us improve how we work and live *together*. Cooperation not only enables effective group efforts and individual achievements (Grant, 2013), but, based on the social norm of the reciprocity principle (Gouldner, 1960), it also presents individuals with opportunities for personal growth. Hence, the oft asserted pragmatic adage, "Personal success is not so much determined by *what* you know as much as by *who* you know", and the aphorism "What goes around comes around." Doors of opportunity get opened, directly and indirectly, by people with whom we have positive relationships.

Economic games are analogs of real-life situations that are used to study the factors determining competition and cooperation. In these games one player can compete for his/her self-interest at the expense of others or by settling for a lesser reward, or they can choose to cooperate with others and get a greater reward but at the risk that others will not also choose to cooperate in good faith (trust), which would thereby undermine the promise of a higher payoff. These well-researched experimental paradigms offer a method for exploring how character strengths may impact cooperation and competition. Pioneering researchers have begun to look at individual differences in character strengths to see how they impact decisions to compete and cooperate with one another in economic games. These early explorations indeed suggest that knowledge of individuals' character strengths can add power to predicting the degree to which subjects will be cooperative and caring as opposed to selfish and unkind when presented with dilemmas involving economic gain (Ruch et al., 2017; Jordan and Rand, 2018). These early findings are encouraging for further research of this kind.

And, early work has begun looking at the implications of character strengths for understanding how employees cooperate in work teams to influence productivity and quality of experience. After reviewing models of team roles and functions (e.g., Belbin, 2012), the author articulated seven roles that occur as employees work together in teams. These include the tasks (and roles) of: creating ideas (idea creator), gathering information to consider in deciding the value of the idea (information gatherer), considering the evidence in making a decision (decision-maker), implementing the decision (implementer), persuading others of the merits of the new program/product (influencer), managing relationships along the way (relationship manager), and keeping energy going throughout the project (energizer). Willibald Ruch and his colleagues established a reliable measure of these roles as self-reported by employees, established the validity of this seven function classification, developed an algorithm that utilized all 24 VIA character strength scores for each individual, and found that this algorithm predicted which roles individuals reported as enjoying and performing well (Ruch et al., 2016, 2018). They then looked at actual work teams and discovered that balance across the team in these character strength related roles predicted self-reported and supervisor-reported measures that included quality of team experience and aspects of performance (Gander et al., 2018, 2020). For example, self-rated work satisfaction and teamwork quality were predicted by a number of character strengths, most strongly teamwork and love.

Character strengths hold promise for shedding light on how we might work and live together better as a result of understanding our own and each other's character strengths profiles.

FUTURE RESEARCH

Research, practice, and modeling to date on the *VIA Classification* suggest the following potential lines of research for consideration:

Thriving

While association between character strengths and thriving has been a robust finding, what is now needed are more intervention studies to establish causal relationships.

1. a. Instrumentality: Does deliberate application of character strengths to aspirational goals improve goal achievement? Which specific strengths and strengths combinations are best for achieving which specific outcomes?
   b. Well-being: Does well-being improve as one expands the degree to which their life activities resonate with signature strengths (character strengths especially important to personal identity)? How is well-being impacted by overuse of character strengths?
   c. Collective good: Is there a character strengths contagion phenomenon – i.e., does observation of character strengths expression in others increase the likelihood of character strength expression by observers?

Surviving

1. a. Resilience: What determines whether character strengths are activated in the midst of challenges and struggles, and, and later as they move past the challenge? Does greater awareness and development

of character strengths prior to a crisis result in greater resilience through the crisis?

b. Modulating the fight-or-flight response: What determines the degree to which character strengths become coupled with angry and aggressive impulses to appropriately modulate them? What are the limiting factors of how much character strengths can modulate aggression?

Child-Rearing

1. a. How can parents leverage their character strengths to establish and maintain supportive relationships for child-rearing?
   b. How can parent knowledge of their own and each other's character strengths improve parenting?
   c. Does deliberate effort to nurture children's character strengths lead to better child outcomes?
   d. Can character strength related activities buffer against negative childhood experiences and promote positive adult functioning, as has been noted with the impact of positive childhood experiences on adverse childhood experiences (Bethell et al., 2019)?

System Dynamics

The intercorrelations of the character strengths suggest that they may interact dynamically with one another as opposed to asserting their influences individually (Breen et al., 2010).

1. a. How do combinations of character strengths and profiles of character strengths impact behavioral expressions?
   b. Is there a "towing principle" in which top strengths can help pull forward lesser strengths?

Interpersonal Dynamics

1. a. Are successful romantic relationships characterized by some degree of similarity, thereby creating a bond of belonging, *along with* some degree of complementarity which stimulates growth and expands the capacities of the coupled unit?
   b. Can conflict be resolved by learning to see the other person's offensive behavior in terms of their character strengths (Mayerson, 2016)?
   c. Expansion of research using the economic games research paradigms.
   d. Can training couples to appreciate each other's character strengths improve distressed relationships?
   e. Can corporate and governmental decision-making teams improve based on deliberate consideration of character strengths in team composition?

Contextualizing

Character strengths are expressed in contexts and therefore we need to understand better how context elicits character strength responses.

1. a. How do context characteristics determine which character strengths are likely to be elicited – e.g., public vs. private, strangers vs. close relationships, work vs. social.

Strengths Spotting

1. a. What cues do we use to identify character strengths in others?
   b. In perceiving others' strengths, do we have perceptual or attributional biases, such as the self-confirming tendency to see strengths that are most prominent in ourselves?

Development Across Lifespan

We need longitudinal studies of the natural development of the character strengths from birth onward to uncover if there are critical periods for the development of certain ones, and what processes seem most influential in setting courses of development.

1. a. Do character strengths that have presumably lower genetic loading and that are highly socialized (socialized self) operate differently in a person's life than those that may be presumed to have high genetic loading and are highly socialized as well (authentic self)?
   b. Do some character strengths naturally develop at different points in life (e.g., does spirituality emerge later than curiosity)?

In all of these lines of inquiry, while we tend to look initially for broad linear effects, we also need to progress to studying *specific* effects, and ones that are *non-linear*. Regarding specific effects, we need to learn more about which strengths are best at playing what roles in which contexts. As an example, perseverance has been suggested to play the most important role for work performance (Littman-Ovadia and Lavy, 2015). And, Shoshani and Slone (2012), in studying transition of students from middle school, found that temperance strengths were central in predicting *school performance and well-being*, while interpersonal strengths best predicted *social functioning* at school. And, signature strengths at work influenced *behavioral* outcomes while the "happiness strengths" of zest, gratitude, love, curiosity, and hope had the greatest influence on *psycho-emotional* outcomes such as meaning and satisfaction (Littman-Ovadia et al., 2016). A summary of specific effects that have already been published would be a good first step.

With regard to non-linear effects, Gander et al. (2020) found that certain team roles, that are differentially predicted by character strengths profiles, have a quadratic relationship with team performance, meaning too little of that role in a team hurts performance and too much of that role also hurts performance. In this same study they did not find any quadratic relationships between specific character strengths representations on a team and team performance. That being said, the question about whether there can ever be too much of a character strength remains an open one. Studying strengths "overuse" (Niemiec, 2019b) might require quadratic analysis of strengths-in-specific-situations. For example, too little curiosity or love of learning in a student might harm performance and too much might also

be detrimental by sending the student down tangential paths of interest that are off-task from learning the course-specific content. Shin and Grant (2020) found an inverted "U" shaped curve relationship between procrastination and creativity.

Finally, future research might consider the work of Todd Rose (2015) in which he points out the potential advantages of utilizing non-ergodic research methods. He explains that conventional social science statistics and methods are based on ergodic theory that focuses on group averages, and that the underlying assumptions of this approach require that *one can only use group averages to infer predictions about individuals if* a.) every member of the group is identical, and b.) every member of the group will remain the same in the future. These criteria obviously do not apply to human research subjects, yet we do tend to translate findings from group studies to individual applications. Non-ergodic approaches might provide new insights to complement what gets uncovered with the conventional ergodic methods used in social science. A non-ergodic approach might be especially applicable to studying the natural course of development of the character strengths across the lifespan as well as changes in character strengths, especially signature strengths, over time and conditions (Wright and Zimmerman, 2019: Beck and Jackson, 2020).

CLOSING THE "DANGER GAP": A CALL TO ACTION

Character strengths science has revealed character strengths as psychological levers that a.) can influence a broad range of universally valued outcomes, b.) can be studied scientifically, and c.) resonate broadly with the lay public. They are readily understood, measured, and utilized. Research findings to date suggest they hold great promise to be able to be deployed to simultaneously enable good lives for ourselves and others, help prevent excessive violence and escapism, and help us successfully parent next generations. Because we are living in a world in which we have ever-increasing technological powers that require wise decision-making, focusing on character strengths science takes on an immediate urgency. Certain errors in judgment as to the application of our technologies can have devastatingly negative impacts. We stand on a precipice that is only getting more and more unstable as time marches on, and advancing our collective psychological maturity is an imperative.

Character strengths science holds the promise of accomplishing our immediate, mid-term, and long-term goals. Our immediate goal is to make the most of our individual lives while not unnecessarily diminishing others' capacities for doing the same. Our mid-term goal is to set the stage for our next generation to advance further in constructing good lives for themselves and each other. And, our long-term goal is to set in motion a trajectory to enable successive generations to keep advancing further and further toward fulfilling the ultimate human promise.

The immediate call to action is to increase allocation of financial resources to character strengths science so that we can discover their full potential. As described herein, given the need for broadscale psychological growth and the potential for the character strengths response to have broad ranging impacts to set us on a positive course individually and collectively, character strengths science stands at the forefront in terms of warranting further funding support. Pursuing answers to the research questions above will directly position us better to reduce the danger gap described herein which has an immediacy about it. Fortunately, even modest adjustments in existing financial resources will make a huge difference. The author appeals to funders to prioritize just a fractional amount of their budgets to character strengths science, since such an allocation from various sources can provide an immense boost to this important research area to help discover the degree to which these psychological tools can help as much as the early research returns suggest they might.

Secondly, we now know enough about ourselves as psychosocial beings to warrant immediate widespread application of this knowledge in our social institutions. Schools have a critical role to play (Linkins et al., 2015). It is realistic to imagine an upcoming generation that has been inculcated each and every year with advancing knowledge about social and psychological resilience and wellbeing, and how to deploy our full range of psychological capacities to both flourish and be appropriately protective and successful through difficulties and crises. It is time now for character strengths science to become part of the core sciences and humanities curricula. Beyond schools, one can envision that organizations of all types will come to leverage the strengths of their employees and members as a fundamental aspect of organizational culture (Adler, 2008). Businesses can become places where employee's strengths are magnified and then refracted into society through their personal lives.

It is now time to be determined about nurturing widespread positive psychological mindedness, in particular our capacities for virtuousness. As it has been noted that our brains are wired to pay greater attention to negative events than positive ones (Ito et al., 1998; Vaish et al., 2008; Soroka et al., 2019), so it may also be that the impulse driving our "*character strengths response*" is considerably weaker than our survival response. This means that we should expect that efforts to strengthen this response will need to be especially substantive and sustained. We need to appropriate much greater efforts than we have to date.

Our *human* promise is rooted in the broad range of positive capacities we possess and are able to grow to sustain our own longevity while living in respectful balance with other living species. Character strengths are important endowments we possess for delivering this promise and it has become urgent that we marshal our resources to advance our understanding of them. They are tangible psychological levers that we can operate to develop the grit and the grace we need currently and into the future.

This generation, and more so the one that follows, and the one that follows that, can develop the "character strength response" to the point of becoming a powerful enough response to position us better to manage wisely the powers we keep amassing.

The tools are in our hands, and the time is now, to build the fulcrum around which humanity can begin tipping toward its highest promise.

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The author confirms being the sole contributor of this work and has approved it for publication.

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The Decoding of the Human Spirit: A Synergy of Spirituality and Character Strengths Toward Wholeness

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Little attention has been given to the integral relationship between character strengths and spirituality (the search for or communing with the sacred to derive meaning and purpose). The science of character strengths has surged in recent years with hundreds of studies, yet with minimal attention to spirituality or the literature thereof. At the same time, the science of spirituality has steadily unfolded over the last few decades and has offered only occasional attention to select strengths of character (e.g., humility, love, and forgiveness) or the universal typology of the VIA classification of character strengths and virtues. In this exploration, we argue that there is a robust synergy of these sciences and practices revealing that spirituality is vitally concerned with promoting character strengths. At the same time, character strengths can enhance and deepen spiritual practices, rituals, and experiences. We elaborate on how character strengths and spirituality come together in the context of the psycho-spiritual journey toward wholeness. By wholeness, we are referring to a way of being in the world that involves a life-affirming view of oneself and the world, a capacity to see and approach life with breadth and depth and the ability to organize the life journey into a cohesive whole. We further discuss six levels by which spirituality can be integrated within the VIA Classification, including a meta-perspective in which wholeness represents a meta-strength or superordinate virtue. We frame two pathways of integration: the grounding path, in which character strengths offer tangibility and thereby deepen and enhance spirituality, and the sanctification path, in which spirituality elevates character strengths. Finally, we turn to research-based practices and examine how character strengths might facilitate and contribute to spiritual practices and, conversely, how spirituality might enhance character strength practices. Such multifaceted integration offers insight and wisdom to both areas of study and opens up new directions for psycho-spiritual research and practices to deepen and broaden our understanding of what it means to be human.

Keywords: spirituality, character strengths, wholeness, signature strengths, VIA classification, sacred

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"If a man is to live, he must be all alive, body, soul, mind, heart, spirit." – Thomas Merton

INTRODUCTION

Spirituality is a significant and universal aspect of human experience. The specific content of spiritual belief, practice, and experience varies, but all cultures have a concept of an ultimate, transcendent, sacred, or divine force (Peterson and Seligman, 2004). Spirituality is consistently defined by scientists as the search for, or communion with, the sacred (Pargament et al., 2013b). This has become nearly a consensual definition among scientists in the study of spirituality as this definition is reflected in approximately two-thirds of studies on the topic (Kapuscinski and Masters, 2010). Embedded in this definition are three core concepts – the sacred or the transcendent (beyond the ordinary), a connection or relationship with the sacred, and the search for ultimate meaning or purpose (Mayseless and Russo-Netzer, 2017). In this way, spirituality could be both a result of meaning/purpose or the source of meaning/purpose. The word "sacred" most commonly refers to God, higher power, divinity, or qualities associated with the divine, such as transcendence, ultimacy, boundlessness, and deep connectedness. People can experience the sacred through a variety of channels, such as a sense of connection, closeness, or oneness with the transcendent, a theistic being, oneself, humanity, all living beings, or nature (Davis et al., 2015).

The term "search" refers to the process of discovering, maintaining, and at times transforming a relationship with the sacred. People can search for the sacred within traditional religious contexts as well as nontraditional contexts. Moreover, pathways to the sacred can take the form of spiritual practices, such as meditation and prayer; spiritual beliefs, such as beliefs in an afterlife or karma; spiritual relationships with family, friends, or institutions; and spiritual experiences such as mystical encounters and sacred moments (Pargament et al., 2013b). It is important to add that spirituality has demonstrated a potential to bring out both the best and the worst in human nature (e.g., Pargament, 2002). We will predominantly focus here on the brighter side of spirituality.

An extensive body of scientific research has found that spirituality plays an important role in mental well-being (e.g., Paloutzian and Park, 2013; Pargament et al., 2013a) and physical health (Koenig et al., 2012) and also serves as a protective factor in psychological adjustment to negative life experiences (e.g., Gall and Guirguis-Younger, 2013).

Character strengths are also universal (Peterson and Seligman, 2004). Character strengths are defined as positive personality traits that are core to identity, elicit positive outcomes (e.g., improved well-being, relationships, health, meaning, and achievement), and contribute to the collective good (Niemiec, 2018). Modern research from a 3-year collaboration of scientists (Peterson and Seligman, 2004) involved an investigation into common humanity and the qualities of a full and meaningful life. From the "fruits of the spirit" of Saint Aquinas (1989) to the character strengths and virtues outlined by Benjamin Franklin and King Charlemagne, major texts in virtue, theology, psychology, and related fields were reviewed. Remarkable parallels across these works – spanning ancient philosophies and each of the major world religions – were found (Dahlsgaard et al., 2005). The result of this impressive project was the VIA classification of character strengths and virtues (Peterson and Seligman, 2004), a common language of 24 positive qualities that make us most human. These 24 character strengths nest under universal virtues; for example, the character strengths of curiosity and creativity fall under the wisdom virtue, bravery, and honesty under courage, love, and social intelligence under humanity, teamwork, and fairness under justice, forgiveness and prudence under temperance, and hope and gratitude under transcendence.

Studies confirmed the existence of these character strengths among human beings across cultures, nations, and beliefs (Park et al., 2006; McGrath, 2015), including people living in some of the most remote cultures on the planet, largely disconnected from modern society (Biswas-Diener, 2006). Following the emergence of this classification of human strengths, over 700 scientific studies have been published offering further validation for this typology (VIA Institute, 2020). Considering the breadth of studies on character strengths in recent years, it is surprising how few have formally examined the VIA classification of character strengths and spirituality. A couple of exceptions are Schuurmans-Stekhoven (2011) and Berthold and Ruch (2014), discussed later.

This article will explore the integration of spirituality and character strengths and consider how spirituality serves as a unique lens through which we can view, understand, and perhaps enhance character strengths, as well as how the latest science, core concepts, and best practices in character strengths inform and deepen our understanding of spirituality and offer the potential to advance spiritual practices and experiences. To provide an integrative framework, we reflect on research from a variety of methodologies and sources such as quantitative, qualitative/phenomenological, theological, psychosociological, philosophical, and other fields, as this integration requires insight from multiple perspectives as opposed to being rooted solely in one field such as positive psychology or theology.

An important initial question might be posed: why discuss the integration of character strengths and spirituality? We offer a number of thoughts on this.

- Simply put, these areas of character strengths and spirituality are the backbone of the human experience. The science of character strengths offers a wide range of practices that can be applied to spirituality and spiritual contexts, and the science of spirituality can bring unique insights to enhance our understanding and embracing of our identity – who we are at our basic core.
- Furthermore, given that processes of spiritual change and development are evident both within and outside the boundaries of institutional religious practices and traditions and considered to be "a change in the meaning system that a person holds as a basis for self-definition, the interpretation of life, and overarching purposes and ultimate concerns" (Paloutzian, 2005, p. 334), they inherently involve the use of character strengths.
- Character strengths and spirituality sit within domains of virtue, what people hold sacred, the fulfilled life, meaning and purpose, wisdom, the pursuit of moral goodness, and the enhancement of what matters most to people such as cultivating good relationships and making a positive impact on the world. In this regard, the integration of spirituality

with character strengths and virtues creates an opportunity to make these positive outcomes, aspirations, and pursuits more deliberate, conscious, and a more likely reality for individuals and groups (Sandage and Hill, 2001).

- Both spirituality and character strengths share an interest in the promotion of greater wholeness. Wholeness is a dimension of well-being that goes beyond any single spiritual attribute, character strength, or virtue. Instead, it speaks to people in their entirety (Pargament et al., 2016; Russo-Netzer, 2017b). It is also multilayered and dynamic and can manifest itself in diverse ways. Wholeness has three defining features (Pargament et al., 2016, in press). First, it involves the capacity to see and approach life with breadth and depth. As a being of breadth, the individual is singular yet also a part of a larger collective, someone with a past, present, and future, a container of good and bad, and someone who knows, experiences, acts, and relates. As a being of depth, the individual is able to see beyond ordinary material existence and address matters of what theologian Tillich (1957) called "ultimate concern." Second, wholeness involves a life-affirming view of oneself and the world. This view is filled with hope, support, and compassion in relation to oneself, other people, the world, the sacred, and life itself. Third, wholeness involves the ability to organize the life journey into a cohesive whole. Here we are referring to the capacity to put thoughts, values, emotions, actions, and relationships into an integrated totality. This mirrors what James (1936) described as moving from a divided self to a unified self, which he explained is a central spiritual task of optimal development. This capacity for wholeness, in turn, requires several specific qualities, including an authentic guiding vision, wisdom and discernment, balance, and the ability to live with paradoxes, limitations, and complexities (Russo-Netzer, 2017b).
- Character strengths offer a pathway to improve the human condition and to foster this growth and wholeness in the psycho-spiritual journey. In the words of the virtue scholar Comte-Sponville (2001, p. 3), our best qualities are both our being and becoming:

> Virtue is a way of being, Aristotle explained, but an acquired and lasting way of being: it is what we are (and therefore what we can do), and what we are is what we have become.… it is our way of being and acting humanly … our power to act *well*.

- The integration between character strengths and spirituality ultimately offers us a grounding in everyday life in addition to a perspective that everything has the potential to be sanctified as sacred. Mindfulness scholar Kabat-Zinn (1994, p. 182) offered it this way:

> Perhaps ultimately, spiritual simply means experiencing wholeness and interconnectedness directly, a seeing that individuality and the totality are interwoven, that nothing is separate or extraneous. If you see in this way, then everything becomes spiritual in its deepest sense. Doing science is spiritual. So is washing the dishes.

This integration offers a way by which we might see, experience, live, and relate to ourselves, to others, and to the world.

THE HARMONY OF SPIRITUALITY AND CHARACTER STRENGTHS

Existing Links in the VIA Classification Model

There are a number of models that have linked one or more character strengths to spirituality in an important way. For example, Koenig describes strengths and virtues, such as forgiveness, gratitude, and humility, as mediators linking spirituality and health (Koenig et al., 2012). In fact, within most models or ways of thinking about spirituality, one would be hard-pressed *not* to discover one or more character strengths as an important part of the model.

The casual observer and user of the VIA classification may not be struck by the role of spirituality that can be interpreted within it. However, a careful examination of the VIA classification reveals several levels by which spirituality is infused, explicitly and implicitly. Each is relevant to our reflections on the integration of spirituality and character strengths. We start with the most specific and broaden from there.

Strength Level: Single Strength

The most obvious point of integration is the direct labeling of one of the 24 character traits that are ubiquitous in human beings as the strength of spirituality. This strength is defined in the VIA classification model as knowing where one fits within the larger scheme; and having beliefs about the meaning of life that shape conduct and provide comfort (Peterson and Seligman, 2004). There are several dimensions to this strength: it can be expressed through feelings and practices relating to interconnectedness, virtue, calling, religious ritual, faith, nature, meaning in life, and purpose (Niemiec and McGrath, 2019). This level represents a concrete integration of the sacred already existing within the VIA model. However, we argue that this is merely a starting point for the other levels of integration and the wider synergy discussed in this paper.

Strength Level: Spiritually Oriented Strengths

There are a number of specific character strengths in the VIA classification that are embedded in the sacred literatures of the world's major religious traditions. For example, concepts of forgiveness are mentioned 234 times in the Qur'an (Rye et al., 2000). Moreover, theologians, religious leaders, and scientists in the broader field of spirituality would agree that many character strengths in the VIA classification are clearly "spiritual" in nature. These include, but are not limited to, the character strengths of humility, gratitude, forgiveness, awe (appreciation of beauty), kindness, hope, fairness, and love (for example, Saroglou et al., 2008; Carlisle and Tsang, 2013; Davis and Hook, 2014).

Virtue Level: Single Virtue

The strength of spirituality is nested within the larger virtue category called transcendence. Transcendence is a term from the spiritual literature that refers to moving beyond the concrete, physical world and connecting outside oneself. The original framing for the virtue of transcendence is strengths that forge connections to the larger universe and provide meaning (Peterson and Seligman, 2004). Other strengths under the virtue category of transcendence include gratitude, hope, appreciation of beauty and excellence, and humor, although the latter has subsequently been shown scientifically to align better with other virtues such as wisdom and humanity (Ruch and Proyer, 2015).

Virtue Level: All Six Virtues

The specific six virtues in the VIA classification – wisdom, courage, humanity, justice, temperance, and transcendence – were derived from examining the common threads or truths across all the major world religions, as well as ancient philosophies (Dahlsgaard et al., 2005). In other words, these virtues are prominent and important spiritual pathways to the sacred found in the major world religions.

All 24 Character Strengths as Psycho-Spiritual Qualities

We argue that each of the 24 character strengths holds the capacity to be "spiritual," or a psycho-spiritual quality. While some strengths are more obviously aligned with spirituality (see section Strength Level: Spiritually Oriented Strengths), those less obviously aligned not only correlate with spirituality (McGrath, 2013, Unpublished) but have been shown in studies to be particularly important to it. Take the strength of self-regulation or self-control, for example, which is not traditionally viewed as a spiritual strength (although temperance is certainly a related spiritual virtue). Studies have found substantial connections in which higher levels of spirituality or the priming of spirituality led to improvements in self-regulation (Laurin et al., 2011; Watterson and Giesler, 2012). Another example is the link between creativity and spirituality (e.g., Borooah and Devi, 2015). These less obvious spiritually related strengths have the potential to add richness, depth, and perspective to self-transcendence, spiritual expression, and development.

In a related way, Peterson and Seligman (2004) offered "morally valued" as one of the main criteria for establishing and describing each of the 24 character strengths. While they were not referring to morally valued in the spiritual or sacred context, we find their comments relevant here. They explained that some character strengths are obviously morally valued, such as love and fairness, while other strengths are less clear, such as humor. They termed such strengths as "value-added strengths," meaning that if humor is combined with a blatant morally valued strength (e.g., kindness) then humor becomes morally valued as well. For example, a comedian who uses humor to kindly cheer up sick children at a pediatric hospital would be applying his or her strength of humor in a morally valued way.

We suggest that each of the 24 character strengths can be "spiritual" or sacred and support the individual and community along their psycho-spiritual journey. Each strength is a capacity for expressing goodness – being good, doing good for others, and expressing meaning or purpose in the world. In these ways, coupled with the summation of the preceding levels, the 24 strengths can be viewed as representing a "spiritual language," or what we call a decoding of the human spirit.

Additional Level: Superordinate or Master Virtue

Wholeness Level

Building from these levels, we hypothesize a meta approach that offers wholeness as an overarching final level. Many researchers have discussed a master strength representing a higher arching virtue by which the other strengths pass through to operate or optimally express themselves – for example, self-regulation (Baumeister and Vohs, 2004), love (Vaillant, 2008), humility (Lavelock et al., 2017), and perspective/social intelligence (practical wisdom; Schwartz and Sharpe, 2006). We offer another perspective: wholeness. Wholeness shifts our focus away from the search for one key to the life well-lived (Pargament et al., 2016; Russo-Netzer, 2017b). It embraces the need to wrestle with life in its multifaceted complexity and organize it into a unified whole. To put it colloquially, wholeness has to do with how well we put the bits and pieces of our lives together, and as such, it is an ongoing, vibrant process. Although the movement from brokenness to greater wholeness has received emphasis within religious traditions, wholeness is not the antithesis of brokenness but rather involves a changed relationship to brokenness. Indeed, to be whole we must allow ourselves to get fully involved in life, be vulnerable enough to see our brokenness, and find ways to create a new compelling unity out of the broken pieces. At the core of being human lie paradoxes and dichotomies that contain the whole of existence and encapsulate completeness. The whole life is thus marked by integrity and, as noted, several defining ingredients – breadth and depth, a life-affirming orientation, and cohesiveness.

In imagining this role of master virtue, picture a wheel. Wholeness is at the center or hub of the wheel, and the 24 character strengths are the spokes directing energy toward the hub, as well as receiving energy from it. Wholeness lends unity to all 24 character strengths.

A Spiritual Journey Model Integrating Character Strengths and Spirituality

The spiritual journey is nonlinear, has no final end point, involves conscious and unconscious actions, and (at its best) is morally driven/character driven (Russo-Netzer, 2016, 2017a; Russo-Netzer and Mayseless, 2016; Mayseless and Russo-Netzer, 2017). It is directed toward a relationship with what is perceived as sacred. **Figure 1** shows elements of a model of the spiritual journey through character strengths as a force for wholeness. This model incorporates the three-dimensional developmental elements of Mayseless and Russo-Netzer (2017), which are rooted in cross-cultural, spiritual, and religious literature. In brief, they argue that spiritual growth occurs across three spatial facets: deep within, up and beyond, and sideways and

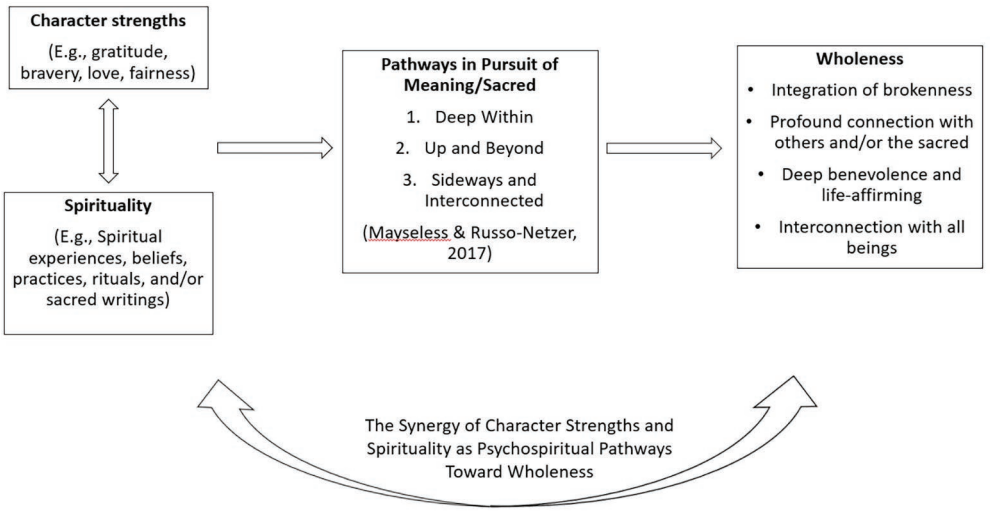

FIGURE 1 | Heuristic model for the spiritual journey showing the synergy of character strengths and spirituality toward greater wholeness.

interconnected. These developmental elements are the "connective tissue" for the meaningful expression of character strengths and spirituality. For example, over time the individual explores, engages with, pursues, and experiences character strengths with the sacred leading toward greater wholeness. This exploring and engagement occurs as the individual (a) uses character strengths (e.g., perspective, judgment) to reach *deep within*, carefully listening to and connecting with his or her authentic self, discovering inner harmony; (b) uses character strengths (e.g., gratitude, hope) to reach *up and beyond* as he or she transcends the self and deepens his or her connection with divine or sacred presence and sees things more clearly through the lens of character strengths, such as kindness/compassion, wisdom, and awe or appreciation of beauty; (c) uses character strengths (e.g., humility, social intelligence, love) to reach *sideways and connect* with others, including all living beings and to see the interconnectedness therein with humankind and the universe.

As can be seen in our proposed heuristic model, this connective tissue catalyzed by spirituality and character strengths brings people to authentically face their suffering, challenges, and brokenness as an essential and inherent part of a full life, to connect deeply with others, and to reach up to a greater sacred presence in their journey toward wholeness.

THE RECIPROCAL RELATIONSHIPS BETWEEN SPIRITUALITY AND CHARACTER STRENGTHS

We propose that there are two main ways that spirituality and character strengths become integrated and positively impact each other. We use the term *path* or *pathway* in a conceptual way, as opposed to using it as a scientific or empirical term that definitively captures causal directions, mediating or moderating effects. To elucidate these "pathways," we start with either spirituality or character strengths (whichever is the focal point of a research study or the best practice being primarily focused on) and then consider how it is enhanced by the other construct.

We have named the two pathways based on the dynamics we perceive to be occurring within each integration of constructs. First, we consider how character strengths can support, guide, and enhance spirituality – this process will be referred to as *the grounding path*. Then we examine the reverse direction. The application and use of spirituality to support and enhance character strengths will be referred to as *the sanctification path*. Each of these pathways is hypothesized as leading to greater wholeness. Below, we offer explanations and examples for each of these paths of integration.

The Grounding Path: Character Strengths → Spirituality → Wholeness

In the grounding path of integration, character strengths enhance spirituality. Through this path, spirituality can become more tangible, accessible, layered, and filled with greater meaning and substance. Imagine a spiritual practice or spiritual experience devoid of love, kindness and compassion, forgiveness, humility, fairness, judgment, and critical thinking, and hope. The grounding path of integration helps deepen the awareness, expression, and meaning of spirituality through everyday experience of CS. As character strengths are ubiquitous qualities in all human beings, across cultures, nations, and beliefs (Biswas-Diener, 2006; Park et al., 2006; McGrath, 2015), the integration of character strengths into expressions of spirituality provides a way to "universalize" this dimension of human experience. The critical role of character strengths in spirituality was highlighted by Schuurmans-Stekhoven (2011) who found that well-being is more strongly associated with character strengths than spirituality, and that spirituality is related to character strengths more strongly than to well-being. Multivariate analyses showed that character strengths account for the entire positive effect of the

TABLE 1 | Examples of integrating character strengths into different areas of spirituality within the grounding path.

Character strength	Area of spirituality	Example of integration
Curiosity	Beliefs	Exploring and questioning the meaning of life and nature of existence.
Bravery	Practices	Facing and embracing one's brokenness, imperfections, or "dark night of the soul."
Prudence	Rituals	Mapping out a structured plan for daily prayer at the same time each day.
Kindness	Experiences	Volunteering to help the homeless and doing so with extra compassion and mindful kindness.
Hope	Beliefs	A person's belief that "God is good" is strengthened by her hope/optimism during difficult times.
Zest	Rituals	Participating in a spiritual service with a jolt of energy and gusto.
Gratitude	Practices	Listing three things at the end of the day that were meaningful and writing down why one is grateful for each.
Love	Experiences	A moment of connection between two people is enhanced with a loving embrace and intimate, deep listening and appreciation.
Love of learning	Beliefs	A person studies veganism in order to learn and support his beliefs about the sacredness of life and the interconnectedness of all beings.
Self-regulation	Rituals/Practices	A person's faltering meditation practice gains traction by a new, structured discipline of commitment to practice the same time each day.
Appreciation of beauty	Experiences	A feeling of connection in nature is enhanced by the appreciation of beauty and awe in the experience.

relationship between spirituality and well-being, and argued that character strengths might be the best explanation for why spirituality has positive effects.

Any of the 24 character strengths can serve as a pathway in the seeking, dwelling, and/or maintaining of the sacred. They enable an individual to take sacred moments and experiences to a deeper level, such as when a person uses her bravery to face the challenges of being vulnerable with another person or who uses her perseverance to press forward with her spiritual practice even though many obstacles are getting in the way. One can see the potential that the grounding path could have for the person who seeks spirituality or adheres to a set of religious beliefs but is lost in a world of addictive behavior in which self-kindness, perspective, perseverance, and other character strengths are being woefully under-utilized; these strengths and others hold the potential to enhance their spirituality. See **Table 1** for examples of character strengths and how each can enhance spirituality; but note that any particular strength can serve many purposes and be applied across various areas of spirituality. The areas of spirituality offered include rituals, practices, experiences, and beliefs (Hood et al., 2018).

At this point, it is important to note that the character strengths literature suggests that humans can overuse or underuse any of the 24 character strengths (Niemiec, 2019a). Research has drawn links between an imbalance among character strengths with psychopathology (Freidlin et al., 2017). For the grounding path, the addition of character strengths has the potential to create a healthy and balanced spirituality that pursues the good for oneself, others, and all beings, and yet imbalances can occur. Too much (overuse) hope may bring a person only to look at the positive side of her religion or spirituality and omit the dark sides or limitations, while too little (underuse) judgment/critical thinking about one's spiritual beliefs can create a narrow and selfish spiritual worldview. Balancing character strengths calls for greater wholeness, including the qualities of cohesiveness, flexibility, and discernment. It has been suggested that a grounded, everyday spirituality is one that is flexible to allow exploration and inquiry, rather than rigidity, and encourages openness and pluralism (Russo-Netzer, 2017b).

The grounding pathway of integration can also be viewed through the lens of existing spiritual models and spiritual programs in which character strengths are likely present and enhance spirituality in some way. For example, in a 4-week program addressing spiritual struggles in a religious context, sessions focused on the value of virtue, the problem with perfection, growth and grace, and relapse and reconciliation (Ano et al., 2017). Multiple character strengths – although not necessarily made explicit – can be seen in each session, such as forgiveness (the focus on cultivating this strength), hope (the focus on future growth), self-regulation (a focus on seeing the limits of self-control), spirituality (the focus on pursuing grace), and perseverance (a focus on overcoming barriers), to name just a few strength pathways designed to improve spirituality. This program was successful in helping people cultivate their virtues and resist their vices.

The Sanctification Path: Spirituality → Character Strengths → Wholeness

The other way spirituality and character strengths can become integrated is through the sanctification path. This path involves the exploration, integration, and impact of spirituality upon character strengths. Sanctification is not used in a theological sense here. Rather, it refers to the psychological process of perceiving aspects of life as manifestations of God or as containing qualities often associated with the divine, such as transcendence, boundlessness, ultimacy, and deep connectedness (Pargament and Mahoney, 2005). A growing body of research has pointed to the benefits of instilling life domains – marriage, family, the environment, strivings, moments in time, work – with deeper spiritual meaning (Powerleau et al., 2016). People are more likely to invest in, preserve, and protect sacred aspects of life. They draw on what they hold sacred as sources of strength and inspiration. They also derive greater satisfaction, purpose, and mental health benefits from sacred objects and experience.

Any of the 24 character strengths could also be imbued with spiritual significance and meaning, lending motivational power to the strength. While each character strength has been described as a capacity for thinking, feeling, and behaving

TABLE 2 | Three responses to beauty by a person walking into a nature scene, illustrating the distinction of the sanctification path.

Mindless use of appreciation of beauty	Mindful use of appreciation of beauty	Spiritually infused appreciation of beauty
The person does not attend to her surroundings or notice the beauty around her and behaves as if blinders are on. "I am outdoors in nature."	The person attends to her body and the surroundings: "I see the green trees and enjoy my body's movement as I step on stones and feel the sun warming my left cheek. I enjoy the beauty of the glistening pond and the ripples in the water."	The person attends to her body and surroundings and connects them to a larger whole: "I see the beauty of everything green and the shimmering light on the pond and the birds flying around, and yet I feel so much more. I am connected with all of it and with something so much larger than myself. This is a sacred experience. I hold the beauty close and rest in awe of the scene, feeling aligned with it. I breathe with it. I feel a sense of aliveness and connection to it all."

(Park et al., 2004), we believe the dimension of sacred could be added in that each character strength has the capacity to be perceived as sacred. Thus, when a strength is sanctified, its sacred dimension is being tapped into and potentially expressed.

For example, one might tap into the sacred in the character strength of love in one's relationship with one's spouse or child, thereby enhancing the sanctity of that bond and further increasing the love. A more general example is found in spirituality exemplars, or individuals who are living their truth and modeling a life that pursues the sacred in a positive way. Such individuals might be apt to express a wider range of character strengths because of their strong spiritual approach; in many cases, their spiritual life would not only include strengths such as kindness, humility, honesty, and forgiveness but perhaps also judgment/critical thinking, curiosity, perseverance, and leadership. Hence, the power of the sacred is being tapped in these less traditionally spiritual strengths and as a result of the spiritual living. Although relatively little research from either field has focused directly on the sanctification of character strengths (e.g., Todd et al., 2014), we believe the process of sanctification could uplift or expand character strengths. Sanctification can lend the domain of character strength a larger significance or sense of purpose. Viewed through the lens of the sacred, any character strength can become broadened and deepened.

We demonstrate this integration in **Table 2** using character strength and appreciation of beauty, in the context of a simple example of someone stepping outside their house into the outdoors where nature can be seen.

It is important to add that the processes of sanctification and character strengths in turn can be cultivated within traditional or nontraditional spiritual contexts. Spiritual and religious systems, and often the leaders therein, frequently and explicitly encourage people to see character strengths as fruits of the spirit, expressions of what it means to be a good religious person, be it a good Christian, Jew, Muslim, Buddhist, or Hindu (Pargament and Mahoney, 2005). For instance, within Christianity, members often hear the verse "And now abide faith, hope, love, these three; but the greatest of these is love" (1 Corinthians 13:13). Similarly, Jews are taught: "… what is good; and what does the Lord require of you but to do justice, and to love kindness, and to walk humbly with your God?" (Micah 6:8). Sanctification can also grow out of spiritual practices, rituals, or living a spiritually focused life. Simply sitting mindfully with or savoring a character strength can instill it with deeper spiritual value (Bryant and Veroff, 2007).

A focus on spirituality through spiritual practices seems to be linked with greater expression of character strengths. Berthold and Ruch (2014), for example, compared religious people who practice their religion, religious people who do not practice their religion, and people who are not religious. The group that practiced their religion reported a more meaningful life and scored higher on the strengths of kindness, love, hope, forgiveness, and spirituality compared with the other groups.

PRACTICAL IMPLICATIONS: THE SYNERGY OF SPIRITUALITY AND CHARACTER STRENGTHS

This section offers a dual integrative approach, first highlighting evidence-based practices from the field of spirituality and how they are or might be enhanced by character strengths (the grounding path of integration). Then, we turn to the literature on character strength interventions and illustrate how spirituality can serve as an important lens or enhancer of strengths (the sanctification path of integration).

Practices for the Grounding Path

There are a number of traditional or nontraditional spiritual practices that could serve as the backbone for the discussion here, such as types of prayer, meditation, sacred readings, exposure to nature (e.g., forest bathing), exposure to the creative arts and humanities, and a variety of rituals. Below we sample five spiritual practices that have been linked with positive outcomes (e.g., well-being). We then discuss how character strengths are already an intricate active ingredient within that practice and/or how they *could* be woven into each practice to enhance or support it.

Develop a Lens for the Sacred

This activity involves developing a more finely tuned mindset, or lens, through which one perceives and discovers the sacred (Powerleau et al., 2016). There are a number of avenues and successful pathways for cultivating this lens, such as creating space and time to explore sacred moments (Goldstein, 2007; Pargament et al., 2014), synchronicity experiences (Russo-Netzer and Icekson, 2020), taking a personal striving approach that links with spiritual goals or ultimate concerns (Schnitker and Emmons, 2013), and mantra use (Wachholtz and Pargament, 2005). Ultimately, this practice is about becoming a good spiritual explorer.

The character strength of curiosity can be deliberately deployed in this seeking, perceiving, and exploring of what might be or is sacred to oneself. Curiosity facilitates the openness of asking exploratory questions to ponder upon oneself or discuss with others, while the strength of judgment/critical thinking can help discern healthy and harmful spirituality (Pargament, 1997; Magyar-Russell and Griffith, 2016). Other wisdom-oriented character strengths such as perspective encourage the individual to reflect on past experiences of the sacred. Similarly, creativity can catalyze brainstorming future approaches to facilitate a closer connection with the sacred.

Cultivate Sacred Moments

Character strengths not only have a role in developing a spiritual lens but also in the active dwelling in or experience of spiritual moments. Empirical studies have shown that the experience of sacred moments in life is associated with a number of mental health benefits, including greater meaning, purpose, and life satisfaction (Pargament et al., 2014). Building on this literature, providers have begun to create and evaluate programs that cultivate sacred moments, and character strengths can be important elements of the path. For example, McCorkle (2005) developed a 10-week manualized intervention to increase perception of sacredness in life through didactic material, discussion, and meditation. Each week focused on the sacredness embodied in a different aspect of life, including various attributes related to character strengths, such as gratitude, giving and receiving gifts, kindness to oneself, and meaning and purpose. They evaluated the effectiveness of the program with clients dealing with social anxiety. Qualitative data indicated that the program was effective in enhancing the sense of sacredness, which, in turn, fostered greater wholeness by expanding attentional focus, interrupting maladaptive thinking, and shifting behaviors that maintain social anxiety.

Similarly, Goldstein (2007, p. 1003) developed a 3-week mindfulness intervention to help people become "aware of the sacred qualities arising from moment to moment." The program was tied to several benefits: greater spiritual well-being, greater psychological well-being, lower levels of perceived stress and greater daily spiritual experiences. In addition, focusing on sacred moments allowed participants greater access to both positive and negative emotions. Thus, the intervention appeared to encourage more wholeness by broadening and deepening emotional experience. Character strengths, which can be made explicit in cultivating sacred moments, can expand the range of possible experiences for the individual and can also play a role in grounding the person in virtuous behavior.

Learn From Your Spiritual Role Models

Positive influencers, role models, or exemplars are important for many facets of life and are critical enablers of many character strengths (Peterson and Seligman, 2004). Spiritual models are defined as personal or prominent figures in one's life who function as exemplars of spiritual qualities for the observer (Oman et al., 2012). The importance of spiritual models and/or teachers as exemplars of spiritual development and change is evident in all spiritual and religious traditions (Oman and Thoresen, 2003). Interventions involving learning from spiritual role models have been shown to positively influence nonmaterialistic aspirations and self-efficacy for learning (Oman et al., 2007). For this practice, an important first step is to name the positive model or exemplar and describe how this person has been a positive influence and what has been learned from her. We propose character strengths as a valuable addition to this practice. Individuals could be encouraged to explore how character strengths influence this person and catalyze her positive and moral behavior, with questions such as, which character strengths do you appreciate most about this spiritual figure? How do they express these strengths in their actions? If you have had direct contact with this person, what character strengths do you suppose she saw in you? The questions about character strengths bring the spiritual model down-to-earth and serve as a reminder of their humanity as well as the common humanity shared with the observer. This offers an opportunity for enhanced self-efficacy as the observer is empowered to copy the character strengths of the role model in their own way.

Find Your Calling or Purpose in Life

Pargament (2007, p. 218) delineated a variety of psycho-spiritual assessment probes designed to help clients discover the deeper purpose in their lives. These questions include: "What are you striving for in your life? Why is it important that you are here in this world? What legacy would you like to leave behind in your life? To what or whom are you most devoted?" In order to bring character strengths into this intervention, we propose individuals be shown the list of character strengths and definitions and explore additional questions: think of a time when you pursued something particularly meaningful; which character strengths were you using most strongly? What are your "purpose-oriented" character strengths, those strengths that give you a deep sense of purpose when you use them? Which character strengths are important as part of your life legacy?

Character strengths have been found to boost calling and purpose in life. For example, in one study of the workplace, those employees who used four or more of their signature strengths at work had significantly higher levels of viewing work as a calling (Harzer and Ruch, 2012). Other studies have found certain character strengths, on average, correlate consistently highly with purpose in life – having clear goals in life and having a sense of directedness as well as holding beliefs that give life purpose. Five character strengths – curiosity, perseverance, zest, hope, and self-regulation – are among the strongest correlates of purpose in life across different studies, while a second grouping of strengths shows significant correlations with purpose, though not as strong as the first group – love, honesty, bravery, perspective, love of learning, and creativity (Harzer, 2016). These findings point to another pathway for boosting purpose and calling in life: an individual can directly target one or more of these character strengths – especially those in the first grouping – as a route toward purpose.

Cultivate Deep Meaning in Life

Theorists and researchers have delineated three main types of meaning: coherence, significance, and purpose (George and Park, 2016; Martela and Steger, 2016). As we

focused on purpose earlier, we'll discuss the other two areas in this practice.

Coherence is the reflection-oriented level of meaning. It is about making sense of one's life and considering how everything fits together when considering oneself and the universe. Character strengths can be used to enhance coherence. Examples include tapping into the strength of perspective to step back and take a wider view of life so that one does not get lost in the downpour of details and stressors; using judgment/critical thinking to analyze one's beliefs about the world and the people in it; and enlisting curiosity to question and explore life meaning and sense-making as a greater whole.

Significance is the feeling-oriented level of meaning. It involves feeling that one matters and that life matters, not only sensing and knowing the value of life but feeling that appreciation for oneself, others, and the world in a deep way. For significance, the heart-based character strengths are likely to be of central importance. An individual might consider situations in which they have deeply expressed their strengths of love, gratitude, kindness, and forgiveness and then reflect on how they have used these strengths strongly in a positive way in one of their closest relationships and how they have contributed to their sense of significance and validation.

Practices for the Sanctification Path

We present a sampling of five character strengths practices that have been closely tied to positive outcomes (e.g., happiness). We then discuss how spirituality can be woven into these practices to amplify, widen or support these practices.

Strengths-Spotting Practices

The spotting of character strengths in others is one of the most common practices for recognizing, understanding, and expressing character strengths and for drawing links between abstract positive constructs and concrete behaviors. The main elements of the strengths-spotting process involve labeling the character strengths that are observed in an individual and offering an explanation, rationale, or behavioral evidence for each strength to that person (Niemiec, 2018). Research in the education context has shown that teachers' use of strengths-spotting facilitates positive student outcomes, such as positive affect, classroom engagement, and needs satisfaction (Quinlan et al., 2019). One way to bring spirituality into this process is to weave in "spirituality-spotting." The strengths-spotter can actively look for instances in which an individual manifests his spirituality, expresses deep meaning in life, or appears to be engaging with the sacred. The observer then offers this feedback to the person explaining what she observed. This is likely to generate new insights for the receiver.

Character Strengths Appreciation

Strengths-spotting can be taken to the next level by adding in an appreciation component. Appreciation is one of the main functions of character strengths and involves expressions to other people of how important or of value they are for their strengths expression – it is a valuing of who they are at their core (Niemiec, 2019b). Research has found that couples who recognize and appreciate the character strengths of their partner have higher relationship satisfaction, needs satisfaction, and relationship commitment (Kashdan et al., 2017).

As an intervention for a couple (or a friendship or other close relationship), the individuals might share examples of stories in which they saw the other person use character strengths and express appreciation to them for each of those strengths (Niemiec, 2018). This could be bolstered by encouraging the couple to reflect on the sacredness of the sharing experience; namely, how it was special, particularly intimate, or holy for them.

Target any Character Strength

Research has found that personality traits, and thereby character strengths, are malleable and can be impacted by deliberate interventions, among other phenomena (Borghans et al., 2008; Hudson and Fraley, 2015; Roberts et al., 2017). For example, randomized studies have shown that character strengths interventions can enhance the levels of strengths (Schutte and Malouf, 2018). Individuals interested in bolstering their bravery, perseverance, gratitude, or hope can set that strength as their target and engage in attentional, volitional, and behavioral practices to build it up. Each strength has tailored interventions (see Niemiec, 2018), such as recounting funny things to boost humor (Gander et al., 2013), counting blessings to boost gratitude (Seligman et al., 2005), or engaging in divergent thinking to build creativity (Scott et al., 2004).

After the individual does an intervention with any strength, they can then infuse the strength with the sacred. The person might sanctify the strength mentally by seeing it as part of their spirit, or sanctify it by connecting it with a special object, imbuing the symbolic object with sacred qualities in the quiet space of meditation, prayer, and appreciation (e.g., Goldstein, 2007). This process can highlight the value and importance of the strength for one's life and for the benefit of others (Niemiec, 2014).

Mental Subtraction

One of the most poignant and visceral character strength activities is a well-being boosting activity involving mental subtraction (Koo et al., 2008; Ang et al., 2015). This task is referred to as "subtract a signature strength" (Niemiec, 2018). The activity invites individuals to imagine their life for 1 month without being able to use one of their signature strengths; they notice how they would be impacted and then describe their emotional experience. Common reactions include feeling lost, panicky, de-energized, bereft, and useless. This highlights the importance of one's highest traits of character in daily life.

A natural fit here would be the addition of participants reflecting on meaning and the sacred. Following the mental subtraction, participants would be asked: what does your reaction say about what you hold sacred or what matters most to you? How does this signature strength you chose help you create

and express deep meaning and value in your life? How might this strength be sacred for you?

Positive Reappraisal

Reframing, or positive reappraisal, is an intervention in which individuals mindfully reframe a stressful situation, event, or perception of a person as benign, valuable, or beneficial (Folkman, 1997; Garland et al., 2009). This activity can yield a more complete, honest, and balanced perspective for the situation. Character strengths are injected into the reappraisal and help reframe the problem or person in more constructive ways (e.g., stubbornness can be seen as a reflection of perseverance; inattentiveness can be a feature of curiosity; and hyperactivity can be an expression of zest; Niemiec, 2018).

To catalyze or reinforce a positive reappraisal, participants are encouraged to explore what they learned from the stressful event or how they grew or improved as a result of the problem. Spirituality has a substantive role here. The exploration can be stimulated by a number of questions: how did this problem or conflict contribute to a sense of meaning or sacredness for you? Might you discover the sacred not only within the good but also within your troubles and challenges? Could this situation be reframed as an opportunity for spiritual growth? What did you learn today that has taught you something about what it means to be you? Benevolent spiritual reappraisals have been associated with positive outcomes among hospice caregivers (Mickley et al., 1998). This meaning-loaded exploration also contributes to reappraisals of people who have offended someone in some way. These involve seeing the complex humanity of the person, as a being who has imperfections and flaws and is in need of positive growth and transformation (Witvliet et al., 2010).

CONCLUSION AND FUTURE DIRECTIONS

The literature on character strengths and spirituality share a concern with human functioning at its best. The fundamental human yearning to make sense of the world around us, to transcend our transient existence, to discover our unique authentic potential and calling, to seek out a relationship with something larger than our limited selves may manifest itself and be conceptualized rather differently through the prisms of spirituality and character strengths but reflect a similar core essence. Although these areas of study have operated to some extent within different silos, we have maintained that there are important theoretical connections, potential meeting points, and synergies between these two domains. We suggested two paths – the grounding path and the sanctification path – through which character strengths and spirituality can come together and facilitate each other. We then presented examples of practices within each established domain that can be enhanced by the integration of character strengths or spirituality.

Such multifaceted integration offers insight and wisdom to both areas of study and opens up new directions for psycho-spiritual research that might further explore how these constructs relate to each other, add practical value to one another, and together contribute to greater human wholeness.

Another robust area of research involves the exploration of individual differences in the experience and manifestation of character strengths and spirituality across the life span and among different cultures and populations. How might the integration of character strengths and spirituality express itself in children, adolescents, at each stage of adulthood, among religious and non-religious, and among those from Eastern, Western, and indigenous cultures? The heuristic model we have presented holds important practical implications for educators, counselors, chaplains, religious leaders, and policy makers. Such a model could be used to catalyze interventions and programs across populations and sectors.

This model can be examined more closely. One angle is through the potential master virtue of wholeness. Qualitative studies could shed important light on how people define and experience wholeness as well as the pathways they take and challenges they encounter in their efforts to realize greater integration in their lives. Empirical studies could develop measures to assess wholeness, such as the Edinger-Schons (2019) measure of oneness beliefs as they relate to life satisfaction. Research could also test the relationships between the 24 character strengths and wholeness with variables relating to growth and well-being. In this vein, Riley et al. (2017) found that several wholeness indicators (e.g., compassion for others, optimism, presence of meaning, a collaborative relationship with God, religious commitment) were linked with measures of growth. Other studies could explicate the points of connection between wholeness and character strengths.

Continuing the advancement of the thoughtful integration of character strengths and spirituality, we believe, offers exciting new directions for what it means to be human and the cultivation of greater wholeness. Exploring new horizons for research and practice may provide a fertile ground for a deeper understanding and cultivation of human flourishing, growth, and a life worth living.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

Original outline and draft provided by lead author and substantive edits, additions, subtractions, insights, rearrangements, and contributions were made by all three authors. All authors contributed to the article and approved the submitted version.

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Scrutinizing the Criteria for Character Strengths: Laypersons Assert That Every Strength Is Positively Morally Valued, Even in the Absence of Tangible Outcomes

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This study examines Peterson and Seligman's (2004, p. 19) claim that every VIA character strength "(. . .) is morally valued in its own right, even in the absence of obvious beneficial outcomes". Although this criterion assumes a pivotal role in distinguishing character from personality, no previous study has investigated its validity. Based on what Peterson and Seligman (2004) have provided us with, we describe how we built our study around indirectly testing every strength's assumed moral evaluation, in which inclinations toward deontology (e.g., "torture is wrong regardless of tangible positive outcomes") and consequentialism (e.g., "torture can be good if it accounts for more positive than negative outcomes") may play a critical role. We used Peterson and Seligman's (2004) handbook to construct four ultra-short stories for every strength: the stories depict various agents engaging in strength-related behavior (e.g., a young student courageously stepping up against school bullies). We prompted participants to rate these and twelve anchor stories multiple times as to whether the agents acted morally correct: In the first block, the actions' consequences were undetermined while in the second block, the actions had either positive, negative, or mixed consequences, which we used to compute proxies of participants' inclinations toward deontology and consequentialism. The ratings of N = 230 German-speaking laypersons suggest that the criterion stands: participants perceived every strength as positively morally valued when consequences were undetermined, and positive consequences did not account for or increase this effect. However, moral value seems to come in degrees, and some strengths were valued more strongly than others (top five: judgment, honesty, kindness, fairness, and hope). Furthermore, specific character strengths (measured by self-report) were connected with more positive evaluations (e.g., endorsing spirituality was connected with rating spirituality as more positively valued). Both deontology and consequentialism were connected with more positive evaluations, and we suggest two hypotheses to explain how such inclinations can lead to perceiving character strengths

as positively valued. Our findings highlight the importance of scrutinizing the criteria for character strengths, and our experimental paradigm can offer a template to further investigate character strengths' moral evaluation and other fundamental assumptions in upcoming studies.

Keywords: positive psychology, VIA, experiment, moral judgment, deontology, consequentialism, utilitarianism, process dissociation

INTRODUCTION

About 15 years ago, Peterson and Seligman's (2004) seminal handbook and classification brought about a renaissance of the concept of character–a quality that has long been written off in personality research. Today, the abundance of studies into the positive outcomes of VIA character strengths proves that character matters: Character strengths constitute well-being (e.g., Park et al., 2004a; Wagner et al., 2019), contribute to work performance and academic achievement (e.g., Park and Peterson, 2006; Littman-Ovadia and Lavy, 2016), and build resilience toward life's hardships, illness, and loss (e.g., Peterson et al., 2006; Martínez-Martí and Ruch, 2017). Indeed, there is also emerging evidence that character strengths can contribute to sustainability and pro-environmental behavior (e.g., Corral-Verdugo et al., 2015; Moeller and Stahlmann, 2019). However, although we know a lot about what character *can do*, we know surprisingly little about what character *is*, and what sets it apart from other individual differences. In fact, nearly all of the positive outcomes above also pertain to the Big Five personality traits: for example, extraversion and neuroticism predict subjective well-being (e.g., Diener and Lucas, 1999), conscientiousness contributes to job performance (e.g., Barrick and Mount, 1991), and all Big Five traits are differentially connected with resilience (Oshio et al., 2018). Research into such positive outcomes reinstalled the concept of character in the literature, but it did not deepen our understanding of what makes character unique.

This gap in our knowledge is irritating because Peterson and Seligman (2004) have provided us with a list of criteria that should define what character is. These criteria emerged in the process of selecting entries for the VIA classification–to consolidate their common factors and distinguish them from seemingly related concepts, such as talent, ability, and personality (see Peterson and Seligman, 2004, pp. 16–28). The literature currently counts twelve of such criteria (e.g., Park, 2018, pp. 4–5)–some of which simply serve to ground character in the framework of individual differences, such as *traitlike* ("is an individual difference with demonstrable generality and stability"), *measurable* ("has been successfully measured by researchers as an individual difference"), and *distinctiveness* ("is not redundant [conceptually or empirically] with other character strengths"). Similar to positive outcomes, these criteria have received considerable scientific scrutiny (e.g., traitlike: Gander et al., 2019; measurable: McGrath, 2016; distinctiveness: McGrath, 2014), presumably because they pertain to all individual differences and there are hence established methods to evaluate them. Other criteria are rather unprecedented and character-specific, such as *morally valued* ("is valued in its own right and not as a means to an end"), *does not diminish others* ("elevates others who witness it, producing admiration, not jealousy"), and *paragons* ("is strikingly embodied in some individuals"). These are arguably the key criteria that make character unique, yet there has been little discussion about their validity and even less research into whether character strengths can indeed satisfy them (Ruch and Stahlmann, 2019).

Superficially, these criteria may seem to be rather obvious and straightforward–it is not hard to come up with several examples of individuals who presumably endorsed certain strengths to a remarkable degree, such as Pablo Picasso (creativity), Viktor Frankl (hope), or Arnold Schwarzenegger (self-regulation). However, the criteria also offer a more hidden, extensive perspective, which becomes apparent when we ask, for example, *why* some people can grow to become such paragons of character, or *how* their actions can inspire so many others around the world to follow in their footsteps. Scrutinizing the criteria shows us that they cannot only *describe* character but provide us with the questions whose answers allow us to *explain* it. In other words: not only the correlations with sensible outcomes, but especially the criteria are key to proving that character matters. Accordingly, we need to rigorously explore these criteria, and hence this account seeks to exemplify how one of them–morally valued–can be investigated in an experimental framework.

Morally Valued Is One of the Most Defining Yet Understudied Criteria of Character Strengths

Among the key criteria, *morally valued* can be assumed a special role because it reflects a historic paradigm shift in personality research: At the beginning of the 20th century, Gordon Allport[1] saw himself confronted with a surge of interest into the study of what was then referred to as human nature (see Allport, 1921; Allport and Vernon, 1930). In an attempt to consolidate the diverse literature and connect personality psychology with the methods of natural science, he assumed famous behaviorist Watson's (1919) perspective that "character is defined (. . .) as the personality evaluated according to prevailing standards of conduct" and that "psychologists who accept Watson's view have no right (. . .) to include character study in the province of psychology." (Allport, 1921, p. 443). It is important to note that Allport (1921) did not "banish" all such evaluative traits from personality research: "Terms which originated in social judgment (. . .) may and often do, become ideals or guiding principles adopted by individuals. In this sense the introception of an ethical ideal into subjective attitude turns a characterial designation into

[1]Gordon Allport served as president of the American Psychological Association in 1939 and is considered one of the founding figures of personality psychology.

a true trait-name" (Allport and Odbert, 1936, p. 28) and hence qualifies it for psychology. However, he did deter from research into whether psychology can and should consider such traits *morally valued* because "(t)he same behavior (. . .) may be moral in one locality, immoral in another, moral at one period of time, immoral at another" and "(t)here are no 'moral traits' until trends in personality are evaluated" (Allport, 1927, p. 285). Peterson and Seligman (2004) acknowledged Allport's (1921) differentiation according to such standards of conduct, but they rejected his deduction because they purposefully designed the VIA classification to only include entries that pertain to ubiquitously[2] shared virtues–in contrast to culture-specific and temporarily prevailing standards (Peterson and Seligman, 2004, pp. 33–52). Indeed, they argue that "(t)he ubiquity of these core virtues suggests the possibility of universality and eventually a deep theory about moral excellence phrased in evolutionary terms." (Peterson and Seligman, 2004, p. 51). In this sense, character strengths' assumed moral value is rightfully one of the key criteria that distinguish them from other individual differences.

Earlier, we stated that there had been little quantitative analysis of the key criteria, and this is especially the case for *morally valued*: The literature frequently mentions it as a central one, including two consecutive editions of The Oxford Handbook of Positive Psychology (Peterson and Park, 2009; Park, 2018). However, the only attempts at critical evaluation can be found in Peterson and Seligman's handbook (2004) and, to a lesser extent, in a book contribution by Park and Peterson (2007), in both of which every character strength was theoretically rated according to whether it satisfies this criterion. Surprisingly, an increasing number of strengths were not considered inherently morally valued because they are believed to only "become morally valued when coupled with other strengths in the classification" (Peterson and Park, 2011, p. 52). Such strengths were referred to as *value-added* (e.g., Peterson and Park, 2011, p. 52), and **Table 1** summarizes the literature on them. Notably, where Peterson and Seligman (2004) had used careful language, the more recent literature (e.g., Park, 2018) presents the existence of several of such value-added strengths (approx. ¼) as a fact. So far, this striking contradiction to the classifications' fundamental principles seems to have been tolerated as a kind of peculiarity, but if we were to take the criteria seriously, this would necessitate one of two far-reaching implications: We would have to redefine or altogether abandon either (1) the criterion or (2) the strengths in question. It is hence pivotal to examine whether this criterion applies to all strengths–that "(a)lthough strengths can and do produce desirable outcomes, each strength is morally valued in its own right, even in the absence of obvious beneficial outcomes" (Peterson and Seligman, 2004, p. 19).

Designing a Study to Evaluate Character Strengths' Assumed Moral Value

As there is no standard procedure for such an examination, we have to work with what Peterson and Seligman (2004) have provided us with and carefully build our study around testing what we believe they deemed to be the criterion's fundamental qualities. It is clear that they put particular emphasis on character strengths' moral integrity in the absence of positive consequences. Accordingly, we can assert that a proper study should contrast such scenarios from those in which character strengths *do* produce positive consequences–for example, by experimental manipulation. Other issues leave more room for interpretation and may result in different design options. From a psychological perspective, these issues should primarily pertain to two critical questions: *How* should we measure character strengths' moral evaluation, and *whom* should we invite to give their rating? In the following paragraphs, we will describe how we resolved these issues and how our reasoning guided our study design.

How Should We Measure Character Strengths' Moral Evaluation?

Ignoring the second question for the moment, the most straightforward way to measure character strengths' moral evaluation seems to involve asking individuals *directly* whether they believe that traits such as bravery, kindness, and spirituality are morally valued. A similar approach was used, for example, by Biswas-Diener (2006) in a study on whether VIA character strengths are also recognized in less often studied communities, such as the Kenyan Maasai or Inughuit in Northern Greenland. However, although efficient, this approach presumably does not come without a cost to validity and reliability: as every other trait, character strengths refer to dispositions toward a range of discrete emotions, behaviors, cognitions, and desires (see Wilt and Revelle, 2015), and it is not known, but unlikely, that individuals unanimously share the same cognitive representations. This is one of the main reasons why items in personality inventories (including "character inventories," such as the VIA Inventory of Strengths; Peterson and Seligman, 2004) are anchored in specific contexts and situations: standardizing the frame of reference makes it more likely that participants are considering the same concepts as the researchers have when giving their response. Therefore, we concluded that character strengths' moral value should be rated *indirectly* by judging agents' actions in multiple well-defined scenarios instead of providing only one abstract rating per strength. The rating itself should presumably be given using a *bipolar* answer format (i.e., ranging from *immoral* [−] to *amoral* [0] and then to *moral* [+]) to avoid steering participants toward artificially-inflated positive evaluations (e.g., by only allowing participants to rate how *positively* morally valued the agents acted). However, as participants may hence inadvertently feel required to use the full scale, we also suggest including additional scenarios that pertain to immoral or amoral actions. Such scenarios may map onto actions that Peterson and Seligman (2004, p. 299) called "(. . .) talent(s) or abilit(ies) that fall outside the moral realm" (e.g., general intelligence, athletic ability, or perfect pitch) or even those that are antithetical to the concept of good character (e.g., the Dark Triad traits Machiavellianism, narcissism, and psychopathy; for an overview, see Paulhus and Williams, 2002; Furnham et al., 2013).

[2]Ubiquity is recognized as another criterion for character strengths (see Park, 2018). For an overview of the research on this criterion, see Ruch and Stahlmann (2019).

TABLE 1 | List of character strengths that have previously been discussed as value-added, including all references in the literature and excerpts of the reasoning.

Character strength	Literature	Excerpt/reasoning
Perseverance	Peterson and Seligman, 2004; Park and Peterson, 2007	"Persistence is morally valued. We admire the busy bee, the tortoise but not the hare, the little engine that could, and Rocky Balboa answering the bell again and again (. . .). At the same time, we acknowledge a downside to diligence when it takes the form of perseveration. Aristotle's doctrine of the mean reminds us that too much diligence can be as much a vice as too little (. . .)." (Peterson and Seligman, 2004, p. 203)
Zest	Peterson and Seligman, 2004; Park and Peterson, 2007; Peterson and Park, 2009, 2011; Park, 2018	"We hesitate to conclude that enthusiasm *per se* is morally valued; this judgment will usually follow only when the activity pursued with enthusiasm is itself moral. However, if life lived well–with vigor and energy–is a good thing, and of course it is, then perhaps enthusiasm in these terms is morally valued." (Peterson and Seligman, 2004, p. 210)
Humor	Park et al., 2004a; Park and Peterson, 2007; Peterson and Park, 2009, 2011; Park, 2018	"Strengths such as humor and zest are not morally valued in their own right but become morally valued when coupled with other strengths in the classification. So, a humorous person is simply funny, but a humorous person who is kind is very special and morally praiseworthy. We call these value-added strengths and intend to study them further." (Peterson and Park, 2011, p. 52)
Humility	Park et al., 2004b	"Perhaps modesty is what we term a value-added strength, not especially satisfying in its own right but–like humor, for example–important when coupled with other well-developed strengths of character. However, we tested this possibility by creating all possible product terms between modesty and the other 23 strengths in our classification and found no evidence that these interactions were associated with life satisfaction beyond the contribution of their components." (Park et al., 2004b, pp. 631–632)
Love of learning Curiosity Appreciation of beauty	*Park and Peterson, 2007; Park, 2018	"Although character strengths are generally defined as morally valued traits, several character strengths in the VIA Classification are positive traits but not moral traits, such as love of learning, curiosity, and appreciation of beauty." (Park, 2018, p. 5)

**Love of learning was already marked as potentially value-added by Park and Peterson (2007), although they did not explain this decision.*

Whom Should We Invite to Give Their Rating?

In order to resolve the question of whom should judge character strengths' moral evaluation, we need to discuss why Peterson and Seligman (2004) seem to have been so keen on stressing that character strengths' moral integrity is untouched by tangible positive consequences (or the lack thereof). Although they did not draw an explicit connection (neither in the handbook nor in later literature), their wording strongly implies that they wanted to make an argument for the principle of *deontology* (see Kant, 1785/2007)–or at least against the principle of *consequentialism* or *utilitarianism* (see Mill, 1861/1998): according to Kantian deontology, an action that produces positive consequences can never be considered moral if it cannot generalize to a universal principle of conduct. For example, torture would never be considered moral, because if everyone would torture to acquire information, then no one could feel safe and torture would have to be reliably expected. In contrast, Millian consequentialism would consider those actions moral that produce more net good than any alternative actions. In the example above, if torturing an alleged terrorist would lead to saving the lives of innocent civilians and there are no alternative actions that yield more net good, torture could be considered moral. However, this is where Peterson and Seligman (2004) put their criterion: By emphasizing that the ends do not sanctify the means but that the moral value lies in the exercise of character strengths themselves, they essentially imply that character strengths are deontological by nature, and that every strength map onto such a universal principle of conduct.

Indeed, a consequentialist perspective would strongly challenge the criterion as it stands now (and by extension also Allport's differentiation): instead of a characteristic of the strengths, the moral value would be a characteristic of their consequences or the contingency between strengths and consequences. However, this poses a problem because we can assume that individuals who lean toward consequentialism may *reject* character strength's moral evaluation unless the strengths account for tangible positive consequences. Moreover, such individuals could judge character strengths that accidentally produce negative consequences (irrespective of the actor's good intentions) as *negatively* morally valued. Even individuals who lean toward deontology may not necessarily judge character strengths as positively morally valued because they may not believe that the strengths can generalize to universal principles of conduct. In this sense, Peterson and Seligman's (2004) criterion is as much a set of assumptions about character strengths as it is about ethical decision making in general, and thus the question of whom to invite to give their rating quickly becomes a question of defining moral value as a whole–and as several studies have shown that individuals differ in their inclinations toward deontology and consequentialism (see, e.g., Tanner et al., 2008; Conway and Gawronski, 2013), this may be the most important predictor of whether character strengths will pass or fail the criterion.

To make matters even more complicated, the relevant literature has long abandoned the purely rationalist perspective on ethical decision making that was prevalent in the late 20th century (see, e.g., Kohlberg, 1981, 1984). More contemporary models, such as Greene's dual-process theory (see, e.g., Greene, 2007; Conway and Gawronski, 2013), rather stress the importance of immediate affective reactions, available cognitive resources, and motivation, that may or may not enable rationalist processing. If emotions such as happiness, sadness,

and anger (Gawronski et al., 2018) or other factors such as time pressure (Gawronski and Beer, 2017) or even emotion-related damage in the ventromedial prefrontal cortex (Greene, 2007) can influence ethical decision making, it becomes not only a question of *whom* to invite but also of *when* to invite them. This also raises the question whether individual differences in *trait* character strengths–such as the endorsement of bravery or kindness–can influence affective responses and cognitive processing in a similar fashion: for example, a certain degree of perceived similarity between actor and judge may lead to more positive evaluations ("It takes one to know one").

Altogether, these considerations emphasize that Peterson and Seligman's (2004) criterion can only be met if a set of specific assumptions about the judges' processing of strength-related actions can be met as well: specifically, this would only be possible if character strengths' moral value were not only independent of tangible positive outcomes but also of individual differences in ethical decision making that map equally well onto inclinations toward deontology and consequentialism *and* intuitive, affective heuristics. Ideally, we can hope that our account pushes toward more research that addresses all of these potential factors in dedicated studies–either by actively manipulating or by controlling them. For now, we can only lay the groundwork by investigating whether Peterson and Seligman's (2004) criterion can still hold–notwithstanding all the factors that seem to challenge its validity. To do so, we decided to unselectively invite individuals whom we recruited from the general population to give their rating–this should include individuals with diverse ethical inclinations and in various affective, cognitive, and motivational states. However, we did decide to additionally measure inclinations toward deontology and consequentialism as these seem to have been so significant for Peterson and Seligman's (2004) reasoning. We also decided to measure trait character strengths because they constitute the conceptually closest other factors that could constitute differences in moral evaluations.

Aims of This Study

Based on our considerations above, we took the first step toward systematically investigating character strengths moral value by designing an online experiment that is explicitly aimed at measuring individuals' moral evaluation of fictional agents' strength-related behavior. First, we tested whether Peterson and Seligman's (2004) claim was correct in that every strength is generally recognized as positively morally valued, even in the absence of positive consequences. Second, we tested whether mixed (positive *and* negative) and negative consequences can affect participants' evaluations and translated individual response patterns into scores that map onto their inclinations toward deontology and consequentialism. Third, we tested whether these inclinations and individual differences in trait character strengths are connected with individuals' moral evaluations. Following up on our theoretical reasoning, our study provides first evidence of whether the criterion is meaningful, whether it can be met by all strengths, and whether there are other factors that influence character strengths' moral evaluation.

MATERIALS AND METHODS

Participants and Procedure

This study used a convenience sample comprising N = 230 participants (80.00% female, 20.00% male; M_{age} = 25.01, SD_{age} = 6.25, range = 18–45 years). The majority were Germans (56.52%), Swiss (27.83%), German-speaking Italians from South Tyrol (5.22%), and Austrians (4.34%). About three quarters were college or university students (78.26%) who had received upper secondary education (undergraduate: 74.44%) or tertiary education (graduate: 25.56%). The remainder had largely received tertiary education (Bachelor or higher: 85.71%) or upper secondary education (14.29%).

The experiment was administered online via www.soscisurvey.de in January and February 2020. Participants had to be at least 18 years old and fluent in German. They provided informed consent before participation, began by providing demographic data, and subsequently worked on the VIA-IS and the CS-MET. They were debriefed after participation and received partial course credit upon request. The experiment took participants approximately 1 h to complete.

Measures

Character Strengths' Moral Evaluation

We created the Character Strengths' Moral Evaluation Task (CS-MET) to assess the VIA character strengths' moral evaluation. The CS-MET's basic building blocks are 108 ultra-short stories: 96 character-related stories and 12 anchor-stories (four stories per character strength/anchor). Every story can be presented independently or be paired with three story-specific "sequels" to produce four different trial types: (1) stories without consequences, (2) stories with positive consequences, (3) stories with mixed consequences, and (4) stories with negative consequences, for a total of $4 \times 108 = 432$ possible trials (within-subjects design). In every trial, we inquired participants to rate the degree to which they believe that the stories' agents acted morally correct using a nine-point answer format (anchored at −5 = [they acted] very much morally negatively, 0 = [they acted] neutrally, and +5 = [they acted] very much morally positively). Anchors were the three socially aversive traits of the Dark Triad: Machiavellianism, narcissism, and psychopathy (for an overview, see Paulhus and Williams, 2002; Furnham et al., 2013). The CS-MET (in German) can be found in the CS-MET repository on OSF: https://doi.org/10.17605/OSF.IO/ZGTXQ.

Stimuli

Every ultra-short story depicts a different agent engaging in behavior that corresponds to the underlying character strength or Dark Triad trait. Three translated examples are: "A young woman courageously confronts her fear of heights and valiantly scales a climbing wall for the first time in her life" (bravery), "A high school student compassionately tends to his grandfather and assists him with his daily routine" (kindness), and "A young employee has big career goals and is ruthless in achieving them" (Machiavellianism). Notably, expressions such as "high school student" and "young employee" are gender-neutral in English but require specification in German, and hence we assigned half

of the agents per strength/Dark Triad trait as female and the other half as male. We likewise diversified the agents' age per strength/Dark Triad trait by depicting them as either primary or secondary schoolers (6–18 years), young adults (19–34 years), adults (35–64 years), or older adults (more than 65 years). We crafted the stories vis-à-vis the literature and instruments for measuring character strengths and the Dark Triad using Peterson and Seligman's (2004) handbook, the German VIA-IS' items (see Ruch et al., 2010), and the German Short Dark Triad's and Dirty Dozen's items (see Küfner et al., 2015; Malesza et al., 2019).

The story-specific sequels pertain to either positive, mixed, or negative consequences following the agents' actions. Translated examples for the previously depicted story on kindness are "The student is cherished by his grandfather and is bequeathed a large portion of his patrimony" (positive), "The student feels appreciated, but tending to his grandfather sometimes keeps him very busy, and he has trouble with his coursework" (mixed), and "The student has an accident while carrying the groceries and has to use crutches for the next 4 weeks" (negative). Half of the sequel stories per strength pertained to consequences for the actors themselves (such as in the examples), while the other half pertained to consequences for others.

Pretests and data preparation

Four members of the positive psychology research group at the (University of Zurich) pretested the CS-MET: they provided feedback on the stories' clarity, whether they did indeed pertain to the character strength/Dark Triad trait in question, and whether they may unintentionally touch on more than one strength/Dark Triad trait, and we amended some of the stories accordingly[3]. In every story that pertained to character strengths, the experts rated the agent's actions as at least marginally morally positive ($Min = +1$). Overall, the expert ratings ranged from 1.23 (creativity) to 3.88 (fairness) with $Mdn = 1.88$. Next to fairness, the other top five strengths were kindness (3.38), honesty (3.13), and judgment and gratitude (both 3.00).

Additionally, two student assistants completed the full CS-MET and provided feedback on their experience and the elapsed time. They stated that the instructions were clear and that they could readily rate all stories, but that the CS-MET alone took them more than 1 h to complete, which strained their vigilance and motivation. Accordingly, we decided to decrease the individual burden by inquiring participants to only work on a randomly selected portion of the CS-MET's trials. This approach corresponds to Revelle et al. (2017) SAPA procedure, who showed that data that includes procedurally missing values (missing completely at random; MCAR) can still produce reliable mean-level statistics without the need to present the whole item set. We hence sampled eight strengths and one Dark Triad trait completely at random for a total of 9 (strengths/Dark Triad trait) × 4 (stories) × 4 (trial types) = 144 trials for every participant. In other words, every participant rated stories that correspond to *eight* strengths and *one* Dark Triad trait across all four trial types. In order to further avoid the loss of vigilance and motivation, we administered the CS-MET in two blocks: In the first block, participants appraised their preselected 36 stories without consequences, and in the second block, they appraised the 108 stories with consequences. The trials were randomized within both blocks, and participants could take two breaks: one after the first block and another one after appraising half of the trials of the second block.

For every trial type, participants' ratings were aggregated across the corresponding four stories, resulting in 9 (strengths/Dark Triad trait) × 4 (trial types) = 36 ratings per participant. The ratings were subsequently aggregated across participants to obtain sample means, standard deviations, and 95% confidence intervals (with Bonferroni correction) of the means for every strength/Dark Triad trait. In the final sample, the stories' Cronbach's alpha per character strength ranged from 0.54 (Prudence) to 0.84 (Curiosity) with a median internal consistency of 0.75, and the Dark Triad traits' Cronbach's alphas were 0.64 (Machiavellianism), 0.61 (narcissism), and 0.65 (psychopathy).

Character Strengths

We used the VIA Inventory of Strengths [VIA-IS: Peterson and Seligman, 2004; German adaptation by Ruch et al. (2010)] to assess the VIA classification's 24 character strengths (e.g., judgment: "I always examine both sides of an issue"). The VIA-IS formally comprises 240 items (10 items per strength) and uses a five-point answer format (1 = very much unlike me to 5 = very much like me). We also used Revelle et al.s' (2017) SAPA procedure and sampled 120 items completely at random for every participant. We presented these items in four blocks that each comprised 30 items. In this study, Cronbach's alpha ranged from 0.60 (Teamwork) to 0.90 (Spirituality) with a median internal consistency of 0.78.

Data Analysis

We conducted the analyses within the R statistical computing environment (R Core Team, 2019) using Revelle's (2019) psych package. As we did not formulate hypotheses about the interaction of particular character strengths' moral evaluations with different consequences following strength-related behavior, we only inspected the corresponding main effects. However, the results of a 27 (character strengths + Dark Triad traits) × 4 (consequences) repeated measures ANOVA/mixed-effects analysis can still be found in the Supplementary Knitr report (see Xie, 2020) to this publication, as can be the input and output of our analyses in general.

In correspondence to Peterson and Seligman's (2004) criterion, we considered the aggregated ratings for stories without consequences to depict the general moral evaluation of character strengths ("even in the absence of obvious beneficial outcomes", p. 19). We began by describing our findings for this general moral evaluation and contrasted it from that for stories with positive consequences. Next, we inspected the aggregated ratings for stories with mixed and negative consequences and used Conway and Gawronski's (2013) process dissociation approach to compute inclinations toward deontology and

[3] An example for such an amended story for perseverance is: "A student assistant shows his persistence and tenacity by continuing to work while others have already resigned." The original story was flagged for additionally touching on kindness: "A student assistant shows his persistence and tenacity by trying to manage his coworkers' tasks while they have already resigned".

consequentialism. Conway and Gawronski's (2013) approach is based on Greene's (e.g., 2007) dual-process theory and allows for computing separate scores for both inclinations by contrasting evaluations in "congruent" scenarios (in which both inclinations produce *similar* ratings; this should correspond to stories with positive consequences) from those in "incongruent" scenarios (in which both inclinations produce *opposing* ratings; this should correspond to stories with negative consequences). Finally, we examined the relationships of the general moral evaluation with the resulting scores and with character strengths using regression and correlation analysis.

RESULTS

Participants Generally Recognize Every Strength as Positively Morally Valued, Even in the Absence of Positive Outcomes

The CS-MET's overall results are depicted in **Figure 1**. **Figure 1A** shows that participants generally recognized every character strength as positively morally valued when the stories were presented without consequences. Conversely, the three Dark Triad traits were generally perceived as negatively morally valued, which can be considered a successful manipulation check. All ratings were significantly different from zero (neutral), but there were notable differences in the effect sizes[4]. We assigned them to one of four tiers according to which thresholds of the scale were or were not entailed by their confidence intervals. Five strengths were rated higher than +2 and were labeled *very positive*: Judgment, honesty, kindness, fairness, and hope. Remarkably, these strengths (except for hope) correspond to the top five strengths that have been identified by the small sample of experts in the pretest. Eight strengths entailed +2 and were labeled *markedly positive*: Bravery, love, social intelligence, teamwork, leadership, humility, gratitude, and humor. Two strengths were rated higher than +1 and were labeled *positive*: Curiosity and prudence. Nine strengths entailed +1 and were labeled *slightly positive*: Creativity, love of learning, perspective, perseverance, zest, forgiveness, self-regulation, appreciation of beauty, and spirituality. Notably, four strengths that have previously been discussed as value-added were rated slightly positive (love of learning, perseverance, zest, and appreciation of beauty), one was rated positive (curiosity), and two were rated markedly positive (humility and humor).

Figure 1B shows that positive consequences following the agents' actions resulted in a similar pattern and only marginal changes to the average evaluation: the profile correlation was r_{AB} = 0.99, and hence the strengths' rank order can be considered practically equivalent. The average evaluations were also comparable with M_A = 1.81, 95% CI [1.52, 2.09] and M_B = 1.99, 95% CI [1.82, 2.16], which indicates that positive consequences generally did not yield more positive evaluations. We concluded that every strength satisfied Peterson and Seligman's (2004) criterion: Every strength was positively morally valued, and positive consequences did neither account for nor increase this effect by a notable degree. However, there were differences in moral evaluations across strengths, which indicates that some strengths are valued more strongly than others.

Different Consequences Following Strength-Related Behavior Influence Moral Evaluations and Indicate Differences in Inclinations Toward Deontology and Consequentialism

The other panels show that mixed (**Figure 1C**) and negative (**Figure 1D**) consequences following the agents' actions also resulted in similar patterns, but in more changes to the average evaluations: the profile correlations were r_{AC} = 0.95, and r_{AD} = 0.92, but participants generally rated the agents' actions less positively when they were followed by mixed consequences (M_C = 0.90, 95% CI [0.66, 1.13]) and the least positively when they were followed by negative consequences (M_D = 0.29, 95% CI [0.04, 0.55]): In trials with mixed consequences, participants rated two previously slightly positive strengths neutrally (perseverance and appreciation of beauty). In trials with negative consequences, participants rated 13 previously slightly positive to markedly positive strengths neutrally (creativity, curiosity, love of learning, perspective, zest, teamwork, leadership, forgiveness, humility, self-regulation, appreciation of beauty, humor, and spirituality) and two strengths negatively (perseverance and love). These include all strengths that have previously been discussed as value-added.

Based on Conway and Gawronski's (2013) process dissociation approach, we computed participants' deontological and consequentialist inclinations by contrasting their ratings in stories with positive consequences and such with negative consequences. In the language of process dissociation, stories with positive consequences should map onto congruent trials because both deontological and consequentialist inclinations should result in positive moral evaluations (assuming that there is indeed some deontological value attached to character strengths). Conversely, stories with negative consequences should map onto incongruent trials because deontological inclinations should result in positive moral evaluations, whereas consequentialist inclinations should result in negative moral evaluations. Notably, our data structure differed from that of Conway and Gawronski (2013) in that participants did not just *choose* but additionally *rated the degree* to which the action depicted in the stories was acceptable or unacceptable. Accordingly, we did not compute the percentages of acquiescence but substituted the "raw" moral evaluations into the formulas[5] to obtaining the process dissociation scores (PDS) of deontology

[4]These findings generally apply to both character strengths and Dark Triad traits, but in line with this study's aims, the statistics described in the following paragraphs only involve character strengths.

[5]Following Conway and Gawronski (2013, pp. 219–220), our formulas were: *PDS consequentialism = mean moral evaluation* in *trials with positive consequences – mean moral evaluation* in *trials with negative consequences* and *PDS deontology = mean moral evaluation* in *trials with negative consequences/(1 − PDS consequentialism)*. Our calculations can also be found in the Supplementary Knitr document to this publication.

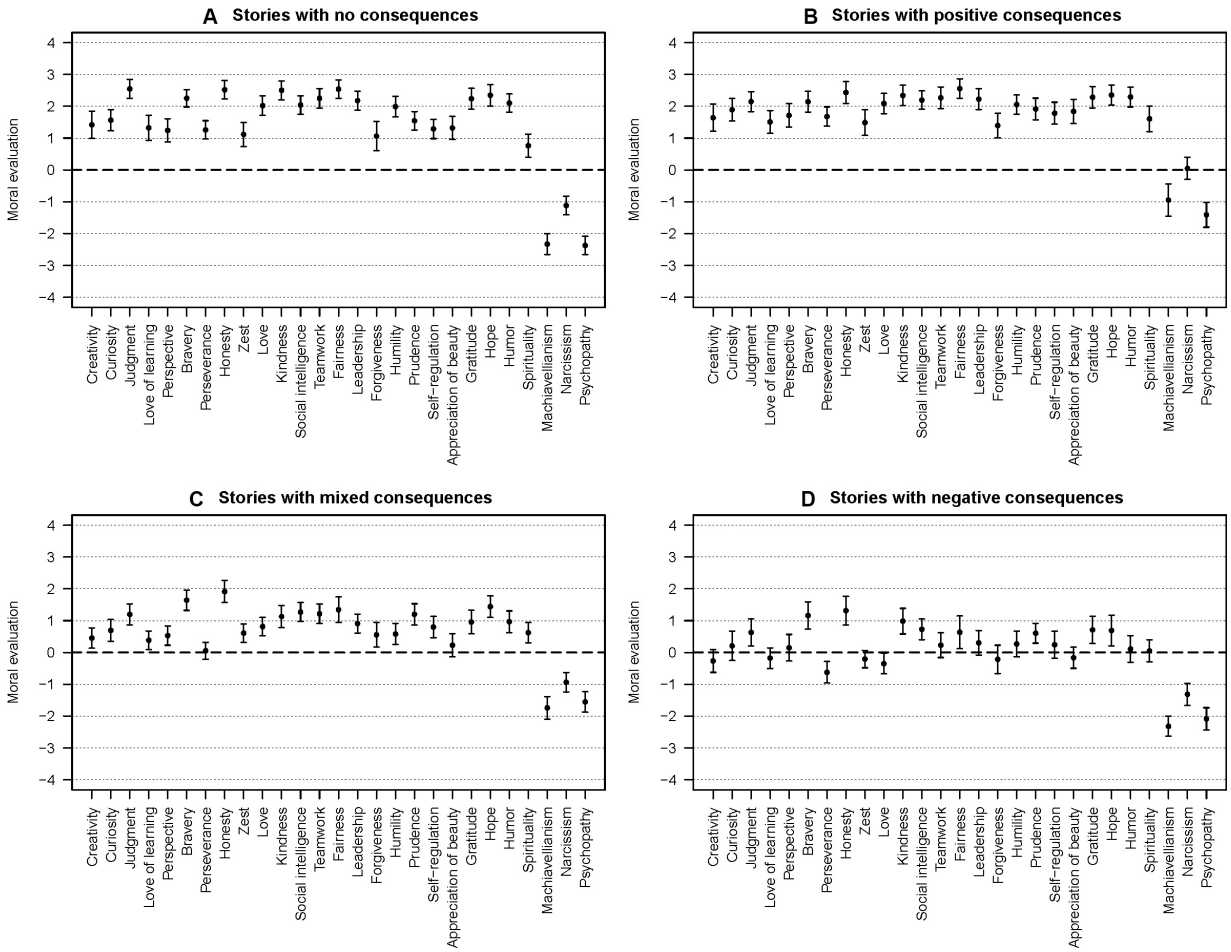

FIGURE 1 | Means and 95% confidence intervals (with Bonferroni correction) of the Character Strengths' Moral Evaluation Task's (CS-MET) ratings as functions of the 24 VIA character strengths and the three Dark Triad traits. The panels depict the ratings for the different trial types: **(A)** stories without consequences, **(B)** stories with positive consequences, **(C)** stories with mixed consequences, and **(D)** stories with negative consequences. *N* = 230.

and consequentialism. However, we normed the ratings to the range of [0, 1] to make our PDS more comparable to those of Conway and Gawronski (2013). A histogram of the PDS is depicted in **Figure 2A**. It shows that participants differed in their inclinations toward deontology and consequentialism, which corresponds to our observation that the average evaluations in trials with mixed and negative consequences were smaller than those in trials with positive or no consequences. We concluded that different consequences following strength-related behavior can influence moral evaluations and that differences in the ratings correspond to differences in the inclinations toward deontology and consequentialism.

Inclinations Toward Deontology and Consequentialism and Individual Differences in Character Strengths Influence Moral Evaluations

Figure 2B shows the results of a regression model that included PDS deontology, PDS consequentialism, and their interaction as predictors and the mean moral evaluation in stories without consequences as criterion. Surprisingly, both PDS deontology [$b = 5.39$, $t(226) = 12.43$, $p < 0.001$] and PDS consequentialism [$b = 4.87$, $t(226) = 4.56$, $p < 0.001$] emerged as significant predictors, and their significant negative interaction [$b = -5.11$, $t(226) = -3.56$, $p < 0.001$] indicates that they compensate each other at high levels. Taken together, all predictors can explain the share of $R^2_{\text{Adjusted}} = 0.60$. We concluded that–unlike in trials with mixed and negative consequences–inclinations toward deontology *and* consequentialism can account for more positive evaluations in the absence of tangible outcomes. This result suggests that character strengths' moral value is indeed, for the most part, unanimously recognized as long as the consequences of strength-related actions are unmentioned.

Finally, **Table 2** shows that individual differences in eight strengths–as measured by the VIA-IS–correlated with more positive ratings in the CS-MET's respective strength-related stories: for example, individuals who endorsed zest in the VIA-IS also rated it more positively in the CS-MET's stories

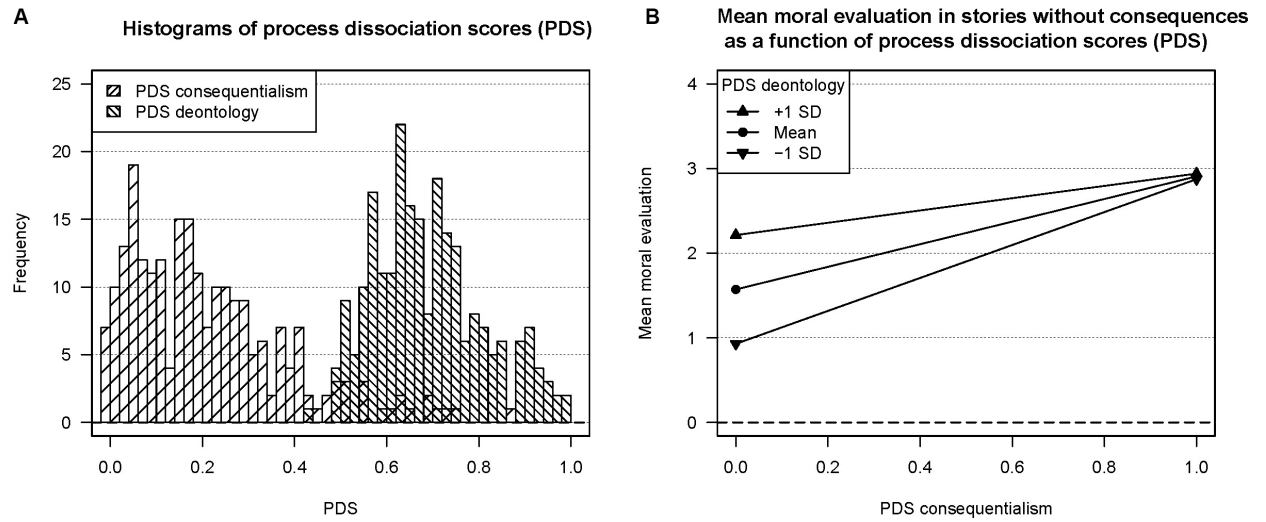

FIGURE 2 | (A) Histograms of process dissociation scores (PDS) for consequentialism and deontology. **(B)** Results of the linear regression analysis of the PDS on the mean moral evaluation in the Character Strength's Moral Evaluation Task's (CS-MET) stories without consequences: *Mean moral evaluation = –2.15 + 4.87 × PDS consequentialism + 5.39 × PDS deontology – 5.11 × PDS consequentialism × PDS deontology*. $R^2_{Adjusted} = 0.60$; $N = 230$.

with mixed and negative consequences (small to medium positive effects). Further differences pertained to small to medium positive effects for social intelligence (no/positive consequences), fairness (mixed/negative consequences), leadership (no/positive/mixed consequences), humility (no/positive consequences), gratitude (no/positive/mixed consequences), and humor (no consequences), and to medium to large positive effects for spirituality (no/positive consequences). These include three strengths that have previously been discussed as value-added (zest, humility, and humor). Notably, there were no differences pertaining to very positive strengths. We concluded that individual differences in trait character strengths can also influence moral evaluations, but that this effect may not apply to all strengths.

DISCUSSION

This account set out to highlight the importance of scrutinizing the criteria for character strengths, and our study sought to take the first step toward empirically testing one of the most defining yet understudied criteria–*morally valued*–in an online experiment. Based on the responses of a German-speaking convenience sample, we can indeed offer first evidence that "(a)lthough strengths can and do produce desirable outcomes, each strength is morally valued in its own right, even in the absence of obvious beneficial outcomes" (Peterson and Seligman, 2004, p. 19). This is arguably the most important result of our study, and it can therefore not be understated that the criterion seems to *stand*–notwithstanding prior ideas about value-added strengths and individual differences in ethical decision making. However, although our results emphasize the criterion's validity, they also demonstrate that our previous understanding was oversimplified: character strengths moral evaluation seems to come in degrees, and it can be affected by at least three (and presumably several more) critical factors: The character strengths themselves, their consequences, and also individual differences in inclinations toward deontology and consequentialism and in character strengths.

Most notably, participants valued some strengths more strongly than others. In particular, judgment, honesty, kindness, fairness, and hope constituted the highest-valued strengths, and although it was diminished, their positive value could mostly stand even in the face of negative consequences. On the other hand, creativity, love of learning, perspective, perseverance, and zest (among others) were among the lowest-rated strengths, and it is striking that many of them were previously discussed as value-added. Second, mixed (positive *and* negative) and negative consequences generally accounted for less positive and, in some cases, also for negative evaluations, such as in the case of perseverance and love. Using Conway and Gawronski's (2013) process dissociation approach, we were able to connect differences in the ratings to differences in inclinations toward deontology and consequentialism, which were prevalent and widely spread in the sample. To our surprise, both inclinations, *including* consequentialism (and their interaction), proved to be strong predictors of character strengths' moral evaluation in the absence of tangible outcomes. This finding can explain why the criterion can stand in an ethically diversified sample, but it also raises the new question of how individuals who put a strong emphasis on positive consequences can arrive at positive evaluations when there are no such consequences. Finally, individual differences in character strengths seem also to affect moral evaluations, but this effect only pertained to specific strengths and only in the face of specific consequences: For example, individuals who endorsed spirituality arrived at much more positive evaluations in trials

TABLE 2 | Correlations of character strengths (as measured by the VIA-IS) with their respective moral evaluations in the CS-MET, split across the four trial types.

Character strength	No consequences	Positive consequences	Mixed consequences	Negative consequences
Creativity	0.15	0.14	0.08	0.03
Curiosity	0.18	0.17	0.15	0.02
Judgment	0.01	0.06	−0.07	−0.03
Love of learning	0.03	−0.21	0.11	0.22
Perspective	0.18	−0.02	−0.03	−0.02
Bravery	0.03	0.11	0.03	−0.07
Perseverance	0.11	−0.01	−0.11	−0.15
Honesty	0.05	−0.09	−0.06	−0.19
Zest	0.24	0.18	0.26*	0.28*
Love	0.22	0.16	0.17	0.09
Kindness	0.16	0.11	0.07	0.03
Social intelligence	0.24*	0.26*	0.10	0.09
Teamwork	0.16	0.19	0.06	0.00
Fairness	0.20	0.14	0.32**	0.24*
Leadership	0.28**	0.30**	0.30**	0.11
Forgiveness	0.15	0.06	0.21	0.20
Humility	0.26*	0.25*	0.17	0.00
Prudence	0.14	−0.08	−0.10	−0.10
Self-regulation	0.04	−0.08	0.07	0.10
Appreciation of beauty	0.07	0.21	−0.02	−0.14
Gratitude	0.28*	0.26*	0.28*	0.20
Hope	0.16	0.07	−0.01	−0.09
Humor	0.28**	−0.05	0.06	0.09
Spirituality	0.44***	0.34**	0.18	0.09

*N = 230; *p < 0.05, **p < 0.01, ***p < 0.001.*

with positive and no consequences, and the same was true for individuals who endorsed fairness in trials with mixed and negative outcomes.

Our account demonstrates that reinstalling research into the criteria is useful because it contributes to substantiating character strengths' theoretical foundation, thus helping us understand what character is. However, it also highlights that working with the criteria produces many more questions that require further attention. Regarding *morally valued*, these questions primarily pertain to why some strengths are valued more positively than others, how consequentialism can lead to more positive evaluations in the absence of tangible outcomes, and–maybe most importantly–where we now want to go and how to proceed from here. As our solution to the first problem hinges on the second one, we will begin by explaining why we believe that consequentialism can yield more positive evaluations in the absence of positive outcomes and address the remaining questions after that. However, it is important to note that more theoretical discussion and empirical research will be needed to answer these questions definitively, and we can hence only provide careful and preliminary explanations to our findings.

Consequentialism Accounts for More Positive Evaluations Because of an Assumed Connection of Character Strengths With Positive Consequences

As we have stated in the introduction to our account, there is an abundance of studies into character strengths' positive outcomes, such as well-being (e.g., Park et al., 2004a; Wagner et al., 2019), work performance and academic achievement (e.g., Park and Peterson, 2006; Littman-Ovadia and Lavy, 2016), and resilience (e.g., Peterson et al., 2006; Martínez-Martí and Ruch, 2017). We can now look back on more than 15 years of research into such positive outcomes, and additionally on even more years of research into specific strengths, such as kindness/prosocial behavior (e.g., Batson, 2012) and hope/optimism (e.g., Snyder et al., 2005). Beyond systematic investigations and their presumable influence on laypersons' understanding of character, we can assume that personal experiences, contemporary media, and folkloric knowledge (among other factors) will have engendered the stereotype that *character accounts for positive consequences*–at least until you are convinced otherwise. Indeed, studies such as Biswas-Diener's (2006) into the recognition and desirability of character strengths among the Kenyan Maasai or Inughuit in Northern Greenland, or more recent studies by Ruch et al. (2019) and Giuliani et al. (2020) into their perceived fulfillment and virtuousness demonstrate that individuals strongly connect character strengths with such positive outcomes. Accordingly, we can assume that participants who were driven by consequentialism valued character strengths more positively because they assumed them to account for some positive consequences. In other words, they may have believed that positive consequences were *implied* even when they were not mentioned in the story. Indeed, this explanation can fit well into Greene's (e.g., 2007) dual-process theory of moral judgment because participants seem to have relied more on spontaneous intuitions than on rational processing when giving their rating–else the principle of consequentialism would have dictated to reject character strengths' moral value. However, it also raises the question whether, under other circumstances, for example when given abundant time and resources (see Conway and Gawronski, 2013; Gawronski and Beer, 2017), individuals would arrive at different judgments, thus again challenging the validity of Peterson and Seligman's (2004) criterion.

Irrespective of this question, the considerations above suggest that the criterion's current wording is slightly misleading: although deontologists may subscribe to the notion that character strengths are morally valued "(. . .) in the absence of obvious beneficial outcomes" (Peterson and Seligman, 2004, p. 19), consequentialists would certainly not. They would either assume that there is some implicit connection with positive outcomes–which seems to be the case in our sample–or they would not and thus reject the criterion. In any case, the connection with such outcomes is critical, and although it may not be immediately obvious to the judges themselves, its pertinent role in this explanation makes it obvious to the observer. It would undoubtedly be too early to revise the criterion based on only one study, but we hope that our account can animate more

discussion into this issue and spawn new empirical studies that test our or similar hypotheses. To this end, we believe that either of two approaches may prove to be especially fruitful: Experimentally priming the connection of character strengths and positive outcomes before administering the CS-MET or using cognitive interviewing (see, e.g., Beatty and Willis, 2007) during administration. For example, a simple experimental design could involve attempting to manipulate this connection by providing some participants with a popular review on character strengths' positive outcomes. In contrast, the remainder would be provided with a review on the "dark side" of character strengths, such as strength underuse, overuse, and their correlations with psychopathology (see Freidlin et al., 2017; Littman-Ovadia and Freidlin, 2020). If the manipulation was successful, this could result in the first group rating character strengths generally more positively than the second group, which would support our hypothesis. On the other hand, cognitive interviewing could involve inquiring participants (especially those with inclinations toward consequentialism) to explain how they arrived at their specific judgments at the moment they are giving it. This would require participants to be able to have some cognitive access to their processing–which may or may not be the case–but it could result in more unbiased findings that either substantiate, extend, or challenge our hypothesis.

Why Are Some Strengths Valued More Positively Than Others?

Some Strengths Are Valued More Positively Because of an Assumed Stronger Connection With Positive Outcomes

Following our considerations on how consequentialism and deontology may have driven participants' moral evaluations, we can offer two tentative explanations on why some strengths were consistently valued more positively than others, and how the concept of value-added strengths may fit into this picture. First, if our hypothesis was correct and consequentialists generally valued character strengths due to their assumed connection with positive outcomes, strengths that sustain stronger connections and those that produce more or more important positive outcomes might also yield more positive evaluations. Indeed, this hypothesis is supported by findings on strengths such as hope, which typically yields stronger relationships with well-being than most other strengths (e.g., Park et al., 2004a; Wagner et al., 2019) or bravery, which emerged as one of the most potent correlates of resilience (e.g., Peterson et al., 2006; Martínez-Martí and Ruch, 2017). However, there are also several findings that seem to contradict this hypothesis, such as those on perseverance, which was among the lowest-rated strengths but also among the strongest correlates of performance and academic achievement (e.g., Park and Peterson, 2006; Littman-Ovadia and Lavy, 2016). Overall, there is only selective overlap between our results and those reported in the literature, and as long as we do not have reason to suspect that we are looking at the wrong outcomes, our hypothesis can only apply if character strengths' moral value hinges more strongly on the *assumed* qualities of the connection than on the qualities that we can find in correlational studies.

This would make the experimental design that we have outlined above even more interesting: Instead of priming character strengths' connection with positive outcomes in general, we could attempt to prime only some selected strengths' connection and explore whether this also leads to more positive evaluations in the targeted strengths (but not in those that were untargeted). Alternatively, we may investigate whether an individual's knowledge of research findings into character strengths' specific connections with positive outcomes can strengthen the match between these findings and their ratings. Taken together, it is plausible that the assumed connection between strengths and positive outcomes not only affects *whether* but also *the degree to which* consequentialists perceive character strengths as positively morally valued. In this framework, value-added strengths would correspond to those that are believed to sustain the weakest or the smallest number of connections with important positive outcomes. In this sense, it may be better to speak of *value-at-risk strengths*, as their model value may fail to be recognized if there are occasional negative outcomes. However, due to the incongruence between the literature and our findings, and assuming that educated individuals (such as in our sample) may have a fair understanding of character strengths' connection with positive outcomes (e.g., that perseverance can contribute to performance) we are inclined to believe that this hypothesis has only little bearing on the ratings. Instead, we believe that the following, deontologically grounded hypothesis, primarily drives individuals' judgments.

Some Strengths Are Valued More Positively Because of an Assumed Better Qualification for Universal Principles of Conduct

Earlier, we raised the idea that Peterson and Seligman (2004) may have put particular emphasis on character strengths' moral integrity in the absence of positive outcomes because they wanted to make an argument for the principle of deontology. This principle can essentially be defined by Kant's (1785/2007) categorical imperative: "Act only according to that maxim whereby you can, at the same time, will that it should become a universal law." Consequently, if individuals' moral evaluations are driven by deontology, and they arrive at very positive evaluations, their evaluations should map onto character strengths' qualifications for such universal principles of conduct. In other words, individuals who arrive at particularly positive ratings for specific character strengths may believe that the actions associated with these strengths can universalize across a number–if not the majority–of different scenarios in which they can find themselves in. For example, as participants have assigned very positive evaluations to judgment and honesty, they may believe that it would be best if they would always act with practical wisdom, considering all facets and perspectives when attempting to make a decision and to always be honest toward themselves and others. In contrast, as creativity and zest were rated considerably less positive, participants may believe that they can usually let their creativity flow and approach life enthusiastically, but that there is also a number of situations

in which such actions would be ill-advised. Remarkably, this would make the VIA classification not only a catalog of human strengths but–presumably by coincidence–also one of such deontological principles.

This is undoubtedly a bold claim, and due to its potential theoretical repercussions, it will require sensitive discussion and strong empirical substantiation. Most notably, and in line with Greene's dual-process model (e.g., Greene, 2007; Conway and Gawronski, 2013), we can assume that many individuals will not *reason* in the strictest sense but instead resort to stereotypes when rating character strengths' moral value: They may not ponder on character strengths' qualification to universalize inasmuch as they decide according to their affective responses and intuitions. Still, it is possible that character strengths' "universalizability" may sensibly shape such stereotypes, be it by positive individual experiences, cultural norms, or even by what Peterson and Seligman (2004, p. 13) call "an evolutionary process that selected for these aspects of excellence as means of solving the important tasks necessary for survival of the species". Taken together, it may be the degree to which character strengths qualify for general principles of conduct that explains which strengths are particularly valued by deontologists. In this framework, value-added strengths would correspond to those that are believed to qualify as guiding principles only for a lesser number of scenarios in which individuals can find themselves in. We may speculate that it was this lack of universalizability ("positively valued, but only under specific circumstances") that led other researchers to believe that such value-added strengths can exist. Future studies may choose to inquire participants whether they believe that specific strengths can universalize to such principles and correlate their responses with their ratings in the CS-MET. However, as it is unclear to what extent individuals can reason about their decision, this may or may not yield conclusive findings. Above all else, we believe that this hypothesis demands theoretical attention, especially the joint efforts from psychology and philosophy, to develop a model that can conceptually unify our findings.

Limitations

This study's results and inferences are subject to a number of limitations that primarily pertain to the characteristics of our sample and our experimental design. First, we chose to recruit a convenience sample to test whether Peterson and Seligman's (2004) criterion can stand in the face of diverse ethical inclinations and differences in affective, cognitive, and motivational states. The variance in the process dissociation scores of deontology and consequentialism implies that we were able to recruit such an ethically diverse sample, but we have not collected information about participants' affective, cognitive, and motivational states. Specifically, we have not collected information about their ability and motivation to engage in ethical reasoning prior to giving their ratings instead of resorting to heuristics and stereotypes. It is hence unclear to what extent inclinations toward deontology and consequentialism were the product of such reasoning or of rather intuitive, automatic processing (see Greene, 2007; Conway and Gawronski, 2013). A related issue is that our only indicator of the CS-MET's reliability are the stories' internal consistencies and that we have not collected data on the ratings' stability. It is hence unclear whether participants would arrive at the same ratings when questioned again and whether supposed fluctuations should be considered a characteristic of a lack of reliability or of differences in participants' processing. In any case, the CS-MET's reliability and what variation in the ratings means should be subject to further discussion and scrutiny. Moreover, our sample mainly comprised relatively young, female individuals who were highly educated and were presumably raised in a WEIRD society (see Henrich et al., 2010). We hope that our account can spawn more interest in scrutinizing the criteria–particularly *morally valued*–and that our experimental approach will be adopted in a study that recruits their sample from a different cultural background. This would also contribute to testing our findings' cultural invariance: specifically, if character strengths proved to map onto general deontological principles, we would hope that future research would also explore whether such principles can universalize across cultures in a fashion that corresponds to character strengths' criterion of ubiquity (see Park, 2018).

Second, it cannot be ruled out that our findings were partially produced by our experimental design and thus rather reflect methodological issues instead of differences in moral evaluations. The within-subjects design allowed participants to indirectly rate the same strengths across different trials, but it may have also introduced artificial variance due to this sequencing. For example, stories with negative consequences may have been perceived as much more negative in comparison to stories with positive or no consequences, thus accounting for bias in moral evaluations. We used the three socially aversive traits of the Dark Triad in order to avoid that participants feel required to produce variance in their ratings. However, this may have also accounted for stronger distinctions between evaluations of such traits and those of character strengths. Future research may choose to use instead what Peterson and Seligman (2004, p. 299) called "(. . .) talent(s) or abilit(ies) that fall outside the moral realm" (e.g., general intelligence, athletic ability, or perfect pitch) as anchors. However, we suggest not using personality traits such as the Big Five: Such traits will presumably also be positively morally valued because they conceptually include many character-related traits. This can be seen in Allport and Odbert's (1936, pp. 38–171) adjective lists, which also include terms such as "honest," "humorous," and "modest," and in McGrath et al.'s (2020) study into the overlap between the VIA classification, the Big Five, and the HEXACO model.

Third, it is unclear whether a certain degree of social desirability may have influenced participants' ratings. Specifically, it may be assumed that participants rated certain character strengths more positively because they thought that this was expected from them and not because they themselves believed that the strengths hold inherent moral value. As the experiment was administered online and participants submitted their ratings anonymously, we do not believe that they felt particularly required to respond according to such norms. However, previous research using the American English (Peterson and Seligman, 2004) and the German (Ruch et al., 2010) VIA-IS showed that some strengths were significantly

(albeit weakly) associated with measures of social desirability (e.g., prudence, honesty, humility in a German-speaking sample). Accordingly, future research may choose to test whether such effects can also be found in the CS-MET and–if they could be found–what would make participants feel required to modify their ratings.

Finally, as stories were initially presented without consequences, and participants were not explicitly alluded to the experimental design, they may not have considered that the agents' actions could also produce negative consequences. Indeed, our stories may be criticized for not only implicitly but also explicitly stating that the agents' actions accounted for some positive consequences. In our exemplary story for bravery–"A young woman courageously confronts her fear of heights and valiantly scales a climbing wall for the first time in her life"–successfully scaling a climbing wall could be perceived as a positive consequence in itself. This is a conceptual problem because character strengths and such inherent consequences cannot be split without stripping the strength of its meaning. For example, Peterson and Seligman's (2004, p. 29) consensual definition of bravery entails "(. . .) speaking up for what is right even if there is opposition (. . .)", and speaking up may or may not already be perceived as such a positive consequence (e.g., of overcoming fear). It can be assumed that there are individual differences in the degree to which participants expected further consequences or noticed that this might not be the end of the story, and such differences may have also biased our results. Future research may choose to allude participants to the experimental design and explain that they will first rate scenarios without consequences, followed by scenarios with consequences, but this might arguably also account for greater differences between these two blocks.

CONCLUSION

This account shows that scrutinizing the criteria for character strengths is useful because it helps us understand what character is and what sets it apart from other individual differences. Presumably, most readers were familiar with the criteria and had "nodded them off," but we suspect that few would have subscribed to the notion that character strengths may qualify for deontological principles of conduct or that their moral value may also be grounded in their implicit connection with positive outcomes. Our study focused on character strengths' assumed moral evaluation, which we could provide first evidence on. However, the most important message is arguably that research into the criteria is generally *possible*, and we hope that our impetus will animate similar endeavors in exploring the implications of observing individuals who endorse certain strengths to a striking degree (*paragons*) or who can inspire other individuals instead of belittling them (*does not diminish others*).

Investigating the validity of the criteria is not without peril because it means that character strengths can fail them, thus casting a certain degree of doubt on the classification as a whole. However, without this discussion and empirical studies, we cannot know, and the classification cannot proceed in a fashion Peterson and Seligman (2004, p. 31) envisioned when they wrote: "(. . .) we expect [the classification] to change in the years to come, as theory and research concerning character strengths proceed. (. . .) We anticipate that our classification of strengths will (. . .) evolve, by adding or deleting specific strengths of character, by combining those that prove redundant, by reformulating their organization under core virtues, and by more systematically evaluating them vis-à-vis our (. . .) criteria."

DATA AVAILABILITY STATEMENT

The datasets generated in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: https://doi.org/10.17605/OSF.IO/ZGTXQ.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AS and WR conceptualized and designed the study. AS collected the data, performed the statistical analysis, and wrote the first draft of the manuscript. Both authors contributed to manuscript revision and read and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.591028/full#supplementary-material

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The remaining author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Character Strengths Predict an Increase in Mental Health and Subjective Well-Being Over a One-Month Period During the COVID-19 Pandemic Lockdown

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This study examines whether character strengths predict resilience (operationalized as stable or higher mental health and subjective well-being despite an adverse event) over a period of approximately 1 month during the COVID-19 pandemic lockdown in Spain. Using a longitudinal design, participants (N = 348 adults) completed online measures of sociodemographic data, information regarding their situation in relation to the COVID-19, character strengths, general mental health, life satisfaction, positive affect and negative affect. All variables were measured at Time 1 and Time 2, except for sociodemographic and most COVID-related information (Time 1 only). Time 1 data collection was conducted between March 21, 2020 and April 2, 2020, i.e., approximately the second week of lockdown in Spain. Time 2 data collection was conducted between April 24, 2020 and May 18, 2020, after the Spanish government announced its intention to progressively release the lockdown. A principal component analysis of character strengths was conducted. Five character strength factors were extracted: *fortitude*, *goodness*, *intellectual*, *interpersonal*, and *restraint*. Factor structures at Times 1 and 2 were highly consistent. All character strength factors at Time 1 correlated positively with life satisfaction and positive affect, and negatively with negative affect and mental health at T2 (higher scores in the mental health measure indicate poorer mental health). *Fortitude strengths* showed the highest correlations. We conducted a series of regression analyses with strength factors at Time 1 as predictors, and mental health, life satisfaction, and positive and negative affect as dependent variables, controlling for their baseline levels. To test the directionality of the relationship between strengths and the dependent variables, all analyses were reversed. All character strength factors predicted an increase in mental health. They also predicted positive affect, with the exception of *strengths of restraint*. *Fortitude*, *intellectual*, and *interpersonal strengths* predicted an increase in life satisfaction. Finally, *fortitude strengths*, *interpersonal strengths*, and *strengths of restraint*, predicted a decrease in negative affect. None of the reversed analyses yielded significant effects. Limitations, implications, and possible character strengths-based interventions aimed at promoting mental health in the COVID-19 pandemic are discussed.

Keywords: character strengths, COVID-19, pandemic, mental health, subjective well-being, resilience, longitudinal design

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INTRODUCTION

The COVID-19 pandemic has caused an international public health emergency with multiple economic and social consequences. The disease was declared a pandemic by the World Health Organization on March 11, 2020, with more than 118000 confirmed cases worldwide and a death toll of 4291. Currently, the pandemic affects 114 countries (World Health Organization [WHO], 2020). In Spain, the government announced a nationwide lockdown on March 14, 2020 (Real Decreto [RD] 463, 2020 of March 14), with 7641 confirmed cases and 141 deaths (EpData, 2020). The Spanish population was confined at home with limited exceptions for essential supplies, critical business needs, or urgent medical assistance. On March 29, 2020, even stricter lockdown measures were announced, and all non-essential workers were ordered to remain at home for the following 2 weeks (Real Decreto-Ley [RDL] 10, 2020 of March 29). These new measures were imposed to avoid a collapse of the already-saturated hospital network. Between March 29, 2020, and April 11, 2020, the infection curve in Spain peaked, and the number of new cases and deaths started decreasing (EpData, 2020. On April 28, 2020, the government announced a de-escalation plan composed of four phases (0–3), basing the transition from one phase to another on public health indicators (Ministerio de Sanidad, Consumo y Bienestar Social [MSCBS], 2020a). As phase 0 of this de-escalation plan, on May 2, 2020, restrictions were eased and the population was allowed to go out for short walks or do individual sports, and on May 11, half of the Spanish population entered phase 1, which included the opening of outdoor bars at 50% capacity, small shops, and places of worship at one-third of their capacity. COVID-19's greater impact on regions such as Madrid and Barcelona blocked their transition to phase 1 until May 25, 2020 (Ministerio de Sanidad, Consumo y Bienestar Social [MSCBS], 2020b).

Containment measures for diseases such as quarantine and isolation can be traumatic for a percentage of the population. In a United States study on the effects of the H1N1 pandemic, Sprang and Silman (2013) found that 25% of quarantined or isolated adults presented post-traumatic stress disorder (PTSD). These percentages are similar to those observed in studies regarding the SARS pandemic and to those found in other potentially traumatic events such as natural disasters and terrorism (Hawryluck et al., 2004). There is abundant literature on the negative effects of traumatic events and disasters on humans (Norris et al., 2002). However, is it possible that some people have coped with the current pandemic in a healthy way despite the adverse circumstances? If this is so, what factors were responsible for this?

An emerging field of research has begun to show that a large percentage of the general population is usually resilient, i.e., capable of maintaining healthy levels of subjective and psychological well-being despite adverse circumstances (Bonanno, 2004). In his compelling article, Bonanno (2004) cited several such studies. For example, Zisook et al. (1997) observed that approximately half of a sample of conjugally bereaved adults did not show even mild depression (i.e., fewer than two items from the DSM–IV symptom list) after the loss. In another study of resilience to loss, 46% of the sample had low levels of depression, both prior to the loss and through 18 months of bereavement, and had relatively little grief during bereavement (Bonanno et al., 2002). Additionally, studies on violent and life-threatening events showed even higher percentages of resilient individuals. For example, among hospitalized survivors of motor vehicle accidents (Bryant et al., 2000), 79% of the sample did not meet criteria for PTSD. In another study, 62.5% of Gulf War veterans had no psychological distress when examined within 1 year of their return to the United States (Sutker et al., 1995). Other studies on the psychological effects of traumatic situations such as the terrorist attacks that occurred in 2001 (New York), 2004 (Madrid), or 2005 (London), have shown that most people in the general population exposed to these traumatic events did not develop a psychological disorder related to this situation (Rubin et al., 2005; Bonanno et al., 2006; Matt and Vázquez, 2008; Vázquez et al., 2008). For example, Bonanno et al. (2006) observed resilience in 65.1% of a sample of New York residents after the 9/11 terrorist attack, even though many participants had a high exposure to the event. In fact, in the days immediately following the terrorist attacks, most people experienced more positive than negative emotions (Smith et al., 2001), and Fredrickson et al. (2003) showed that experiencing positive emotions, such as gratitude, love, or interest, in the days following the 9/11 terrorist attack, mediated the relationship between pre-attack resilience and decreased depression, as well as increased growth in psychological resources, after the attack.

In the specific case of pandemics, studies are considerably scarcer and are mainly based on the assessment of clinical symptoms. Some studies focused on certain positive aspects, although they do not usually evaluate measures such as well-being. An example of this is the study carried out in Hong Kong on the effects of the SARS epidemic in 2003, in which greater social/family support, awareness of one's own mental health and time spent on healthy practices such as rest, relaxation or physical exercise were observed (Lau et al., 2006). However, as some authors claim (e.g., Vázquez et al., 2008), to adequately measure resilience, it is not enough to measure the absence of clinically significant symptoms, but rather to evaluate aspects such as people's daily functioning and their adaptive reaction to adversity, the learning experienced from the experience, or measures of well-being, such as positive emotions.

Recently, within the field of positive psychology, research has begun on the role of character strengths in coping with adverse situations. Peterson and Seligman (2004) defined character strengths as positive, morally valued personality traits. They are traits in the sense of being individual differences with a certain degree of temporal stability and generality, but they are not necessarily fixed or based on immutable biogenetic characteristics. Peterson and Seligman (2004) proposed a classification of 24 character strengths that are assigned to one of six universal virtues (see **Table 1**). Virtues are the central characteristics of character, valued by religious thinkers and philosophers, while character strengths are the psychological routes in which the virtues are manifested.

There is initial evidence on the relationship between character strengths and resilience. Martínez-Martí and Ruch (2017)

TABLE 1 | VIA Classification of six virtues and 24 character strengths (Peterson and Seligman, 2004) and the respective strengths factors in the present study in brackets.

Virtue I. Wisdom and knowledge: cognitive strengths that entail the acquisition and use of knowledge
(1) Creativity: thinking of novel and productive ways to do things (*Intellectual strengths*)
(2) Curiosity: taking an interest in all of ongoing experience (*Intellectual strengths*)
(3) Open-mindedness: thinking things through and examining them from all sides (*Intellectual strengths*)
(4) Love of learning: mastering new skills, topics, and bodies of knowledge (*Intellectual strengths*)
(5) Perspective: being able to provide wise counsel to others (*Intellectual strengths*)
Virtue II. Courage: emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal.
(6) Bravery: not shrinking from threat, challenge, difficulty, or pain (*Fortitude strengths*)
(7) Persistence: finishing what one starts (*Fortitude strengths*)
(8) Integrity: speaking the truth and presenting oneself in a genuine way (*Goodness strengths*)
(9) Vitality: approaching life with excitement and energy (*Fortitude strengths*)
Virtue III. Humanity: interpersonal strengths that involve "tending and befriending" others.
(10) Love: valuing close relations with others (*Goodness strengths*)
(11) Kindness: doing favors and good deeds for others (*Goodness strengths*)
(12) Social intelligence: being aware of the motives and feelings of self and others (*Interpersonal strengths*)
Virtue IV. Justice: civic strengths that underlie healthy community life.
(13) Citizenship: working well as member of a group or team (*Interpersonal strengths*)
(14) Fairness: treating all people the same according to notions of fairness and justice (*Strengths of restraint*)
(15) Leadership: organizing group activities and seeing that they happen (*Fortitude strengths*)
Virtue V. Temperance: strengths that protect against excess.
(16) Forgiveness and Mercy: forgiving those who have done wrong (*Goodness strengths*)
(17) Humility and Modesty: letting one's accomplishments speak for themselves (*Strengths of restraint*)
(18) Prudence: being careful about one's choices; not saying or doing things that might later be regretted (*Strengths of restraint*)
(19) Self-regulation: regulating what one feels and does (*Strengths of restraint*)
Virtue VI. Transcendence: strengths that forge connections to the larger universe and provide meaning.
(20) Appreciation of beauty and excellence: noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life (*Interpersonal strengths*)
(21) Gratitude: being aware of and thankful for the good things that happen (*Goodness strengths*)
(22) Hope: expecting the best and working to achieve it (*Fortitude strengths*)
(23) Humor: liking to laugh and joke; bringing smiles to other people (*Interpersonal strengths*)
(24) Spirituality: having coherent beliefs about the higher purpose and meaning of life (*Fortitude strengths*)

Source Martínez-Martí and Ruch (2017). *VIA, values in action.*

observed that all character strength factors (derived empirically using a principal component analysis), except for *theological strengths* (that included spirituality and gratitude), yielded significant positive correlations with resilience. Moreover, character strengths were able to explain a statistically significant percentage of the variance in resilience above other factors strongly related to resilience such as positive affect, self-efficacy, optimism, social support, self-esteem, satisfaction with life and sociodemographic variables (i.e., gender, age, and education). When including all variables in the model, *emotional strengths* (i.e., love, vitality, hope, humor, and social intelligence, in Martínez-Martí and Ruch, 2017 study) and *strengths of restraint* (i.e., persistence, self-regulation, prudence, open-mindedness, and perspective, in Martínez-Martí and Ruch, 2017) were significant positive predictors. All 24 character strengths showed positive significant correlations with resilience, except for humility (non-significant). The five individual character strengths that showed the highest correlations with resilience were, in decreasing order, hope, vitality, bravery, curiosity, and persistence (all above 0.50), while the five individual character strengths that showed the lowest correlations with resilience were, in ascending order, humility, prudence, spirituality, appreciation of beauty and excellence, and integrity (all below 0.27). Although this study showed initial evidence of the relationship between character strengths and resilience, it relied on a cross-sectional design, which precludes the possibility of making any inferences about causality.

Thus, this study aimed to examine the potential protective role of character strengths in this specific adverse situation. Specifically, we tested whether character strengths predicted an increase in mental health and subjective well-being (i.e., higher life satisfaction, higher positive affect and lower negative affect) over a period of approximately 1 month during the lockdown period in Spain. In order to test whether character strength factors predicted changes in mental health and subjective well-being over a period of approximately 1 month, we conducted a series of regression analyses on each character strength factor at Time 1 as a predictor, and mental health, life satisfaction, positive affect and negative affect at Time 2 as dependent variables. Since most research on character strengths has previously shown that the 24 character strengths are usually grouped into three (e.g., Shryack et al., 2010; McGrath, 2015), or five factors (e.g.,

Ruch et al., 2010; McGrath, 2014), character strength factors were derived empirically.

For this purpose, we conducted a principal component analysis, a procedure used previously in several studies (e.g., Ruch et al., 2010; Martínez-Martí and Ruch, 2017). Although computing character strength factors might involve a loss of information when studying character strengths, and the resulting factors might vary across studies, making it difficult to compare results across studies, it has the advantage of making the data analyses more manageable when studying the 24 character strengths altogether. When conducting the regression analyses, dependent variables' baseline levels, i.e., at Time 1, were controlled. Moreover, to test the directionality of the relationship between character strengths and the dependent variables, i.e., to confirm that character strengths predicted mental health and subjective well-being over time, but not the other way round, all analyses were reversed. Specifically, the same regression analyses were performed but with mental health, life satisfaction, positive affect, and negative affect at Time 1 as predictors, and character strength factors at T2 as dependent variables, controlling for character strength factors at Time 1. We hypothesized that character strength factors would predict an increase (or at least stable levels) in mental health, life satisfaction and positive affect, and a decrease (or at least stable levels) in negative affect. Additionally, we expected that the reversed analyses would be non-significant. Moreover, we expected that the character strengths that have shown the highest correlations with resilience in previous studies (i.e., Martínez-Martí and Ruch, 2017), such as hope, vitality, bravery, curiosity, persistence, humor, perspective, and social intelligence, would be particularly important for mental health and subjective well-being in the current pandemic situation.

MATERIALS AND METHODS

Participants

The sample consisted of 348 adults (262 women) with a mean age of M = 43.17 (SD = 11.29, range 19–82). All participants were residents in Spain. Most participants were Spanish (94.5%), followed by German (0.9%), Venezuelan and American (0.6% each), and other nationalities that represented 0.3% each, e.g., Argentinian, Italian, and Portuguese. Regarding education, 49.7% of the sample had a university degree or diploma, 28.2% had completed postgraduate studies, 11.8% had a PhD, 8.6% had graduated from secondary school, and 1.7% had graduated from primary school. Regarding their situation in relation to COVID-19 at Time 1, 85% of the sample had no symptoms of COVID-19, 0.9% had been infected, and 14.1% were unsure. Also, 56% of the sample did not know anyone close who had been infected, while 44% knew someone close who had been infected. Regarding the number of people living in the same household, 15.8% of the sample were living alone, 36.5% were living with another person, 24.4% were living with two other people, 15.8% with three other people, 6.6% with four other people, 0.3% with five other people, and 0.6% with six other people. Regarding their work situation, 58% of the sample were teleworking, 10.1% had continued going to their workplaces, 9.8% were temporally unemployed due to the lockdown, 2% were unemployed, and the remaining 20.1% reported "Other situation." When participants were asked how many days per week they had left their houses since the lockdown had begun, 18.4% responded zero days, 31.6% of the sample went out 1 day per week, 21.3% 2 days, 8% 3 days, 3.2% 4 days, 6.9% 5 days, 0,9% 6 days, and 9.8% 7 days. The reasons reported for going out were mainly taking out the trash, grocery shopping, going to work, walking the dog or going to the doctor.

Instruments

The Spanish translation of the *Character Strengths Rating Form* (*CSRF*; Ruch et al., 2014) was used to assess character strengths. The *CSRF* is a 24-item questionnaire with a 9-point Likert scale (from 1 = not like me at all through 9 = absolutely like me) that measures the 24 *VIA (Values in Action)*-character strengths, i.e., as per the model in Peterson and Seligman (2004). Each of the items on the *CSRF* describes one of the 24 character strengths, and participants indicate the degree to which the character strengths apply to them. Higher scores represent a higher endorsement of the strength. A sample item is: "Bravery (valor): Brave and courageous people do not shrink from threat, challenge, difficulty or pain. They speak up for their opinions and convictions even if there is opposition." In the present study, character strengths were grouped into five factors: *fortitude strengths*, *goodness strengths*, *intellectual strengths*, *interpersonal strengths*, and *strengths of restraint*. The data reduction procedure is described in detail in the Data Reduction section. Cronbach's alphas at Time 1 and Time 2 were, respectively, 0.80 and 0.82 (fortitude strengths), 0.79 and 0.81 (goodness strengths), 0.80 and 0.82 (intellectual strengths), 0.68 and 0.73 (interpersonal strengths), and 0.75 and 0.76 (strengths of restraint). Additionally, we calculated item intercorrelations and corrected item-total correlations. Items showed good internal consistencies for all factors (see **Supplementary Material II**[1]).

The Spanish translation of the *12-item General Health Questionnaire* (*GHQ-12*; Goldberg and Williams, 1988) was used to assess mental health. The 12-item general health questionnaire is a widely used screening instrument for common mental disorders, and it is used as a general measure of mental health. It measures aspects such as depression, anxiety, social functioning, and loss of confidence. Specifically, the 12 items measure whether a person is able to concentrate, whether they are losing sleep over worry, whether a person feels that they are playing a useful part in life, feels capable of making decisions, feels constantly under strain, feels that they are unable to overcome difficulties, are able to enjoy day-to-day activities, are able to face problems, are feeling unhappy and depressed, are losing confidence, are thinking of themselves as worthless, and are feeling reasonably happy (Sánchez-López and Dresch, 2008). The items assess the severity of these mental problems over recent weeks on a 4-point Likert-type scale (0 to 3). Higher scores indicate worse mental health. In this study, we modified the instructions and asked participants to rate the items considering their experience over

[1]https://osf.io/n2sqc/

the past week. In the present study, Cronbach's alphas were 0.84 at Time 1 and 0.87 at Time 2.

The *Satisfaction with Life Scale* (*SWLS*; Diener et al., 1985) was used to assess life satisfaction, i.e., the cognitive component of subjective well-being. It is a 5-item questionnaire for the subjective assessment of global life satisfaction in a 7-point answer format (from 1 = strongly disagree to 7 = strongly agree). Higher scores reflect higher life satisfaction. We used the Spanish version (Vázquez et al., 2013). A sample item is: "I am satisfied with my life." Cronbach alphas in the present study were 0.86 at Time 1 and 0.87 at Time 2.

The *Scale of Positive and Negative Experience* (*SPANE*; Diener et al., 2010) was used to measure positive and negative affect, i.e., the affective component of subjective well-being. The scale measures subjective feelings of well-being (6 items) and ill-being (6 items). In the current study, we measured affect as state since we asked participants to rate their feelings over the past week. The Spanish version was used (Daniel-González et al., 2019). Responses range from 1 (very rarely or never) to 5 (very often or always). Higher scores in these two subscales represent higher positive affect and higher negative affect, respectively. Cronbach alphas in the present study were, for positive affect, 0.92 at Time 1 and 0.93 at Time 2, and for negative affect, 0.86 at both Time 1 and Time 2.

Procedure

This study has a longitudinal design with two measurement moments: Time 1 and Time 2. Participants were recruited through a message that included an invitation to voluntarily participate in the study sent to their mobile phone or by email with the snowball sampling method. Firstly, we sent the invitation to participate in the study with a link to the online survey to acquaintances, friends, and family by mobile phone (i.e., WhatsApp) and asked them to spread this invitation to their contacts. Simultaneously, we sent the same invitation via email to all members of our university and asked them to spread the study. Lastly, the same invitation was posted on Twitter by one of the study's coauthors. In this invitation, potential participants were informed of the study's goals and their rights as research participants, and they were asked for their voluntary participation by completing an online questionnaire (Time 1). Participants who agreed signed an informed consent and completed the questionnaire at Time 1. At the end of the Time 1 questionnaire, they were asked whether they could be contacted in the future. Participants who agreed wrote their email in a blank space in the survey and were contacted again via email to answer the questionnaire at Time 2.

Time 1 data collection was conducted between March 21, 2020 and April 2, 2020, i.e., approximately the second week of lockdown in Spain. Time 2 data collection was conducted between April 24, 2020, and May 18, 2020, right after the Spanish government announced its intention to progressively release the lockdown. The average number of days between Time 1 and Time 2 across participants was 35.53 days (*SD* = 5.97). Participants completed online measures of sociodemographic data, information regarding their situation in relation to COVID-19, character strengths, general mental health, and subjective well-being (i.e., life satisfaction, positive affect and negative affect). Sociodemographic data and most COVID-related information were only measured at Time 1. All remaining variables were measured at both measurement times, i.e., Time 1 and Time 2. Although online data collection has been criticized (e.g., for possible sample biases), empirical evidence shows that data obtained online are comparable to data collected in more conventional ways (e.g., Gosling et al., 2004). The study complied with the University's ethical standards.

RESULTS

Data Reduction

Following the same procedure as previous related research (e.g., Ruch et al., 2010; Martínez-Martí and Ruch, 2017), a principal component analysis with the 24 character strengths was conducted with character strength scores at Time 1 and also at Time 2. Five factors were extracted (Promax rotation). At Time 1 these five factors accounted for 59.59% of the variance. The first 10 eigenvalues were 8.49, 1.92, 1.47, 1.39, 1.01, 0.97, 0.87, 0.81, 0.67, and 0.64. At Time 2 these five factors accounted for 61.72% of the variance. The first 10 eigenvalues were 9.06, 1.94, 1.44, 1.33, 1.02, 0.96, 0.87, 0.74, 0.66, and 0.65. The factor loadings of the 24 character strengths in these five factors at both Time 1 and Time 2 are shown in **Table 2**.

The character strength factor structures were highly consistent across the two time measurement points (i.e., at Time 1 and at Time 2), with some small inconsistencies. Specifically, creativity and social intelligence loaded different factors at T2 (see **Table 2**). In order to keep consistency in the content of the character strength factors across Time 1 and Time 2, and after a careful examination of the factor loadings of each strength at Times 1 and 2, we decided to compute five character strength factors that would be equivalent at T1 and T2. We interpreted the first factor as *fortitude strengths*, and included spirituality, bravery, persistence, hope, leadership, and vitality. We took the second factor to be *goodness strengths*, and included kindness, love, gratitude, forgiveness, and integrity. We interpreted the third factor as *intellectual strengths*, and included curiosity, love of learning, open-mindedness, creativity, perspective, and appreciation of beauty and excellence. A fourth factor was interpreted as *strengths of restraint*, and included prudence, self-regulation, humility, and fairness. We interpreted the fifth and final factor as *interpersonal strengths*, and included humor, citizenship, and social intelligence. The mean scores of the character strengths included in each factor were used for subsequent analyses.

Descriptive Statistics

Table 3 presents the descriptive statistics of the measures of the study.

Intercorrelations Among the Variables of the Study

We tested the relationships between character strength factors at Time 1, and mental health, life satisfaction, and

TABLE 2 | Factor loadings (pattern matrix) of the 24 character strengths on the five factors in Times 1 and 2 (N = 348).

	Time 1					Time 2				
	1	2	3	4	5	1	2	3	4	5
Spirituality	**0.73**	0.03	−0.32	0.13	−0.04	0.08	**0.62**	−0.22	0.08	0.00
Bravery	**0.72**	0.04	0.14	−0.19	0.05	−0.01	**0.74**	0.23	−0.12	−0.03
Persistence	**0.65**	−0.03	0.03	0.16	−0.06	−0.01	**0.66**	0.16	0.23	−0.33
Hope	**0.64**	0.19	−0.09	0.04	0.15	0.18	**0.50**	−0.07	0.05	0.29
Leadership	**0.62**	−0.22	0.14	−0.09	0.45	−0.26	**0.83**	0.00	0.01	0.22
Vitality	**0.60**	0.26	0.01	−0.05	0.13	0.15	**0.76**	−0.01	−0.09	0.03
Kindness	−0.04	**0.85**	−0.06	−0.06	0.14	**0.87**	−0.11	0.06	−0.08	0.09
Love	0.05	**0.80**	0.07	−0.16	0.13	**0.86**	−0.04	0.06	−0.19	0.13
Gratitude	0.18	**0.65**	0.11	0.07	−0.22	**0.61**	0.02	0.19	0.09	0.01
Forgiveness	0.11	**0.43**	−0.22	0.32	0.18	**0.56**	0.15	−0.23	0.17	0.12
Integrity	−0.13	**0.40**	0.33	0.26	0.04	**0.51**	0.20	0.30	0.04	−0.26
Curiosity	−0.14	−0.02	**0.88**	−0.04	0.02	0.00	−0.10	**0.82**	−0.13	0.25
Love learning	−0.03	0.14	**0.82**	−0.05	−0.06	0.08	0.20	**0.75**	−0.04	−0.17
Open-minded	−0.22	−0.19	**0.65**	0.49	0.15	−0.09	−0.29	**0.70**	0.46	0.18
Creativity	0.18	0.03	**0.59**	−0.27	0.25	0.03	0.13	0.42	−0.26	**0.54**
Perspective	0.31	−0.17	**0.39**	0.17	0.24	−0.07	0.16	**0.41**	0.23	0.32
Prudence	−0.05	−0.02	−0.06	**0.90**	−0.02	0.14	−0.12	0.01	**0.84**	−0.13
Self-regulation	0.44	−0.31	−0.04	**0.69**	−0.09	−0.32	0.20	0.04	**0.85**	0.08
Humility	−0.01	0.23	−0.05	**0.61**	0.09	0.51	−0.11	−0.06	**0.51**	−0.06
Fairness	−0.02	0.19	0.08	**0.49**	0.07	0.14	0.06	−0.01	**0.51**	0.04
Social intelligence	0.09	0.26	0.03	0.22	**0.51**	**0.40**	0.06	0.01	0.14	0.35
Humor	0.05	0.21	0.23	−0.07	**0.48**	0.15	−0.06	0.12	0.01	**0.75**
Citizenship	−0.06	0.46	−0.09	0.21	**0.47**	0.35	0.22	−0.16	0.17	**0.37**
Apprecbeauty	0.32	0.20	**0.37**	0.16	−0.45	0.22	0.05	**0.46**	0.04	0.05

Highest factor loadings of each character strength in bold. Apprecbeauty, appreciation of beauty and excellence.

TABLE 3 | Descriptive statistics (N = 348).

	Descriptive statistics					
	M	SD	Range		Skewness	Kurtosis
			Actual	Potential		
Fortitude Strengths Time 1	6.17	1.39	1.50–8.83	1–9	−0.48	−0.01
Goodness Strengths Time 1	7.32	1.04	2.40–9.00	1–9	−0.81	1.57
Intellectual Strengths Time 1	6.87	1.10	1.83–9.00	1–9	−0.72	1.40
Restraint Strengths Time 1	6.45	1.30	1.50–9.00	1–9	−0.56	0.37
Interpersonal Strengths Time 1	7.04	1.19	2.33–9.00	1–9	−0.75	0.96
Mental Health Time 1	1.09	0.47	0.25–2.67	0–3	0.75	0.20
Life satisfaction Time 1	3.54	0.82	1–5	1–7	−0.49	−0.18
Positive affect Time 1	3.31	0.76	1–5	1–5	−0.19	−0.03
Negative affect Time 1	2.84	0.88	1–5	1–5	0.03	−0.79
Mental Health Time 2	2.58	1.14	0.08–2.58	0–3	0.64	−0.07
Life satisfaction Time 2	3.58	0.82	1–5	1–7	−0.53	−0.22
Positive affect Time 2	3.45	0.76	1–5	1–5	−0.41	0.15
Negative affect Time 2	2.67	0.85	1–4.83	1–5	0.05	−0.55

positive and negative affect at both Time 1 and Time 2 (see **Table 4**). The correlations of the 24 individual character strengths at Time 1 with mental health, life satisfaction, and positive and negative affect at Times 1 and 2 are shown in **Supplementary Material I** (see text footnote 1).

TABLE 4 | Correlations among the variables of the study (N = 348).

	Time 1				Time 2			
Strengths Time 1	**MH**	**LS**	**PA**	**NA**	**MH**	**LS**	**PA**	**NA**
Fortitude	−0.32**	0.44**	0.38**	−0.33**	−0.30**	0.44**	0.37**	−0.29**
Goodness	−0.09	0.31**	0.23**	−0.14**	−0.17**	0.27**	0.28**	−0.16**
Intellectual	−0.21**	0.28**	0.30**	−0.12*	−0.20**	0.30**	0.34**	−0.13*
Restraint	−0.14**	0.26**	0.18**	−0.19**	−0.18**	0.25**	0.19**	−0.21**
Interpersonal	−0.21**	0.30**	0.31**	−0.24**	−0.26**	0.31**	0.34**	−0.25**

*MH, mental health; LS, life satisfaction; PA, positive affect; NA, negative affect. *$p < 0.05$ and **$p < 0.01$.*

Regression Analyses

In order to test whether character strength factors predicted changes in mental health and subjective well-being (i.e., life satisfaction, positive affect and negative affect) over a period of approximately 1 month, we conducted a series of regression analyses with each character strength factor at Time 1 as a predictor, and mental health, life satisfaction, positive affect and negative affect at Time 2 as dependent variables. Additionally, dependent variables' baseline levels, i.e., at Time 1, were controlled. Moreover, to test the directionality of the relationship between character strengths and the dependent variables, i.e., to confirm that character strengths predict mental health and subjective well-being over time, but not the other way round, all analyses were reversed. Specifically, the same regression analyses were performed but with mental health, life satisfaction, positive affect, and negative affect at Time 1 as predictors, and character strengths at T2 as dependent variables, controlling for character strengths at Time 1. In the following subsections, results are reported for each dependent variable. Multicollinearity diagnostics were well within acceptable limits in all analyses.

Mental Health

Mental health at Time 2 was predicted by all character strengths factors at Time 1 when controlling for mental health at Time 1. After controlling for mental health at Time 1, *fortitude strengths* predicted an additional 1.8% of the variance in mental health at Time 2, F_{Change} (1,345) = 9.16, p = 0.003; *interpersonal strengths* predicted an additional 2.1% of the variance in mental health at Time 2, F_{Change} (1,345) = 10.41, p = 0.001; *strengths of restraint* predicted an additional 1% of the variance in mental health at Time 2, F_{Change} (1,345) = 5.08, p = 0.025; *intellectual strengths* predicted an additional 0.8% of the variance in mental health at Time 2, F_{Change} (1,345) = 4.20, p = 0.041; *goodness strengths* predicted an additional 1.3% of the variance in mental health at Time 2, F_{Change} (1,345) = 6.43, p = 0.012. The statistically significant results of the regression analyses are presented in **Table 5**. The results of the reversed analyses were not statistically significant.

Life Satisfaction

Life satisfaction at Time 2 was predicted by *fortitude strengths*, *intellectual strengths* and *interpersonal strengths* at Time 1 when controlling for life satisfaction at Time 1. After controlling for life satisfaction at Time 1, *fortitude strengths* predicted an additional 1.5% of the variance in life satisfaction at Time 2, F_{Change} (1,345) = 11.86, p = 0.001; *interpersonal strengths* predicted an additional 0.8% of the variance in life satisfaction at Time 2, F_{Change} (1,345) = 6.16, p = 0.013; *intellectual strengths* predicted an additional 1% of the variance in life satisfaction at Time 2, F_{Change} (1,345) = 7.70, p = 0.006. The results of the regression analyses are presented in **Table 6**. The results of the reversed analyses were not statistically significant.

Positive Affect

Positive affect at Time 2 was predicted by all character strength factors, except the *strengths of restraint* (although there was a tendency: p = 0.08), at Time 1 when controlling for positive affect at Time 1. After controlling for positive affect at Time 1, *fortitude strengths* predicted an additional 1.9% of the variance in positive affect at Time 2, F_{Change} (1,345) = 11.22, p = 0.001; *interpersonal strengths* predicted an additional 2.5% of the variance in positive affect at Time 2, F_{Change} (1,345) = 14.58, $p < 0.001$; *intellectual strengths* predicted an additional 2.6% of the variance in positive affect at Time 2, F_{Change} (1,345) = 15.37, $p < 0.001$; *goodness strengths* predicted an additional 1.9% of the variance in positive affect at Time 2, F_{Change} (1,345) = 11.32, p = 0.001. The results of the regression analyses are presented in **Table 7**. The results of the reversed analyses were not statistically significant.

Negative Affect

Negative affect at Time 2 was predicted by *fortitude strengths*, *strengths of restraint*, and *interpersonal strengths* (in strengths of goodness there was a tendency: p = 0.07), at Time 1 when controlling for negative affect at Time 1. After controlling for negative affect at Time 1, *fortitude strengths* predicted an additional 1.1% of the variance in negative affect at Time 2, F_{Change} (1,345) = 5.93, p = 0.015; *interpersonal strengths* predicted an additional 1.3% of the variance in negative affect at Time 2, F_{Change} (1,345) = 6.86, p = 0.009; *strengths of restraint* predicted an additional 0.8% of the variance in negative affect at Time 2, F_{Change} (1,345) = 4.47, p = 0.035. The results of the regression analyses are presented in **Table 8**. The results of the reversed analyses were not statistically significant.

DISCUSSION

This study provides original evidence on the positive association between character strengths and resilience (operationalized as stable or increased mental health and well-being despite

TABLE 5 | Regression analyses predicting mental health at Time 2 (*N* = 348).

						Collinearity	
	B	***SE***	β	***t***	***p***	**Tolerance**	**VIF**
Mental Health T1	0.53	0.05	0.50	10.55	0.000	0.90	1.11
Fortitude Strengths T1	−0.62	0.20	−0.14	−3.03	0.003	0.90	1.11
Mental Health T1	0.55	0.05	0.51	11.22	0.000	0.96	1.05
Interpersonal Strengths T1	−0.75	0.23	−0.15	−3.23	0.001	0.96	1.05
Mental Health T1	0.56	0.05	0.53	11.64	0.000	0.98	1.02
Restraint Strengths T1	−0.48	0.21	−0.10	−2.25	0.025	0.98	1.02
Mental Health T1	0.56	0.05	0.52	11.37	0.000	0.96	1.05
Intellectual Strengths T1	−0.52	0.25	−0.09	−2.05	0.041	0.96	1.05
Mental Health T1	0.57	0.05	0.53	11.81	0.000	0.99	1.01
Goodness Strengths T1	−0.67	0.26	−0.11	−2.54	0.012	0.99	1.01

Coefficients are for each character strengths factor separately.

TABLE 6 | Regression analyses predicting life satisfaction at Time 2 (*N* = 348).

						Collinearity	
	B	***SE***	β	***t***	***p***	**Tolerance**	**VIF**
Life satisfaction T1	0.69	0.04	0.69	17.63	0.000	0.81	1.24
Fortitude Strengths T1	0.40	0.12	0.13	3.44	0.001	0.81	1.24
Life satisfaction T1	0.72	0.04	0.72	19.43	0.000	0.91	1.10
Interpersonal Strengths T1	0.32	0.13	0.09	2.48	0.013	0.91	1.10
Life satisfaction T1	0.72	0.04	0.72	19.58	0.000	0.92	1.08
Intellectual Strengths T1	0.38	0.14	0.10	2.78	0.006	0.92	1.08
Life satisfaction T1	0.73	0.04	0.73	19.92	0.000	0.93	1.07
Restraint Strengths T1	0.18	0.12	0.06	1.53	0.128	0.93	1.07
Life satisfaction T1	0.73	0.04	0.74	19.59	0.000	0.90	1.11
Goodness Strengths T1	0.17	0.15	0.04	1.16	0.248	0.90	1.11

Coefficients are for each character strengths factor separately.

an adverse situation) over a specific period during the COVID-19 pandemic in Spain. What is more, this study shows that, overall, character strengths predicted an *increase* in mental health and subjective well-being, which, although small, we believe is relevant considering the current adverse circumstances. Specifically, all character strength factors (i.e., *fortitude strengths*, *goodness strengths*, *intellectual strengths*, *strengths of restraint*, and *interpersonal strengths*) predicted an increase in mental health, and an increase in positive affect, with the exception of *strengths of restraint*. *Fortitude strengths* (i.e., spirituality, bravery, persistence, hope, leadership, and vitality), *intellectual strengths* (i.e., curiosity, love of learning, open-mindedness, creativity, perspective, and appreciation of beauty and excellence), and *interpersonal strengths* (i.e., humor, citizenship, and social intelligence) predicted an increase in life satisfaction. Finally, *fortitude strengths*, *interpersonal strengths*, and *strengths of restraint* (i.e., prudence, self-regulation, humility, and fairness), predicted a decrease in negative affect.

Moreover, none of the reversed analyses yielded significant effects. This means that mental health and subjective well-being did not predict changes in character strengths over a period of approximately 1 month, a result that further supports the directionality of the relationship between character strengths and mental health and subjective well-being. Nonetheless, we must limit this interpretation to the length of the period studied, i.e., approximately 1 month, and to the current situation. The results observed do not exclude the possibility that well-being and mental health could change character strengths over longer periods or under other circumstances. Future longer longitudinal studies will be helpful to examine this issue. Therefore, in general, the hypothesis of the study was met.

TABLE 7 | Regression analyses predicting positive affect at Time 2 (*N* = 348).

						Collinearity	
	B	***SE***	β	***t***	***p***	**Tolerance**	**VIF**
Positive affect T1	0.56	0.04	0.57	12.65	0.000	0.85	1.17
Fortitude Strengths T1	0.49	0.15	0.15	3.35	0.001	0.85	1.17
Positive affect T1	0.57	0.04	0.57	13.27	0.000	0.91	1.10
Interpersonal Strengths T1	0.63	0.17	0.17	3.82	0.000	0.91	1.10
Positive affect T1	0.57	0.04	0.57	13.34	0.000	0.91	1.10
Intellectual Strengths T1	0.70	0.18	0.17	3.92	0.000	0.91	1.10
Positive affect T1	0.59	0.04	0.59	13.90	0.000	0.95	1.06
Goodness Strengths T1	0.63	0.19	0.14	3.36	0.001	0.95	1.06
Positive affect T1	0.61	0.04	0.61	14.36	0.000	0.97	1.03
Restraint Strengths T1	0.26	0.15	0.07	1.74	0.082	0.97	1.03

Coefficients are for each character strengths factor separately.

TABLE 8 | Regression analyses predicting negative affect at Time 2 (*N* = 348).

						Collinearity	
	B	***SE***	β	***t***	***p***	**Tolerance**	**VIF**
Negative affect T1	0.54	0.04	0.56	12.31	0.000	0.89	1.12
Fortitude Strengths T1	−0.41	0.17	−0.11	−2.44	0.015	0.89	1.12
Negative affect T1	0.55	0.04	0.57	12.86	0.000	0.94	1.06
Interpersonal Strengths T1	−0.50	0.19	−0.12	−2.62	0.009	0.94	1.06
Negative affect T1	0.56	0.04	0.58	13.16	0.000	0.96	1.04
Strengths of Restraint T1	−0.37	0.17	−0.09	−2.12	0.035	0.96	1.04
Negative affect T1	0.57	0.04	0.59	13.51	0.000	0.99	1.02
Intellectual Strengths T1	−0.29	0.20	−0.06	−1.45	0.148	0.99	1.02
Negative affect T1	0.56	0.04	0.58	13.41	0.000	0.98	1.02
Goodness Strengths T1	−0.38	0.21	−0.07	−1.76	0.079	0.98	1.02

Coefficients are for each character strengths factor separately.

The five individual character strengths (at Time 1) with the highest correlations with mental health (at Time 2) were hope, vitality, self-regulation, social intelligence, and humor. The five individual character strengths (at Time 1) with the highest correlations with life satisfaction (at Time 2) were vitality, hope, bravery, persistence, and self-regulation. The five individual character strengths (at Time 1) with the highest correlations with positive affect (at Time 2) were hope, vitality, creativity, social intelligence, and curiosity. Finally, the five individual character strengths (at Time 1) with the highest correlations with negative affect (at Time 2) were hope, vitality, self-regulation, social intelligence, and bravery. These results are generally in line with previous research on the relationship between character strengths and well-being and resilience (e.g., Peterson et al., 2007; Littman-Ovadia and Lavy, 2012; Azañedo et al., 2014; Martínez-Martí and Ruch, 2014, 2017). While hope and vitality seem to be the character strengths with the highest correlations with all the mental health and subjective well-being indicators in this study, a finding replicated repeatedly in previous research on character strengths under less adverse circumstances, what is new in this context is the relevance that bravery, social intelligence and self-regulation show in relation to well-being, especially bravery. Bravery is not usually one of the character strengths that shows the highest correlation with negative affect and life satisfaction, but in this adverse context, it seems to be more important for these components of subjective well-being than other character strengths. Likewise, self-regulation and social intelligence seem to be more important for well-being and mental health, relative to other character strengths, in this specific context.

Character strengths were grouped into five factors after conducting a principal component analysis at Time 1 and Time 2, and carefully examining the factor loadings of all character strengths in the five factors at both measurement times. The factor structure observed was highly consistent across Time 1 and Time 2, but slightly different from the factor structures observed in previous studies (e.g., Ruch et al., 2010;

Martínez-Martí and Ruch, 2017). These factors are slightly different from the factors reported in Ruch et al. (2014), although most of the content overlaps. Ruch et al. (2014) labeled the five factors as *interpersonal strengths* (i.e., love, kindness, social intelligence, citizenship, fairness, leadership, forgiveness, and humor), *intellectual strengths* (i.e., creativity, curiosity, open-mindedness, love of learning, perspective, and appreciation of beauty and excellence), *emotional strengths* (i.e., bravery, persistence, vitality, and hope), *strengths of restraint* (i.e., honesty, humility, prudence, and self-regulation) and *theological strengths* (i.e., gratitude and spirituality). However, except where there were differences, the resulting factors in this study were easily interpretable and distinct from each other from a conceptual point of view.

We labeled the first factor to emerge *fortitude strengths*, which is particularly interesting. This factor systematically yielded the highest correlations with all the variables in the study: mental health and subjective well-being. Its configuration was somewhat new as it grouped all character strengths that, at first sight, could be associated with a strong and resilient person: spirituality, bravery, persistence, hope, leadership, and vitality (in decreasing order of factor loadings). The originality of this factor lies in the combination of stamina, associated with the virtue of courage, with the capacity to transcend the (distress of the) current situation, which relates to the virtue of transcendence.

What is particularly striking is that spirituality has the highest loading on that factor, when normally spirituality is grouped with gratitude, or appreciation of beauty and excellence (e.g., Martínez-Martí and Ruch, 2017), i.e., with other transcendence strengths, but not with courage strengths. Spirituality emerges as a driving force, grouping almost all the character strengths pertaining to the virtue of courage, i.e., bravery, vitality and persistence, plus the character strengths of hope and leadership. In the present study, spirituality was assessed as having coherent beliefs about the higher purpose and meaning of life, which might include religious beliefs, but it has a broader scope. Spirituality has been linked to positive mental and physical health functioning (Nooney and Woodrum, 2002; Powell et al., 2003). Additionally, spirituality might be especially helpful when people experience adverse events. After the terrorist attacks in New York on September 11, 2001, more than 90% of the people interviewed reported that they coped by "turning to religion," second only to "talking with others" (Schuster et al., 2001). Spirituality might offer a positive meaning-making framework for coping (Park, 2005) in the current pandemic, and enhance both social support, despite the isolation, and effective cognitive processing of this stressful event (McIntosh et al., 1993).

On the other hand, leadership involves encouraging a group (of which one is a member) to get things done, while at the same time maintaining good relations within the group and treating everyone equally. This might have been particularly important in the current situation, as all pre-established routines at work and at home have been disrupted and a reorganization of all daily tasks has had to be done. Hope and vitality, two of the other character strengths that belong to the fortitude strengths factor, have already shown their importance in terms of well-being and resilience in cross-sectional research on character strengths (e.g., Martínez-Martí and Ruch, 2014, 2017). Vitality provides energy and enthusiasm, while hope provides a positive outlook of the future that keeps the motivation to keep going high, which in this uncertain situation might be vital. Finally, the presence of bravery and persistence (together with vitality) in the *fortitude strengths* factor highlights the importance of the virtue of courage for resilience. Some authors (e.g., Maddi, 2004; Jordan, 2005; Martínez-Martí and Ruch, 2017) have previously suggested that resilience involves courage. The results of this study support that claim and provide novel evidence reflecting that courage combined with transcendence seem to help people navigate the current pandemic with better mental health and well-being.

The second factor, which we labeled *goodness strengths*, grouped kindness, love, gratitude, forgiveness, and integrity. This factor included character strengths pertaining to the virtues of humanity (all except social intelligence), transcendence, temperance, and courage. They are somehow interpersonal too, but their focus is more on the human quality of a kind-hearted human being. This factor also predicted mental health and positive affect. Many of these character strengths are directly related to positive emotional states (e.g., love, gratitude) and all facilitate positive relationships. In this lockdown, where other people in the same household might be a source of support at times but also a source of potential tension, character strengths such as kindness, forgiveness, love and gratitude might be particularly helpful.

The third factor, which we labeled *intellectual strengths*, included curiosity, love of learning, open-mindedness, creativity, perspective and appreciation of beauty and excellence, i.e., all the character strengths pertaining to the virtue of wisdom plus appreciation of beauty and excellence, which is sometimes grouped with intellectual strengths (e.g., Martínez-Martí and Ruch, 2017), even though it belongs to the virtue of transcendence. This factor predicted mental health, life satisfaction, and positive affect. The relevance of *intellectual strengths* in the current situation may be due to the strong requirements of having to adapt to a new way of life. Strengths such as curiosity, love of learning, open-mindedness, creativity, perspective and appreciation of beauty and excellence, could facilitate a better adaptation to the demands of the environment. During this lockdown period, the population has needed to learn different ways of working, studying, relaxing and getting along with their nearest and dearest, among other daily habits. For example, a significant percentage of the population who carried on working or studying from home needed to learn or improve their e-skills; some people had to develop different ways of achieving their professional goals in a remote work environment; others maybe saw this period as an opportunity for spending time on their own and with their relatives and/or improving their professional profile. Specifically, 70% of the sample carried on working (60% worked from home), so it is possible that many participants needed to react quickly to deal with professional circumstances as soon as they went into lockdown. In this sense, *intellectual strengths* foster the exploration of situational conditions and the production of new strategies for problem solving (Peterson and Seligman, 2004), and seem to be linked to coping with stress in the work environment (Harzer and Ruch,

2015). Successfully adapting to new environments could have facilitated a better management of stress during this confinement period, and positively affected mental health and subjective well-being. Under such conditions *intellectual strengths* may therefore provide better skills to look for new and creative responses to tackle the changes required.

A fourth factor, which we labeled *strengths of restraint*, included prudence, self-regulation, and humility (all character strengths pertaining to the virtue of temperance), and fairness (which pertains to the virtue of justice). Although *strengths of restraint* did not predict positive affect or life satisfaction, they predicted better mental health and a decrease in negative affect. Prudence and self-regulation are character strengths that act as moderators of behavior and emotions (Peterson and Seligman, 2004). The benefits of this character strength factor in the current situation may lie mainly in its ability to buffer the stress response. The COVID-19 pandemic represents a major stressor. This pandemic enforced a global lockdown for personal and common good, but to the detriment of individual freedom. These enforced restrictions (e.g., being confined at home, following all the safety requirements when going outside) might be very stressful for individuals, especially for those individuals who are low in strengths of restraint, because these restrictions demand a high level of self-control. The response to stress from a transactional point of view (Lazarus and Folkman, 1984) depends on the stressor appraisal processes and the coping resources available to cope with it. Strengths of restraint may facilitate coping with stress in several ways. Self-regulation and prudence might facilitate an adequate reappraisal of the perceived risk and the coping resources available to deal with it (maybe through the perception that one can comply with the lockdown requirements by means of self-control), thus minimizing the perception of threat and consequently, negative affect (i.e., worry, fear, anxiety, or panic).

Additionally, prudence enables people to consider the consequences of their actions, which might facilitate the fulfillment of the preventative measures (i.e., social distancing, confinement) taken to reduce the spread of infection. In this sense, prudence and self-regulation might support effective self-management and a sense of controlling the situation. In fact, *strengths of restraint* have shown moderate positive correlations with self-efficacy (Martínez-Martí and Ruch, 2017). In a similar way, fairness and humility may promote a parallel self-control, but applied at a community level. The current situation demands an equal distribution of resources among the members of the community and the prioritization of these resources to the people who need them most, so as to avoid the collapse of the health services, the depletion of resources or the hoarding of protective items such as face masks, hydroalcoholic gel, food, and supplies. While for some people this may constitute a source of stress, people with high levels of fairness and humility might fulfill these community requests more easily and, thus, experience less distress.

Overall, the present results suggest that people with great *strengths of restraint* might have adapted more easily to this enforced restrictions, as they were already more capable of restraining their own emotions and behaviors for the sake of preserving their own well-being and the well-being of others. Strengths of restraint seem to fit the definition of well-being adopted by Dodge et al. (2012), i.e., the balance point between an individual's resource pool and the challenges faced.

Finally, we labeled the fifth factor *interpersonal strengths,* which included humor, social intelligence and citizenship. This factor predicted an increase in mental health, life satisfaction, positive affect, and a decrease in negative affect. These character strengths might have played a significant role in releasing tension, fostering social connectedness and support, and a sense of community in this period of isolation. In fact, previous research has shown that these character strengths yielded positive moderate correlations with social support and resilience (Martínez-Martí and Ruch, 2017).

The pandemic has changed the way people perceive and relate to each other (Rosa et al., 2020). It is possible that people high in *interpersonal strengths*, especially in social intelligence, have adapted better to this new way of relating to others. Additionally, people with great *interpersonal strengths*, particularly citizenship, might have been more involved in collective civic rituals that facilitate collective coping, and benefit more from them. For example, throughout lockdown, every day at 8 pm, people would go onto their balconies and clap for a few minutes to express their support for all the professionals in Spain actively working to look after the population and ensure that society as a whole functioned adequately during the pandemic.

Meanwhile, humor seems to facilitate adaptive coping with stress, enhance social interactions and well-being, and decrease stress and negative emotions (Kuiper, 2012; Ruch and Hofmann, 2017). During the first days of lockdown in Spain, there was an explosion of jokes regarding the ways people would adapt to lockdown. This example shows how the use of humor probably helped people share and release the distress caused by the severe restrictions imposed by the government. In the current context, *interpersonal strengths* may have acted as a protective mechanism against the fatalities of the health crisis and as a social lubricant for the new social contexts.

This study has several limitations that should be considered when interpreting the results. Firstly, we used a convenience sample, which is not representative of the general Spanish population. In fact, the sample was composed mainly of women and highly educated participants. Moreover, given that participation was voluntary, it is possible that people who are more extrovert, prosocial and resilient were the ones that decided to participate in the study. In this sense, the data might be biased. Secondly, we analyzed the potential protective role of character strengths in a Spanish sample, but it is possible that the way character strengths influence mental health and well-being in this particular situation vary in other countries. Therefore, it is possible that our results cannot be generalized for other countries. We believe cultural and societal factors might influence how people have managed the current situation, so it would be interesting to see if the results observed in this study replicate in other studies conducted in other countries with a different culture. Thirdly, since the data presented are self-reported, data could be biased and should be considered carefully. Future studies

should use more objective measures that complement self-reporting measures. Fourthly, the variance explained by character strengths was small. This could be partially explained by the use of a brief instrument to assess character strengths. Because only one item is used to measure each character strength, relationships are usually underestimated. Fifthly, the period between T1 and T2 (approximately 1 month) was very short. Time 1 data collection was conducted after the government announced the lockdown in Spain (approximately the second week of lockdown), and Time 2 data collection was conducted right after the Spanish government announced the intention to progressively release the lockdown. Longitudinal studies usually cover longer periods, but in this study, we tried to capture any possible change during the lockdown, and thus the two measurement points were dictated by the evolution of the lockdown decreed in Spain. Longer longitudinal studies would be necessary to explore how character strengths might help individuals deal with the pandemic in the long term.

This study expands the current theory on the role of character strengths in adverse situations by showing that character strengths might help increase mental health and subjective well-being during the COVID-19 pandemic. These results have some practical implications. We believe preventive character strength interventions in the current pandemic would be beneficial for the general population. Although all character strength factors predicted at least some of the variables in the study (i.e., mental health, life satisfaction, and positive and negative affect), *fortitude strengths* and *interpersonal strengths* yielded the highest correlations. Therefore, we suggest focusing on the development of these two character strength factors, which broadly involve transcending the current situation and the connection with other people by having a particularly positive outlook on the future, approaching the current situation with energy and determination, and relating to others in a conscious, supportive, and positive way.

Within these factors, character strengths such as hope, vitality, humor and social intelligence generally showed the highest correlations with the variables in the study. Hope might be developed by visualizing and writing about the best possible self at some point in the future (Meevissen et al., 2011). In the current situation, we would extend this intervention to visualizing a positive future overall, when the pandemic is over. Also, setting a goal and writing down many pathways to achieving this goal and the reasons why the person will be able to achieve it might foster hopeful thinking (Feldman and Dreher, 2012). Maybe these goals could be related to the current pandemic, e.g., goals related to fostering one's well-being and the well-being of other people who might be suffering in the current situation. Additionally, we suggest that people set a goal that allows them to use their character strengths, as using character strengths is associated with greater vitality and well-being (Dubreuil et al., 2014). Likewise, setting goals that are aligned with intrinsic values for self-determined reasons would be most beneficial, as pursuing intrinsic values for self-determined reasons has been associated with greater well-being and vitality (Kasser and Ryan, 1993).

Vitality could also be fostered by behaving prosocially (Martela and Ryan, 2016), spending time outside (when possible), especially in nature (Ryan et al., 2010), or by sharing positive events (Lambert et al., 2011). As far as humor and playfulness are concerned, spending time playing with family and friends will help to cultivate a playful attitude and a sense of fun and connection with others (McGhee, 2010). In addition, writing about the funniest things that happened during the day might also foster humor (Wellenzohn et al., 2016). Meanwhile, social intelligence might be nurtured by identifying and labeling emotions as they occur, and by expressing them to others in a balanced way (Nelis et al., 2009), and by practicing mindfulness (Schutte and Malouff, 2011).

To sum up, this longitudinal study provides original evidence showing that character strengths seem to promote resilience over time in adverse situations such as the current pandemic. Based on the results observed, we have offered some possible interpretations about the unique ways in which character strengths might be fostering mental health and well-being. Finally, we recommend the implementation of preventive character strengths interventions, and suggest some specific character strength-based interventions, to preserve mental health during the current pandemic. Future longer longitudinal studies with more representative samples, which allow for a cross-cultural analysis, and with more objective measures would be very valuable. It would be interesting to explore in more detail how individuals apply their strengths to improving their well-being and mental health during the current pandemic, maybe incorporating some qualitative measures as well, and to devise and test character strength-based interventions specifically designed for the current context to help people develop their resilience.

DATA AVAILABILITY STATEMENT

The dataset is available as **Supplementary Material III** at (Frontiers' link) and at https://osf.io/n2sqc/.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

MM-M, CT, DP, and GC contributed to the conception and design of the work, data collection, data analysis and interpretation, drafting and critical revision of the article, and final approval of the published version. All authors contributed to the article and approved the submitted version.

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Co-occurrence Patterns of Character Strengths and Measured Core Virtues in German-Speaking Adults

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The VIA Classification on character strengths and virtues suggests 24 character strengths clustered into six core virtues (wisdom and knowledge, courage, humanity, justice, temperance, and transcendence). Three recent studies employed different methods for testing the assignment of character strengths to virtues (e.g., expert and layperson ratings), and generally supported the VIA classification. However, the co-occurrence of character strengths and virtues within individuals has not been examined yet. Another untested assumption is that an individual's composition of character strengths is related to being considered of "good character." Thus, the present study addresses three research questions: (1) How do character strengths and measured virtues co-occur within individuals? (2.1) How does the number of character strengths an individual possesses within a virtue cluster relate to their level of the respective virtue? (2.2) How does the composition of an individual's character strengths relate to being considered of "good character"? We combined data from different studies to obtain a sample of N = 1,241 participants (n = 897 self-raters, n = 344 informant-raters, 70.1% female) aged 18 to 92 years (M = 30.64). All participants completed assessments of character strengths and virtues. Regarding (1), we found a high convergence of the correlations between strengths and virtues and the VIA Classification: 22 out of 24 character strengths correlated with the assigned virtue (exceptions were hope, which correlated highest with courage, and humor, which correlated highest with humanity). Also, 15 character strengths showed the numerically highest correlation with their assigned virtue. Regarding (2.1), overall, we found a linear trend between the number of strengths within one cluster and the virtue level. Regarding (2.2), we found higher levels of reported "good character" in those who possessed either (a) at least one character strength in each virtue cluster or (b) all character strengths in at least one virtue compared to those who did not. The present results contribute to the discussion regarding the structure of character: individuals' character strengths relate to differences in virtues, across different measures and data sources. Relationships were mostly as expected, and deviations were consistent with results obtained using other approaches.

Keywords: character strengths, virtues, VIA classification, VIA-IS, positive psychology

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INTRODUCTION

The VIA classification of character strengths and virtues (Peterson and Seligman, 2004) has sparked considerable interest in research and practice and is considered one of the major achievements and a cornerstone in positive psychology. A broad package of innovations was presented; for example a model of character, the identification of six core virtues from virtue catalogs, the concepts of character strengths and signature strengths, the list of criteria that define character strengths, a list of 24 character strengths that fulfill these criteria, an assignment of strengths to core virtues, and methods for assessing the strengths in different age groups. Of these, the measurement instruments received the most empirical attention. Both the VIA-IS (Peterson et al., 2005; for adults) and VIA-Youth (Park and Peterson, 2006; for children and youth) were used in various studies. Some of these studies were guided by the theoretical ideas suggested by Peterson and Seligman (2004), such as the postulate that character strengths contribute to various fulfillments that comprise the good life for the self and others. First, life satisfaction served as a proxy for fulfillment, and it was found that-while all strengths are fulfilling–the correlations were highest for hope, zest, love, gratitude, and curiosity (Park et al., 2004). This finding was also confirmed when using informant ratings (Buschor et al., 2013). Using broader conceptualizations of well-being (Hausler et al., 2017; Wagner et al., 2020a), a wider range of character strengths has shown robust and substantial correlations. Other studies were more exploratory; for instance, they determined the optimal factor structure for the 24 strengths or a subset of them (e.g., McGrath, 2014; Ng et al., 2017), or studied how character strengths relate to the Big Five personality traits (e.g., McGrath et al., 2020). Likewise, the VIA-IS was used to identify signature strengths, and participants were instructed to display them more often and in a new way (e.g., Seligman et al., 2005).

Peterson and Seligman (2004, p. 31; see also Peterson and Park, 2009) did not see the classification as a finished product, and they expected it to change: "We anticipate that our classification of strengths will (. . .) evolve, by adding or deleting specific strengths of character, by combining those that prove redundant, by reformulating their organization under core virtues and by more systematically evaluating them vis-à-vis our (. . .) criteria." However, no strengths were added (although Peterson and Park discussed potential candidates) or deleted so far. This has proven to be a considerate decision in the light of McGrath et al.'s (2020) results, who showed that the scales were not redundant. Overall, as highlighted by Ruch and Stahlmann (2019), only very little empirical attention has been devoted to testing the assumptions put forward in the VIA classification. Stahlmann and Ruch's (2020) test of the criterion that character strengths are morally valued represents an example for scrutinizing the classification's claims. However, as also argued by Stahlmann and Ruch (2020), more testing of the basic premises of the VIA classification is urgently needed to build a more solid foundation for its further development.

In the present study, we aim at providing empirical tests of two central postulates included in the VIA classification (Peterson and Seligman, 2004): (1) Character strengths can be seen as distinguishable routes to displaying six core virtues (wisdom and knowledge, courage, humanity, justice, temperance, and transcendence), and (2) an individual can be considered as displaying a core virtue if one or two character strengths in the respective virtue are present, and an individual can be considered as having a "good character" if all six virtues are displayed at a certain level.

The VIA Classification of Strengths and Virtues

An early think tank in search of the roots of a positive life initiated a research agenda on positive psychology and positive social science. One element was the outcomes of a good life (i.e., subjective fulfillment, objective fulfillment, and civic/societal recognition), enabling factors (social, genetic, human, and personal capital), and personal characteristics. The latter gradually developed into the VIA classification of character strength and virtues (Peterson and Seligman, 2004). Character was defined through 24 character strengths (positive traits that needed to fulfill most of 10 criteria to be accepted as a strength of character) and six "core virtues" (recurrent themes from virtue catalogs from different sources; see Dahlsgaard et al., 2005). The strengths were tentatively assigned to these core virtues (termed the "high six") of wisdom and knowledge, courage, humanity, justice, temperance, and transcendence.

Table 1 shows that these clusters of strengths are also considered to share a common function (see also Ruch et al., 2019). For example, the strengths assigned to the core virtue wisdom and knowledge-creativity, curiosity, judgment, love of learning, and perspective-are considered cognitive strengths that entail the acquisition and use of knowledge. Likewise, love, kindness, and social intelligence are interpersonal strengths that cluster together as strengths of humanity, and their function is tending and befriending others (see **Table 1** for the complete set of strengths and virtues). Peterson and Seligman (2004) speculate that the core virtues serve evolutionary functions, that is, that they have shown value for survival (see also Mayerson, 2020).

The Relationships Between Character Strengths and Core Virtues

For over one decade, the question on the assignment of strengths to core virtues was not tested empirically. Recently, three studies have used different approaches to test the structure of the VIA classification, with overall converging results. In the latest of these studies, the highest and lowest participants' strengths were determined, and then they were asked to remember and write down situations when they enacted these strengths in an excellent way (vs. normal way). The degree of presence of the six core virtues in these descriptions was rated subsequently by themselves as well as by 113 judges (Ruch et al., 2019; Giuliani et al., 2020; Study 1) and the averaged ratings allowed to see which virtue is typically believed to result from the excellent enactment of a certain strength. A further study (Ruch et al., 2019; Study 2) asked participants to rate the extent to which the respective strength fulfilled each of the functions (e.g., for humanity:

TABLE 1 | Mean prototypicality of character strengths regarding the "High Six" (averaged across previous studies: Ruch and Proyer, 2015; Ruch et al., 2019; Giuliani et al., 2020).

	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
Strengths of Wisdom and knowledge ("cognitive strengths that entail the acquisition and use of knowledge")						
Creativity	**64.70**	52.24	39.84	31.75	23.70	41.15
Curiosity	**65.05**	55.41	39.41	29.69	28.13	39.97
Judgment	**72.72**	48.71	45.55	51.32	46.17	35.08
Love of learning	**77.52**	52.73	37.20	32.94	30.71	39.54
Perspective	**79.20**	49.81	61.50	53.70	48.29	45.81
Strengths of Courage ("emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal")						
Bravery	43.37	**80.45**	51.38	47.58	40.43	35.77
Perseverance	56.39	**63.06**	31.00	34.56	47.92	29.97
Honesty	55.34	**66.15**	60.89	*66.23*	45.88	36.76
Zest	45.46	**65.70**	49.82	36.45	31.17	40.85
Strengths of Humanity ("interpersonal strengths that involve tending and befriending others")						
Love	40.71	45.27	**83.94**	51.68	41.11	47.70
Kindness	40.39	39.53	**89.49**	59.27	36.94	46.36
Social Intelligence	61.89	46.98	**79.61**	57.19	44.53	38.88
Strengths of Justice ("civic strengths that underlie healthy community life")						
Teamwork	47.06	44.53	*70.66*	**61.26**	44.04	38.86
Fairness	52.72	45.79	63.96	**80.80**	52.32	41.85
Leadership	*68.03*	*63.13*	60.58	**60.70**	45.84	40.66
Strengths of Temperance ("strengths that protect against excess")						
Forgiveness	53.83	49.36	*78.20*	*58.81*	**57.72**	46.72
Humility	39.18	26.83	56.51	46.02	**60.45**	38.10
Prudence	*60.29*	34.38	36.32	33.27	**56.12**	26.23
Self-regulation	49.20	43.15	33.02	31.61	**77.00**	30.14
Strengths of Transcendence ("strengths that forge connections to the larger universe and provide meaning")						
Beauty	49.06	29.16	43.58	26.27	27.13	**60.84**
Gratitude	50.94	39.65	*71.06*	51.97	46.30	**56.35**
Hope	48.79	*59.55*	47.99	37.87	39.56	**51.70**
Humor	*44.46*	*45.46*	*64.56*	*33.74*	*29.86*	**27.61**
Spirituality	39.83	39.77	49.89	34.83	36.83	**78.17**

Average of four samples; ratings were rescaled to 0 to 100 where needed (Ruch and Proyer, 2015, and Study 2 in Ruch et al., 2019 used prototypicality ratings from 1 to 6). Beauty = Appreciation of beauty and excellence. Highlighted in boldface = rating on the assigned virtue. Italics = numerically higher ratings than on the assigned virtue.

"interpersonal strengths that involve tending and befriending others") associated with the six core virtues as suggested by Peterson and Seligman (2004). Ruch and Proyer (2015) asked laypeople and experts of different fields to rate the 24 character strengths for their prototypicality for each of the six core virtues. Despite the methodological variety of these studies, the seemingly most straightforward finding is that the classification overall holds, but a few changes might be appropriate (e.g., humor seems not to be assigned correctly).

Criteria for the Assignment of Strengths to Core Virtues

However, in none of these studies the virtues were actually measured. We hence do not know whether individual differences in strengths actually correlate with individual differences in a core virtue; for example, whether the level of measured appreciation of beauty and excellence (beauty) would rise and fall together with the measured level of transcendence (i.e., the virtue it is assigned to, next to hope, humor, gratitude, and spirituality). This is the first aim of the present article.

We test this first aim using three criteria (A, B, and C). First, taking Peterson and Seligman (2004) as a starting point, we can expect that ideally, the correlation between beauty and transcendence should be high and the correlation between beauty and the other five core virtues should be low (i.e., this correlation should be highest in the row; criterion A). Second- and again ideally-because there are five strengths assigned to the virtue of transcendence, beauty should be among those five strengths that correlate most highly with transcendence (i.e., be among the highest in a column), while the others are low or close to zero (criterion B). For this criterion, we need to consider that the core virtues each have a different number of strengths (humanity and justice: three; courage and temperance: four; wisdom and knowledge and transcendence: five). The third criterion is testing which strengths have at least a small relationship (i.e., $r \geq 0.10$ or prototypicality rating of ≥ 50) to the virtue they have been assigned to (criterion C). This shows which strengths fit at least to some extent to their core virtue, and which ones lack any relationship and seem "misfits." Thus, we will have three ways of looking at any correlation

between a strength and a virtue: one that compares this coefficient with others found for this strength (i.e., is any other core virtue more highly related?), one that compares this coefficient with others found for this virtue (i.e., is any other strength more highly related?), and one that focuses on the absolute value of the coefficient (i.e., does the strength relate at all to the core virtue?).

As another starting point or reference, we can examine what the published studies (Ruch and Proyer, 2015; Ruch et al., 2019; Giuliani et al., 2020) yielded so far. Leaving aside the patterns found by the individual studies, **Table 1** shows the aggregated results found after the ratings were rescaled to run between 0 and 100.

Table 1 shows that all strengths of wisdom and knowledge fulfilled criterion A, as they were primarily prototypical for this very virtue. Perspective, love of learning, and judgment also fulfilled criterion B, as of all 24 strengths, these three were most strongly aligned with wisdom and knowledge. Curiosity and creativity followed at ranks 5 and 6, respectively, and leadership was on rank 4. Courage, bravery, perseverance, and zest met criterion A, but honesty was numerically slightly more related to justice. Bravery, honesty, zest fulfilled criterion B, and perseverance was 5th just slightly behind leadership. Love, kindness, and social intelligence fulfilled both criteria, A and B. All strengths of temperance met criterion B, and humility and self-regulation also fulfilled criterion A. Forgiveness, on average, related more strongly to humanity than to temperance and prudence more strongly to wisdom and knowledge than to temperance. Finally, all transcendence strengths (except humor) indeed fulfilled criterion B, and beauty and spirituality also fulfilled criterion A. However, gratitude and humor were higher on humanity, and hope was higher on courage than on transcendence. All strengths fulfilled criterion C, with the exception of humor (prototypicality of less than 50).

Leaving humor aside, there were only three violations for criterion B (leadership intruded into the clusters defining wisdom and knowledge and courage, and honesty was a better marker of justice than leadership and teamwork were), and seven violations for criterion A. This might be, in part, because some core virtues generally received lower ratings; the average of the three highest ratings was high for the two virtues that fully fulfilled criterion A: humanity (81.78) and wisdom and knowledge (75.12). It was intermediate for the two core virtues with some problems with criterion A (courage: 65.93; justice: 63.75), and lowest for those virtues where two and three strengths had violations (temperance: 59.09; transcendence: 58.59). While some core virtues may be simply less present in the strengths, it is also plausible that humanity and wisdom are clearer concepts to rate than transcendence and temperance. Such differences might affect rating studies, but they will be less of a problem when measures of the virtues are utilized. Consequently, the present study's results will not only be interpreted regarding Peterson and Seligman's (2004) assignment of strengths, but also the pattern found for the average of the four prior rating studies.

To address the gap in the current knowledge–the lack of data on the co-occurrence of character strengths and core virtues–the present study will investigate *research question 1*: How do the 24 character strengths of the VIA classification relate to the six core virtues when measured in individuals?

How Many and Which Strengths Are Needed to Be Considered Virtuous?

If character strengths are considered "distinguishable routes to displaying (. . .) virtues" (Peterson and Seligman, 2004, p. 13), one might ask: Is pursuing one of these "routes" sufficient for displaying a virtue? Does the pursuit of more than one route lead to a stronger expression of a core virtue than the pursuit of only one of the routes? In their handbook, Peterson and Seligman (2004) put forward some quite general hypotheses regarding these questions. They argue that every character strength in each cluster is similar with regards to a shared function, but that an individual does neither need to display all of the character strengths in one cluster in order to be considered as showing a certain virtue nor all 24 character strengths to be considered of "good character." However, these claims have, to our knowledge, never been tested empirically (see Ruch et al., 2019).

The first assumption put forward by Peterson and Seligman (2004) is that in order for an individual to be considered as virtuous concerning one of the core virtues, the individual should display one or two strengths out of the cluster of three to five strengths assigned to the respective virtue: "We are comfortable saying that someone is of good character if he or she displays but 1 or 2 strengths within a virtue group" (Peterson and Seligman, 2004, p. 13). For the present study, we use this assumption to derive *research question 2.1*: Does the number of character strengths within one virtue cluster relate to the level of the respective core virtue?

The second, related, premise presented by Peterson and Seligman (2004) is that in order for an individual to be considered of overall "good character," such individual should display all six core virtues to a certain extent: "We speculate that all these virtues must be present at above-threshold values for an individual to be deemed of good character" (Peterson and Seligman, 2004, p. 13). In other words, the idea put forward is that a "good character" requires a balance between different virtues, and as a consequence a certain level of different strengths assigned to the different clusters. For the present study, we rely on this notion to derive *research question 2.2*: Are individuals who display at least one character strength of each of the six core virtues considered of "more good character" than individuals who do not display at least one character strength of each of the clusters? Alternatively, one might argue that 'experts' in certain virtues could also be considered of "good character." Thus, we will also test whether individuals who possess all character strengths in at least one of the six core virtues report higher levels of "good character" than those who do not.

Designing an empirical test of both of these assumptions poses several challenges. Given the dimensional nature of the constructs, at what point can we say that someone is 'displaying' a strength? Given the variation in the number of character strengths assigned to each of the six core virtues (between three and five), does this perhaps mean that one strength is sufficient

for virtues with only three strengths assigned to them and two strengths are necessary for virtues with four or five strengths assigned to them? In the present study, we will present an analytical approach that enables studying these relationships, but it is obvious that the relationships are very complex.

Measuring Core Virtues?

Peterson and Seligman (2004) argued that the core virtues themselves cannot be measured because of their abstract nature. Therefore, they did not offer a measure for the core virtues, and they refrained from adding up the strengths for a virtue composite. While measures exist for individual core virtues (i.e., wisdom and knowledge, justice), their meaning does not match the definitions given in Peterson and Seligman (2004), and they often tend to be multidimensional. Therefore, an alternative way needs to be found for this study.

Following the footpath of Peterson and Seligman (2004), we assume in the present article that the 24 character strengths represent distinguishable routes to the core virtues. Individuals higher in a particular strength will enact this strength more often as the enactment of strengths is assumed to be gratifying. They will eventually get more skilled and improve this strength. More and more enactments will be excellent, and the resulting situations have virtue quality. This is exactly what the study by Giuliani et al. (2020) demonstrated: there was more excellent use of a strength among those for whom this character strength was a signature strength (i.e., a strength that is highly typical of an individual), and their written-up situations were rated as showing more expressions of a particular core virtue than the situations created by individuals who scored low in this strength. In these studies (Ruch et al., 2019; Giuliani et al., 2020), the virtue ratings were applied to two excellent and two everyday enactments, that is, to a very limited segment of behaviors. Core virtues can presumably be shown (or not shown) in a wider variety of situations and thereby enter the person's self-concept, but the person will also earn the reputation to possess this virtue. Thus, a measure of the core virtue (self and informant) and its correlation with the strength will reflect the postulated path to the virtue as described by Peterson and Seligman (2004). Accordingly, the present study is a step further from Ruch et al. (2019) and Giuliani et al. (2020) as we assess the degree to which the virtues are displayed in general, which represents a more stable and reliable assessment of a person's inclination to a particular core virtue. To ensure the respective virtue is understood the same way as in Peterson and Seligman (2004), we will use descriptions of the core virtues from the handbook and use quantifiers (e.g., how strongly they feel committed to this virtue, how fulfilling it is to act in line with this virtue) to allow for quantitative differences in the inclination to the core virtue.

Aims and Overview of the Present Study

The present study addresses two main research questions: (RQ1) Which co-occurrence pattern emerges between character strengths and measured core virtues? We expect that individuals high in a particular strength will show actions or make decisions that will be seen as virtuous (by others and oneself), and the nature of the virtue ideally will be the one that may be predicted from the VIA-classification, resulting in a correlation between the character strengths and the respective core virtues. (RQ2.1) How does the number of character strengths displayed within each virtue group contribute to the level of this core virtue? Having no strength will make the enactment of a virtue difficult, but is enacting one strength sufficient, or is there a satiation point? (RQ2.2) How does the composition of an individual's character strengths relate to being considered of "good character"? Is displaying at least one character strength of each virtue indicative of "good character"? And does displaying all character strengths of at least one core virtue suffice as well to be considered of "good character"?

MATERIALS AND METHODS

Participants

Table 2 shows the characteristics of the four samples, including exclusions, demographics, and measures used. Samples 1, 2, and 3 consisted of individuals providing ratings about themselves, and Sample 4 consisted of individuals providing ratings about a close other (informant raters). The total sample was comprised of 1,241 adults (M = 30.64, SD = 13.65, range 18–92 years) and more females (70%) than males (30%). Exclusion criteria were age under 18 years, completion of less than 80% of the questionnaires, having more than 80% of the same responses (e.g., always selected "1"), being not fluent in German, not responding seriously (which was directly assessed by a question in Samples 3 and 4), and, for the informant ratings (Sample 4), not knowing the target well.

Participants in Sample 1 were recruited by graduate psychology students attending a seminar on test construction at the University of Zurich (Switzerland), for which the students could obtain partial course credit (no reward was provided to the participants). Participants in Sample 2 were recruited by a master's student, and participants could receive partial course credit (for psychology students), individual feedback on their results, and participate in a voucher lottery. Participants in Sample 3 were recruited by a master's student and the third author and were asked to recruit two close others for the informant ratings (resulting in Sample 4, which consists of informant raters). These informant raters were then asked to complete the questionnaires with respect to the person who had invited them. They could receive individual feedback on their results and partial course credit (for psychology students), while there was no compensation for participants in Sample 4.

Measures

VIA Inventory of Strengths (VIA-IS; Peterson and Seligman, 2004; German Version by Ruch et al., 2010)

It is the standard instrument to assess the VIA classification's 24 character strengths. Each strength is assessed with 10 items and answered on a five-point Likert-type scale from 1 (very much unlike me) to 5 (very much like me). An example is "It is important to me that I live in a world of beauty" (appreciation of beauty and excellence). The validity and reliability (internal consistency and test–retest stability) of the German VIA-IS (Ruch et al., 2010) have been supported. In Sample 2, Cronbach's alphas

ranged from 0.71 (kindness) to 0.91 (spirituality), and in Sample 3 from 0.74 (honesty) to 0.89 (spirituality).

Character Strengths Rating Form (CSRF; Ruch et al., 2014)

The CSRF assesses the 24 character strengths entailed in the VIA classification with 1 item each. Each item consists of the character strength label (and synonyms if available) and a short description of the character strengths, followed by a rating from 1 (not like me at all) to 9 (absolutely like me). One example item is curiosity (interest, novelty seeking, openness to experience): "Curious people take an interest in all ongoing experience in daily life for its own sake and they are very interested in and fascinated by various topics and subjects. They like to explore and discover the world, they are seldom bored, and it's easy for them to keep themselves busy." The CSRF items have been shown to converge with the corresponding VIA-IS scales (correlations ranging between 0.44 and 0.77; Ruch et al., 2014).

Inventory of Core Virtues (ICV; newly developed for this study)

Short descriptions of each core virtue were developed by the authors and a group of psychology graduate students based on Peterson and Seligman's (2004) descriptions. Each virtue description was presented on a different page, along with seven ratings that indicate the extent to which participants find the core virtue important, are committed to it, and act according to it. Participants answered each rating on a 10-point scale from 1 (not at all) to 10 (absolutely). In Sample 1, Cronbach's alphas of the ICV-7 ranged from 0.93 (wisdom) to 0.98 (transcendence). In Sample 2, the ICV-7 was revised as follows, resulting in the ICV-6: the number of ratings was shortened from 7 to 6 (given very high reliabilities in Sample 1), and a negatively worded item was added ("This virtue is irrelevant to me."). Additionally, the core virtue descriptions were adapted and shortened. In Sample 1, Cronbach's alphas of the ICV-6 scales ranged from 0.93 (wisdom) to 0.98 (transcendence). The ICV-6 and ICV-7 are shown in the **Supplementary Materials.**

Core Virtue Rating Form (CVRF; newly developed for this study)

The CVRF is a short version of the ICV-6, containing one rating for each of the six core virtues on a nine-point scale from 1 (not at all) to 9 (completely) regarding the degree to which the virtue description describes the way participants typically behave (act, think, and feel). The CVRF is shown in the **Supplementary Materials.**

General Virtuousness Rating (GVR; newly developed for this study)

The GVR measures the degree to which someone can be considered to be generally virtuous. A short description of general virtuousness was developed by the authors and a graduate student. The ratings were adapted from the ICV-6, and the rating scale was the same. The GVR is shown in the **Supplementary Materials.**

Good-Character Rating (GCR; newly developed for this study)

The GCR measures the degree to which someone can be considered to be of "good character." A description of the good character was developed by the authors and a graduate student. The rating was made on a nine-point scale from 1 (clearly not a good character [i.e., very vicious]) 9 "absolutely excellent/outstanding in character [i.e., good character without exception]"). The GCR is shown in the **Supplementary Materials.**

TABLE 2 | Overview of the sample characteristics of the four samples including measures.

Samples	*Exclusions*	*Gender (M/F)*	Age *M* (*SD*)	Education	Nationality	Measures
Sample 1 (*N* = 260)	91	45.4%/54.6%	31.72 (12.14)	23.5% vocational training 24.6% university-entrance diploma 47.3% university degree	79.2% Swiss 13.8% German 1.2% Austrian 5.8% Other	CSRF ICV-7
Sample 2 (*N* = 378)	45	18.8%/81.2%	26.93 (10.81)	4.2% vocational training 72.2% university-entrance diploma 22.5% university degree	71.7% Swiss 23.3% German 1.1% Austrian 4.0% Other	VIA-IS ICV-6 GVR
Sample 3 (*N* = 259)	2	20.5%/79.5%	29.92 (13.43)	13.5% vocational training 52.5% university-entrance diploma 30.9% university degree	59.5% Swiss 35.9% German 2.7% Austrian 1.5% Other	VIA-IS CVRF GCR
Sample 4 (*N* = 344)	8	37.5%/ 62.5%	35.56 (15.74)	25.3% vocational training 32.2% university-entrance diploma 37.2% university degree	67.4% Swiss 26.5% German 3.2% Austrian 2.0% Other	CSRF informant-rating CVRF informant-rating GCR informant-rating

CSRF, Character Strengths Rating Form; VIA-IS, VIA Inventory of Strengths; ICV-6/ICV-7, Inventory of Core Virtues; GVR, General Virtuousness Rating; CVRF, Core Virtue Rating Form; GCR, Good-Character Rating.

Procedure

Samples 1 and 2 were collected online using the Unipark platform, and Samples 3 and 4 using the SoSci Survey platform. Participants in all samples completed other measures that are not relevant to the present study because they were collected as parts of larger projects. Samples 3 and 4 overlap with the samples used in Wagner et al. (2020a; Study 2) and Wagner et al. (2020b). However, the respective studies addressed different research questions and the overlap only refers to the self- and informant-rated character strengths. All samples were collected in line with the local ethical guidelines of the Ethics Committee of the Faculty of Arts and Social Sciences at the University of Zurich. All participants provided online informed consent.

Analyses

The analyses were conducted using IBM® SPSS® Statistics Version 25 as well as R (R Core Team, 2020), using the packages haven (Wickham and Miller, 2020), dplyr (Wickham et al., 2020), rstatix (Kassambara, 2020a), emmeans (Lenth, 2020), ggplot2 (Wickham, 2016), and ggpubr (Kassambara, 2020b). Gignac and Szodorai's (2016) effect size guidelines for research on individual differences were followed for the interpretation of correlations in research question 1, with correlations |0.10|–|0.19| as small, |0.20|–|0.29| as medium, and ≥ |0.30| as large. For the other analyses, the classic effect size guidelines by Cohen (1992) were followed.

RESULTS

Means and standard deviations of all scales (for both the single studies and the overall sample) are given in **Supplementary Table S1**. We decided to analyze the samples jointly while including the relevant methodological differences (character strengths measure, i.e., VIA-IS vs. CSRF, and information source, i.e., self- vs. informant ratings) as covariates (next to gender and age). To determine whether ratings of character strengths and core virtues converge (RQ1), the partial correlations (partialing out the control variables) between the 24 character strengths and the six core virtues were computed. **Table 3** shows the partial correlations, and **Table 4** shows the summary of the results according to the three criteria (A, B, and C).

Tables 3, **4** show that, using the total sample across the four samples, for the virtue of *wisdom and knowledge* all five strengths (creativity, curiosity, judgment, love of learning, and perspective) fulfilled all conditions; that is, their highest correlation was with wisdom/knowledge (criterion A), they were among the top-correlated strengths for wisdom/knowledge (criterion B), and their correlation with wisdom and knowledge was at least 0.10 (criterion C).

TABLE 3 | Partial correlations (controlling for gender, age, character strength measure, and information source) between the character strengths and virtue ratings across the four samples.

No	CS	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence	*Mdn*
1	Creativity	0.19	0.18	0.03	0.07	0.04	0.07	0.07
2	Curiosity	0.19	0.19	0.06	0.15	0.09	0.06	0.12
3	Judgment	**0.30**	0.09	0.06	0.17	0.17	0.00	0.13
4	Learning	**0.25**	0.15	0.01	0.11	0.13	0.05	0.12
5	Perspective	**0.35**	0.12	0.13	0.15	0.18	0.09	0.14
6	Bravery	0.13	**0.39**	0.06	0.10	0.10	0.06	0.10
7	Perseverance	0.14	0.18	0.07	0.11	**0.25**	0.03	0.13
8	Honesty	0.15	0.16	0.19	**0.27**	0.16	0.08	0.16
9	Zest	0.12	**0.23**	0.10	0.11	0.12	0.06	0.11
10	Love	0.08	0.07	**0.28**	0.16	0.04	0.11	0.09
11	Kindness	0.06	0.07	**0.36**	**0.24**	0.10	0.11	0.10
12	Social Int.	0.16	0.11	**0.26**	0.18	0.16	0.10	0.16
13	Teamwork	0.01	0.07	**0.21**	0.17	0.13	0.06	0.10
14	Fairness	0.12	0.13	**0.29**	**0.40**	0.17	0.10	0.15
15	Leadership	0.15	0.19	0.12	0.15	0.16	0.05	0.15
16	Forgiveness	0.08	0.07	**0.20**	0.18	0.19	0.15	0.17
17	Humility	0.04	−0.02	0.19	**0.24**	**0.23**	0.13	0.16
18	Prudence	0.16	−0.03	0.12	0.19	**0.28**	0.07	0.14
19	Self-regulation	0.14	**0.20**	0.03	0.11	**0.39**	0.08	0.12
20	Beauty	0.15	0.13	0.15	0.12	0.12	**0.24**	0.14
21	Gratitude	0.10	0.14	**0.26**	**0.22**	0.15	**0.25**	0.18
22	Hope	0.09	0.19	0.08	0.08	0.11	0.07	0.09
23	Humor	0.09	0.13	**0.20**	0.12	0.05	0.02	0.11
24	Spirituality	0.03	0.10	0.08	0.02	0.06	**0.60**	0.07

N = 1,241. Correlations ≥ |0.20| marked in bold. Correlations > |0.09| are significant at p < 0.001. CS = Character strengths, Learning = Love of learning, Social Int. = Social intelligence, Beauty = appreciation of beauty and excellence, Mdn = median correlation across the five virtues that the character strength is not assigned to.

TABLE 4 | Summary of the results in **Table 3** in terms of the three criteria (A, B, and C) for the assignment of character strengths to virtues across the four samples.

No	CS	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
1	Creativity	ABC					
2	Curiosity	ABC					
3	Judgment	ABC					
4	Learning	ABC					
5	Perspective	ABC					
6	Bravery		ABC				
7	Perseverance		C				
8	Honesty		C				
9	Zest		ABC				
10	Love			ABC			
11	Kindness			ABC			
12	Social Int.			ABC			
13	Teamwork				C		
14	Fairness				ABC		
15	Leadership				C		
16	Forgiveness					C	
17	Humility					C	
18	Prudence					ABC	
19	Self-regulation					ABC	
20	Beauty						ABC
21	Gratitude						BC
22	Hope						–
23	Humor						–
24	Spirituality						ABC

Learning = Love of learning, Social Int. = social intelligence, Beauty = appreciation of beauty and excellence. A = fulfilled criterion A (i.e., correlation was numerically higher than with the other five virtues). B = fulfilled criterion B (i.e., correlation was among the x highest in the column with x = number of strengths assigned to a virtue in the VIA classification). C = fulfilled criterion C (i.e., correlation of at least r = 0.10, which was significant at $p < 0.001$ and represented a small effect).

Regarding the virtue of *courage*, bravery and zest fulfilled all three criteria, but perseverance (higher on temperance) and honesty (higher on justice) were 7th and 9th, respectively.

Regarding the virtue of *humanity,* kindness, love, and social intelligence fulfilled all three criteria. Regarding the virtue of *justice,* fairness fulfilled all criteria; teamwork was higher on humanity, and leadership was higher on courage and temperance. Regarding criterion B, teamwork and leadership were 9th and 12th, respectively.

Two strengths of the virtue of *temperance* (self-regulation and prudence) fulfilled all three criteria. Forgiveness and humility fulfilled criterion C, but not A (forgiveness was correlated higher with humanity, prudence correlated higher with justice) or B (humility and forgiveness were ranked 4th and 5th, just behind perseverance).

Finally, beauty, and spirituality of *transcendence* fulfilled all criteria, and gratitude fulfilled B and C, but it correlated slightly higher with humanity (failing criterion A). Hope (highest with courage) and humor (highest with humanity) did not fulfill any criteria, with hope being on rank 13 and humor the second last of all.

Table 3 shows a few more peculiarities. First, 32% of the correlation coefficients were below 0.10; hence there was no relation at all between some strengths and virtues. Twenty-three correlations (16%) were larger than 0.20, and six were higher than 0.30 (i.e., medium and large effects, respectively). This shows that one strength for every virtue was particularly well-related to the virtue, namely spirituality for transcendence (0.60), followed by fairness for justice (0.40), bravery for courage (0.39), self-regulation for temperance (0.39), kindness for humanity (0.36), and perspective for wisdom (0.35). It is worth noting that transcendence and temperance – which had the lowest prototypicality scores of all virtues in previous studies (Ruch and Proyer, 2015; Ruch et al., 2019; Giuliani et al., 2020, see **Table 1**) – displayed the highest correlations of the respective character strengths with the core virtues. This shows that the previous studies' limitation that these virtues were seemingly less well-represented (potentially originating from raters not being familiar with the concept) was overcome in the present study.

Additionally, the pattern of correlations was particularly similar for the core virtues of humanity and justice: the rank-order correlation of the correlations for these two virtues was 0.68 ($p < 0.001$), suggesting that strengths that predicted justice tended to also predict humanity.

Character Strengths Predicting the Core Virtues

To test how well the strengths can predict the core virtues as an extension of RQ1, six hierarchical regressions were run. The core virtues were predicted by adding the control

variables in Step 1 (i.e., age, gender, character strengths measure, and information source), the strengths theoretically assigned to one virtue in Step 2, and then adding the remaining character strengths in a stepwise fashion. The character strengths assigned to the core virtues always predicted additional variance beyond the control variables: wisdom and knowledge [$\Delta F_{(5,1229)} = 47.02$, $p < 0.001$, $\Delta R^2 = 0.155$, total $R^2 = 0.191$], courage [$\Delta F_{(4,1230)} = 59.38$, $p < 0.001$, $\Delta R^2 = 0.160$, total $R^2 = 0.180$], humanity [$\Delta F_{(3,123)} = 72.99$, $p < 0.001$, $\Delta R^2 = 0.141$, total $R^2 = 0.239$], justice [$\Delta F_{(3,1231)} = 80.34$, $p < 0.001$, $\Delta R^2 = 0.155$, total $R^2 = 0.233$], temperance [$\Delta F_{(4,1230)} = 68.16$, $p < 0.001$, $\Delta R^2 = 0.180$, total $R^2 = 0.192$], transcendence [$\Delta F_{(5,1229)} = 150.64$, $p < 0.001$, $\Delta R^2 = 0.366$, total $R^2 = 0.406$]. The amount of predicted variance was medium-sized for all core virtues and large for transcendence.

Next, we considered the individual predictors to determine which strengths from those assigned to a core virtue contributed most to the prediction. Significant predictors of wisdom and knowledge were judgment ($\beta = 0.14$, $p < 0.001$), love of learning ($\beta = 0.10$, $p = 0.002$), and perspective ($\beta = 0.24$, $p < 0.001$). Significant predictors of courage were bravery ($\beta = 0.35$, $p < 0.001$) and zest ($\beta = 0.08$, $p = 0.006$). Significant predictors of humanity were love ($\beta = 0.10$, $p = 0.001$), kindness ($\beta = 0.27$, $p < 0.001$), and social intelligence ($\beta = 0.10$, $p = 0.002$). The only significant predictor of justice was fairness ($\beta = 0.40$, $p < 0.001$). Significant predictors of temperance were forgiveness ($\beta = 0.08$, $p = 0.007$), humility ($\beta = 0.08$, $p = 0.011$), prudence ($\beta = 0.10$, $p = 0.001$), and self-regulation ($\beta = 0.32$, $p < 0.001$). Significant predictors of transcendence were appreciation of beauty and excellence ($\beta = 0.08$, $p = 0.001$), gratitude ($\beta = 0.11$, $p < 0.001$), hope ($\beta = -0.11$, $p < 0.001$), and spirituality ($\beta = 0.57$, $p < 0.001$). This shows that some core virtues were predicted to a similar extent by several assigned strengths (wisdom and knowledge, humanity, and temperance), while for others a clear "central strength" was found that predicted most of the variance in the core virtue (bravery for courage, fairness for justice, and spirituality for transcendence).

Finally, all core virtues except for wisdom and knowledge were predicted by additional strengths that were not theoretically assigned to them. Additional significant predictors of courage were fairness ($\beta = 0.06$, $p = 0.040$), prudence ($\beta = -0.09$, $p = 0.003$), and self-regulation ($\beta = 0.10$, $p = 0.003$), with $\Delta R^2 = 0.011$. Additional significant predictors of humanity were love of learning ($\beta = -0.06$, $p = 0.020$), fairness ($\beta = 0.15$, $p < 0.001$), gratitude ($\beta = 0.09$, $p = 0.007$), hope ($\beta = -0.10$, $p = 0.001$), and humor ($\beta = 0.06$, $p = 0.039$), with $\Delta R^2 = 0.034$. Additional significant predictors of justice were honesty ($\beta = 0.12$, $p < 0.001$), kindness ($\beta = 0.06$, $p = 0.048$), and humility ($\beta = 0.08$, $p = 0.005$), with $\Delta R^2 = 0.022$. An additional significant predictor of temperance was perseverance ($\beta = 0.08$, $p = 0.010$), with $\Delta R^2 = 0.004$. An additional significant predictor of transcendence was forgiveness ($\beta = 0.06$, $p < 0.016$), with $\Delta R^2 = 0.003$. Thus, the contribution of additional strengths to the prediction of core virtues beyond the theoretically assigned strengths was negligible in terms of effect sizes, with the exception of humanity and justice (small effects). However, there was no additional single strength that predicted these core virtues well, but rather a set of additional strengths that each contributed small amounts of additional variance.

Strengths Possession and Core Virtues

To test whether possessing additional character strengths of a core virtue contributes to higher scores in the core virtues (RQ2.1), we conducted six univariate ANCOVAs with the core virtues as dependent variables and the control variables (gender, age, character strength measure, and information source) as covariates. Predictors were the number of strengths assigned to the core virtue that the participants possessed. Strength possession was defined by a score above the grand mean in the respective strength. *Post hoc* comparisons of the different numbers of possessed strengths were conducted across adjacent strengths numbers, adjusted for multiple comparisons (Holm). **Figure 1** shows the results and plots of the core virtue scores in relation to the number of displayed character strengths.

The number of strengths always significantly predicted the corresponding core virtues (all *p*s < 0.001) with medium-sized effects (10 to 13% explained variance). As can be seen in **Figure 1**, the more strengths participants possessed, the higher their corresponding core virtue scores were. The *post hoc* tests revealed that most notable increases in core virtue scores (significant for 5 of the 6 core virtues each) were found when comparing people who possessed all but one of the strengths with those who possessed all but two of the strengths of a core virtue, and those who possessed all strengths with those who possessed all but one of the strengths.

Strengths Possession and the "Good Character"

Finally, to test the idea that "good character" requires either one strength from each core virtue or all strengths assigned to one core virtue (RQ2.2), we conducted two univariate ANCOVAs with "good character"/general virtuousness as dependent variables and the control variables (gender, age, character strength measure, and information source) as covariates. Predictors for the first ANCOVA were possessing vs. not possessing at least one strength of each virtue, and for the second ANCOVA possessing vs. not possessing all strengths of at least one core virtue. Strengths possession was again defined by a score above the grand mean in the respective strength. The assumptions were that participants who possess vs. do not possess at least one character strength of each core virtue, or those who possess vs. do not possess all character strengths of at least one core virtue, would score higher in the "good character" ratings. The descriptive statistics supported this notion for both the first assumption ($M = 71.09$, $SD = 14.64$, $n = 520$, vs. $M = 63.85$, $SD = 14.88$, $n = 458$) and second assumption ($M = 70.94$, $SD = 14.80$, $n = 560$, vs. $M = 63.35$, $SD = 14.61$, $n = 418$). The ANCOVA revealed significant, albeit small to medium differences, $F_{(1,973)} = 57.97$, $p < 0.001$, $\eta_p^2 = 0.056$, and $F_{(1,973)} = 53.52$, $p < 0.001$, $\eta_p^2 = 0.052$, respectively. Thus, both of the character strengths compositions that can be assumed to facilitate a "good character" were empirically supported with small to medium effects.

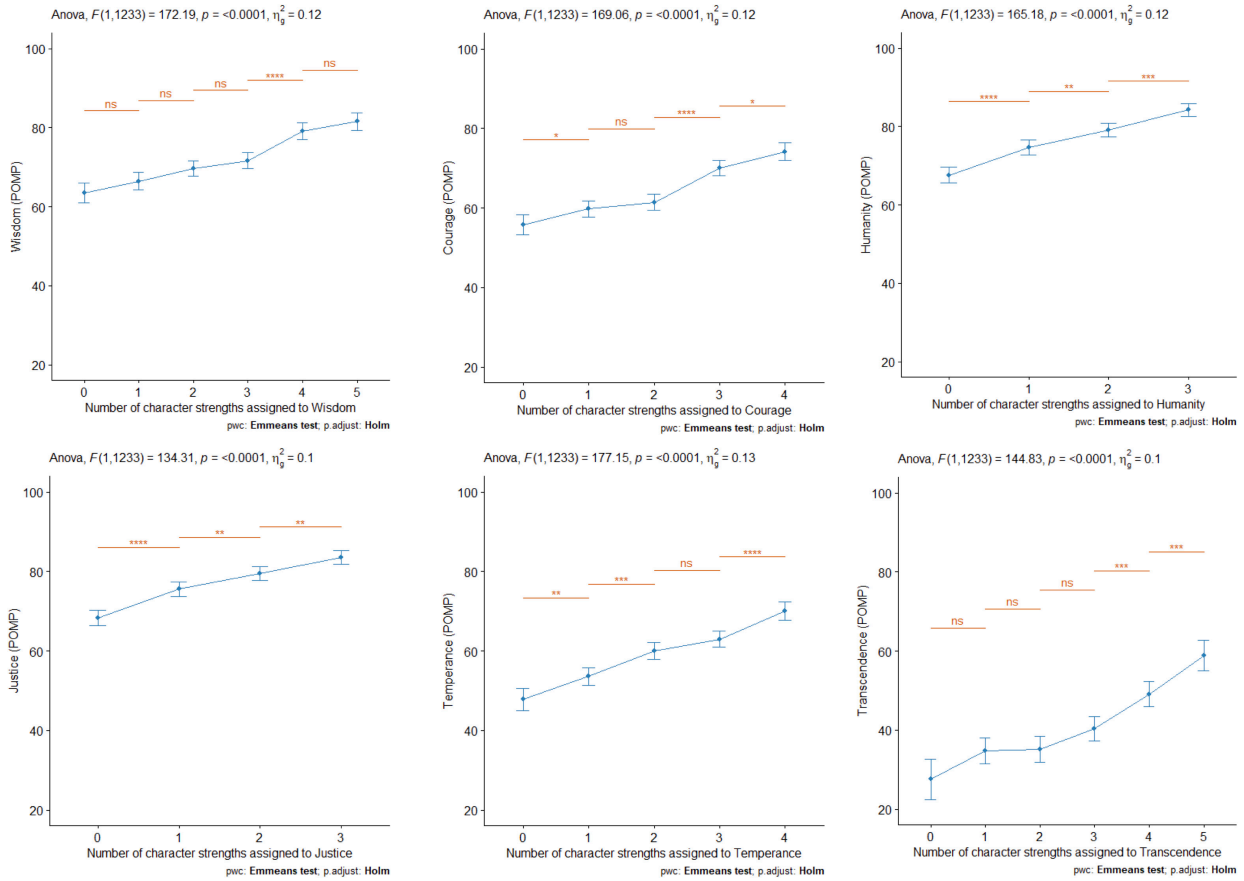

FIGURE 1 | Ratings on core virtues in relation to the number of possessed character strengths in each virtue, POMP = percentage of maximum possible scores (range 0–100).

DISCUSSION

The present study aimed at investigating basic postulates regarding the VIA classification of strengths and virtues. The first one (RQ1) relates to the assignment of strengths to core virtues. After having relied on rating studies before (Ruch and Proyer, 2015; Ruch et al., 2019; Giuliani et al., 2020), the present study was the first to correlate strengths with measured virtues based on predictions coming from Peterson and Seligman (2004) and the results obtained in the previous studies. Strengths help enact morally excellent behaviors; for example, if fairness is enabling justice, scores in fairness should correlate with self- and informant-rated justice levels. This correlation should be the highest in the row (criterion A), but it should also be in the bulk of the highest coefficients in the column (criterion B), and at least of small magnitude (criterion C).

Fifteen strengths fulfilled all three criteria (creativity, curiosity, judgment, love of learning, perspective, bravery, zest, kindness, love, social intelligence, fairness, self-regulation, prudence, beauty, and spirituality); that is, their correlation with the virtue was the highest in the row and among the highest in the column and at least of small magnitude. These strengths span all six core virtues and can be seen as solid support for the classification. A few more (humility, forgiveness, and gratitude) only had minor deviations (e.g., one rank lower than another strength unaffiliated with this core virtue, which had a higher correlation with the virtue, or failing to be the highest correlation by a difference of 0.01). They can also be seen as supporting the classification, and we can conclude that, overall, 18 strengths did fit well.

How about the others? Humor and hope did not satify any of the three criteria. Humor should definitely be moved to humanity, unless the items are changed to capture transcendence. Humor can indeed be seen as an interpersonal strength that involves "tending and befriending others." A series of studies has shown that humor is multidimensional, and certain contents might relate to any of the six core virtues, but humanity (and wisdom/knowledge) were the most frequent (Beermann and Ruch, 2009a,b). Hope could be seen as a candidate for courage, and its definition ("expecting the best and working to achieve it") at least partially fits the description of an emotional strength that involves the "exercise of will to accomplish goals in the face of opposition, external or internal". Taking the results of the rating studies as a starting point for this study was also justified; as in the prior studies, leadership was also marking wisdom/knowledge and courage, and honesty also related to justice. This was consistent across both approaches (see **Table 1**).

The initial classification was already quite valid, but some assignments need revision as foreseen by Peterson and Seligman (2004). While some changes seem well-justified, no final word can be spoken now, as more studies are needed. However, it seems obvious that the assignment of strengths to virtues can and must be empirically examined, that different methodologies may yield comparable results, and that a revision should also consider allowing the assignment of a strength to multiple core virtues.

The squared multiple correlations between strengths and virtues were between 14% and 37%, showing that strengths and virtues were overlapping, but different. The strengths together did not explain all reliable variance in virtues; thus, it does not seem right to simply add the strengths and treat them as a measure of core virtues. It may serve as a crude proxy, but a separate measurement of the virtues is preferable and feasible based on the present results.

The intercorrelation among the virtues followed a certain pattern: there was a higher correlation between humanity and justice (see **Supplementary Table S2**), as predicted by Peterson and Seligman (2004) and as found in prior studies (Ruch and Proyer, 2015; Giuliani et al., 2020). The other correlations were low but typically positive. This suggests that people committed to one core virtue tended to be committed to the others as well, but the virtues functioned well-independently from each other. Given the positive intercorrelation of the virtues, it is noteworthy that the pattern of correlations between strengths and virtues contained a lot of near-zero correlations, suggesting that there is indeed a pattern rather than a base rate of overlap due to unspecific effects.

It should be noted that the emerging consistency across the previous findings and the present study (i.e., **Table 1**) only draws from the correlation pattern of which strengths facilitate which virtue. Studies might consider testing whether training the strengths also increases the likelihood of the respective virtue to emerge. Further studies in a different context will build on the generalizability of these findings. However, it should be noted that the prime focus is here on the relationship between strengths and core virtues (or other desired outcomes). A different line of research focuses on the intercorrelations among the strengths to find a lower-dimensional space to still represent much of the reliable variance in the original strengths; that is, to find the essence in clusters of strength through the application of factor analysis. Such a research endeavor will likely discard strengths that do not show simple structure and move on to derive measures for the factors found, as the explanatory power is considered to be there, rather than in the many partly redundant lower-order traits. Such an approach leads to a parsimonious model and often produces a short instrument allowing to measure individual differences in character with few items, and there will be useful applications for this. However, when considering the prediction of meaningful outcomes, lower-order traits or even individual items have frequently demonstrated superior criterion validity (e.g., Dudley et al., 2006; Revelle et al., 2020).

The second postulate tested in the present study related to the number of strengths needed to display a virtue (RQ 2.1). We followed Peterson and Seligman (2004) in as much as we varied the number of strengths someone has (dichotomized test scores), but deviated from these authors as we measured the core virtue as a continuum (not as a dichotomy; i.e., having or not having a virtue).

The six core virtues showed distinct patterns: for the virtues of humanity and justice, we observed a relatively steep incline when comparing those individuals who possess no strength in this virtue cluster and those who possess one of the relevant strengths, which might be interpreted as partially supporting Peterson and Seligman's (2004) claim of one strength being potentially sufficient to display the respective virtue. However, the virtue scores also increased from one to two and from two to three virtues, contradicting the idea of a satiation point. The patterns demonstrated by the core virtue of wisdom and knowledge and, to a certain extent, also by the virtue of courage, were consistent with the notion of a satiation point: in the pairwise comparisons, levels of wisdom/knowledge only increased significantly when comparing those individuals who possessed three strengths assigned to the respective virtue with those who possessed four strengths in the cluster. For courage, the increase in virtue scores was strongest when comparing the groups who possessed two vs. three strengths in the virtue cluster. Finally, temperance and transcendence showed yet a different pattern, with the strongest incline observed for the final steps from possessing three to four strengths (temperance) or from possessing three to four and four to five character strengths (transcendence). This pattern is more in line with the idea that one can achieve higher levels of a virtue if one possesses more of the character strengths assigned to one core virtue.

In conclusion, these results can be interpreted as offering some support for Peterson and Seligman's (2004) claim that one character strength of the respective virtue cluster is sufficient for displaying the respective virtue: for four of the six core virtues, possessing one character strength was sufficient for a significantly higher virtue score when compared to possessing none of the relevant character strengths. However, there seems to be little support for the notion of a satiation point in general, as most virtue scores showed notable increases as more strengths were possessed.

We also tested whether possessing at least one character strength of each of the six virtue clusters or possessing all character strengths in one of the virtue clusters went along with higher scores in ratings of having a "good character" (RQ2.2). We found support for both the "balanced" assumption presented in Peterson and Seligman (2004) and the alternative, "expert" assumption. These results might be a starting point for further research considering the effects of the composition of character strengths and possible interactions between them.

Some limitations of this study warrant mentioning. First, the virtue measures were constructed *ad hoc* with a strong reference to the descriptions provided by Peterson and Seligman (2004), and depending on the context of the descriptions, some contents may be in the foreground. Second, participants came from only one cultural background, and future testing of the assumptions put forward in the VIA Classification should involve non-western countries as well. Third, in particular with regards to RQ2.1 and 2.2, the abstract claims made in the VIA classification

made it impossible to test them directly. Due to the ambiguity and vagueness of their statements, our operationalization and analytical strategy might not fully reflect the ideas by Peterson and Seligman (2004). For example, when they refer to someone as being of "good character" when a certain number of strengths are present, they do not explicitly state that someone who possesses more strengths would be of better character if this were assessed dimensionally. Rather their statement might be interpreted to refer to the point when a threshold is being passed; that is, when displays of a strength turn virtuous. To test this, the assessment of virtue would need to be different and sensitive to differences in the threshold region.

CONCLUSION

The present study helps to further the VIA model of character by empirically testing some of the most basic ideas put forward at its beginning (Peterson and Seligman, 2004). Research question 1 picked up the suggestion by the creators that the classification might change in the years to come. They mention specifically humor ("admittedly the most controversially placed entry"; p. 519) and foresee humanity as an alternative placement. Overall, both strategies, prototypicality ratings of concepts and empirical covariation of strengths and measured core virtues, seem to be viable ways to bring answers to this question. What is needed now is replication in other cultural contexts, and then the time will be ready to make more firm suggestions for a change in the classification. Research questions 2.1 and 2.2 opened questions relating to how many strengths are needed to enact a virtue and how core virtues related to a "good character." Peterson and Seligman (2004) did not assume a simple linear model where strengths add up, but they considered configurations; that is, minimal numbers of strengths that are needed to enact a virtue. Likewise, they emphasized a balanced composition of core virtues. Answers to these questions are needed to understand what character is, but also for character development and training. We believe that it is important to review the work on the foundations of character, what character is and not only what it does. The contribution of this study to the field is that it highlights what was left to work on after Peterson and Seligman (2004) and to initiate some lines of research. This will eventually feed into developing character research further and also inform revisions of the strength and virtues classification and handbook.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors upon request, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their online informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

WR initiated and conceptualized the studies. SH and LW supervised data collection. WR wrote the introduction and discussion, with contributions by LW. SH and LW analyzed the data. SH wrote the sections on methods and results with contributions from WR and LW. All authors helped in designing the studies and provided feedback and approved the final version of the manuscript.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.599094/full#supplementary-material

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The Relationships of Team Role- and Character Strengths-Balance With Individual and Team-Level Satisfaction and Performance

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Teamwork has been argued to play an increasingly important role in numerous jobs, and several studies focused on the effects of team composition for work-related outcomes. Recent research has also identified individuals' character strengths and positive team roles (e.g., idea creator and relationship manager) as conducive to work-related outcomes. However, there is a scarcity of research on the role of character strengths or positive team roles on the level of teams. In the present study, we extend theoretical assumptions of team role theories to the study of character strengths and positive team roles: We examined the associations between character strengths and team roles with work-related outcomes on the individual (i.e., job satisfaction, self- and supervisor-rated performance) and the team level (i.e., teamwork quality, self- and supervisor-rated team performance). Further, we examined how the team composition relates to the outcomes, that is, whether balanced teams (i.e., all team roles or character strengths are represented in the current team) go along with desired outcomes and whether an overrepresentation of team roles or character strengths in a team (i.e., a team role or character strengths is represented by multiple team members) goes along with undesired outcomes. We studied a sample of 42 teams (N = 284 individuals) who completed measures of team roles, character strengths, teamwork quality, job satisfaction, and self-rated individual and team performance. Further, supervisor ratings of individual and team performance were collected. Results corroborated the relationships of team roles and character strengths with individual outcomes such as that specific roles and character strengths go along with individual performance and work satisfaction. Further, the results suggested that teams in which more team roles are represented report higher performance and teamwork quality. Also, teams with higher average levels of the character strengths of teamwork and fairness, and teams with more members scoring high in fairness and prudence report higher teamwork quality. Further, there is no evidence that having too many members with a particular character strength has detrimental effects on teamwork quality, work satisfaction, or performance. We conclude that extending the study of character to the level of teams offers an important advancement.

Keywords: character strengths, team roles, team role balance, work performance, work satisfaction, teamwork quality

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INTRODUCTION

Teamwork has often been highlighted as an important factor for the success of projects and organizational performance (e.g., Petty et al., 1995; Hoegl and Gmuenden, 2001). A considerable body of literature has focused on the composition of successful teams, and several relevant factors for successful teamwork have been proposed. A meta-analysis reported the diversity of education or expertise within teams to go along with qualitatively better team performance, while no effects for the diversity of demographic characteristics were found (Horwitz and Horwitz, 2007). For other variables such as the personality dimensions of the five-factor model, findings were mostly mixed (see Mathieu et al., 2008 for a review).

However, it has been argued for a long time (e.g., Benne and Sheats, 1948) that diversity (also referred to as balance) in personality-related individual differences, such as team roles, plays a crucial role for performance and work-related well-being of individuals and teams. Recently, a new framework for studying team roles has been proposed, the VIA team roles. This framework has been developed from a positive psychology viewpoint and distinguishes among seven informal team roles that focus on positive behaviors and contributions to the team (VIA Institute on Character, 2013). Initial studies using this framework suggested positive associations between assuming these team roles and relevant work-related outcomes, such as work satisfaction or calling (Gander et al., 2018; Ruch et al., 2018).

Further, within positive psychology, a classification of positively valued personality traits, so-called character strengths, has been suggested (Peterson and Seligman, 2004). This VIA classification encompasses 24 character strengths that are expected to contribute to the "good life" in all its domains. Thus, it is expected that several of these traits also contribute to good work performance and a fulfilling work experience; on the level of individuals, this has been confirmed in earlier studies (e.g., Harzer and Ruch, 2014).

In the present study, we aim at providing some information on how teams could be composed regarding team roles and character strengths in order to maximize desirable outcomes. We extend existing findings by studying complete teams and examine whether the configuration of teams with regard to team roles and character strengths relates to work satisfaction, teamwork quality, and performance.

Teams and Team Roles

In the present study, teams are considered groups of at least three people who "exist to perform organizationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity" (Kozlowski and Bell, 2003; p. 334). Team roles are context-dependent behavior patterns (Biddle, 1979) that people display in such teams.

Several conceptualizations of team roles have been proposed (for an overview see Mathieu et al., 2015) with the most influential one suggested by Belbin (1981, 2010, 2012). His framework distinguishes among nine informal roles (i.e., plant, resource investigator, coordinator, shaper, monitor evaluator, team worker, implementer, completer finisher, and specialist). Each of these roles is expected to come along with specific strengths and weaknesses (e.g., coordinators are described as being good at clarifying goals, delegating, and promoting decision making, while also prone to delegating own work to others and being manipulative; Belbin, 2012). Based on this model of nine team roles, Belbin (2010) suggested that teams should be balanced with regard to team roles; that is, all team roles should be present in a team, and no relevant role should be missing, while roles should also not be overrepresented (e.g., duplicated) in a team.

Empirical support for this notion is widely mixed. Several studies reported positive findings; for example, Meslec and Curşeu (2015) found positive relationships between teamwork quality and role balance as a configural group property in a student sample. Senior (1997) also reported supporting evidence for the relevance of team role balance for team performance in a sample of 11 management teams. Other studies failed to find any relationships (e.g., van de Water et al., 2008; Batenburg et al., 2013). Similarly, Meslec and Curşeu (2015) also found no support for the notion that roles should not be duplicated. Overall, results remain inconclusive and research has often relied on very small or student samples. Further, although widely used, Belbin's model—particularly the associated assessment instrument (Belbin Team Role Self-Perception Inventory; Belbin, 1981)—has often been criticized, mostly for its allegedly unsatisfactory psychometric properties (Furnham et al., 1993a,b; Fisher et al., 2001).

The present study employs a different framework for the assessment of team roles, the VIA team roles (VIA Institute on Character, 2013). It assumes the seven following team roles: Idea Creator (thinks of unconventional ways of coming to solutions and great ideas), Information Gatherer (searches for information, for example, on best practices, new trends, potential vendors, competition, etc.), Decision Maker (processes and integrates available information, makes decisions and clarifies the goals), Implementer (controls the current status and takes measures to work toward the goal), Influencer (presents the product for acceptance internally and/or externally), Energizer (infuses energy into their work and others), and Relationship Manager (helps to run relationships smoothly and to resolve conflicts). These team roles were derived rationally based on considerations about relevant skills following a prototypical sequence in a project: At the beginning, a new idea has to be created (Idea Creator), and research conducted on existing information (Information Gatherer). Then, goals have to be set, and decisions made (Decision Maker), which have to be implemented (Implementer), and internal (e.g., supervisors), and external (e.g., customers) stakeholders have to be convinced (Influencer). Throughout the whole process, obstacles have to be overcome, which requires persistence and energy (Energizer), and a productive work atmosphere has to be maintained, and conflicts among team members have to be resolved (Relationship Manager).

While the VIA team roles share many similarities with Belbin's approach, they represent a more parsimonious model

and exclusively focus on strengths (instead of also entailing weaknesses). Further, a psychometrically sound instrument has been developed for their assessment, the VIA Team-Roles Inventory (Ruch et al., 2018). Nonetheless, several of Belbin's assumptions are also expected for the VIA team roles, mostly the hypotheses that more balanced teams (i.e., teams in which more of the seven VIA team roles are represented), and teams in which team roles are less overrepresented (i.e., duplicate), should perform better in terms of performance and well-being at work (e.g., Senior, 1997).

Earlier studies showed that all VIA team roles are positively related to individual work satisfaction (Ruch et al., 2018) and calling (with the exception of Information Gatherer; Gander et al., 2018). Further, it has been suggested that the interplay between the team roles one shows in the current job, and the roles one would like to show in an ideal team, also plays a role for job satisfaction: For most team roles (i.e., Information Gatherer, Implementer, Relationship Manager, and partially Idea Creator), a better convergence between current and ideal roles went along with higher job satisfaction. The *levels* of ideal team roles, however, showed only few comparatively small relationships with job satisfaction or calling— in contrast to the levels of team roles actually shown in the current job that were predictive of job satisfaction.

However, currently there is no data available on the relationships between the VIA team roles and work performance. Further, previous studies exclusively relied on self-ratings of individuals and did also not consider teams. Of course, studying configurations of team roles in existing teams and also considering team-level outcomes is of particular importance for advancing the study of team roles and could help in designing well-functioning teams.

Character Strengths

For studying character, Peterson and Seligman (2004) developed the VIA classification that comprises 24 character strengths (i.e., creativity, curiosity, judgment, love of learning, perspective, bravery, perseverance, honesty, zest, love, kindness, social intelligence, teamwork, fairness, leadership, forgiveness, humility, prudence, self-regulation, appreciation of beauty and excellence, gratitude, hope, humor, and spirituality). For identifying these character strengths, Peterson and Seligman (2004) conducted a comprehensive literature research and applied several criteria (e.g., contributing to fulfillments that constitute the "good life," being morally valued in its own right, being trait-like, being distinct from other strengths, etc.) to potential candidates for character-relevant traits. In sum, these 24 character strengths represent the predominant model for the empirical study of character.

The relevance of character strengths for work-related outcomes has been emphasized early on. For example, Peterson et al. (2009) suggested that "no matter the occupation, character matters in the workplace (p. 229)." Character strengths have, for example, been shown to go along with well-being at work (Peterson et al., 2009; Gander et al., 2012; Harzer and Ruch, 2015; Heintz and Ruch, 2020; Huber et al., 2020). While usually almost all strengths positively relate to well-being, often, the character strengths of zest, hope, love, gratitude, and curiosity yielded the strongest relationships to both, general and work-related well-being. Further, character strengths are also relevant for work performance: Almost all character strengths predicted self-rated work performance, and several strengths also go along with supervisor-rated performance evaluations, including the strengths of perseverance, teamwork, and honesty (Harzer and Ruch, 2014). Perseverance has been suggested to play the most important role for work performance (Littman-Ovadia and Lavy, 2016).

Further, character strengths have also been linked to team roles. On the conceptual level, Ruch et al. (2018) suggested that "character strengths might guide the preference for certain team roles but also help taking on and performing these roles" (p. 2). On the empirical level, Ruch et al. (2018) showed that some strengths (e.g., zest, teamwork, leadership, and hope) were robustly related to most roles, while other strengths were particularly important predictors for specific roles (e.g., creativity for the role of Idea Creator, social intelligence for the role of Relationship Manager). Thus, team roles and character strengths represent distinguishable, but both conceptually and empirically related concepts. In the present article, we aim at studying the relevance of both concepts in teams separately.

While there is a lot of empirical data on the relationships of character strengths and well-being at work, and a few studies that examined their contribution to work performance, all the studies so far are based on individual data and outcomes. However, since work is rarely conducted in isolation, all real-world settings are also affected by the interindividual interplay of individual differences. Thus, an important next step in the study of character at work is to consider levels and configurations of character strengths in teams, and also to take team-level outcomes into account.

The Present Study

The present study examined the role of character strengths and team roles for work-related outcomes. Since some previous studies found effects of team role balance on teamwork quality and team performance, and relationships of character strengths with individual performance and work satisfaction, we considered all these variables: We were interested in individual and team-level performance, individual work satisfaction, and teamwork quality (i.e., comprising several aspects of collaborative team processes related to both tasks and social interactions). Further, we considered data from several sources and levels, namely, individual self-ratings, aggregated self-ratings, and supervisor-ratings.

The outcomes were (i) self-rated individual performance, (ii) supervisor-rated individual performance, (iii) self-rated team performance on both the level of the individual (How does a team member perceive the performance of his or her team?), and (iv) aggregated on the team level (How do the team members perceive their performance on average?), (v) supervisor-rated team performance, (vi) self-rated individual work satisfaction, (vii) self-rated teamwork quality on both the level of the individual (How does a team member perceive the teamwork quality in his or her team?), and (viii) aggregated on team level

TABLE 1 | Outcomes in the present study.

	Performance	Well-being
Individual level	Self-rated individual performance	Self-rated work satisfaction
(*N* = 284)	Self-rated team performance	Self-rated teamwork quality
	Supervisor-rated individual performance	
Team level	Aggregated self-rated team performance	Aggregated self-rated teamwork quality
(*N* = 42)	Supervisor-rated team performance	

(How do the team members perceive their teamwork quality on average?). The outcomes are summarized in **Table 1**.

The present study had six main aims: first, we aimed at examining the relationships between current and ideal team roles and character strengths with work-related outcomes. Thereby, we intended to corroborate earlier findings on positive relationships of team roles (Gander et al., 2018; Ruch et al., 2018) and character strengths (e.g., Harzer and Ruch, 2014; Gander et al., 2020; Heintz and Ruch, 2020; Huber et al., 2020) with work-related outcomes and extending these findings by analyzing hitherto not studied outcomes, such as team performance and teamwork quality, and by additionally considering the team-level perspective. In line with previous findings, we expected positive relationships of all current team roles with work satisfaction, teamwork quality, and performance because enactment of these roles is considered conducive to achieving work tasks as well as to being satisfied with one's work. For character strengths, we expected positive relationships of work satisfaction and teamwork quality with the strengths of teamwork, zest, love, curiosity, gratitude, and hope, and a positive association between performance and the strength of perseverance.

Second, we aimed at studying whether a good convergence between ideal and current team roles goes along with better outcomes. We examined this research question on both the level of individuals (i.e., whether the convergence between an individual's ideal and current team role goes along with better outcomes), and the level of teams (i.e., whether teams with higher average levels of convergence between the team member's ideal and current team roles report better outcomes). While earlier studies (Gander et al., 2018) analyzed the relationships of current-ideal convergence with job satisfaction and calling, no study has addressed the relevance of this convergence for performance, or on the level of the team. Based on the findings by Gander et al. (2018), we hypothesized higher levels of performance, work satisfaction, and teamwork quality for more convergent individuals and teams.

Third, we examined whether the number of team roles represented in the current team goes along with the outcomes. In line with theoretical assumptions for the VIA team roles (adapted from Belbin, 2010), we hypothesized higher levels in all outcomes in more balanced teams in which more of the team roles are represented.

Fourth, we studied for each team role separately, whether the outcomes are affected by the number of team members representing this role. In line with theoretical assumptions for the VIA team roles (adapted from Belbin, 2010), we expected that having multiple team members assuming the same roles might have detrimental effects on the outcomes (i.e., that the number of team members representing this role would be negatively related to the outcomes).

Fifth, we examined whether balance in teams with regard to character strengths (i.e., how many character strengths are represented in a team) also relates to the outcomes. This idea was examined on an exploratory basis, and we did not formulate specific hypotheses.

Finally, we tested for each character strength separately, whether there are detrimental effects on the outcomes, when a strength is represented by several team members. Based on theoretical considerations (Peterson and Seligman, 2004) and earlier empirical findings on the individual level for other outcomes, such as life satisfaction (Park et al., 2004) and calling (Harzer and Ruch, 2012), we expected that this is not the case and that there is no such thing as "too much" of a character strength, also with regard to teams. Thus, we conducted these analyses on an exploratory basis. The hypotheses and findings are summarized in **Table 2**.

MATERIALS AND METHODS

Participants

Individuals

The sample of team members consisted of 284 (41.2% men) participants aged between 16 and 66 (M = 42.18, SD = 10.62). Most participants (69.4%) held a degree from a university or a university of applied sciences, 6.7% held a diploma allowing them to attend such universities, 19.4% completed vocational training, and 4.6% completed mandatory school. Most participants (82.7%) completed the German version of the survey; the remaining participants completed an English version. On average, participants had been working for M = 4.48 years (SD = 5.54 years) in the team, with a broad range from less than 1 year up to 34 years.

Teams

The 284 team members were working in N = 42 teams. Team sizes varied between 3 and 15 members (M = 8.49; SD = 3.25 members). Teams were from a broad array of occupations and sectors, including public administration (38.1%), international corporations (21.4%), health care (14.3%), technology and engineering (11.9%), education and research (7.1%), law firms (4.7%), and one team from the service sector.

Supervisors

The 42 teams were led by N = 42 supervisors (61.9% women) aged 28–62 (M = 47.31, SD = 9.18). These supervisors represented the direct supervisors and were not team members themselves but represent a separate sample.

TABLE 2 | Overview over hypotheses and findings.

	Individual performance		Team performance			Work satisfaction	Teamwork quality	
	Self	Supervisor	Self	Self Agg	Supervisor	Self	Self	Self Agg
Team roles								
Levels								
Idea creator (IC)	+	+	+	+	+	+	+	+
Information gatherer (IG)	+	+	+	+	+	+	+	+
Decision maker (DM)	+	+	+	+	+	+	+	+
Implementer (IM)	+	+	+	+	+	+	+	+
Influencer (IN)	+	+	+	+	+	+	+	+
Energizer (EN)	+	+	+	+	+	+	+	+
Relationship manager (RM)	+	+	+	+	+	+	+	+
Fit current–ideal roles	+	+	+	+	+	+	+	+
Team role balance	+	+	+	+	+	+	+	+
Number of members with this role								
Idea creator (IC)	–	–	–	–	–	–	–	–
Information gatherer (IG)	–	–	–	–	–	–	–	–
Decision maker (DM)	–	–	–	–	–	–	–	–
Implementer (IM)	–	–	–	–	–	–	–	–
Influencer (IN)	–	–	–	–	–	–	–	–
Energizer (EN)	–	–	–	–	–	–	–	–
Relationship manager (RM)	–	–	–	–	–	–	–	–
Character strengths								
Curiosity						+	+	+
Perseverance	+	+	+	+	+			
Zest						+	+	+
Love						+	+	+
Teamwork						+	+	+
Gratitude						+	+	+
Hope						+	+	+
Exploratory research questions (findings)								
Character strengths balance								
Number of members with a strength	Prudence	Prudence	Prudence				Fairness, prudence	Fairness, prudence

Hypothesized positive effects are denoted by a plus sign (+), negative effects by a minus sign (–). Signs in green denote that the hypothesis was confirmed, signs and orange denote that the hypothesis was not confirmed. For exploratory research questions, no hypotheses were formulated, and only those strengths are given where significant effects were observed.

Instruments

The *VIA Team-Roles Inventory* (Ruch et al., 2018) assesses the degree to which one masterfully performs the seven VIA team roles (i.e., Idea Creator, Information Gatherer, Decision Maker, Implementer, Influencer, Energizer, and Relationship Manager) in the current team with five items each. Respondents read a short description of the roles and then are asked about their ability to perform this role, and their enjoyment and engagement/flow in performing this role. All items used a seven-point Likert-style scale, ranging from 1 ("strongly disagree") through 7 ("strongly agree"). A sample item is, "In my current team, I'm at my best when coming up with ideas" (Idea Creator). Internal consistencies in the present study were high (all $\alpha \geq 0.92$).

The *VIA Ideal Team-Roles Inventory* (Gander et al., 2018) assesses the degree to which one would perform the seven VIA team roles in an ideal team. Participants were asked to think of an ideal team, i.e., a team in which they could apply all their strengths and do what they do best. All items used a seven-point Likert-style scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree"). A sample item is, "If I would be in my ideal

team, I'd be at my best when coming up with ideas" (Idea Creator). Internal consistencies in the present study were high (all $\alpha \geq 0.93$).

The *Values in Action Inventory of Strengths* (VIA-IS; Peterson and Seligman, 2004; German version by Ruch et al., 2010) assesses the 24 character strengths of the VIA classification with 10 items per character strength. It uses a five-point Likert-style scale ranging from 5 (="very much like me") to 1 (="very much unlike me"). A sample item is, "I find the world a very interesting place" (curiosity). Internal consistencies in the present study ranged from $\alpha = 0.68$ to $\alpha = 0.91$ (median $\alpha = 0.76$).

The *Teamwork Quality Questionnaire* (TWQ; Hoegl and Gmuenden, 2001) assesses six facets of collaborative team process (i.e., communication, coordination, balance of member contributions, mutual support, effort, and cohesion) capturing both task-related and social interaction within teams with 38 items. The questionnaire uses a five-point Likert-style scale ranging from 1 ("strongly disagree") through 5 ("strongly agree"). A sample item is "There was frequent communication within the team" (communication). In the present study, we only analyzed general teamwork quality (i.e., the total score across all items). Internal consistency was high ($\alpha = 0.95$), and there was a good inter-rater reliability among team members (ICC [2]; one-way random effects, absolute agreement, average of multiple raters = 0.82), and there was a considerable amount of variance attributed to group membership (ICC [1] = 0.40). Inter-rater-agreement for the individual teams ranged from $r_{WG(J)} = 0.96$ to 0.99 [median $r_{WG(J)} = 0.99$].

For the assessment of *Work Satisfaction*, we selected the 11 items out of the 15 items suggested by Warr et al. (1979) that clearly loaded on a general job satisfaction factor and did not show secondary loadings in a previous study (Parker, 2000). All items are rated on a seven-point Likert-style scale ranging from 1 ("extremely dissatisfied") to 7 ("extremely satisfied"). A sample item is, "How satisfied are you with the opportunity to use your ability?" Internal consistency was high ($\alpha = 0.87$).

For the assessment of self- and supervisor-rated *Team Performance and Individual Performance*, we adapted five items suggested by Hoegl and Gmuenden (2001). The items for the assessment of team performance, rated both by each team member and the team supervisor, were: "Going by the results, the work of the team can be regarded as successful," "The work of the team is of high quality," "The team was satisfied with the results of the team's work," "The team achieves its goals," and "The team completes its tasks within schedule." Further, we adapted these five items for the assessment of self- and supervisor-rated work performance: "Going by the results, my work can be regarded as successful," "My work is of high quality," "I am satisfied with the results of my work," "I achieve my goals," and "I complete my tasks within schedule." Internal consistencies were high (team performance self-rating: $\alpha = 0.87$, team performance supervisor rating: $\alpha = 0.78$, individual performance self-rating: $\alpha = 0.81$, individual performance supervisor rating: $\alpha = 0.91$), while inter-rater reliability for self-rated team performance was moderate (ICC [2] = 0.64), and 21% percent of the variance could be attributed to team membership (ICC [1]). Inter-rater agreement for the individual teams ranged from $r_{WG(J)} = 0.79$ to 0.99 [median $r_{WG(J)} = 0.96$].

Procedure

According to the university's ethics guidelines, no formal ethics proposal was needed for the present study. All data was collected online. We recruited participants via their supervisors who were contacted through professional networks, psychology mailing lists, psychology magazines, and meet-up groups. Individuals who are currently members of a work team of three or more people were eligible for participation. A work team is defined as a group of people that comprise a set of complementary skills and whose members interact with each other to achieve an—at least partially—common goal.

First, the team supervisor received a link to an online survey, asking for the e-mail addresses of all team members. The supervisors completed performance evaluations of the individual team members and the team as a whole. Afterward, each team member received an invitation to participate in an online survey in which they provided demographic information and completed the measures on character strengths, team roles, job satisfaction, teamwork quality, and individual and team performance. Before the start of the questionnaire, all supervisors and team members provided written informed consent. All questionnaires could be completed in German or English. Upon request, each participant received a feedback on his or her individual character strength profile and a team-based feedback on the team role balance, character strengths balance, and aggregated levels of teamwork quality. No other incentives for participation were offered.

Data Analysis

Convergence Between Current and Ideal Team Roles

For computing an overall indicator of convergence between current and ideal team roles, we computed the Euclidian distance, that is, the square root of the sums of the squared differences between every current (VIA Team Roles Inventory) and ideal (VIA Ideal Team Roles Inventory) team role. The resulting indicator is a measure of discrepancy: lower scores denote a better convergence between ideal and current team roles. While earlier studies suggested more complex relationships between current and ideal team roles, also depending on the type of role (Gander et al., 2018), we used this measure as an overall indicator of convergence.

Team Role/Character Strength Balance

For studying the effects of balance with regard to team roles and character strengths, we computed two different types of indices: The first type of indices indicates how many of the seven team roles or the 24 character strengths are represented in a team. Thus, for every team role (and character strength), we determined that it was present in a given team, when at least one of the members scored among the highest 10% in this scale. For each team role (and character strength), the team received one point if the role/strength was present—regardless of how many team members represented the role/strength—and zero points if the role/strength was represented by none of the team members. This

TABLE 3 | The relationship of current and ideal team role levels with the outcomes.

	Individual performance		Team performance			Work satisfaction	Teamwork quality	
	Self	Supervisor	Self	Self Agg	Supervisor	Self	Self	Self Agg
Current roles								
IC	0.22***	0.22***	0.20**	0.52**	0.15	0.43***	0.24***	0.69**
IG	0.13*	0.10	0.14*	0.29	−0.04	0.19***	0.10	0.54**
DM	0.21**	0.16**	0.13*	0.20	0.08	0.27***	0.12*	0.39
IM	0.25***	0.19**	0.20**	0.32	0.05	0.25***	0.14**	0.35
IN	0.18**	0.21***	0.17**	0.35*	0.02	0.26***	0.21***	0.47*
EN	0.13*	0.16**	0.16**	0.22	−0.07	0.29***	0.15**	0.30
RM	0.08	0.11	0.18**	0.22	−0.18	0.33***	0.20***	0.34
Ideal roles								
IC	0.14*	0.09	0.03	0.11	0.11	0.11	0.00	0.05
IG	0.11	0.07	0.08	0.23	−0.01	0.03	−0.05	0.26
DM	0.21*	0.09	0.05	0.06	−0.10	0.02	−0.01	−0.04
IM	0.22*	0.07	0.07	0.22	0.00	0.11	0.05	0.32
IN	0.16*	0.12*	0.11	0.24	−0.12	0.08	0.06	0.16
EN	0.09	0.15*	0.04	−0.28	−0.14	0.13*	0.02	−0.31
RM	0.10	0.01	0.08	0.09	−0.21	0.13*	0.11*	0.03

$N_{Individual}$ = 277–284; N_{Teams} = 36–42 (for aggregated self-reported team performance and teamwork quality, and supervisor-rated team performance). Self Agg, Team-level aggregated self-reports; IC, Idea creator; IG, Information gatherer; DM, Decision maker; IM, Implementer; IN, Influencer; EN, Energizer; RM, Relationship Manager. All coefficients are standardized fixed effects from multilevel level models. All analyses with Level-1 outcomes (all self-ratings and supervisor ratings of individual performance) were controlled for team size and individual and team-level gender, age, education, and duration of team membership. Analyses with Level-2 outcomes (all aggregated ratings, and supervisor-ratings of team performance) were controlled for team size, gender ratio, average age, average education, and average duration of team membership.

$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

resulted in two overall balance indices for each team; one for team roles and one for character strengths. These indices ranged from 0 to 7 for team roles and from 0 to 24 for character strengths. The overall balance indices were used for determining whether individuals and teams are more satisfied and perform better when all roles are represented.

The second type of indices indicated by how many times a team role or character strength was represented by a team member. Thus, for each team member who represented the role/strength of interest, the team received one point. This resulted in seven indices for team roles, and 24 indices for character strengths, each ranging from 0 to the total number of team members. We tested for linear and quadratic trends in these indices, for examining whether there are negative effects on the outcomes when some roles are represented several times in a team. All analyses using these balance indices were controlled for the number of team members (team size).

Statistical Analyses

We had data on the team-level (Level 2; i.e., team size, gender ratio, average age of team members, average educational level of team members, average duration of team membership, average fit between ideal and current roles, supervisor ratings of team performance, and number of team roles/character strengths present in the team) and on the person-level (Level 1; i.e., gender, age, education, duration of team membership, fit between current and ideal roles, self-ratings of work satisfaction, individual performance, team performance, teamwork quality, and supervisor-ratings of individual performance), with the person-level nested within the team-level. We used the R-package lme4 (Bates et al., 2015) for analyzing multilevel models, and lmerTest (Kuznetsova et al., 2017) for computing *p*-values for the fixed effects. All models with Level 1 outcomes (i.e., predicting self- and supervisor-rated individual performance, self-rated team performance, work satisfaction, and teamwork quality) were estimated using a restricted maximum likelihood estimation and allowed random intercepts for the teams. Since preliminary analyses suggested relationships of several demographic variables (e.g., gender and education) and objective team characteristics (e.g., gender ratio and average education level) with the outcomes, we controlled all subsequent analyses for team size, as well as individual and team-level gender, age, education, and duration of team membership.

The only exceptions were the analyses with supervisor-rated team performance as outcome (Level 2). For these analyses, we computed ordinary least squares regressions using only aggregated Level 2 data as predictors and control variables (i.e., team size, gender ratio, average age, average education, and average duration of team membership).

RESULTS

Zero-order correlations between all variables in the study on both the individual level, and on the aggregated team-level are given in online **Supplementary Table A**.

Levels of Current and Ideal Team Roles

First, we inspected the relationships between the levels of current and ideal team roles with the outcomes by computing a set of multilevel models predicting the outcomes by each team role separately, and the control variables (see **Table 3**).

Table 3 shows that most current team roles positively related to self- and supervisor-rated individual performance (exceptions

were Information Gatherer and Relationship Manager), and to self-rated team performance, but not supervisor-rated team performance. Overall, the numerically strongest relationships were found for the Idea Creator and Implementer roles. All seven team roles contributed to individual work satisfaction, while all roles but Information Gatherer related to self-rated teamwork quality. At the team-level, higher average levels of Idea Creator, Information Gatherer, and Influencer were associated with higher average scores of teamwork quality.

Only a few relationships were found for the levels of ideal roles. Some roles were related to self- (Idea Creator, Decision Maker, Implementer, and Influencer) or supervisor-rated (Influencer and Energizer) individual performance, work satisfaction (Energizer and Relationship Manager), or self-rated teamwork quality (Relationship Manager), while all roles were unrelated to supervisor-rated team performance.

Convergence Between Current and Ideal Team Roles

For analyzing the relevance of the convergence between current and ideal team roles, we computed a set of multilevel models, predicting the outcomes by the indicator of convergence, and the control variables. Results are given in **Table 4**.

Table 4 shows that with regard to outcomes on the level of individuals, the smaller the discrepancy between current and ideal roles, the higher the supervisor-rated—but not self-rated—performance, and the higher the self-rated work satisfaction and perceived teamwork quality. On the level of teams (i.e., using aggregated outcomes), no effects of current/ideal-convergence were observed.

Team Role Balance

The index of team role balance ranged between 0 and 7, with an average of $M = 4.31$ roles ($SD = 2.23$) represented in each team. For analyzing the effects of team role balance, we computed the same analyses, predicting the outcomes by the team role balance and the control variables.

Table 4 shows that the more the seven VIA team roles are represented in each team, the better the self-rated team performance. Further, the number of team roles represented also went along with higher reported work satisfaction and teamwork quality. No relationship was found for supervisor-rated individual performance. On the level of teams, the number of team roles represented showed positive effects on self-rated team performance and teamwork quality.

Further, for each team role, we looked at how many times they were represented in a team. These indices ranged from the minimum of 0 (for all team roles) to the maxima of 4 (Idea Creator, Information Gatherer, and Relationship Manager), 6 (Energizer), 7 (Decision Maker and Implementer), and 8 (Influencer) persons in a team representing these roles. Averages ranged from $M = 0.76$ roles (Information Gatherer) to $M = 1.64$ roles (Implementer) with standard deviations between $SD = 0.96$ (Information Gatherer) and $SD = 1.45$ (Influencer).

For examining whether there is a satiation point of the number of people representing a team role, we computed a set of multilevel models, and estimated both linear and quadratic trends. Thus, we predicted the outcomes by the number of team members representing this role, and the squared number of team members representing this role (predictors were mean-centered for avoiding issues of multicollinearity), and the control variables. Results are given in **Table 5**.

TABLE 4 | The relationships of discrepancy between current and ideal team roles and team role balance with self- and supervisor-rated performance, work satisfaction, and teamwork quality.

	Fit current-ideal roles	Team role balance
Individual performance		
Self	−0.10	0.05
Supervisor	−0.16**	0.10
Team performance		
Self	−0.17**	0.38***
Self-aggregated	−0.26	0.65***
Supervisor	0.09	0.16
Work satisfaction	−0.31***	0.26**
Teamwork quality		
Self	−0.18***	0.49***
Self aggregated	−0.34	0.73***

$N_{Individual}$ = 277–284; N_{Teams} = 36–42 (for aggregated self-reported team performance and teamwork quality, and supervisor-rated team performance). Fit Current-Ideal Roles, discrepancy (Euclidian distance) between current and ideal team roles. Team Role Balance, index of how many of the seven team roles are represented in a team. All coefficients are standardized fixed effects from multilevel level models. All analyses with Level-1 outcomes (all self-ratings and supervisor ratings of individual performance) were controlled for team size and individual and team-level gender, age, education, and duration of team membership. Analyses with Level-2 outcomes (all aggregated ratings and supervisor-ratings of team performance) were controlled for team size, gender ratio, average age, average education, and average duration of team membership.
$^{**}p < 0.01$, $^{***}p < 0.001$.

Table 5 shows that for individual performance, there were only effects for the team role of influencer (Influencer): Results suggested an inverted u-shape relationship between the number of people representing the role of influencer and the supervisor-rated individual performance. **Figure 1** shows an example of the nature of this u-shaped relationship.

Similar patterns were also observed for self-rated team performance (for the roles of Information Gatherer, Decision Maker, and Influencer), while for the roles of Idea Creator and Implementer, only a positive linear effect was observed, while the quadratic effects did not reach significance. For work satisfaction, again, inverted u-shaped relationships were found for Idea Creator, while linear effects were obtained for Information Gatherer, Energizer, and Relationship Manager roles. For teamwork quality, u-shaped relationships were found for Information Gatherer and Decision Maker, and linear relationships for Idea Creator and Influencer. Finally, on the level of teams, we found the same linear and quadratic effects for the roles of Decision Maker and Influencer for supervisor-rated team performance. Further, aggregated self-ratings were mostly parallel to the findings for individual self-ratings.

Levels of Character Strengths

As for team roles, we computed a set of multilevel models predicting the outcomes by the level of each

TABLE 5 | The relationships of the number of team roles represented in each team with self- and supervisor-rated performance, work satisfaction, and teamwork quality.

	Individual performance		Team performance			Work satisfaction	Teamwork quality	
Number of members	**Self**	**Supervisor**	**Self**	**Self agg**	**Supervisor**	**Self**	**Self**	**Self agg**
IC								
Linear	0.10	0.20	0.41**	0.61*	0.16	0.39***	0.64***	0.81***
Quadr	−0.06	−0.27	−0.29	−0.16	−0.25	−0.24*	−0.36	−0.25
IG								
Linear	0.03	0.04	0.45***	0.80***	0.07	0.32**	0.62***	0.85***
Quadr	−0.01	−0.11	−0.36**	−0.47*	−0.21	−0.20	−0.38*	−0.38*
DM								
Linear	−0.04	0.16	0.57**	0.58**	0.55*	0.23	0.66**	0.56**
Quadr	0.01	−0.26	−0.46**	0.04	−0.52**	−0.18	−0.49*	−0.02
IM								
Linear	0.12	0.09	0.39*	0.56**	0.07	0.12	0.41*	0.44
Quadr	0.03	−0.15	−0.19	0.14	−0.28	−0.02	−0.16	0.04
IN								
Linear	0.18	0.32*	0.43*	0.42*	0.54**	0.22	0.54*	0.50**
Quadr	−0.09	−0.33*	−0.36*	−0.01	−0.54**	−0.15	−0.42	−0.26
EN								
Linear	0.14	−0.06	0.22	0.32	0.05	0.21*	0.18	0.21
Quadr	−0.07	−0.03	−0.20	−0.16	−0.23	−0.11	−0.13	0.10
RM								
Linear	0.03	0.19	0.20	0.25	0.19	0.27**	0.29	0.44
Quadr	0.06	−0.21	−0.10	0.02	−0.32	−0.11	−0.16	0.16

$N_{Individual}$ = 277–284; N_{Teams} = 36–42 (for aggregated self-reported team performance and teamwork quality, and supervisor-rated team performance). Self Agg, Team-level aggregated self-reports; No. of members, How many members of a team represented the role of interest; Linear, Linear effects; quadratic, Quadratic effects; IC, Idea creator; IG, Information gatherer; DM, Decision maker; IM, Implementer; IN, Influencer; EN, Energizer; RM, Relationship Manager; Linear, linear relationships; quadr, quadratic relationships. All coefficients are standardized fixed effects from multilevel level models. All analyses with Level-1 outcomes (all self-ratings and supervisor ratings of individual performance) were controlled for team size and individual and team-level gender, age, education, and duration of team membership. Analyses with Level-2 outcomes (all aggregated ratings, and supervisor-ratings of team performance) were controlled for team size, gender ratio, average age, average education, and average duration of team membership.

$^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

character strength separately and the control variables (see **Table 6**).

Table 6 shows that several character strengths (including perseverance, perspective, leadership, hope, self-regulation, honesty, zest, and gratitude) predicted self-rated individual performance; only perseverance was associated with supervisor-rated individual performance. A similar picture was obtained for team performance, where several character strengths were associated with self-rated individual team performance (mostly teamwork, love, and fairness), but no strengths were related to supervisor-rated or aggregated self-rated team performance. Work satisfaction and teamwork quality were predicted by several character strengths (strongest relationships for teamwork and love) in self-ratings, while on the level of teams, only teamwork and fairness were significant predictors of teamwork quality.

Character Strength Balance and Number of Character Strengths Represented

We computed the same analyses for character strengths as for team roles, for examining whether the character strength balance, that is, how many of the 24 character strengths of the VIA classification are represented in each team, relate to the outcomes. Between 3 and 24 of the character strengths were represented in each team (M = 13.31; SD = 5.84). Results are given in **Table 7**.

Table 7 shows that no relationships were observed between character strength balance and the outcomes.

Next, we analyzed whether the number of members in each team representing each of the 24 character strengths relates to the outcomes. Since analyses suggested no quadratic effects of character strengths, only linear effects were examined. Only for the character strengths of fairness (positive relationships with teamwork quality) and prudence (positive relationships with self-rated individual and team performance and teamwork quality) effects were observed.

DISCUSSION

The present study examined the contributions of team roles and character strengths to well-being and performance at work on both the levels of individuals and teams. Overall, our expectations were mostly confirmed for self-ratings of the outcomes, while they only were partially confirmed for supervisor ratings and team-level aggregated self-ratings. On the level of teams, this can mostly be explained by insufficient power due to the small sample size on the level of teams, since most effects were in the expected direction but failed to reach significance. Also, especially in the supervisor ratings, there was less variance, and potential relationships might be hidden by ceiling effects. Nonetheless, it is also possible that self-ratings of performance (on individual and team-level) assess somewhat

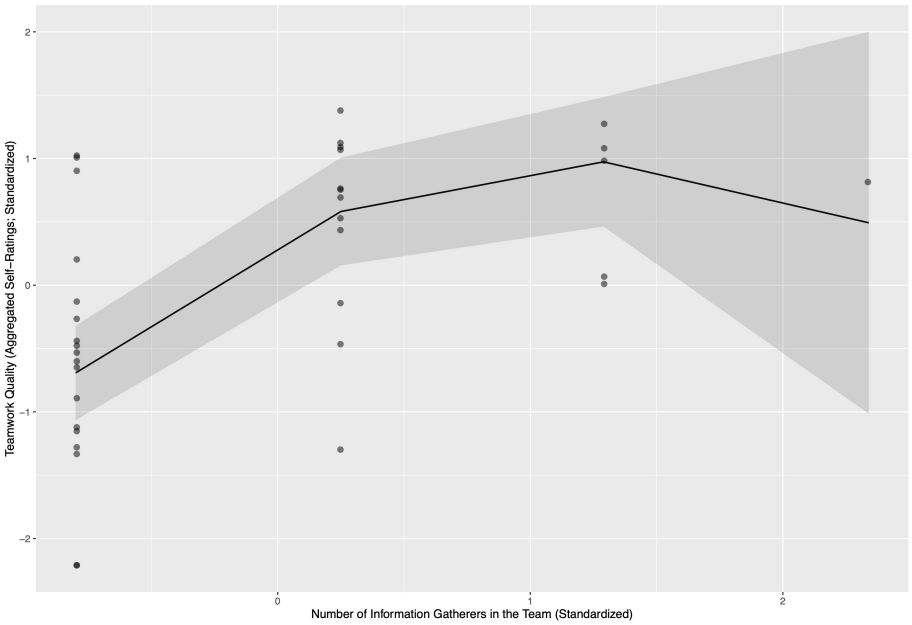

FIGURE 1 | Relationship of the number of information gatherers per team and teamwork quality (standardized coefficients).

different constructs than supervisor ratings and that the former are more strongly influenced by perceptions of teamwork quality and satisfaction than the latter. In the following, we summarize and discuss our main findings.

Team Roles

Effects of Team Roles on Performance, Work Satisfaction, and Teamwork Quality

First, higher levels in most current team roles—but not ideal team roles—went along with higher levels of work satisfaction and teamwork quality, individual performance (both self- and supervisor-rated), and self-rated team performance, thus, widely confirming our expectations. On the level of teams, however, although the effects of self-ratings on team performance and teamwork quality went into the expected direction, only a few effects reached significance, and no relationships with supervisor-rated team performance were observed. Since these analyses were performed at the level of teams, the statistical power was determined by the sample size of teams and was likely not sufficient to detect the effects—even though the sample size of teams was considerably larger than in many previous studies. Compared to the other team roles, Information Gatherer and Relationship Manager seemed to be least important for performance, and Information Gatherer for well-being at work, while the most robust results across all outcomes were found for Idea Creator. One might argue that this is due to the sample that consisted mostly of higher-level occupations where coming up with new, innovative approaches is a core requirement of the job, while gathering information might be considered a more basic skill that several people should be able to perform, and that is therefore less appreciated.

Convergence Between Current and Ideal Roles

Further, a better convergence between current and ideal team roles went along with higher work satisfaction and better teamwork quality, thus confirming previous findings (Gander et al., 2018) and our expectations. For individual and team performance, we found some support for positive relationships, although they did not show up in all different data sources and levels of analysis considered. Nonetheless, we conclude that increasing the convergence between current and ideal roles might offer a valuable starting point for interventions aimed at fostering individual work satisfaction. Although team roles represent *informal* roles that cannot be assigned, one still might consider ways to craft someone's job in order to increase the fit to his or her ideal team role (Wrzesniewski and Dutton, 2001). Further research is needed on formal roles that facilitate the display of team roles; based on such information team roles might also be considered in selection procedures, for maximizing the person-job fit.

Team Role Balance

Team role balance showed the expected positive relationships to work satisfaction, teamwork quality, and performance on the level of teams; no effects were observed for supervisor ratings. Thus, how many of the seven VIA team roles are represented in a team is an important information for the well-being of the team members, although this does not necessarily translate to effects on performance that could also be perceived by external evaluators, such as the team supervisor. Nonetheless, a satisfying work experience can be considered an important factor for attracting and retaining employees (e.g., Michaels et al., 2001). Therefore, designing teams with the intention to have all team roles represented could be a helpful endeavor

TABLE 6 | The relationship of character strength levels with self- and supervisor-rated performance, work satisfaction, and teamwork quality.

	Individual performance		Team performance			Work satisfaction	Teamwork quality	
	Self	Supervisor	Self	Self agg	Supervisor	Self	Self	Self agg
Creativity	0.12	0.02	−0.02	0.18	0.08	−0.02	−0.03	0.01
Curiosity	0.14*	0.01	0.10	0.36	−0.17	0.12*	0.21***	0.37
Judgment	0.12	0.06	0.03	0.37	0.07	0.00	0.01	0.33
Learning	−0.01	−0.01	0.04	0.35	0.00	−0.02	0.05	0.36
Perspective	0.25***	0.04	0.06	0.06	−0.12	0.01	0.03	−0.05
Bravery	0.08	−0.04	0.02	0.07	−0.04	−0.01	0.00	−0.07
Perseverance	0.34***	0.11*	0.10	0.22	−0.05	0.09	0.00	−0.08
Honesty	0.23***	0.00	0.13*	0.31	−0.20	0.11	0.07	0.18
Zest	0.23***	0.01	0.09	−0.07	−0.04	0.15*	0.10*	−0.20
Love	0.16*	0.01	0.16**	0.15	0.11	0.22***	0.19***	0.09
Kindness	0.16*	0.00	0.14*	0.06	−0.15	0.16**	0.14**	0.02
Social intelligence	0.14*	−0.01	0.07	0.21	−0.07	0.13*	0.15**	0.11
Teamwork	0.15*	0.04	0.24***	0.34	0.00	0.37***	0.28***	0.47**
Fairness	0.07	0.05	0.16**	0.25	0.01	0.16**	0.16**	0.35*
Leadership	0.25***	0.05	0.11*	0.05	−0.08	0.13*	0.09	0.02
Forgiveness	0.05	0.02	0.06	0.29	−0.11	0.19**	0.11*	0.32
Humility	0.07	0.03	0.00	0.15	−0.03	0.07	0.00	0.38
Prudence	0.12	0.05	0.07	0.15	0.00	0.12*	0.11*	0.11
Self-regulation	0.24***	0.04	0.06	−0.12	0.21	0.10	0.12*	−0.22
ABE	0.10	−0.05	0.05	0.25	0.02	0.05	0.09	0.22
Gratitude	0.21**	0.00	0.12*	0.17	−0.05	0.22***	0.13*	0.12
Hope	0.25**	0.07	0.05	−0.04	−0.11	0.11	0.08	−0.23
Humor	0.05	−0.04	0.02	0.01	−0.20	0.01	−0.01	000
Spirituality	0.02	−0.06	0.02	−0.20	0.01	0.02	0.12	−0.28

$N_{Individual}$ = 277–284; N_{Teams} = 36–42 (for aggregated self-reported team performance and teamwork quality, and supervisor-rated team performance). Self Agg, Team-level aggregated self-reports; Learning, Love of learning; ABE, Appreciation of beauty and excellence. All coefficients are standardized fixed effects from multilevel level models. All analyses with Level-1 outcomes (all self-ratings and supervisor ratings of individual performance) were controlled for team size and individual and team-level gender, age, education, and duration of team membership. Analyses with Level-2 outcomes (all aggregated ratings, and supervisor-ratings of team performance) were controlled for team size, gender ratio, average age, average education, and average duration of team membership. All coefficients are standardized fixed effects.
$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

for the benefit of both the individual and the organization. In the present study, the operationalization of team role balance allowed each team member to represent multiple roles; thus, a balanced team of five members can theoretically consist of one member representing all seven roles and four members representing no roles at all. It is up to future studies to examine whether the degree to which the team roles are evenly distributed among the members also plays a role—one might expect that this is indeed the case, and that it is beneficial for a team when all individuals contribute to the representation of the roles in the team.

Further, the study provided some evidence on the question whether having more team members assuming the role goes along with positive or detrimental effects. Results suggest a complex relationship: For several roles (i.e., Information Gatherer, Decision Maker, and Influencer), quadratic relationships between the number of team members with this role and team performance, and teamwork quality was found, suggesting that while it is beneficial to have some team members in this role, there is also a maximum that should not be surpassed in order to avoid detrimental effects. For Idea Creator and Implementer roles, mostly linear effects were found, while there were also trends for quadratic effects that did not reach significance, however. The number of Energizers and Relationship Managers showed the weakest relationships to the outcomes. Thus, we tentatively conclude that when designing teams, one should particularly pay attention to avoid an overrepresentation of Information Gatherer, Decision Maker, and Influencer roles. One possible reason for these effects might be that, on the one hand, these roles might be more prone to competition and rivalry that lead to internal conflicts when assumed by several members of a team. On the other hand, having more people to create and implement ideas might be beneficial since these roles could often be more directly related to the success of the team and go along with mutual inspiration. However, at this point, we can only speculate about possible processes; more information on the processes and mechanisms of team role and character strength balance is desirable. For example, conflicts might also trigger reflection and contribute to team learning (e.g., Schley and van Woerkom, 2014).

How many of these roles are to be considered an overrepresentation, however, cannot be answered by this study. In the present study, we controlled for the effects of team size in all our analyses. However, one might assume that this strongly depends on the team size, and larger teams might be able to need or accommodate more people with Decision Maker

TABLE 7 | The relationships of the character strengths balance and the number of character strengths represented in each team with self- and supervisor-rated performance, work satisfaction, and teamwork quality.

	Individual performance		Team performance			Work satisfaction	Teamwork quality	
	Self	Supervisor	Self	Self agg	Supervisor	Self	Self	Self agg
Character strengths balance	0.09	0.12	0.02	−0.01	0.25	−0.04	0.07	0.07
No. of members								
Creativity	0.06	−0.02	−0.11	−0.16	−0.16	−0.02	−0.12	−0.19
Curiosity	0.14	0.13	0.08	0.13	0.15	0.05	0.09	0.12
Judgment	0.09	0.04	0.15	0.24	0.10	0.01	0.14	0.23
Learning	0.08	0.02	0.04	0.07	0.00	0.04	0.08	0.10
Perspective	0.03	0.02	0.11	0.16	0.12	−0.04	0.20	0.24
Bravery	0.13	0.01	0.03	0.07	0.15	−0.14	−0.06	−0.07
Perseverance	0.11	−0.11	−0.06	−0.02	−0.09	−0.01	−0.02	0.01
Honesty	0.12	0.00	0.05	0.07	0.00	0.10	0.10	0.14
Zest	−0.02	0.11	−0.01	−0.02	0.20	−0.07	−0.03	−0.05
Love	0.06	0.15	0.10	0.11	0.19	0.01	0.08	0.09
Kindness	0.06	−0.02	0.12	0.17	−0.07	0.05	0.12	0.16
Social intelligence	−0.05	0.06	0.06	0.08	0.16	−0.08	0.03	0.07
Teamwork	0.05	−0.09	0.12	0.20	−0.18	0.08	0.21	0.30
Fairness	0.07	0.13	0.18	0.30	0.14	0.03	0.28*	0.39*
Leadership	0.08	−0.01	0.16	0.26	0.15	−0.02	0.14	0.20
Forgiveness	0.09	0.05	0.17	0.31	0.06	0.02	0.14	0.23
Humility	0.20	−0.17	0.20	0.39	0.04	0.03	0.24	0.39
Prudence	0.28**	0.11	0.35**	0.60**	0.23	0.07	0.34*	0.45*
Self-regulation	0.16	−0.03	0.01	0.06	0.12	−0.10	−0.14	−0.16
ABE	−0.01	0.03	−0.02	−0.02	0.09	−0.01	0.05	0.08
Gratitude	−0.06	0.05	0.06	0.07	0.02	0.01	0.08	0.14
Hope	0.08	0.04	−0.05	−0.11	0.18	−0.04	−0.15	−0.19
Humor	−0.01	−0.03	0.08	0.16	0.13	−0.03	0.10	0.17
Spirituality	0.00	0.01	−0.13	−0.21	−0.07	−0.09	−0.08	−0.15

$N_{Individual}$ = 277–284; N_{Teams} = 36–42 (for aggregated self-reported team performance and teamwork quality, and supervisor-rated team performance). Self Agg, Team-level aggregated self-reports; Character Strengths Balance, Index of how many of the 24 character strengths are represented in a team; No. of members, How many members of a team represented the character strength of interest; Learning, Love of learning; ABE, Appreciation of beauty and excellence. All coefficients are standardized fixed effects from multilevel level models. All analyses with Level-1 outcomes (all self-ratings and supervisor ratings of individual performance) were controlled for team size and individual and team-level gender, age, education, and duration of team membership. Analyses with Level-2 outcomes (all aggregated ratings, and supervisor-ratings of team performance) were controlled for team size, gender ratio, average age, average education, and average duration of team membership.
$^{*}p < 0.05$, $^{**}p < 0.01$.

roles without detrimental effects, while for very small teams, one person might be enough.

Character Strengths

Effects of Character Strengths on Performance, Work Satisfaction, and Teamwork Quality

The present study also underlined the relevance of character strengths for work-related outcomes. Our findings were in line with previous studies (e.g., Heintz and Ruch, 2020) with regard to the contributions of strengths such as love, gratitude, zest, and curiosity for work satisfaction, and also teamwork quality. However, the strengths of teamwork and fairness also contributed to both variables, and were the only two strengths that yielded significant effects on teamwork quality on the team level. Both strengths also yielded the highest numerical relationships to self-rated team performance, which is in line with findings on the relationships of character strengths with students' performance in group work (Wagner et al., 2020b). For individual performance, perseverance was found to be most important and related to both self- and supervisor-rated performance, in line with earlier findings. Thus, we conclude that perseverance is the single most relevant strength when interested in maximizing individual performance in selection decisions (in line with earlier findings; Harzer and Ruch, 2014; Littman-Ovadia and Lavy, 2016), while teamwork and fairness should be considered when selecting employees for tasks involving high amounts of cooperation in order to expect high levels of well-being in the teams.

Character Strength Balance

When looking at configurations of character strengths in teams, no support was found for the idea that all character strengths should be present in a team for all considered outcomes. One might assume that while some character strengths are highly relevant to work-related behavior and experiences in most occupations (i.e., persistence) several other character strengths are of lesser relevance in many occupations (e.g., spirituality, appreciation of beauty and excellence). However, one would also expect variation among jobs regarding the character strengths of

most relevance (see e.g., Heintz and Ruch, 2020). Thus, not all 24 strengths of the VIA classification might be relevant in all jobs; in future studies, one might consider determining in a first step how many character strengths are potentially relevant in a particular team and examining in a second step whether those teams in which all relevant character strengths are represented outperform teams in which only few relevant strengths are represented.

Also, in line with our expectations, we found no evidence for detrimental effects when there are many team members with the same character strength in a team. This supports the idea that character strengths represent positive characteristics and that there is no such thing as having too much (or, in this case, too many) of a character strength. For two strengths, we found positive (linear) relationships between some outcomes and the number of people with the strengths in the team: this was the case for the strengths of prudence (self-rated individual and team performance, teamwork quality) and fairness (teamwork quality). This is especially interesting, since these relationships were also observable on the team levels: Thus, teams with more people who score high in prudence or fairness report better functioning. Both these character strengths might help in preventing conflicts within the team (i.e., being more careful in one's actions and treating other members just). As opposed to team roles, having multiple members with these strengths might not lead to conflicts due to rivalry but instead could allow for a mutual support.

Although these findings should not be overinterpreted due to the large number of comparisons, they underline the relevance of character strengths such as fairness and prudence that are often overlooked or considered of lesser relevance when only positive outcomes on the individual level are considered (see e.g., Wagner et al., 2020a).

Limitations

Of course, several limitations of the present study have to be addressed. First, the sample size of the teams was relatively small and only allowed for the detection of medium to large effects. Further, the present study pursued a quasi-experimental approach and studied real, existing teams. While studying real teams also represents the strength of the current study, no conclusions about directionality or causality of the findings can be made. Studies using experimental assignments of team roles or intervention studies aiming at changing team role behavior and/or balance are warranted that would allow for looking at causal influences of team roles on the outcomes. Further, most effects were found for self-reports that are prone to biases. While we also considered supervisor ratings for the performance-related outcomes, these ratings showed a slight negative skew and a restricted range. This limited variability in the supervisor-ratings might have led to an underestimation of the relationships. Also, one might argue that information from peers on the team members' assumed team roles might also be considered for providing an additional perspective—in many teams, other team members might be able to provide a more accurate picture of a team member's contributions than the supervisors who interact less frequently with the team members. Thus, future studies might also consider additional data sources. Finally, for examining the effects of team role and character strengths balance, we computed one index for counting how many of the seven team roles/24 character strengths are represented in a team, and indices for determining the number of roles/strengths represented by each team member. These indices rely on cutoff scores that were empirically derived for the present study; of course, such cutoff scores are always somewhat arbitrary and drastically reduce the amount of available information. Also, one might argue that different cutoffs for every team role/character strength would yield stronger effects—it is possible that for some roles/strengths, relatively low levels suffice for a team to function well, while for other roles/strengths, higher levels are needed. Thus, it is possible that a more sophisticated approach for measuring team role/character strength balance might yield even larger effects regarding the studied outcomes.

CONCLUSION

In summary, the present study corroborated earlier research on the relationships of the VIA team roles and the convergence between current and ideal team roles with work satisfaction. Further, earlier findings of the relationships between character strengths and work satisfaction and performance were widely replicated. Additionally, we extended previous findings on team roles in the following main aspects: (1) The VIA team roles go along with better self- and supervisor-rated individual performance, and self-rated teamwork quality; (2) a better fit between current and ideal roles goes along with better supervisor-rated performance; (3) teams in which more team roles are represented report higher team performance and teamwork quality, both on the levels of individual and aggregated ratings; and (4) having too many team members sharing the same team role can go along with reduced levels of team performance and teamwork quality.

Further, previous research on character strengths was extended by also considering the team level: (5) We found that teams with higher average levels of teamwork or fairness report higher teamwork quality; (6) teams with more members with high levels in prudence or fairness report better teamwork quality and aggregated self-ratings of team performance (only prudence); and (7) there is no evidence that having too many members with high levels in a particular strength goes along with negative effects. We conclude that extending the study of character to the level of social systems, such as teams, provides a highly relevant new perspective, and more studies should examine the effects of different configurations of character strengths in such systems.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and

institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

FG, IG, and WR conceptualized and designed the work. FG and IG analyzed and interpreted the data. FG drafted the article. FG and IG made critical revisions of the article. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.566222/full#supplementary-material

Supplementary Table A | Zero-order correlations among all study variables, on individual level (above diagonal) and team level (below diagonal). Above diagonal: correlations based on individual data (N = 277–284). Below diagonal: correlations based on aggregated team-level data (N = 36–42). $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

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REVIEW
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Using the VIA Classification to Advance a Psychological Science of Virtue

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The VIA Classification of Character Strengths and Virtue has received substantial attention since its inception as a model of 24 dimensions of positive human functioning, but less so as a potential contributor to a psychological science on the nature of virtue. The current paper presents an overview of how this classification could serve to advance the science of virtue. Specifically, we summarize previous research on the dimensional versus categorical characterization of virtue, and on the identification of cardinal virtues. We give particular attention to the three-dimensional model of cardinal virtues that includes moral, self-regulatory, and intellectual domains. We also discuss the possibility that these three clusters be treated as fundamental elements of a virtue model, meaning that they clearly and directly contribute to both individual and communal flourishing across various cultures. This discussion includes a summary of previous speculations about the evolution of adaptations underlying the human capacity for using behavioral repertoires associated with the three virtues, as well as discussing ways in which they simultaneously enhance community and individual, in the last case focusing particularly on evidence concerning mating potential. We then discuss the relationship between the evolutionary perspective on virtues and Aristotle's concept of the reciprocity of the virtues. Finally, we provide speculations about the nature of practical wisdom. While accepting the potential value of future revisions to the VIA model, that model even under its current conditions has the potential to generate a number of intriguing and testable hypotheses about the nature of virtue.

Keywords: virtue, character strengths, flourishing, evolutionary psychology, practical wisdom

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INTRODUCTION

> *It is not profitable for us at present to do moral philosophy; that should be laid aside at any rate until we have an adequate philosophy of psychology, in which we are conspicuously lacking.*
>
> – (Anscombe (1958), p. 1)

The VIA Classification of Character Strengths and Virtues (Peterson and Seligman, 2004) was intended as the starting point for a science of positive human functioning. The model consists of 24 character strengths that were conceptualized as reflections of six virtues. One aspect of the model that has not received as much attention as it deserves is the potential for using the VIA Classification as a tool for the scientific study of virtue.

Virtues can be conceptualized as personal traits that are in general practice both personally and communally valuable, such as the tendency to be kind or critically evaluate information. A science of virtue would therefore focus on issues such as the measurement of these traits, how they develop, and how their development can be encouraged (for further details, see Fowers et al., in press).

Is a science of virtue a worthwhile endeavor? A critical analysis of the concept of virtue could reasonably argue that virtue must prove itself to be more than a bromide of the Greco–Roman world that Christians found useful, and as a result has infiltrated modern Western moral philosophy simply because of heritage. The reality is that virtue ethics offers a distinct approach to thinking about the moral and collective role of the individual, one that is likely to prove particularly amenable to a scientific, and psychological, analysis.

It is noteworthy that we are not the only psychologists calling for the scientific study of virtues as person traits (Cokelet and Fowers, 2019; Fowers et al., in press). Several points can be raised to support virtue as a worthwhile topic of scientific and psychological study. First, virtue ethics is primarily an inquiry into the nature of the moral actor rather than the moral act. Where deontological and utilitarian perspectives were founded for the purpose of identifying moral rules, modern virtue ethics more than anything else is about how the actor decides what it means to act well. Similarly, where the deontological and utilitarian perspectives focus specifically on understanding morality, in developing their conception of virtue the Greeks and Romans were more interested in an ethic for a good life, a life of self and communal enhancement. This perspective includes an interest in attributes that are not strictly moral but that still advance both the individual and the individual's community, the classic example being Aristotle's interest in intellectual as well as moral virtues. A comprehensive virtue ethics will require considering how a person makes virtuous decisions in complex, ambiguous, and uncertain real-world circumstances that involve competing considerations. Clearly this falls within the purview of a scientific psychology interested in contributing to both the social and the individual good.

In this article, we suggest several ways in which the VIA Classification can offer and already has been used to evaluate some valuable hypotheses relevant to the development of a psychology of virtue, i.e., an empirically founded theory of what represents a relatively virtuous (personally enriching, socially admirable, and communally desirable) orientation to life. The following topics will be addressed primarily from the perspective of the VIA Classification:

1. The dimensional versus categorical conceptualization of virtue.
2. Toward a hierarchical taxonomy of virtues.
3. The evolutionary perspective on fundamental virtues.
4. Reciprocity of the virtues.
5. The nature of practical wisdom.

PRELIMINARY ISSUES

Before turning to specific topics, though, three issues should be addressed. (1) The VIA Classification assumes a hierarchical relationship between constructs identified as character strengths and constructs identified as virtues. Where the VIA Classification distinguishes between broader virtues and more specific character strengths, both levels are relevant in the context of virtue ethics. In his discussion of virtue ethics, the philosopher Russell (2012) has offered an alternative lexicon of *cardinal virtues* (corresponding to the VIA virtues) and *subordinate virtues* (the character strengths). Still a third set of terms can be found in personality psychology, where hierarchical structuring is described in terms of *domains* and *facets* (Costa and McCrae, 1995). The choice of terminology is somewhat arbitrary and will vary in this article depending on which framework is most useful at that point.

(2) Our critical analyst could fairly ask whether the VIA character strengths provide a sound foundation for empirical explorations on the nature of virtue. Though there is consensus among virtue theorists that virtue ethics can be grounded in a set of personal attributes called the virtues, no authoritative description of this set has emerged in the literature. For example, **Table 1** is a sampling of virtue lists just since the beginning of the 20th century, and many others are available. There have even been discussions among philosophers of whether a listing of "the" virtues is possible or necessary.

Here we see an important epistemological difference between philosophical and psychological approaches to virtue. From the former perspective, it is still possible to draw analytic conclusions about the nature of the virtues without an established enumeration of the virtues, whereas a scientific psychology of virtue requires a bedrock of well-defined constructs. The lack of an established virtue list potentially interferes with the development of a science of virtue in several ways:

1. If it is agreed that virtue ethics is founded in a set of person attributes deserving of being called virtues, the enumeration of those attributes will play an important role in the testing of empirical hypotheses about virtue. Parallels can be drawn to scientific advances made possible by the periodic table of the elements, the Linnaean approach to biological classification, or (closer to home) the five-factor model of personality.
2. If being virtuous means acting according to the virtues, but the list of virtues is indefinite, clear hypotheses about what it means to act virtuously can be impossible (see Russell, 2012, for a discussion of this issue).
3. If different researchers rely on different conceptualizations of the key dimensions of virtue, the potential for a cumulative science of virtue is reduced. Research that tests a hypothesis about virtue using one model of the virtues may have little to say about the validity of that hypothesis for other virtue models, or for virtue theory in general. For example, various educational programs have been created that focus on virtue development in students, but it is problematic to use evidence for one program as

TABLE 1 | Taxonomies of virtue since the 20th century.

Bennett (1995)	Cawley et al. (2000)	Comte-Sponville (2001)	Dahlsgaard et al. (2005)	Erikson (1964)	Moore (1903)	Rand (1984)
Compassion	Empathy	Compassion	Courage	Care	Aesthetic Enjoyment	Honesty
Courage	Order	Courage	Humanity	Competence	Interpersonal Enjoyment	Independence
Faith	Resourcefulness	Fidelity	Justice	Fidelity		Integrity
Friendship	Serenity	Generosity	Temperance	Hope		Justice
Honesty		Gentleness	Transcendence	Love		Pride
Loyalty		Good Faith	Wisdom and Knowledge	Purpose		Productivity
Perseverance		Gratitude		Will		Rationality
Responsibility		Humility		Wisdom		
Self-Discipline		Humor				
Work		Justice				
		Love				
		Mercy				
		Politeness				
		Prudence				
		Purity				
		Simplicity				
		Temperance				
		Tolerance				

evidence for the field in general if the target constructs differ markedly.

These concerns can be overstated. Review of the virtue lists in **Table 1** demonstrates a substantial degree of overlap, suggesting some informal consensus on cardinal traits. That said, the examples provided in our first bullet point above demonstrates the degree to which a reasonable taxonomy has proven a valuable empirical tool in other contexts.

Even if one accepts the importance of a shared virtue list for achieving the accumulation of knowledge in a science of virtue, the question remains whether the VIA character strengths represent an adequate starting point for developing such a list. For example, its comprehensiveness is difficult to establish, especially as some enumerations of virtues have been substantially longer (e.g., Hume, 1751/2010)[1].

In response, it can be noted that few attempts at the development of a virtue list have involved so many sources of input or been so transparently and collaboratively developed as the 24 VIA strengths. More than 50 experts in positive human functioning contributed to the project, multiple literature reviews were conducted to support the process, and 13 of the leading experts in this field were involved in decision-making (Peterson and Seligman, 2004). Explicit criteria were generated for identifying which character strength candidates were retained in the final list. In contrast, most other lists have been proposed without any justification or vetting. A recent study in which homeless youth were invited to list personal characteristics that were particularly meaningful to them in their attempts to thrive or cope with life's challenges found that 98% of responses could be categorized according to the 24 VIA character strengths (Cooley et al., 2019), providing some empirical evidence for their comprehensiveness. On the other hand, a recent study examining how ordinary people characterize virtue revealed 10 of 24 VIA strengths were never mentioned (Gulliford et al., in press). The omissions seemed to represent a combination of instances in which the emphasis on positive functioning in the identification of the VIA strengths resulted in the inclusion of constructs not typically associated with virtue (e.g., teamwork was absent), variations in how experts and ordinary people are likely to conceptualize virtue (e.g., justice was absent), and terms that partially overlap (e.g., social intelligence and empathy/sympathy).

Assuming more work can be done to develop a sufficiently comprehensive set of virtues, it is worth noting that a taxonomy need not be perfected before it can be used to make important contributions. Methods of classifying life on earth have matured over time, and that classification system remains incomplete even today. If the VIA character strengths can be considered a reasonable starting point for a catalog of important virtues, then they can serve the purpose of testing hypotheses about the nature of virtue even while recognizing that future revisions of the model are possible that could require modifying the conclusions drawn.

(3) Aristotle was one of the first great systematic observers of nature in history. As a result, he generated several important hypotheses about practical ethics, as he also did about biology. Biologists took some of those hypotheses as a basis for empirical inquiries, retaining or rejecting his proposals as called for by the evidence. Some modern writers on virtue seem to have adopted a different orientation to his work, assuming elements of Aristotelian virtue theory are essential based solely on his authority, or rejecting propositions because they are inconsistent with Aristotelian thought. In a science of virtue, Aristotelian propositions must be required to stand or fall on their own merits. In what follows we will refer to Aristotelian concepts, but we intend those references to serve solely as background to our inquiries into the nature of virtue.

[1] See also https://www.virtuesproject.com/virtuesdef.html.

VARIATION IN VIRTUE: CATEGORICAL OR DIMENSIONAL?

For example, in his *Nicomachean Ethics* Aristotle discussed his concept of the *phronimos*, the individual who is a skilled judge of questions about the good, someone to whom others are likely to turn for guidance on such issues. In doing so he reinforced a Greek–and later Roman–tradition of seeing the virtuous as a distinct class of individuals. Aristotle expanded on this vision of the distinctly virtuous person when he distinguished between the continent person (virtuous despite temptations to act invirtuously) and the virtuous person (whose desires and behaviors are consistently virtuous). This question of whether there are people who are categorically superior in their virtuous judgments is a good example of where quantitative psychology can offer an empirically informed if not authoritative conclusion.

A variety of statistical methods have been developed to evaluate whether interpersonal variation should be understood as primarily categorical or quantitative. Two studies have now been completed using scores on the VIA Inventory of Strengths (VIA-IS; Peterson and Seligman, 2004) to evaluate whether there are meaningful categorical distinctions in the VIA character strengths (McGrath et al., 2010; Berger and McGrath, 2018). Using very different analytic strategies, both drew the same conclusion: there is no evidence that (at least based on individuals who completed the VIA-IS) there exists a distinctly virtuous class of individuals.

As with any first-generation set of findings, they must be interpreted with caution. It is possible the class of individuals meriting the label of *phronimos* is vanishingly small, though that raises questions about the practical value of discussing them. It is also possible the samples for these studies, drawn from two websites that offer completion of and feedback on the VIA-IS for free, included an unusually small subset of the *phronimoi*, though one must then question where is one to find them in sufficient concentrations that they are detectable. With these caveats in mind, the burden would seem to fall upon those who believe in the qualitatively virtuous to demonstrate their existence[2].

Assuming this is a valid conclusion, what are its practical implications? Most immediately, in the coming sections we will generally refer to individuals high in virtue or relatively virtuous, rather than to virtuous individuals. More broadly, rejecting the archetype of the virtuous person except as an ideal complicates the identification of moral exemplars, because it suggests no one is immune to temptation. On the other hand, it raises the question of whether Aristotle's description of virtue immune to temptation is a fictionalized ideal, or at best only possible in rarefied settings such as monastic orders. On a more practical level, it could be used to argue that even individuals identified as relatively virtuous should not become complacent about their virtue but should recognize that maintaining a virtuous life requires continuing commitment and self-reflection. There is something challenging in the suggestion that virtue is not a status one achieves, but a status one can only hope to achieve (also see Cokelet and Fowers, 2019).

A TAXONOMY OF VIRTUE

As noted previously, Aristotle suggested the virtues could be organized into two groups, the moral and the intellectual. He was not the first to consider ordinality in the virtues. Plato earlier suggested four cardinal virtues that encompassed a "swarm" of more specific virtues: wisdom, temperance, courage, and justice. In the same way that virtue lists merit objective justification, though, hierarchies of virtues developed for psychological purposes should be based on empirical evidence.

To date, four teams of psychologists have attempted the empirical development of a set of cardinal virtues. Two were based on lexical methods that proved important to the development of the five-factor model of personality. Cawley et al. (2000) identified 140 self-descriptive English language terms drawn from the dictionary that reflected what a person "ought" to be or do. Factor analysis of student self-ratings on these terms suggested four latent dimensions, labeled empathy, order, resourcefulness, and serenity. De Raad and van Oudenhoven (2011) collected 153 Dutch terms for moral traits. Factor analytic methods were again applied to quantitative ratings on the traits, mainly of college students. They identified two primary clusters of virtues, called sociability and ambition.

The third attempt was part of the development of the VIA Classification (Dahlsgaard et al., 2005). This was a review of traditional moral texts from seven different cultures looking for common themes. Though still empirical, it was the only effort that was not quantitative, raising concerns about objectivity in the identification of cardinal traits. These authors generated the list of six virtues that was incorporated into the VIA Classification: wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. In introducing the Classification, Peterson and Seligman (2004) explicitly opined that quantitative research might not support this model.

Factor analytic studies with the VIA-IS in fact did not converge with these six factors. However, subsequent studies have found that when the solution is restricted to three factors, the solutions are equivalent across different measures of the VIA character strengths, populations, and analytic methods (McGrath, 2015; McGrath et al., 2018; McGrath, in press). These three factors have been labeled caring, inquisitiveness, and self-control, terms that were chosen because they were unassigned in the context of the VIA Classification. As cardinal variables, they encompass the moral, intellectual, and self-regulatory domains of character strengths (McGrath, Unpublished). Some cross-cultural evidence exists for these three domains, suggesting a degree of universality for these domains and bolstering an argument of these virtues having an evolutionary basis to them. Independent factor analytic studies involving residents of the United States, Switzerland, China, and Brazil all produce the same structure (McGrath et al., 2018), as did studies using other measures of the 24 strengths besides the VIA-IS. To the extent that the VIA Classification character strengths can be considered a relatively comprehensive

[2]Jayawickreme and Fleeson (2017) and Miller (2017) have similarly raised questions about the existence of a distinctly virtuous class of individuals from a more conceptual perspective.

representation of positive personal traits, these three virtues seem to offer the most defensible model of how character traits tend to cluster. That said, the 24 strengths were not chosen based on their coherence, so some strengths such as humor or humility are not well-represented by this structure.

What is striking here is the degree of overlap across four attempts to define a set of cardinal virtues inductively using very different approaches. Cawley et al.'s (2000) empathy, order, and resourcefulness correspond quite well with the caring, self-control, and inquisitiveness factors, respectively. Their inclusion of a serenity factor likely reflects their decision to focus on what one "ought" to do without explicitly limiting it to traits with both direct personal and communal value, which is a traditional expectation of virtues. Similarly, De Raad and van Oudenhoven's (2011) sociability and ambition clusters are consistent with the caring and self-control factors; their failure to identify an inquisitive cluster may well reflect their restriction to "moral" traits (in fact, Aristotle's moral virtues included traits reflecting strictly moral as well as self-regulatory virtues). The three-virtue model differs from that of the original VIA Classification in terms of the combination of courage and temperance in the self-control virtues, and humanity and justice in the caring cluster, and the omission of transcendence as a virtue cluster. McGrath (Unpublished) discussed the implications of this last variation.

The differences in the two systems associated with the VIA Classification raise important points to understand about the nature of taxonomies. Taxonomies can serve both ontological and heuristic purposes. In terms of the latter, different levels of granularity may be appropriate to different contexts. The modern Linnaean classification system allows for at least eight different levels of generality. In the context of virtue, it may well be the case that at times the distinction between courage and temperance will be important, at others the self-control domain as a whole will be of interest. De Raad and van Oudenhoven (2011) suggested further differentiation of each of their two clusters into three subsets of virtues. Similarly, there may be times that the goal is to capture the whole spectrum of traits recommended for personal development, in which case the inclusion of serenity can be included important; similar conclusions could be drawn about transcendence. As a practical point, the six-virtue VIA model may be more useful in the context of organizing feedback from test results, since each character strength is associated with one and only one virtue; the empirical relationships between the strengths and the three virtues are messier. The next section discusses a context in which the latter structure is more useful. The point is that a taxonomic system can be used flexibly, with different purposes suggesting different choices among the available options.

EVOLUTIONARY ADAPTIVENESS AT THE INDIVIDUAL AND COMMUNAL LEVELS

McGrath (in press) suggested the three cardinal virtues described in the previous section are also *fundamental*: virtue domains that are so clearly and directly related to the flourishing of individuals and communities that there is an evolutionary basis for their emergence. Historically, individuals faced various problems related to survival and reproduction. Those possessing traits that would pose a survival advantage to their group, and traits that would increase the likelihood of personally reproducing, were at an increased likelihood of the survival of their genes. Although this process is typically described in relation to physical traits such as erect posture to help navigate savannas effectively (Dean, 2000), it has been argued that psychological processes such as biases and emotions similarly emerged to solve survival and reproductive problems (Cosmides and Tooby, 1992). These adaptations ostensibly include socially desirable personality traits, including virtuous tendencies, that would have been preferred by group members (Buss, 2009; Lukaszewski, 2013; but see Tooby and Cosmides, 1990).

The evolutionary understanding of psychological processes has several implications for cross-cultural recognition of the three domains. It suggests that attitudes and behaviors consistent with the three domains should emerge across a wide variety of environments and cultures, that a wide variety of cultural groups will value attitudes and behaviors consistent with the three domains, and that terms consistent with the three domains should emerge in many folk languages. Similarly, various cultures' virtue concepts (markers of the desirable group member) should reflect themes associated with these domains[3]. In support of the hypothesis that the three domains have deep adaptive value, McGrath (in press) identified abilities across a variety of species, some of which had evolved multiple times, that allow for achieving goals associated with the three domains. In the following sections, we will summarize the adaptations discussed by McGrath. We will then expand on McGrath's previous discussion of this topic, by reviewing various ways in which the three virtues contribute both to communal flourishing and to individual flourishing, with particular emphasis on various speculations about the ways in which they can contribute to reproductive success.

Evolutionary Value of the Moral Domain

There is a considerable research discussing the ancestral origins of behavioral and phenomenological contributors to the moral domain. Humans are an intensely social species whose survival has been contingent upon group living and cooperation among group members (Baumeister and Leary, 1995; Boyd and Richerson, 2005). Selection likely favored groups capable of engaging in social exchanges that rewarded altruistic behaviors and punished selfishness (Cosmides and Tooby, 2006). The adaptive response to these selection pressures emerged as reciprocal altruism between genetically unrelated conspecifics (Trivers, 1971), kin selection among those who were related (Hamilton, 1964), and prosocial behaviors that enhanced the inclusive

[3]That said, the term *fundamental* was used to avoid implications that these three domains will necessarily be valued in all social orders, i.e., to avoid an unverifiable claim of essentialism as virtue concepts (Snow, 2019).

fitness of an individual's own genes (Dawkins, 1976). Rules of morality may have thus evolved to facilitate the prosociality necessary for group living, wherein a social group codified the appropriate treatment of others based on how to optimize reciprocal altruism and punish free riders (Krebs, 2008; Fowers, 2015).

Because of how critical the moral domain is in supporting group living, presenting one's self as prosocial and capable of engaging with others potentially contributes to personal acceptance, esteem, and access to resources and mates. Recent findings have indicated that morality itself can serve as an interpersonal signal that provides information to others of one's ability to adhere to socially prescribed conventions that contribute to survival and reproductive goals. Individuals espousing a largely deontological moral ethic rooted in an aversion to directly harming others, even if that harm leads to a greater good (i.e., utilitarianism), are selected more frequently as interaction partners, with observers subsequently cooperating more with them in trust games (Everett et al., 2016; Bostyn and Roets, 2017b; Sacco et al., 2017).

This preference for individuals who exhibit cooperative behaviors appears to be rooted in a tendency to perceive such individuals as especially unlikely to allow harm to befall others (Rom et al., 2017). Conversely, individuals who appear particularly calculating in their decisions to cooperate with others are distrusted and not selected for further interactions (Jordan et al., 2016; Sacco et al., 2017). Humans seem particularly aware of the impact these factors have on how they are perceived by others, as individuals increase their endorsement of conventional morality in the presence of others, particularly those espousing conventional morality themselves (Bostyn and Roets, 2017a; Jordan and Rand, 2020).

In choosing long-term mates versus a mate for a single sexual encounter, individuals prioritize kindness (Buss and Schmitt, 1993; Li et al., 2013). Some have suggested this kindness preference provides an historical adaptive advantage for both men and women, albeit more so for women (Trivers, 1972; Symons, 1979). Women's kindness might implicate them as more willing to provide necessary infant care, whereas men's kindness could indicate they are more willing to provide resources for their mates and offspring. Selection of caring mates may also have facilitated biparental investment, thus offsetting the extensive care required for young human children by increasing the likelihood they would survive into adulthood and reproduce (Puts, 2016). Previous findings have demonstrated that individuals whose behavioral repertoires connote various components of care (e.g., altruism, aversion to harm) are more desirable long-term mates and appear especially disinterested in infidelity (Barclay, 2010; Farrelly, 2013; Brown and Sacco, 2019). Such displays of benevolence are most prevalent when the motivation to acquire a long-term mate is heightened. This may be particularly true for male signaling because of women's greater attention to cues suggesting moral character (Bleske-Rechek et al., 2006; Griskevicius et al., 2007). Recent work from our research program further indicates that men and women prefer a long-term mate whose behavioral repertoire connotes valuing of the caring domain of virtue (Brown et al., 2020).

Evolutionary Value of the Self-Regulatory Domain

Whereas the moral domain focuses on investment in others outside the self, the self-regulatory domain has to do with the organization of behavior in the service of goal achievement. McGrath (in press) saw precursors to human self-regulatory behaviors in various capacities across species for behavioral inhibition and behavioral integration. The former refers to the suppression of automatic or prepotent behaviors, whereas integration refers to the capacity to plan and implement complex behaviors to facilitate achievement of a longer-term goal. It has been posited that greater self-regulatory abilities are associated with the slower metabolism and longer lifespans of larger organisms (Stevens, 2014). When primed with ecological harshness, individuals from economically advantaged backgrounds are especially willing to forego immediate gratification in the service of attaining larger future rewards, which has been argued to ensure one has continued access to resources for future reproductive opportunities (Griskevicius et al., 2011a,b; Hill et al., 2013). This delayed gratification is less apparent among those living in chronically harsh environments, which are also associated with earlier reproductive ages and higher reproductive rates (e.g., Brumbach et al., 2009). Taken together, these findings suggest a possible origin of the self-regulatory domain that is contingent upon ecological factors determining whether self-control is important to individual flourishing.

The coordinated efforts resulting from self-regulation may have further afforded individuals the opportunity to navigate the complex interactions of group living, which could serve to increase access to resources. This access to resources could have been particularly attractive to females where males compete for access to mates (including humans, cross-culturally) who are seeking a long-term partner with considerable access to resources (Kenrick et al., 1993; Zhang et al., 2019; Walter et al., 2020). Those who demonstrate greater self-regulation may also have been perceived as less prone to infidelity (Gailliot and Baumeister, 2007), which reduces concerns about reproductive issues such as paternal uncertainty (Buss and Schmitt, 1993; Platek and Shackelford, 2006). For example, the personality construct of conscientiousness, which correlates well with the self-regulatory virtue domain (McGrath et al., 2018), has been associated with a proclivity toward monogamous mating (Schmitt and Shackelford, 2008). Prospective mates exhibiting considerable self-control were preferred in a long-term mating context, with individuals reporting a dispositional interest in monogamy having a particular strong interest in these mates (Brown et al., 2020).

Evolutionary Value of the Intellectual Domain

The adaptive function of inquisitiveness is to reduce uncertainty within the environment. In fact, environmental exploration is the most ancient adaptation, and most basic contributor to species flourishing, of any adaptation underlying the three virtue domains (McGrath, in press). In more complex species,

inquisitiveness is closely associated with investigating one's environment without specific purposes, which is associated phenomenologically with curiosity. Exploration for mammals and other large-brained organisms is intrinsically rewarding and seems to increase inclusive fitness despite its non-directive quality because of the greater likelihood of identifying fitness-enhancing opportunities such as food, resources, and mates (Réale et al., 2007; Singh et al., 2010). In humans, this process can ultimately result in the formalization of information as propositions or statements of belief.

Non-directive searching provides information that can prove useful if the environmental circumstances change. Such exploration makes it possible to modify behavior in response to additional information. In the case of humans, incorporating information even though it has no immediate value enhances the potential for successful responding in future novel situations. The emergence of science as the most effective method of accurate information gathering in humans has been particularly contributory to our mastery of the full spectrum of environments available on our planet, as well as explorations of extraterrestrial environments with the possibility of future mastery.

Although not necessarily observed or valued in all cultures to the same degree as the moral and self-regulatory domains (Gurven et al., 2013), intellectual efforts may be associated with attractiveness in many cultures. The increased likelihood of survival enjoyed by individuals with highly exploratory tendencies might be rooted in recognition of their overall creativity, which could implicate inquisitive individuals as possessing greater capacity for solving problems, including those related to effective parental investment (McCrae, 1987). Creativity seems to be deemed attractive (Haselton and Miller, 2006; Kaufman et al., 2008), and there is converging evidence that men and women focused on long-term mating motivations become particularly creative (Griskevicius et al., 2006) and are desirable in that context (Brown et al., 2020).

RECIPROCITY OF THE VIRTUES

In discussing the evolutionary importance of the three virtue domains, McGrath (in press) discussed a concept first proposed by Aristotle usually referred to as the reciprocity of the virtues, suggesting a person would need to demonstrate a commitment to the entire array of virtues to be considered a relatively virtuous person. It is noteworthy that while the idea is attributed to Aristotle, he did not demonstrate reciprocity among the entire set of virtues he listed. For example, is it really the case that a person could not be deemed high in virtuousness if they are not munificent, even if munificence is a highly valued attribute?

McGrath suggested that virtues founded on abilities that have significant evolutionary value are likely to prove central to the judgment of someone as a globally virtuous individual. "The person who is productive but callous, the kind-hearted person who cannot be trusted to follow through, the accomplished person who refuses to challenge their beliefs no matter what evidence–none of these individuals meet the ideal of good citizenship, good fellowship, or living the right way, because they ultimately fail as a paragon for what is most helpful for the flourishing of the community" (McGrath, in press, p. 9).

This discussion suggests an empirical test for whether a certain virtue should be strongly considered in judgments about a high degree of virtue in an individual, i.e., which virtues should be considered reciprocal in judgments of self or others. If a virtue requires attributes identifiable in a wide variety of species, especially if there is evidence of convergent evolution (independent evolution in different species) of those attributes, that evidence supports the conclusion that the virtue should be given serious consideration as one needing to be present in an individual to a marked degree before that person could be considered high in virtuousness. Similarly, virtues considered in many cultures to be necessary for identifying someone as high in virtuousness are likely to demonstrate evolutionary precursors in other species. The determination of which virtues should be considered reciprocal has at least one valuable application, which is the identification of a set of virtues that should be encouraged in any program of character or virtue education.

PRACTICAL WISDOM

One of the defining characteristics of an Aristotelian virtue ethics is the prominence allocated to the concept of practical wisdom or *phronesis*. Practical wisdom has to do with the capacity to deliberate effectively on the appropriate application of the virtues in specific contexts, including balancing the virtues, i.e., the pursuit of virtue in effective ways across situations and settings. Although enumerated among the Aristotelian virtues, practical wisdom is also seen as the organizing principle for all virtues through which the pursuit of goodness can be maximally effective. It is one of Aristotle's intellectual virtues but helps mold how the highly virtuous person pursues the moral virtues.

Even without the Aristotelian context, it seems reasonable to hypothesize that the ability to apply principles of socially desirable behavior in ways that are optimal to the situation would be an indication of wisdom[4]. The central value of practical wisdom might suggest it as a, perhaps the, cardinal trait. This could be taken as implying a parallel between practical wisdom and the general factor in intelligence or personality (Littlefield et al., in press). We believe such a model is potentially defensible, but it would represent a variation from normal taxonomic practice, where hierarchies are based on overlapping features among subordinate elements. The relationship between practical wisdom and other virtues might better be understood in the relationship between mathematics and scientific disciplines. Mathematics shapes the activities in those other disciplines in very important ways, but it is not hierarchically superordinate to them in the way that concepts such as "social sciences" or "life sciences" would be.

[4]We will note this perspective on wisdom reflects the Aristotelian assumption that the height of wisdom has to do with effective engagement in one's community. For example, the Buddhist conception of *prajñâ* is often translated as wisdom, but mainly has to do with achieving a deeper truth about reality that encourages detachment from material pursuits.

TABLE 2 | Comparison of two formulations of practical wisdom.

McGrath (2018)	Darnell et al. (2019)
Prudence: "You are wisely cautious; you are planful and conscientious; you are careful to not take undue risks or do things you might later regret"	Emotion regulation: "*Phronesis* requires, and contributes to, the agent's emotions being in line with her construal of a given situation, moral judgment, and decision" (pp. 119–120)
Judgment: "You examine things from all sides; you do not jump to conclusions, but instead attempt to weigh all the evidence when making decisions"	Constitutive function: "enables an agent to perceive what the salient features of a given situation are from an ethical perspective, and to see what is required in a given situation as reason(s) for responding in certain ways" (p. 118)
Perspective: "You take the 'big picture' view of things"	Integrative function: "involves integrating different components of a good life, especially in dilemmatic situations where different ethically salient considerations, or different sorts of virtue, appear to be in conflict" (p. 118)
	Moral blueprint: "Phronetic persons possess a general conception of living well (eudaimonia) and adjust their moral identity to that blueprint" (p. 119)

Quotes describing the VIA strengths in the left column come from a questionnaire called the Global Assessment of Character Strengths (McGrath, 2019, p. 51), quotes in the right column from Darnell et al. (2019).

The VIA Classification does not include a conceptualization of practical wisdom, but McGrath (2018) recently suggested it can be understood as the compound operation of three VIA character strengths: prudence, perspective, and judgment. Prudence has to do with the ability to delay acting impulsively in order to reflect more deeply on the situation and one's emotional reactions to the situation. In fact, the term *phronesis* has sometimes been translated as prudence rather than as practical wisdom (e.g., Bartlett and Collins, 2011).

However, prudence by itself seems to be an incomplete representation of what is involved in practical wisdom. The individual needs to use both judgment and perspective in choosing the best course. The former has to do with identifying critical details of the situation necessary for making the best choice, the latter with the ability to see the situation in a larger context of more global considerations, including the moral background to the situation. This model would suggest practical wisdom requires delaying a response until deliberation on the best response has occurred (a self-regulatory skill), and deliberating on both situational and global factors as determinants of that best response (intellectual activities). We are therefore proposing practical wisdom as a composite of abilities bridging the self-regulatory and intellectual domains.

No empirical evidence currently exists to support this decomposition of practical wisdom. However, this formulation is markedly similar to a conceptualization of *phronesis* developed independently at the Jubilee Center for Character and Virtues (Darnell et al., 2019). **Table 2** provides a comparison of the two models. While the concepts of prudence and emotion regulation are not equivalent, both have to do with emotional self-control appropriate to the situation. There is substantial overlap between the VIA judgment strength and the constitutive function in the Jubilee model, and between perspective and the integrative function. Finally, both models include the consideration of moral issues, though the model based on VIA strengths treats that as an aspect of perspective.

One final point is worth making about potential contributions to a science of practical wisdom, which is that the concept clearly overlaps with other more traditional foci of psychological research such as judgment and problem-solving, and it may be valuable to mine these literatures to enhance the understanding of *phronesis*. For example, decision-making competence (Fischhoff, 2010) and complex problem-solving skills (Stadler et al., 2015) have both been found to correlate about 0.50 with measures of cognitive ability, a substantial relationship. At the same time, Fischhoff reported competence was also associated with higher socioeconomic status, absence of paternal substance use, and a more positive peer environment even after controlling for cognitive variables, suggesting better environmental circumstances can contribute to better decision-making skills (also see Odom, 1967). This finding suggests potential value in looking at relationships between practical wisdom and adverse childhood experiences (Felitti et al., 1998). There are some exciting possibilities here for integrating ancient insights with cutting edge topics.

CONCLUSION

This article provides an initial effort to explore some of the ways in which the VIA Classification can be used to advance empirical investigations into the psychology of virtue. As noted previously, this is not intended to imply that the VIA Classification is a final system for understanding the character strength space. However, given the relative care associated with its development, it provides at least a very useful practical tool for testing hypotheses about this important concept.

We reviewed several lines of research and theorizing that can potentially contribute to progress in a science of virtue. First, no evidence exists to date suggesting that virtue is a state achieved. This finding, if replicated, may be taken as evidence that a life of virtue requires a continuing commitment to resisting temptation, thinking clearly when making one's decisions, and even continued growth as a person who tries to do well by others while living well. Second, the elements of a relatively virtuous life tend to cluster into at least three categories, reflecting moral, self-regulatory, and intellectual functioning. This is not intended to represent a complete taxonomy, but in any attempt to draw comprehensive conclusions about virtue it probably would be best to evaluate whether those conclusions apply at least to these three constellations of virtues. Third, substantial evolutionary evidence is available suggesting the human capacity

to act in ways concordant with these virtues is the product of multiple adaptations, each of which have contributed to the viability of species, with special attention paid here to reproductive viability. This feature of the virtues suggests that judgments about our virtue and the virtuousness of others should consider all three domains, rather than focusing exclusively on issues such as productivity or moral intent. Finally, we offer a model of practical wisdom as the combined use of three character strengths (prudence, judgment, and perspective) in a manner that potentially maximizes our effectiveness in problem-solving and decision-making. There is evidence to suggest that the capacity for practical wisdom correlates substantially with intelligence, but also with stability in personal background. This last finding supports the potential for uncovering other environmental determinants of practical wisdom.

Interest in a science of virtue is just emerging, and we stand at a starting point. We look forward to further tests of the hypotheses we have presented in this article, and hope it will inspire others to pursue those tests. In particular, as noted previously, initial efforts in this direction owe a strong debt to Western philosophy generally, and Aristotelian thinking more specifically. In attempting to expand upon the science of virtue more broadly, greater consideration should be given to non-Western perspectives on concepts consistent with the topic of virtue. That said, it is possible that other conceptions will so markedly differ from Western perspectives focusing on person-in-society that they should be considered distinct topics for study.

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RM provided oversight and primary authorship of most sections. MB provided primary authorship for the section on evolution and reviewed all sections. Both authors contributed to the article and approved the submitted version.

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Character Strengths Profiles in Medical Professionals and Their Impact on Well-Being

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Character strengths profiles in the specific setting of medical professionals are widely unchartered territory. This paper focused on an overview of character strengths profiles of medical professionals (medical students and physicians) based on literature research and available empirical data illustrating their impact on well-being and work engagement. A literature research was conducted and the majority of peer-reviewed considered articles dealt with theoretical or conceptually driven 'virtues' associated with medical specialties or questions of ethics in patient care (e.g., professionalism, or what makes a good physician). The virtues of compassion, courage, altruism, and benevolence were described most often. Only a limited number of papers addressed character strengths of medical students or physicians according to the VIA-classification. Those articles showed that the VIA-character strengths *fairness, honesty*, *kindness,* and *teamwork* were considered most often by respondents to be particularly important for the medical profession. Available cross-sectional (time span: six years) and longitudinal (time span: three years) data regarding VIA-character strengths profiles of medical professionals were analyzed (N = 584 medical students, 274 physicians). These profiles were quite homogenous among both groups. The character strengths *fairness*, *honesty*, *judgment*, *kindness*, and *love* had the highest means in both samples. Noteworthy differences appeared when comparing medical specialties, in particular concerning general surgeons and psychiatrists, with the former reporting clearly higher levels of e.g., *honesty* (d = 1.02) or *prudence* (d = 1.19). Long-term results revealed significant positive effects of character strengths on well-being and work engagement (e.g., *perseverance* on physicians' work engagement) but also significant negative effects (e.g., *appreciation of beauty and excellence* on students' well-being). Further, *hope* was significantly associated both positively with physicians' well-being and negatively with students' work engagement, possibly indicating specific issues concerning medical education or hospital working conditions. According to the modern-day physician's pledge, medical professionals should pay attention to their own well-being and health. Therefore, promoting self-awareness and character building among medical professionals could be a beneficial strategy.

Keywords: character strengths profiles, VIA-classification, medical students, physicians, well-being, work engagement

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INTRODUCTION

Character strengths are inherent in all humans. They are reflected in everyday thoughts, attitudes, and behaviors, and have a positive relation to one's well-being (Peterson and Seligman, 2004). The discipline of Positive Psychology (Seligman and Csikszentmihalyi, 2000) defines character strengths as a group of positively valued and moral traits that an individual can possess, enabling growth, flourishing and moral excellence (Seligman, 2002). The 'Values in Action' (VIA) classification describes 24 character strengths, assigned to six virtues (courage, humanity, justice, temperance, transcendence, wisdom) that have been theoretically considered as being important for over 3000 years across different religions, cultures, and traditions (Peterson and Seligman, 2004). Seligman (2002) suggests that individuals ought to utilize their character strengths by enforcing them according to their life circumstances to obtain well-being and to increase positive benefits. Some character strengths have been identified to be more strongly related with life satisfaction and occupational well-being than others, the so-called 'happiness strengths' *curiosity*, *gratitude*, *hope*, *love*, and *zest* (e.g., Peterson and Park, 2006; Buschor et al., 2013; Littman-Ovadia et al., 2016). In another study, *perseverance* and *social intelligence* were most strongly associated with life satisfaction (beside *hope*, *love*, and *zest*) and *humor* playing an important role for well-being (Martínez-Martí and Ruch, 2014). Applying e.g., *gratitude* (Emmons and McCullough, 2003; Machado et al., 2019) or *kindness* (Otake et al., 2006) led to higher levels of well-being, and generally the application of character strengths at work was related to various positive experiences (e.g., pleasure, work engagement, meaning) and job satisfaction (Littman-Ovadia and Steger, 2010; Seligman, 2011; Harzer and Ruch, 2012, 2013). Others identified *appreciation of beauty and excellence, creativity, judgment, love of learning,* and *humility* to be least related with life satisfaction (Park et al., 2004).

Furthermore, specific character strengths might be more prevalent among certain groups of people or professions than among others. Such 'profiles' might exist because (1) a certain job rather attracts people with a certain distinct set of character strengths, and (2) shared environments (e.g., study or working conditions, occupational and organizational structures, processes and cultures, trainers/colleagues as role models, etc.) shape individual character strengths in a similar vein toward a 'collective profile' (Peterson and Seligman, 2004). Particularly medical students and hospital physicians need to master comprehensive demands and strains. Additionally, they often report impaired well-being or even mental illness raising the question on possible underlying character strengths profiles. Medical students reported more depressive symptoms and higher levels of distress with regard to their health compared to the general United States population (Dyrbye et al., 2014), impaired mental health (e.g., Brazeau et al., 2014) and well-being (e.g., Dunn et al., 2008), or early onset of burnout symptoms (Kachel et al., 2020a). Moreover, origins of recurrent physician burnout were identified with studies showing a prevalence of 45% up to 70% to have these symptoms during medical education at least once (Dyrbye et al., 2008; Ishak et al., 2013) entailing health impairing consequences (e.g., Jackson et al., 2016). Physicians are further confronted with various work demands and job strains (e.g., workload, time pressure, emotional labor, social stressors, cognitive demands; Angerer and Weigl, 2015) and when they feel unwell, the performance of health-care systems as well as patient care can be impaired (e.g., Wallace et al., 2009; Klein et al., 2010). Compared to the general population, an increased burnout risk was reported (resident physicians: 60%; physicians: 51%; Dyrbye et al., 2014), and in addition depression, substance abuse and suicide occurred above-average (Gold et al., 2013). Indeed, medical students and hospital physicians are exposed to challenging circumstances but just therefore, actively pleading for individual positive experiences in terms of applying one's character strengths could be particularly beneficial for their well-being and health (e.g., Hershberger, 2005).

Therefore, this study aimed to determine possible character strengths profiles of medical professionals based on a focused literature research on medical students' and physicians' virtues and VIA-character strengths and own empirical data. Possible differences regarding character strengths profiles of various sub-groups (e.g., age, sex, different medical specialties) will be discussed as well as their respective relevance and relation to medical professionals' well-being and work engagement.

VIRTUES AND CHARACTER STRENGTHS IN THE LITERATURE

The science of psychology as it has been practiced until the 1980s/90s needed to be enriched by focusing more on positive aspects of human experiences and behavior (Peterson and Seligman, 2004) as the historically developed imbalance toward studying psychopathology and negative aspects within this discipline (e.g., mental disorders, diagnoses, and treatment; Cassell, 2002; Sheldon and Lyubomirsky, 2004; Harzer and Ruch, 2013) threatened to turn unilateral. Thus, a paradigm shift was heralded by Positive Psychology in the late 1990s by Martin E. P. Seligman as one of its founders. Based on the fundamental virtues of courage, humanity, justice, temperance, transcendence, and wisdom, character strengths were emphasized again (Peterson and Seligman, 2004). These strengths are considered quite stable characteristics of an individual, therefore a theoretical overlap with personality traits is possible (Park et al., 2004; Peterson and Seligman, 2004). However, one conceptual difference between character strengths and personality traits is their normative vs. descriptive perspective on individual differences. Character strengths are positively valued (normative) whereas personality traits are usually described in an unbiased way on continuums (e.g., Five-Factor Model = Big Five; McCrae and Costa, 1997). Only pathological personality aspects were always clearly negatively valued (e.g., Dimensional Assessment of Personality Pathology; Livesley, 2006). The positive, moral valuation of 'character' led to its exclusion from personality psychology in the 1930s as Gordon Allport defined that 'Character is personality evaluated, and personality is character devaluated. Since character is an unnecessary concept for psychology, the term will not appear

again in this volume. . .' (c.f. Linley et al., 2007). Today's research is questioning this exclusion as there is new evidence indicating that virtues, and therefore character strengths respectively, are an expression of personality rather than 'moral reasoning and cognitive development' (see Cawley et al., 2000). For example, people scoring high on the Big Five dimension 'agreeableness' (= being friendly and compassionate vs. challenging/callous) also reported higher levels of *forgiveness, gratitude*, *hope, kindness, prudence* or *self-regulation* (Haslam et al., 2004; Brose et al., 2005; Wood et al., 2008), while 'neuroticism' (= being sensitive and nervous vs. resilient/confident) negatively predicted *bravery* and *hope* (Macdonald et al., 2008). The latter study tested a theoretically derived model relating the six VIA-virtues to the Big Five revealing no correlate for the VIA-virtue of transcendence. Thus, it appears evident that character strengths and personality traits overlap but are not redundant, also adding incremental validity in, for instance, predicting life satisfaction (Park et al., 2004; West, 2006).

Moreover, occupational preferences and choices can also be ascribed to other sorts of dispositions than virtues and character strengths (e.g., interests, abilities, skills). For example, studies using the 'Strong-Campbell Vocational Interest Inventory' (Campbell, 1977) or being based on the 'RIASEC typology of careers' (realistic - investigative - artistic - social - enterprising - conventional; Holland, 1997) have investigated occupational preferences, medical careers, and chosen specialties. One study identified all medical disciplines to be throughout 'investigative-social' (Borges et al., 2004), whereas another study by Petrides and McManus (2004) revealed that e.g., surgery is rather a 'realistic' discipline (including people who like to work with things: here hands and tools, needing high levels of technical proficiency, craftsmanship and practical skills), internal medicine can be more assigned to the 'investigative' category (including people who like to work with data: exploring symptoms and relating them to latent causes to make a diagnosis), and psychiatry was considered to be more 'artistic' (including people who like to work with ideas: interpreting patients' problems using various bio-psycho-social theories and responding individually to each patient). In turn, physicians who selected specialties with more pronounced social features also had higher scores on the Big Five dimension of 'agreeableness,' whereas higher 'neuroticism' implied rather a preference for 'artistic' and an aversion for 'realistic' or 'enterprising' specialties (Woods et al., 2016). Overall, two meta-analyses found three moderate relationships between personality traits (Big Five) and vocational interests (RIASEC) of medical students (see Duffy et al., 2009): 'extraversion' with 'enterprising' and 'social,' and 'openness to experience' with 'artistic.' However, character strengths as positively valued aspects of personality have hardly been related to the medical vocation before. In summary, the principle idea is that awareness of one's individual character strengths may increase well-being and positivity, promote self-awareness on possible career paths, and improve workplace productivity and relationships. Nonetheless, there might be an accumulation of specific character strengths within certain professions, like 'typical' character strengths due to common life circumstances, experiences, study conditions or job specifications.

In the following, an overview of the most important findings of the conducted literature research will be presented. The searching strategy included the following terms: 'character strengths' or 'values in action' or 'virtues' and 'medical students' or instead of the students 'medical doctors' or 'physicians' or 'resident physicians.' The literature research was conducted in the following databases: APA Psycinfo, APA Psycarticles, Psyndex, Web of Science (Core Collection), Socindex, Pubmed/Medline, and Eric. In total, 160 hits revealed for medical students (time frame: 1971-2020) and 626 for physicians (time frame: 1816-2020). After screening all results, matching the search key with regards to content and considering double hits as well as multiple articles reporting on the same data, 43 peer-reviewed papers for medical students and 81 for physicians remained.

Medical Students

Relating to virtues of medical students in general, most findings referred to (achieving) professionalism, virtuous caring, and good physicianhood. All these qualities overlap with Edmund Pellegrino's proposed fundamental virtues of the medical profession, namely *benevolence, courage, compassion, fidelity to trust, intellectual honesty,* and *truthfulness* (Pellegrino, 2002). This prominent bioethicist pled for their tuition in medical school from the very beginning alongside knowledge and skills (Jacobson et al., 2006; Buyx et al., 2008; O'Sullivan and Toohey, 2008; Wear and Zarconi, 2008; Behrens and Fellingham, 2014; Magalhães-Sant'Ana, 2015; Shepherd et al., 2018). Therefore, the 'Accreditation Council for Graduate Medical Education' embedded respective virtues into graduate medical education in the late 1990s (overview in Larkin et al., 2005) as teaching professionalism and developing a good character can be understood as educators' responsibility (Sehiralti et al., 2010; Carey et al., 2015). The 'explicit' professionalism curriculum puts patients into the center and supports altruistic attitudes, but the 'implicit' or 'hidden' curriculum that is defined by the learning environment in which it takes place (Hafferty and Franks, 1994) is often contrary, e.g., educators teaching opposite values by valuing appearance, formality, and conformity wrongly as 'professional' (Brainard and Brislen, 2007; Karches and Sulmasy, 2016). However, medical students' altruistic behavior and empathy seem to be susceptible (Schweller et al., 2017; Sanjai and Gopichandran, 2018) and should be fostered by respective early curricular interventions during medical education.

Relating to character strengths of medical students in terms of the VIA-classification (Peterson and Seligman, 2004), eight empirical studies could be identified. Five studies derived from the 'WELL-MED' project (see section 'Participants and Procedure' for details) with two focusing on the applicability of character strengths and their associations with health-related outcomes (Hausler et al., 2017a; Huber et al., 2020), one illuminating the correlations of character strengths and different well-being aspects (Hausler et al., 2017b), one examining the development of cynicism (Kachel et al., 2020a), and one validating the VIA-120 short form (Höfer et al., 2019). However, none of these studies focused on identifying a certain profile of medical students. Thus, empirical data from this study will pursue this question. The top five character strengths of the medical

students from this German-speaking sample were *fairness, honesty, judgment, kindness*, and *love*. In total, 19 character strengths met the criteria for at least a slight possession (see Harzer and Ruch, 2013). When asking British medical students to identify and rank the VIA-character strengths that they think best represent (a) their personal character and what they think (b) a good doctor would need, the most frequently answers were: (a) *fairness, honesty, kindness, perseverance* and *teamwork*, and (b) *fairness, honesty, judgment, kindness, leadership* and *teamwork* (Kotzee et al., 2017). In another study (Jones, 2013), British final year medical students were asked: 'What are the most important character strengths of a good doctor?'. This study revealed *honesty* as the leading character strength, followed by *teamwork, judgment*, and *kindness* (descending order), whereas other frequently selected character strengths like *love of learning, perseverance,* or *social intelligence* were considered less important. Final year medical students in Oman rated as well (in descending order) *honesty, teamwork*, and *judgment* as being the most important VIA-character strengths for a physician, followed by *fairness, kindness,* and *love of learning* (Panambur et al., 2017). These six VIA-character strengths were also identified by them as most commonly observed in their teachers during the patient encounter. However, except for the 'WELL-MED' studies, participating medical students did not complete the VIA-questionnaire themselves revealing their own character strengths but they ranked the 24 character strengths from a descriptive list, respectively.

Physicians

Most research on physicians' virtues referred to professionalism accompanied with being a good doctor (also against cultural and/or spiritual backgrounds) and certain role virtues depending on medical specialty. Virtues have been already discussed in the early Stoic philosophy (e.g., Zeno's four cardinal virtues: bravery, justice, temperance, and wisdom; Papadimos, 2004) and found their way into medical ethics through John Gregory (1724-1773) proposing compassion, integrity, self-effacement, and self-sacrifice to be essential for professionalism (Chervenak and McCullough, 2004). Modern clinical medicine and physician-patient relationships were significantly influenced by the book 'The Virtues in Medical Practice' by Pellegrino and Thomasa (1993; as cited in Fuks et al., 2012; Olivieri, 2018) addressing again the fundamental virtues (cf. above in 'medical students'). Summarizing historical and modern literature, some virtues recur. In particular, compassion was discussed oftentimes to play a central role (e.g., Lopez and Dyck, 2009; Gelhaus, 2012; Aramesh, 2017) as well as courage (e.g., Shelp, 1984; Fugelli, 1999; Begley, 2008), altruism (e.g., Bishop and Rees, 2007), humility (e.g., Coulehan, 2011; DuBois et al., 2013), hope (e.g., Bryan, 2007; Miller, 2012), and practical wisdom (e.g., Corcoran et al., 2016; Bain, 2018). Professionalism in other countries or cultures is partially focusing on other values like in Korea, where physicians evaluated duties (e.g., responsibility, veracity) to be of higher importance than virtues (e.g., altruism; Kim and Choi, 2015). In Japan, rectitude was considered the most fundamental virtue (Nishigori et al., 2014) whereas in China benevolence and tolerance were important (Jing et al., 2013). Countries with a depressed economy emphasize a good understanding of medical ethics even more due to their prevailing economic situation, limited options of treatment, and cultural setting (Chukwuneke, 2015). Physicians' different religions might also imply different (weighted) virtues, having consequently differing implications for treatment (e.g., Peteet, 2014; Gray, 2017).

Certain roles inherent to the medical profession (e.g., medical specialties, patient clientele) can 'require' certain virtues. Generally, in hospitals, physicians should be team players fulfilling all requirements for motivated and efficient employees (McDougall, 2013). For example in psychiatry, beneficence often conflicts with patients' autonomy or needs (Kwok et al., 2012), where self-effacement could be particularly relevant in the case of prosecuting assaultive patients (Ho et al., 2009). When caring for so-called 'difficult' patients, again the virtues of courage and compassion were emphasized (Hawking et al., 2017). Beside technical skills, surgeons should cultivate practical wisdom (Hall, 2011) and humility (Toledo-Pereyra, 2007), and internists their integrity, respect, and compassion (Bergsma and Thomasa, 1985). Anesthesiologists are often confronted with pain and decision-making or palliative care, so they could particularly benefit from, for instance, justice, temperance, self-effacement, and wisdom according to literature (Diesfeld, 2008; Braun et al., 2010; Guevara-López et al., 2015; Kaldjian, 2019). However, today's culture of medicine (example of the United States) is often hostile to 'truthful' professionalism and other qualities producing 'good' virtuous physicians as medicine has evolved into a giant, increasingly expensive technological profit center with young medical doctors only getting taught a list of required 'professional' practices (Coulehan, 2005).

Relating to character strengths of physicians in terms of the VIA-classification (Peterson and Seligman, 2004), eight empirical studies were identified. Six studies derived from the 'WELL-MED' project. Two of the six were using a combination of physicians' and medical students' data (Hausler et al., 2017a; Höfer et al., 2019), three focusing on character strengths' applicability and (work-related) well-being in terms of (a) sociomoral climate (Höge et al., 2019), (b) work characteristics (Strecker et al., 2019), and (c) the distinction of character strengths' application (Huber et al., 2019), and one following a mixed-methods design adding further insights into the relation of character strengths and physicians' well-being (Kachel et al., 2020b). The latter article reports on opinions regarding the most important VIA-character strengths to feel well in the hospital. Resident physicians stated *social intelligence, teamwork, perseverance, fairness,* and *honesty* to be most important for well-being at work (descending order), whereas senior educators mentioned the character strength *humility* to be most relevant, followed by *teamwork, kindness, social intelligence*, and *zest*. However, none of these studies focused on identifying a certain physicians' profile. The top five character strengths of the German-speaking hospital physicians from this sample were *fairness, honesty, judgment, kindness*, and *love*. Kotzee et al. (2017) asked British established doctors to identify and rank the VIA-character strengths that they think best represent their character and what they think a good doctor would need. There was a strong agreement between physicians and medical

students concerning *fairness, honesty, kindness, perseverance* and *teamwork* representing their character, and that a good doctor is *fair, honest, kind,* a *leader,* a *good team player,* and a person with *good judgment*. Physicians reported to possess more *humor* than first-year undergraduates. Finally, in a Swiss physician sample, *love of learning* was the top character strength, followed by *curiosity, creativity, perseverance, perspective, honesty*, and *social intelligence* (Harzer, 2008), with *teamwork* in the last place. Beside the 'WELL-MED' studies, only data of the latter study revealed physicians' prevalence of specific character strengths by answering the VIA-questionnaire whereas the others originated again from ranking all character strengths by description.

Summary

Depending on the respective focus, different virtues or character strengths are desirable for medical students and physicians in the literature. The virtues of compassion, courage, altruism, and benevolence were found most often. Summarizing the VIA-classified character strengths, *fairness*, *honesty*, *kindness,* and *teamwork* were considered most often by respondents to be particularly important among both groups. Finally, according to the Declaration of Geneva, the modern-day physician's pledge states explicitly to respect the patient's autonomy and dignity, despite exercising beneficence and medical confidentiality toward the patients (Parsa-Parsi, 2017). Interestingly, increasing workload, occupational stress, and their potential adverse effects were considered as well in this pledge, leading to the intake of: 'I will attend to my own health, wellbeing, and abilities in order to provide care of the highest standard.' This clause reflects physicians' humanity and their role of self-care being a part in improving patient care, but also offering more possibilities on character building among medical students and physicians due to its positive effect (e.g., Bryan and Babelay, 2009).

Aims and Research Questions

The literature research revealed a majority of (a) theoretically conceptually driven papers and normative or philosophical research vs. empirical studies, and (b) 'virtues' in general with a striking plurality of different conceptions and theories vs. 'character strengths' in terms of the VIA-classification. Moreover, in previous studies (c) possible character strengths profiles have not been discussed so far also due to the lack of completed VIA-questionnaire data and (d) virtues as well as character strengths were hardly associated with well-being of medical students or physicians themselves but more with the question of ethics in patient care. Therefore, this study aims at adding empirical data concerning VIA-classified character strengths inherent in medical professionals (a/b) and giving evidence on possible profiles based upon valid questionnaire data with regards to their respective relevance and relation to well-being and work engagement (c/d). The following three exploratory research questions were addressed:

(I) What character strengths are the most prevalent in a sample of medical students and physicians giving evidence on a possible profile?

(II) Are there any differences in profiles of various sub-groups (e.g., different medical specialties)?

(III) How do character strengths of medical students and physicians relate to well-being and work engagement?

EMPIRICAL DATA

Methods

Participants and Procedure

Data were collected within the 'WELL-MED' project from 2015 to 2020 at an Austrian medical university including two hospitals. In this longitudinal project, person- (e.g., character strengths) and condition-related (e.g., decision latitude, social support, cognitive demands) factors in terms of health and well-being of medical students and hospital physicians were investigated. With institutional review board approval, medical students (human medicine or dentistry) completed an annual online survey over a maximum period of six years, hospital physicians completed three surveys with a time lag of six months. A total of 584 baseline data sets were collected from medical students over the six year period. This sample consisted of 370 women (63.4%) and 214 men, the mean age was 20.8 $\pm$ 2.5 years (range: 21 to 38 years), and 55.7% Austrian, 19.9% German, and 19.3% Italian medical students participated. Longitudinal data (t1 - t2 - t3; time lag each one year) were available over a period of three years for 101 medical students. A total of 274 data sets were collected from hospital physicians. About 62% of them were female (N = 170) and the mean age was 34.2 $\pm$ 8.1 years (range = 24 to 64 years). A large majority (N = 224; 81.8%) were resident physicians in training, and 50 were senior medical specialists (18.2%). The physicians worked in 16 different medical disciplines. All participants completed the measurement of character strengths, 217 fully complete data sets were available for t1, 90 for t2 and 50 for t3.

Measures

Character Strengths

Medical professionals' character strengths were measured with the 'Values in Action - Inventory of Strengths' (VIA-IS; Peterson and Seligman, 2001; Peterson and Park, 2009). Höfer et al. (2019) validated the German short version consisting of 120-items in total. The 24 character strengths are rated on a five-point Likert scale ranging from 1 (very much unlike me) to 5 (very much like me). VIA-IS mean scores of 3.5 or higher are equal to possessing a character strength at least slightly (Harzer and Ruch, 2013). Item examples are: 'I can always find the positive in what seems negative to others' (hope), 'I never quit a task before it is done' (perseverance), or 'Without exception, I support my teammates or fellow group members' (teamwork). In this sample the internal consistency ranged from α = 0.63 (teamwork) to α = 0.91 (spirituality) for medical students, and from α = 0.61 (teamwork) to α = 0.90 (spirituality) for physicians.

Well-Being

General well-being (= thriving) was measured with the German version of the 'Comprehensive Inventory of Thriving' (CIT;

Hausler et al., 2017). Thriving comprises 18 components, which can be summarized by seven subscales: subjective well-being (= SWB; life satisfaction, positive and negative feelings); relationship (support, community, trust, respect, loneliness, belonging), mastery (skills, learning, accomplishment, self-efficacy, self-worth), engagement, autonomy, meaning, and optimism. The latter six can be summarized to psychological well-being (PWB). The 54 items in total are rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Item examples are: 'I am confident that I can deal with unexpected events' (mastery), 'There are people who appreciate me as a person' (relationship), or 'My life has a clear sense of purpose' (meaning). Cronbach's alpha for medical students as well as for physicians in this sample ranged from $\alpha = 0.95$ (SWB) to $\alpha = 0.92$ (PWB).

Work Engagement

Work engagement is defined as a fulfilling work-related positive state of mind and characterized by vigor, dedication and absorption (Schaufeli et al., 2006). To measure this construct, the German short version of the 'Utrecht Work Engagement Scale' (UWES; Schaufeli and Bakker, 2003; Schaufeli et al., 2006) was used with one version formulated for students and one for employees. Both consist of nine items, which are rated on a seven-point Likert scale ranging from 0 (never) to 6 (always). Item examples are: 'My work inspires me' or 'At my study, I feel strong and vigorous'. Cronbach's alpha was $\alpha = 0.94$, for medical students as well as for physicians.

Data Analysis

For all statistical analyses, SPSS Statistics 26 was used (IBM Corporation, 2018). Pearson's coefficient inter-correlations can be interpreted with $r < 0.10$ = no correlation, $r = 0.10-0.29$ = low correlation, $r = 0.30-0.49$ = moderate correlation, $r \geq 0.50$ = high correlation (Cohen, 1988). Acceptable internal consistency of an instrument is indicated by Cronbach's $\alpha > 0.70$ (see Peterson, 1994). T-tests were computed to compare baseline means of two groups (e.g., sex, training status), analyses of variance (ANOVAs) were applied to compare baseline means of multiple groups (e.g., medical specialties). The effect sizes regarding group differences will be represented as Cohen's d (> 0.2 = small, > 0.5 = medium, > 0.8 = big; Cohen, 1988). Longitudinal regression analyses with all 24 character strengths as predictors were computed with thriving and work engagement as criterion (method: forward; last step mandatory including the criterion variable measured one year or six months before as control variable). Figures of character strengths profiles will not illustrate the whole possible scale spectrum of the VIA-IS (1-5) but a smaller range from 2 to 4.5 to improve readability.

Results

Medical Students

(I) Character strengths prevalence

Among the 584 medical students in this sample (completing t1), the VIA-character strength with the highest reported mean was *honesty* ($M = 4.27$, $SD = 0.47$), the lowest was *spirituality* ($M = 2.45$, $SD = 1.04$). Beside *honesty*, the five highest character strengths mean values ($M \geq 4.0$) were found for *fairness*, *judgment, kindness*, and *love* (**Table 1**). Longitudinal data across three years revealed that these five character strengths remained on top with only little variation suggesting general stability. The order at t2 was identical, at t3, *honesty* and *kindness* changed the first and second place, and *judgment* and *love* the fourth and fifth place. These generally stable positioning trends recurred as well for the subsequent character strengths (e.g., 6th to 10th place). Furthermore, each of the top five character strengths significantly correlated with itself over time (*fairness:* $r = 0.49-0.64$*, honesty:* $r = 0.54-0.58$, *judgment:* $r = 0.69-0.77$*, kindness:* $r = 0.61-0.65$*, love:* $r = 0.61-0.70$; all $p = 0.001$). **Figure 1** depicts the character strengths profile for the medical student sample.

(II) Group differences

Significant differences between female and male medical students were found for 11 character strengths. Women reported higher levels of *appreciation of beauty and excellence* ($M = 3.64$ vs. 3.34; $p < 0.001$), *fairness* ($M = 4.16$ vs. 4.05; $p < 0.05$), *gratitude* ($M = 3.77$ vs. 3.61; $p < 0.01$), *humility* ($M = 3.39$ vs. 3.22; $p < 0.01$), and *love* ($M = 4.09$ vs. 3.81; $p < 0.001$); men reported higher levels of *bravery* ($M = 3.47$ vs. 3.69; $p < 0.01$), *creativity* ($M = 3.33$ vs. 3.47; $p < 0.05$), *humor* ($M = 3.81$ vs. 3.95; $p < 0.05$), *judgment* ($M = 4.01$ vs. 4.14; $p < 0.05$), *perspective* ($M = 3.56$ vs. 3.72; $p < 0.001$), and *self-regulation* ($M = 3.19$ vs. 3.39; $p < 0.001$). However, all effect sizes were small (Cohen's d ranging from 0.19 to 0.42). Character strength profiles of male and female medical students are displayed in **Figure 2**.

Medical students' character strengths profiles were also compared regarding the three most desired future medical specialties students wanting to take up. Thus, their profiles were compared for the following groups: trauma and general surgery ($N = 95$), anesthesia, intensive care, and internal medicine ($N = 47$), and pediatric medicine ($N = 48$). According to ANOVA results, significant differences were found for *bravery* [$F(2, 187) = 6.99$, $p = 0.001$], *kindness* [$F(2, 187) = 6.72$, $p < 0.002$], and *love* [$F(2, 187) = 3.28$, $p = 0.040$]. Medical students being interested in pediatrics had higher mean values concerning *kindness* ($M = 4.54$) compared to those being interested in internal medicine ($M = 4.13$, $p < 0.001$, $d = 0.84$) or surgery ($M = 4.27$, $p \leq 0.05$, $d = 0.54$), but they had lower mean values concerning *bravery* ($M = 3.43$) vs. medical students interested in surgery ($M = 3.86$; $p < 0.001$; $d = 0.66$). Concerning *love,* no further significant differences were evident according to the Bonferroni *post hoc* tests. The character strengths profiles for the three groups are pictured in **Figure 3**.

(III) Relation to well-being and work-engagement

The overall mean for thriving was $M = 4.01$ ($SD = 0.43$) and for work engagement $M = 4.45$ ($SD = 0.90$). Character strengths were positively related to overall well-being (thriving) and mostly to work engagement. *Judgment* and *humility* had low or no significant correlations with the well-being subscales, however, *spirituality* correlated significantly negatively with the subscale 'autonomy'. *Forgiveness, humility* and *spirituality* did not significantly correlate with work engagement. In total, the strongest correlations with both outcomes were

TABLE 1 | The 24 VIA-character strengths of medical students and physicians from the empirical data (t1).

VIA-character strengths	Rank	Mean	*SD*	Min	Max	Skewness	Kurtosis
	MS | P	MS | P	MS | P	MS | P	MS | P	MS | P	MS | P
Appreciation of Beauty and Excellence	19 | 15	3.53 | 3.51	0.74 | 0.66	1.0 | 1.6	5.0 | 5.0	−0.33 | −0.11	−0.04 | −0.50
Bravery	18 | 20	3.55 | 3.43	0.65 | 0.63	1.4 | 1.2	5.0 | 5.0	−0.08 | −0.15	−0.30 | 0.01
Creativity	21 | 18	3.38 | 3.45	0.72 | 0.69	1.2 | 1.0	5.0 | 5.0	0.02 | −0.25	−0.13 | 0.35
Curiosity	9 | 8	3.84 | 3.84	0.60 | 0.55	2.0 | 2.2	5.0 | 5.0	−0.37 | −0.37	−0.27 | 0.06
Fairness	3 | 3	4.12 | 4.03	0.57 | 0.55	1.8 | 2.0	5.0 | 5.0	−0.61 | −0.68	0.52 | 0.61
Forgiveness	17 | 19	3.56 | 3.44	0.64 | 0.63	1.0 | 1.8	5.0 | 5.0	−0.22 | −0.05	0.01 | −0.19
Gratitude	11 | 14	3.71 | 3.53	0.64 | 0.62	1.0 | 1.8	5.0 | 5.0	−0.34 | 0.07	0.30 | −0.25
Honesty	1 | 1	4.27 | 4.21	0.47 | 0.44	2.6 | 2.8	5.0 | 5.0	−0.48 | −0.27	−0.08 | −0.19
Hope	10 | 11	3.80 | 3.71	0.68 | 0.60	1.4 | 2.0	5.0 | 5.0	−0.54 | −0.31	0.14 | −0.01
Humility	22 | 22	3.33 | 3.29	0.67 | 0.63	1.6 | 1.4	5.0 | 4.8	−0.12 | −0.10	−0.16 | 0.01
Humor	8 | 10	3.86 | 3.71	0.71 | 0.68	1.6 | 2.0	5.0 | 5.0	−0.45 | −0.11	−0.14 | −0.37
Judgment	4 | 5	4.05 | 4.00	0.60 | 0.51	1.4 | 2.2	5.0 | 5.0	−0.58 | −0.20	0.38 | −0.09
Kindness	2 | 2	4.25 | 4.10	0.53 | 0.50	2.0 | 2.8	5.0 | 5.0	−0.61 | −0.18	0.38 | −0.27
Leadership	12 | 12	3.70 | 3.66	0.55 | 0.53	1.4 | 2.0	5.0 | 5.0	0.01 | 0.06	0.01 | −0.05
Love	5 | 4	3.99 | 4.03	0.67 | 0.67	1.2 | 1.6	5.0 | 5.0	−0.71 | −0.82	0.48 | 0.90
Love of Learning	20 | 13	3.51 | 3.64	0.74 | 0.68	1.6 | 1.6	5.0 | 5.0	−0.10 | −0.09	−0.65 | −0.29
Perseverance	7 | 6	3.88 | 3.93	0.65 | 0.58	1.8 | 2.0	5.0 | 5.0	−0.47 | −0.55	0.03 | 0.487
Perspective	15 | 21	3.62 | 3.37	0.62 | 0.53	2.0 | 2.0	5.0 | 5.0	−0.05 | 0.06	−0.40 | 0.21
Prudence	16 | 16	3.57 | 3.49	0.65 | 0.60	1.4 | 1.8	5.0 | 4.8	−0.35 | −0.16	−0.12 | −0.24
Self-Regulation	23 | 23	3.27 | 3.15	0.75 | 0.69	1.2 | 1.2	5.0 | 4.8	−0.04 | −0.19	−0.51 | −0.14
Social Intelligence	6 | 7	3.91 | 3.89	0.58 | 0.52	1.4 | 2.4	5.0 | 5.0	−0.49 | −0.30	0.59 | −0.08
Spirituality	24 | 24	2.45 | 2.33	1.04 | 0.95	1.0 | 1.0	5.0 | 5.0	0.54 | 0.56	−0.39 | −0.32
Teamwork	13 | 9	3.69 | 3.71	0.57| 0.50	1.4 | 2.0	5.0 | 5.0	−0.28| −0.31	0.52 | 0.54
Zest	14 | 17	3.65 | 3.49	0.66 | 0.65	1.6 | 1.8	5.0 | 5.0	−0.31 | −0.21	−0.08 | −0.25

Note. MS, medical students (N = 584); P, physicians (N = 274); SD, Standard deviation.

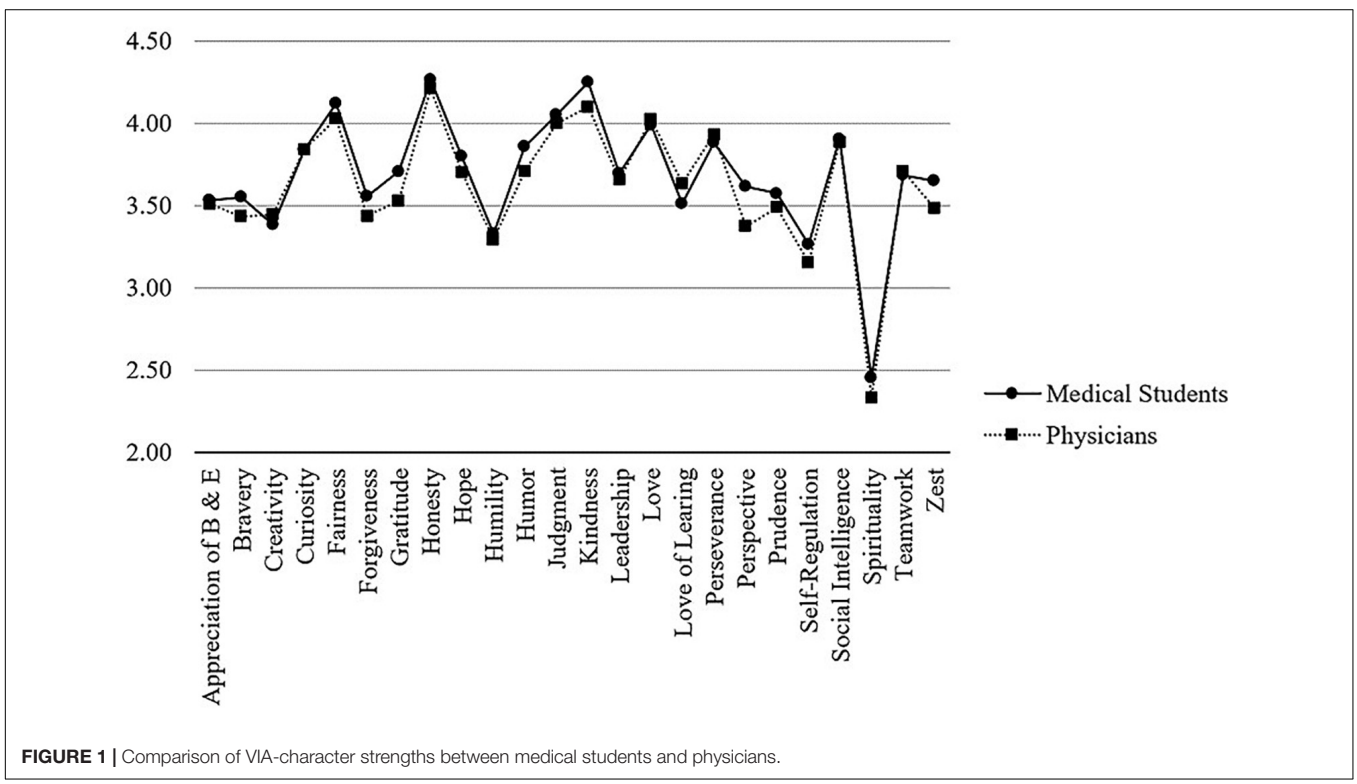

FIGURE 1 | Comparison of VIA-character strengths between medical students and physicians.

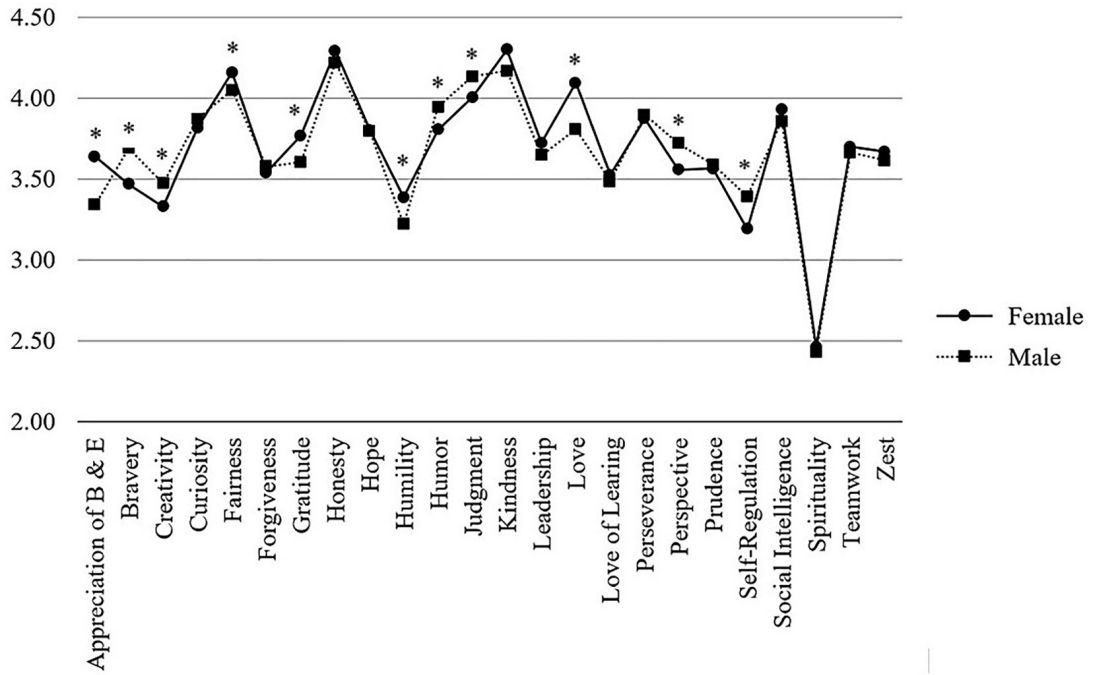

FIGURE 2 | Comparison of VIA-character strengths between male and female medical students. *Note*. Character strengths marked with an asterisk are significantly different between groups.

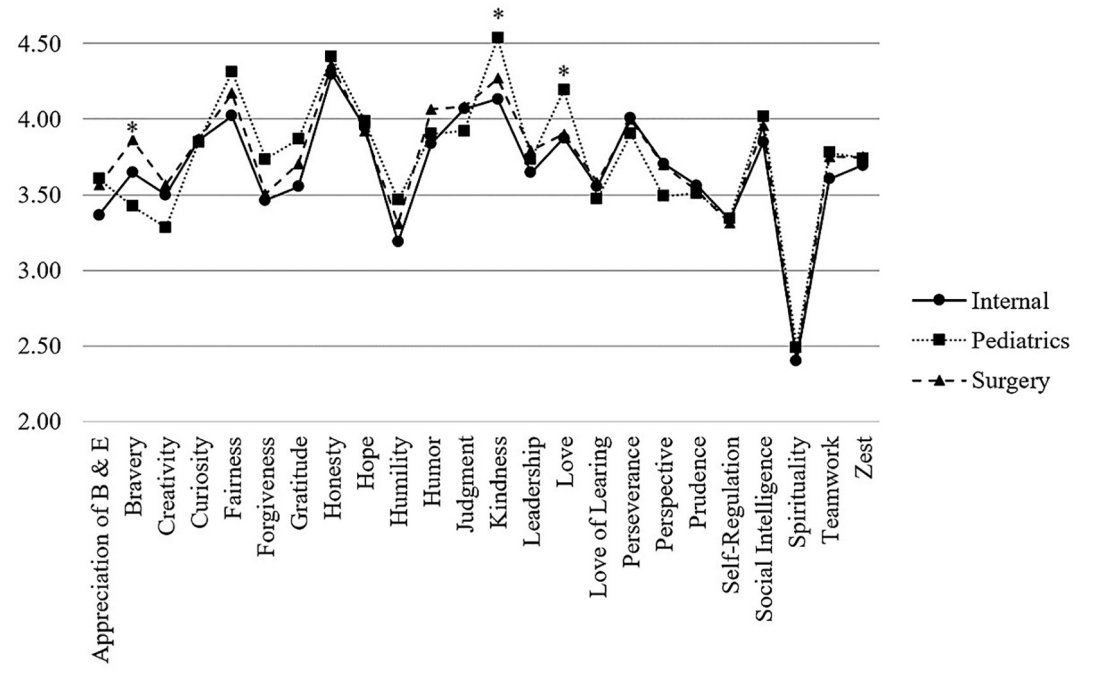

FIGURE 3 | Medical students' VIA-character strengths profile according to the preferred specialty. *Note*. Character strengths marked with an asterisk are significantly different between groups.

found for the character strengths *curiosity*, *gratitude*, *hope*, *love*, and *zest* ('happiness strengths'). All correlation analyses of the VIA-character strengths and thriving with its seven subscales (SWB, relationship, engagement, mastery, autonomy, meaning, and optimism) as well as work engagement are shown in **Table 2**.

TABLE 2 | Medical students' correlations between VIA-character strengths and thriving with its seven subscales and work engagement (t1).

VIA-character strengths	CIT Categories							Thriving (general well-being)	Work Engagement
	Relationship	Engagement	Mastery	Autonomy	Meaning	Optimism	SWB		
Appreciation of Beauty and Excellence	0.17**	0.17**	0.22**	0.02	0.14**	0.16**	0.10*	0.21**	0.14**
Bravery	0.10*	0.22**	0.34**	0.03	0.22**	0.14**	0.12**	0.23**	0.21**
Creativity	0.11**	0.26**	0.36**	−0.03	0.11*	0.14**	0.11*	0.22**	0.30**
Curiosity	0.33**	0.46**	0.53**	0.10*	0.30**	0.37**	0.41**	0.50**	0.43**
Fairness	0.28**	0.22**	0.32**	0.11*	0.17**	0.19**	0.19**	0.31**	0.15**
Forgiveness	0.16**	0.11*	0.17**	0.02	0.11*	0.26**	0.18**	0.21**	0.06
Gratitude	0.34**	0.32**	0.39**	0.08	0.41**	0.38**	0.39**	0.46**	0.31**
Honesty	0.30**	0.25**	0.36**	0.19**	0.23**	0.18**	0.17**	0.34**	0.16**
Hope	0.42**	0.40**	0.56**	0.17**	0.58**	0.70**	0.65**	0.68**	0.42**
Humility	0.06	0.13**	0.11*	0.07	0.05	0.04	0.04	0.09*	−0.03
Humor	0.25**	0.31**	0.35**	0.03	0.22**	0.32**	0.34**	0.37**	0.25**
Judgment	0.06	0.06	0.31**	0.09*	0.12**	0.07	0.04	0.16**	0.21**
Kindness	0.32**	0.20**	0.30**	0.13**	0.17**	0.22**	0.20**	0.33**	0.19**
Leadership	0.29**	0.26**	0.37**	0.03	0.20**	0.19**	0.20**	0.33**	0.23**
Love	0.43**	0.25**	0.32**	0.13**	0.27**	0.38**	0.43**	0.47**	0.13**
Love of Learning	0.09*	0.20**	0.32**	0.11*	0.10*	0.10*	0.14**	0.21**	0.34**
Perseverance	0.24**	0.31**	0.45**	0.14**	0.36**	0.26**	0.24**	0.39**	0.29**
Perspective	0.08	0.13**	0.38**	0.09	0.17**	0.22**	0.17**	0.25**	0.21**
Prudence	0.10*	0.08	0.28**	0.11*	0.17**	0.13**	0.09*	0.19**	0.15**
Self-Regulation	0.16**	0.31**	0.27**	0.09*	0.18**	0.17**	0.21**	0.26**	0.22**
Social Intelligence	0.35**	0.23**	0.36**	0.12**	0.24**	0.28**	0.27**	0.39**	0.26**
Spirituality	0.21**	0.13**	0.13**	−0.11*	0.25**	0.19**	0.15**	0.20**	0.07
Teamwork	0.30**	0.23**	0.29**	0.06	0.19**	0.18**	0.21**	0.32**	0.19**
Zest	0.47**	0.56**	0.56**	0.07	0.45**	0.53**	0.56**	0.64**	0.48**

*$p \leq 0.05$, **$p \leq 0.01$.

Concerning the longitudinal regression analyses with all 24 character strengths as predictors, and thriving or work engagement as criterion, stepwise (forward) regression analyses revealed the following. Analyses (time lag one year) with thriving (t2) as criterion (N = 200) showed significant positive standardized regression effects for *curiosity* (β = 0.24, t = 2.63, p = 0.009) and *zest* (β = 0.37, t = 4.17, $p < 0.001$) on thriving, while negative effects were apparent for *appreciation of beauty and excellence* (β = −0.24, t = −3.30, p = 0.001) and *perspective* (β = −0.17, t = −2.13, p = 0.034). When controlled for thriving at t1 in a second step, *appreciation of beauty and excellence* (β = −0.18, t = −2.96, p = 0.003), *perspective* (β = −0.14, t = −2.05, p = 0.042), and *zest* (β = 0.21, t = 2.65, p = 0.009) remained significant. Regression analyses (N = 110) between character strengths (t2) and thriving (t3) showed one significant regression coefficient for *hope* (β = 0.34, t = 2.55, p = 0.013). When controlled for thriving at t2, no regression analysis remained significant.

Defining work engagement (t2) as criterion and character strengths as predictors (t1), analyses (N = 202) showed a negative significant standardized regression effect for *hope* (β = −0.17, t = −1.98, p = 0.049) and a positive one for *zest* (β = 0.42, t = 3.99, $p < 0.001$) on work engagement. When controlled for work engagement at t1 in a second step, *creativity* (β = −0.18, t = −2.28, p = 0.024), *hope* (β = −0.29, t = −3.69, $p < 0.001$), and *zest* (β = 0.30, t = 3.13, p = 0.002) appeared significant. Regression analyses examining character strengths (t2) and work engagement (t3; N = 111) revealed a significant effect for *self-regulation* (β = 0.28, t = 2.49, p = 0.015). When controlled for work engagement at t2, the regression analysis remained significant for *self-regulation* (β = 0.21, t = 2.30, p = 0.024).

Hospital Physicians

(I) Character strengths prevalence

The VIA-character strengths profile in the sample of the 274 hospital physicians (completing t1) resulted in the following. The highest mean value was reported for *honesty* (M = 4.21, SD = 0.44), and the lowest for *spirituality* (M = 2.33, SD = 0.95). Beside *honesty*, the top five character strengths in this sample ($M \geq 4.0$) were *fairness*, *judgment, kindness,* and *love* (**Table 1**). Longitudinal data across three years revealed that these five character strengths remained in front as the top five strengths but with some variation. At t2, *love* moved one position forward as well as *judgment*, while *fairness* dropped slightly. At t3, *judgment* and *kindness* changed the fourth and second place compared to t2. These positioning trends recurred as well for the subsequent character strengths (e.g., 6th to 10th place) suggesting overall general stability. Furthermore, each of the top five character

strengths significantly correlated with itself over time (*fairness:* $r = 0.68$ −0.82, *honesty:* $r = 0.62$ −0.80, *judgment:* $r = 0.71$ −0.75, *kindness:* $r = 0.69$ −0.82, *love:* $r = 0.80$ −0.86; all $p = 0.001$). **Figure 1** displays the profile for this sample.

(II) Group differences

Looking at the differences between character strengths profiles of female and male hospital physicians, results showed an overall homogeneous picture (**Figure 4**). Significant differences appeared for women reporting higher levels of *appreciation of beauty and excellence* ($M = 3.61$ vs. 3.35, $p < 0.01$), *gratitude* ($M = 3.60$ vs. 3.43, $p < 0.05$), and *spirituality* ($M = 2.48$ vs. 2.10, $p < 0.01$). On the other hand, men rated themselves significantly higher in terms of *creativity* ($M = 3.62$ vs. 3.34, $p < 0.01$), *curiosity* ($M = 3.94$ vs. 3.78, $p < 0.05$), *judgment* ($M = 4.13$ vs. 3.92, $p < 0.01$), *perspective* ($M = 3.53$ vs. 3.28, $p < 0.001$), and *prudence* ($M = 3.59$ vs. 3.43, $p < 0.05$). However, all effect sizes were small (Cohen's *d* ranging from 0.27 to 0.49).

Physicians' character strengths profiles were also analyzed regarding their training status which also strongly and naturally correlated with age ($r = 0.66$, $p < 0.001$). The overall picture resulted in a quite homogenous one (**Figure 5**). Nevertheless, physicians in training scored significantly higher in terms of *hope* ($M = 3.75$ vs. 3.50, $p < 0.01$, $d = 0.45$), *humor* ($M = 3.79$ vs. 3.36, $p < 0.001$, $d = 0.64$), and *zest* ($M = 3.52$ vs. 3.34, $p < 0.05$, $d = 0.29$), whereas medical specialists scored significantly ($p < 0.05$) higher in *leadership* ($M = 3.83$ vs. 3.62, $d = 0.38$) and *love of learning* ($M = 3.81$ vs. 3.60, $d = 0.33$).

Comparing character strengths profiles of different medical disciplines revealed a general tendency toward the same picture for all hospital physicians in this sample. The focus was on medical disciplines comprising 20 participants or more. The largest group were physicians with a specialization in anesthesiology ($N = 50$), followed by general surgery ($N = 23$), psychiatry ($N = 21$), and internal medicine ($N = 20$). Significant mean differences were found in 10 of the 24 character strengths and were most often evident when comparing general surgery and psychiatry. Those two groups are depicted in **Figure 6**, whereas the profiles of anesthesiologists and internal medicals (as they are almost identical to the profile of the physicians in total) will not be depicted for better readability. All results refer mainly to aspiring medical specialists.

According to ANOVA results with Bonferroni *post hoc* analyses, anesthesiologists - compared to general surgeons - had significantly lower mean values of *leadership* [$F(3, 110) = 3.08$, $p < 0.05$; $M = 3.55$ vs. $M = 3.92$, $p < 0.05$, $d = 0.52$] and *perspective* [$F(3, 110) = 3.42$, $p < 0.05$; $M = 3.23$ vs. $M = 3.60$, $p < 0.05$, $d = 0.65$], whereas they had - compared to psychiatrists - significantly higher mean values of *honesty* [$F(3, 110) = 5.06$, $p < 0.01$; $M = 4.24$ vs. $M = 3.94$, $p < 0.01$, $d = 0.71$] and *kindness* [$F(3, 110) = 4.75$, $p < 0.01$; $M = 4.18$ vs. $M = 3.66$, $p < 0.05$, $d = 1.13$]. Internal medicals - compared to psychiatrists - reported significant higher mean values of *honesty* [$F(3, 110) = 5.06$, $p < 0.01$; $M = 4.32$ vs. $M = 3.94$, $p < 0.01$, $d = 0.95$], *humility* [$F(3, 110) = 2.81$, $p < 0.05$; $M = 3.47$ vs. $M = 2.94$, $p < 0.05$, $d = 0.95$] and *judgment* [$F(3, 110) = 3.09$, $p < 0.05$; $M = 4.25$ vs. $M = 3.84$, $p < 0.05$, $d = 0.93$]. General surgeons had - compared to psychiatrists - significantly higher mean values of *honesty* [$F(3, 110) = 5.06$, $p < 0.01$; $M = 4.37$ vs. $M = 3.94$, $p < 0.01$, $d = 1.02$], *leadership* [$F(3, 110) = 3.08$, $p < 0.05$; $M = 3.92$ vs. $M = 3.47$, $p < 0.05$, $d = 0.82$], *prudence* [$F(3, 110) = 3.49$, $p < 0.05$; $M = 3.62$ vs. $M = 3.11$, $p < 0.05$, $d = 1.19$], *perseverance* [$F(3, 110) = 2.89$, $p < 0.05$; $M = 4.00$ vs. $M = 3.54$, $p = 0.05$, $d = 0.88$], and *zest* [$F(3, 110) = 3.24$, $p < 0.05$; $M = 3.67$ vs. $M = 3.12$, $p < 0.05$, $d = 0.86$].

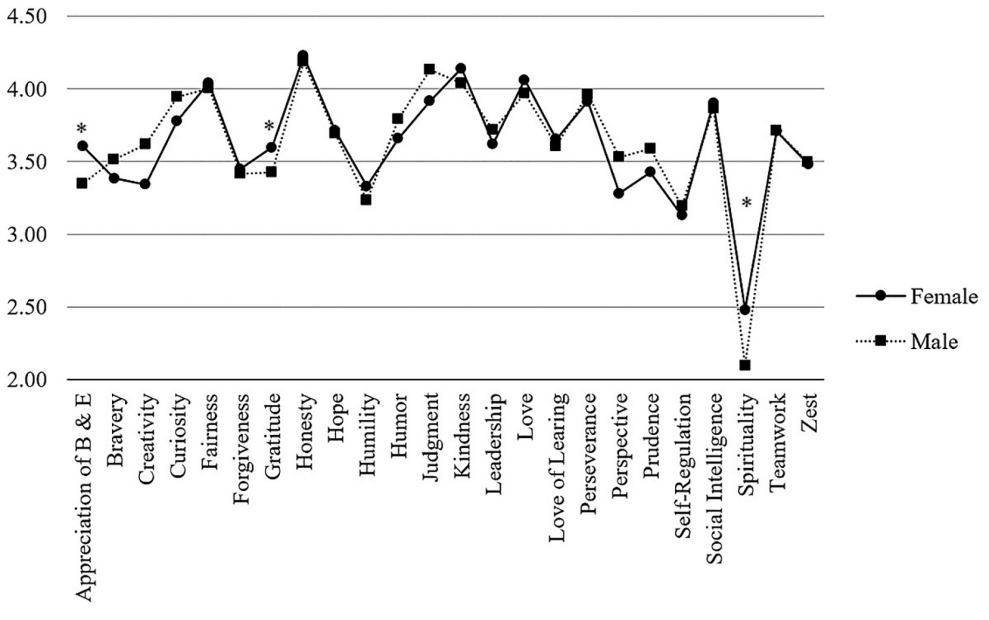

FIGURE 4 | Comparison of VIA-character strengths between male and female physicians. *Note*. Character strengths marked with an asterisk are significantly different between groups.

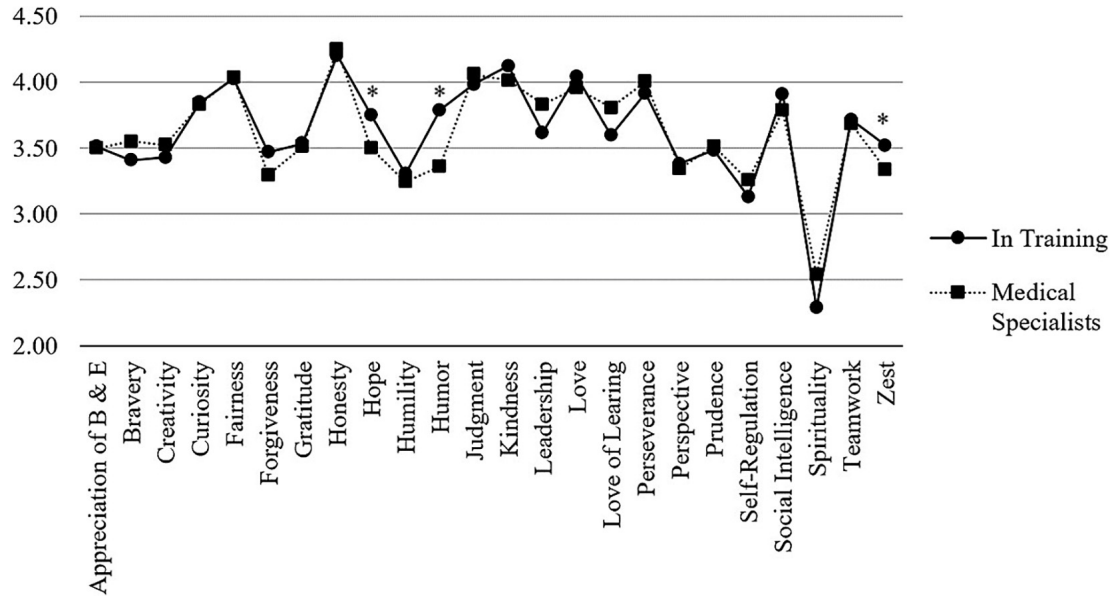

FIGURE 5 | Comparison of VIA-character strengths between physicians in training and medical specialists. *Note*. Character strengths marked with an asterisk are significantly different between groups.

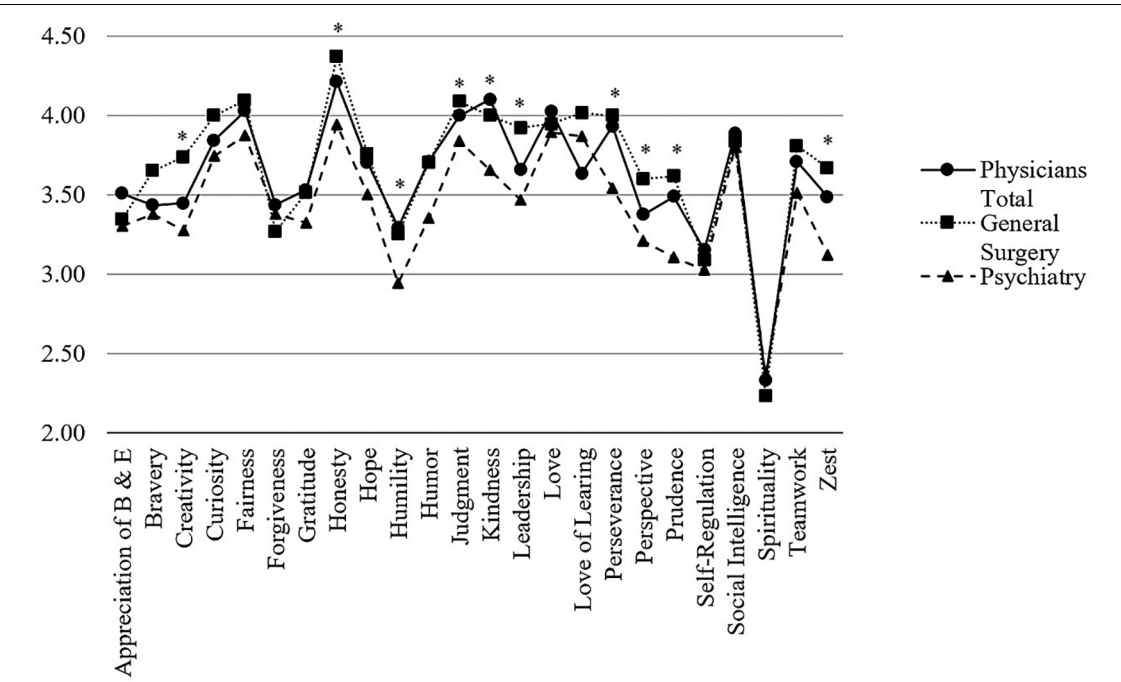

FIGURE 6 | Comparison of VIA-character strengths between physicians of different specialties. *Note*. Character strengths marked with an asterisk are significantly different between groups.

All differences between medical specialties can be found in the **Supplementary Material**.

(III) Relation to well-being and work-engagement

The overall mean for thriving was M = 3.85 (SD = 0.41) and for work engagement M = 3.62 (SD = 1.08). Mostly, character strengths were positively related to overall well-being (thriving) and work engagement. *Humility* and *spirituality* showed no significant correlations with the well-being subscales, and *spirituality* was significantly negatively correlated with the subscale 'autonomy'. *Appreciation of beauty, fairness, forgiveness, humility, kindness,* and *spirituality* did not significantly correlate

with work engagement. Again, the 'happiness strengths' showed highest correlations to most well-being subscales, while work engagement correlated the most with *curiosity*, *hope*, *love of learning,* and *zest*. All correlation analyses of the VIA-character strengths and thriving with its seven subscales (SWB, relationship, engagement, mastery, autonomy, meaning, and optimism) as well as work engagement are shown in **Table 3**.

Concerning the longitudinal regression analyses with all 24 character strengths as predictors, and thriving or work engagement as criterion, stepwise (forward) regression analyses revealed the following. Analyses (time lag 6 months) with thriving (t2) as criterion ($N = 88$) showed significant standardized regression effects for *hope* ($\beta = 0.64$, $t = 8.18$, $p < 0.001$) and *love* ($\beta = 0.21$, $t = 2.66$, $p < 0.01$) on thriving. When controlled for thriving at t1 in a second step, *hope* ($\beta = 0.24$, $t = 2.50$, $p < 0.05$) remained significant. Regression analyses ($N = 50$) between character strengths (t2) and thriving (t3) showed one significant regression coefficient for *hope* ($\beta = 0.69$, $t = 6.55$, $p < 0.001$), but when controlled for thriving at t2, no significant path remained.

Defining work engagement (t2) as criterion and character strengths as predictors (t1), analyses ($N = 90$) showed significant standardized regression effects over six months for *teamwork* ($\beta = 0.19$, $t = 2.12$, $p < 0.05$) and *zest* ($\beta = 0.52$, $t = 5.90$, $p < 0.001$) on work engagement. When controlled for work engagement at t1 in a second step, only the control variable remained significant. Performing the same analyses between t2 and t3 ($N = 50$), significant standardized regression effects over six months revealed for *perseverance* ($\beta = 0.29$, $t = 2.57$, $p < 0.05$), *zest* ($\beta = 0.55$, $t = 5.06$, $p < 0.001$), and a negative effect for *bravery* ($\beta = -0.23$, $t = -2.10$, $p < 0.05$) on work engagement. When controlling for work engagement at t2, a significant path for *zest* ($\beta = 0.34$, $t = 2.06$, $p < 0.05$) remained while the control variable was not significant for the first time.

DISCUSSION

This paper reported on known evidence of virtues and VIA-character strengths for medical students and physicians. Literature showed that depending on the respective focus or research area, different virtues and character strengths were evident. Based on the few empirical studies using the VIA-classification of character strengths (Peterson and Seligman, 2004), *fairness*, *honesty*, *judgment, kindness,* and *love* were reported to have the highest means in medical professionals, even though these results have to be attributed predominantly to the 'WELL-MED' studies. *Honesty, fairness,* and *kindness* together with *teamwork* were consistently rated by medical professionals to be important for being a good doctor. In this study, differences between medical specialties revealed the biggest effect sizes, with psychiatrists consistently reporting lower character

TABLE 3 | Physicians' correlations between VIA-character strengths and thriving with its seven subscales and work engagement (t1).

VIA-character strengths	CIT Categories							Thriving (general well-being)	Work Engagement
	Relationship	Engagement	Mastery	Autonomy	Meaning	Optimism	SWB		
Appreciation of Beauty and Excellence	0.17*	0.19**	0.13	−0.09	0.12	0.14*	0.15*	0.17**	0.06
Bravery	0.08	0.28**	0.23**	0.02	0.14*	0.03	−0.02	0.13	0.19**
Creativity	0.06	0.28**	0.34**	0.04	0.15*	0.04	0.01	0.17*	0.21**
Curiosity	0.28**	0.52**	0.45**	0.18**	0.34**	0.45**	0.38**	0.48**	0.35**
Fairness	0.25**	0.27**	0.11	0.04	0.18**	0.14*	0.16*	0.22**	0.10
Forgiveness	0.20**	0.20**	0.14*	0.10	0.09	0.19**	0.18**	0.22**	0.10
Gratitude	0.40**	0.29**	0.23**	0.00	0.31**	0.28**	0.31**	0.38**	0.19**
Honesty	0.32**	0.25**	0.23**	0.13	0.31**	0.15*	0.24**	0.33**	0.14*
Hope	0.40**	0.58**	0.55**	0.24**	0.57**	0.64**	0.63**	0.67**	0.48**
Humility	0.10	−0.08	0.05	−0.07	0.09	−0.10	−0.05	0.02	0.03
Humor	0.12	0.27**	0.28**	−0.02	0.10	0.31**	0.23**	0.25**	0.24**
Judgment	0.06	0.18**	0.28**	0.12	0.08	0.03	0.06	0.16*	0.14*
Kindness	0.26**	0.24**	0.20**	−0.05	0.15*	0.17*	0.15*	0.24**	0.13
Leadership	0.15**	0.19**	0.28**	0.04	0.23**	0.12	0.08	0.21**	0.15*
Love	0.49**	0.30**	0.31**	0.16*	0.39**	0.36**	0.42**	0.50**	0.17*
Love of Learning	0.14*	0.38**	0.30**	0.15*	0.21**	0.20**	0.21**	0.28**	0.33**
Perseverance	0.21**	0.28**	0.27**	0.18**	0.34**	0.12	0.17*	0.29**	0.20**
Perspective	0.09	0.25**	0.34**	−0.07	0.15*	0.20**	0.16*	0.23**	0.26**
Prudence	0.15*	0.12	0.23**	0.09	0.19**	0.10	0.13	0.21**	0.19**
Self-Regulation	0.16*	0.14	0.12	0.00	0.17*	0.09	0.13	0.17*	0.15*
Social Intelligence	0.19**	0.24**	0.28**	0.02	0.15**	0.23**	0.16*	0.25**	0.17*
Spirituality	0.15*	−0.07	−0.04	−0.21**	0.05	−0.06	−0.03	0.01	−0.01
Teamwork	0.29**	0.26**	0.28**	0.10	0.26**	0.21**	0.24**	0.33**	0.22**
Zest	0.40**	0.65**	0.52**	0.17*	0.48**	0.60**	0.59**	0.64**	0.67**

*$p \leq 0.05$, **$p \leq 0.01$.

strength means. The 'happiness strengths' *curiosity*, *gratitude*, *hope*, *love*, and *zest* consistently had the highest correlations with thriving cross-sectionally. Long-term results of character strengths influencing well-being and work engagement revealed positive effects (*perseverance, self-regulation, teamwork, zest*), negative effects (*appreciation of beauty and excellence, bravery, creativity*, *perspective*) or even both (*hope*).

Addressing the first two research questions (I and II), medical students and physicians differed only a little in terms of (1) sex and (2) training status, whereas considerable differences were found regarding their (3) aspired medical specialty.

(1) Female medical students and physicians reported significantly higher values of *appreciation of beauty and excellence.* Persons with this character strength notice and appreciate beauty, excellence and/or skilled performance in all domains of life, from nature to art to mathematics to science to everyday experience (Seligman, 2002). Other studies found women in general to be more amenable to a conscious perception of beautiful things valuing them (e.g., Ovejero and Cardenal, 2011; Littman-Ovadia and Lavy, 2012). Higher scores regarding *love* (medical students) and *gratitude* (both samples) were also shown for women in the two cited studies before, whereas men reported on more *creativity* (cf. Linley et al., 2007), *judgment*, and *perspective* in both samples. Masculine norms (e.g., primacy of work, or pursuit of status) seem to be particularly contrary to *appreciation of beauty and excellence* beside the fact that men in general reported lower character strengths scores while they tended to increase with comfort to feminine norms (Ovejero and Cardenal, 2011). Socialization processes and gender roles determine the degree to which women and men prioritize morality and experience morally relevant emotions (Ward and King, 2018). Women are expected to be caring and warm (in line with the caregiving role), to consider morality and kindness as integral parts, and to experience negative emotions when people violate the community's welfare. This imprint might also explain the higher means in terms of VIA-character strengths being morally valued traits. However, all effect sizes were consistently small.

(2) Physicians in training reported in particular significantly higher values of *humor* compared to medical specialists. In the VIA-definition, the scope of *humor* is intentionally restricted only to forms that serve some moral good, e.g., offering the lighter side to others, making others smile or laugh, building social bonds and lubricating social interaction, or coping with stressful situations. But also other forms of humor exist with some of them being aggressive, self-defeating or clearly mean (e.g., mockery, ridicule, sarcasm) or at the border (e.g., parody, practical jokes; Müller and Ruch, 2011). Possibly, this 'socially warm' humor style pictured by the VIA-IS, is more prevalent in physicians in training as there is more support, solidarity, and collaboration among them and colleagues building social bonds, whereas medical specialists perceive more competition and work mostly on their own. Thus, physicians in training have more possibilities to cultivate relationships with others. Working over years in a hierarchical system with high strain and decreasing valuable social interactions could possibly lead to an increase or change toward other forms of 'humor' not represented in the VIA-IS, e.g., sarcasm or cynicism. Contrarily, one cited study showed that British doctors (with at least five years of experience) reported to possess more *humor* than medical students (Kotzee et al., 2017). However, when taking a closer look at the sample, only one fifth of them were hospital physicians (vs. general and other private practitioners) possibly supporting the aforementioned assumption that hospitals could re-weigh individuals' character strength toward a different type of humor.

(3) Medical students being interested in pediatrics reported significantly higher means regarding *kindness* than students interested in surgery or internal medicine. This result makes sense as working with children particularly requires the ability to be caring, supportive, and compassionate with a deep concern for the little patients' welfare. Students being interested in surgery reported more *bravery* than ongoing pediatrists. This result is consistent with two cited studies where neuroticism (i.e., inhibition, shyness, emotional lability) negatively predicted *bravery* and surgery was considered to be a more 'realistic' discipline (Petrides and McManus, 2004; Macdonald et al., 2008), implying that surgeons tackle problems, face medical challenges, and react quickly considering immediate consequences. In general, (aspiring) surgeons in this sample reported throughout the highest VIA-means across many character strengths, in particular compared to psychiatrists who rated themselves continuously lower among all character strengths.

Today's medical culture teaches young physicians to develop self-confidence quickly and to move beyond all insecurities. Surgeons might be affected by this issue in particular, as they first have to cause the patient some harm to achieve a benefit for them (e.g., trying saving lives). This might sometimes lead to exaggerated levels of self-confidence and reduced self-reflection, illustrated e.g., by a patient's statement who said he could always tell when surgeons enter the room: 'You enter with an air of bravado and arrogance that the medical doctors do not exude' (Angelos, 2017). Surgeons in this sample rated all character strengths comparatively high, including the character strengths of virtue 'wisdom' (*creativity, curiosity, judgment, love of learning*, *perspective*) and *humility*. This raises the question whether the scores were influenced by increased levels of self-confidence or if they are taking up the idea previously described by Hall (2011) and Toledo-Pereyra (2007) to cultivate practical wisdom or humility beside technical skills. The biggest difference compared to psychiatrists was found for *prudence* (being careful about one's choices, thinking before acting, involving far-sighted and short-term planning) which is also often referred to as practical wisdom. Obviously, surgeons can cause greater physical, observable, and in the worst case lethal harm when their treatment fails (leading to higher means of *prudence*). In contrast, psychiatrists treat patients with mental, emotional, and behavioral disorders by developing treatment plans, prescribing medication, conducting conversations, and applying therapeutic interventions. They should have strong listening skills, be perceptive, reflective, and able to provide crisis intervention when needed as their patients cannot be 'cured by scalpel.' Therefore, their way of treating patients is fundamentally different based upon a more holistic (e.g., bio-psycho-social) view on persons' health and disease with

many chronic patients consulting them again and again. This interpretation of their working style is consistent with some cited studies that considered psychiatry to be rather 'artistic' which is in turn positively associated with 'openness to experience' but also with 'neuroticism' (Petrides and McManus, 2004; Duffy et al., 2009; Woods et al., 2016). However, as this discipline is not as straightforward or concrete as surgery, this might mislead to the assumption of less 'impressive' work, receiving further support from the hospital when paged for patients on the somatic wards for only prescribing psychotropics. Their remaining knowledge or treatment repertoire is oftentimes not asked, conveying little appreciation and a poorer reputation. According to literature, psychiatrists' benevolence often conflicts with patients' autonomy and their self-effacement is relevant (Ho et al., 2009; Kwok et al., 2012). All character strengths can be interpreted as beneficial due to their definition and therefore, possibly striking psychiatrists as being generally 'inappropriate' within their work. Moreover, if *honesty* (i.e., speaking the truth, presenting oneself and one's reactions genuinely to each person) is understood as the 'opposite' of self-effacement implying to show all internal feelings, intentions, and commitments unfiltered even in precarious situations, the big difference concerning *honesty* compared to all other medical specialties in this sample would be traceable, as therapists (psychiatrists) should be discreet in sharing honest appraisals with the patient (Salzman, 1973). Therefore, taking all these points together, psychiatrists might remain self-effacing in terms of all character strengths and rate them lower.

Addressing the third research question (III), positive effects of character strengths on well-being have already been demonstrated (e.g., Peterson and Park, 2006; Seligman, 2011) but not many studies illuminated what aspects of well-being are influenced. In this study, various aspects of thriving were cross-sectionally analyzed showing that in both samples *humility* was mostly not associated with any aspect of thriving and neither were *judgment* (students) and *spirituality* (physicians). The latter even had a clearly negative relation with 'autonomy' (control) in both samples. *Spirituality* comprises many different aspects, e.g., life calling, beliefs about the universe, and practices that connect with the transcendent ('sacred') which is blessed, holy, or particularly special (secular or non-secular). It involves the belief that there is a dimension to life beyond human understanding being in contrast to 'autonomy' defined by life decisions on one's own responsibility, belief in one's personal skills, and internal locus of control. In both samples, *humor* was positively associated with 'optimism,' and *perseverance* with 'meaning'. In total, 'mastery' (skills, learning, accomplishment, self-efficacy, and self-worth) was clearly linked to most of the character strengths. In both samples, *love of learning* was explicitly associated with work engagement.

Longitudinal data examining possible effects of character strengths on later well-being and work engagement revealed significant results for (1) medical students' *appreciation of beauty and excellence, creativity*, *hope, perspective, self-regulation*, and *zest*, and (2) physicians' *bravery*, *hope*, *perseverance*, and *teamwork*.

(1) Initial *zest* led to positive effects on medical students' well-being one year later whereas *appreciation of beauty and excellence* and *perspective* seemed to have a negative impact. *Zest* implies approaching situations fully tilted with excitement and energy, i.e., being enthusiastic despite all the new demands and strains at the beginning of a medical study. On the other hand, particularly in the first year there is neither the time nor the need (or institutional calling) to recognize, experience, and *appreciate beauty* around one or others' skills, potentially frustrating students who set a high value on this. Moreover, studying medicine is possibly not that 'beautiful' or 'excellent' as the aspired job afterward, leading to well-being decreases. *Perspective* (i.e., to think in big terms and avoid getting wrapped up in small details when there are bigger issues to consider) follows the same trajectory in terms of frustration as there are far too many small things at the beginning of a medical study to organize requiring full attention while the bigger picture (e.g., finally becoming a physician) has taken a back seat. Regarding future work engagement, initial *creativity*, *hope,* and *zest* were relevant for outcomes after one year, whereas *self-regulation* was rather important in the third year. Interestingly, initial *creativity* and *hope* influenced work engagement negatively. In medical school, everything is thoroughly structured and planned in the first year following a tight schedule. They have to learn physiology, biochemistry, anatomy, etc. where '*creative*' ideas or perspectives might be not asked or even obstructively. Furthermore, first year medical students experience much external control by the institution, educators and examinants contrasting with their *hope* (e.g., confidence that goals can be reached effectively by one's own agency), leading to less self-efficacy and involvement with working tasks. With increasing demands and strains over time, *self-regulation* gained relevance for third years' work engagement. This character strength is complex (i.e., regulating one's actions, controlling one's emotions and reactions to disappointment or insecurities) but was also associated with higher 'agreeableness' (e.g., Haslam et al., 2004) including the sub-trait of 'compliance' meaning that one does what one is required or expected to do. This is in line with the finding here, as both support the ability to keep a sense of order and progress in life helping to stay involved with 'work'.

(2) Physicians' longitudinal data revealed that *hope* had positive effects on their future well-being across all measurement time points. Beside the belief that many effective pathways can be devised in order to get to that desired goal, having positive expectations about the future is inherent to *hope*. This optimistic thinking can be interpreted as part of well-being in terms of optimism (Scheier and Carver, 1985) also included in the CIT. Physicians' future work engagement was clearly predicted by *zest* across all time points. As their definitions highly overlap in terms of content (both including excitement, dynamics, and energy with approaching tasks not halfheartedly), other character strengths might provide more information, like *bravery*, *perseverance*, or *teamwork*. In particular, at the beginning of a medical career, *teamwork* seemed relevant for ensuing work engagement, whereas *perseverance* was more important in the further course to stay engaged, in contrast to *bravery,* which had a negative impact on work engagement in the third year. In this context, *bravery* might have been understood as fulfilling the demand to hang on or withstand physicians' adverse

working conditions. This strategy could possibly be useful for a short period of time in terms of exploiting oneself toward this requirement but then turning into decreased work engagement with just persevering in the circumstances. When remembering the study of Macdonald et al. (2008) it is quite interesting that the Big Five dimension 'neuroticism' negatively predicted *bravery* and *hope,* both having an impact here on physicians' future well-being and work engagement. However, as these effects were directed differently, the role of possible underlying 'neuroticism' is not clear needing further evidence (Macdonald et al., 2008).

Summarizing, character strengths profiles differed in parts for medical specialties, in particular for general surgeons and psychiatrists with biggest effects for *honesty* and *prudence*. The top five character strengths were not influential on long-term well-being or work engagement of medical professionals, instead *hope*, *perseverance, self-regulation*, *teamwork* or *zest* showed more influence over time. Possessing these character strengths alone might not be enough to derive well-being benefits. Applying those character strengths to foster deepened positive experience may be more relevant to increase well-being (e.g., Govindji and Linley, 2007; Littman-Ovadia and Steger, 2010; Seligman, 2011; Harzer and Ruch, 2012, 2013). One study supports the assumption that the possession as well as the applicability of signature character strengths at work and in private life is important but to different degrees, also depending on the respective outcome (Huber et al., 2019). However, that study considered cross-sectional data only. Therefore, deriving long-term well-being or work engagement effects might rather require the application of character strengths.

The question arises whether the top five character strengths in this sample are specific for medical professionals or if their profile is similar compared to other German-speaking samples or socially oriented occupational groups. Ruch et al. (2010) validated the German VIA-IS (240 items) in a Swiss general population sample (N = 1674) with *curiosity, fairness, kindness, honesty, and love* having the highest means. By investigating women over time, Proyer et al. (2011) found *curiosity, love of learning, love, kindness, and fairness* to be the top five in Switzerland (N = 1087). A study validating the German shorter VIA-IS form with 120 items in a representative sample (Höfer et al., 2019), revealed the highest means for *honesty, kindness, fairness, perseverance,* and *love* representing the general German population (N = 1073). Results from the VIA-240 in the latter study showed *fairness, honesty, kindness, curiosity, humor,* and *judgment* in front. Therefore, it seems that the top five character strengths *fairness, honesty*, *kindness, judgment,* and *love* in the sample of the present study are not that specific for medical professionals but perhaps for the German-speaking population in general. Possibly, socialization in German-speaking countries is particularly oriented toward these character strengths (*fairness* and *kindness* being evident in all samples) as they are perceived as important for human development and cohabitation. When compared to other social professions, in particular physicians' *honesty* and *kindness* in this sample seemed to be more specific. A recent study investigating character strengths and job satisfaction (Heintz and Ruch, 2020) showed that *fairness, judgment,* and *love* were practically always within the top five character strengths of nurses, teachers, and social workers according to VIA-means, beside *curiosity* and *love of learning*. Only in their sample of nurses, *kindness* was placed second and *honesty* fifth ex aequo with *judgment*. Therefore, this occupational group showed the highest overlap with physicians from this study. Other samples revealed *love of learning* and *social intelligence* to be very important among counselors (compared to a normed sample; Allan et al., 2019) as well as educators, teachers, psychologists, and therapists (Ruch, 2014); *judgment* and *love* were highly evident in teachers and psychologists. Harzer (2008) found in Swiss samples again *fairness* and *love* in teachers and care workers, and *judgment* in psychologists, therapists and social workers. *Curiosity* and *spirituality* were also repeatedly within their top five character strengths. Contrasting the present findings with prior research and deliberations of a cultural basis of character strengths, at least *honesty* can be interpreted as being a more specific strength for medical professionals.

There is evidence, on the one hand, that character strengths overlap with personality traits or occupational interests and on the other that they add incremental validity (e.g., Park et al., 2004; West, 2006). However, individual interests, abilities or skills differed strongly from the conceptual VIA-classification although it is more comprehensive than trait and value taxonomies. Other classifying structures like the Five-Factor model (McCrae and Costa, 1997) or Holland's RIASEC-model (1997) might help explain underlying patterns of the top five character strengths found in this empirical study. The character strengths *fairness*, *honesty*, *kindness,* and *love* can be assigned to e.g., interpersonal strengths, and *judgment* to intellectual strengths, both significantly correlating with the Big Five dimensions 'agreeableness' and 'openness to experience' (= being inventive and curious vs. consistent/cautious), while interpersonal strengths were also associated with 'conscientiousness' (= being efficient and organized vs. extravagant/careless; Neto et al., 2014). In detail, *fairness* and *kindness* were significantly predicted by 'agreeableness' and 'extraversion' (= being outgoing and energetic vs. solitary/reserved), with the first strength also being predicted by 'conscientiousness' (Noronha and Campos, 2018) and the second by 'openness to experience' (Neto et al., 2014). 'Agreeableness' was clearly related to *love* (Park et al., 2004) as well as *honesty,* with 'conscientiousness' also being relevant for the latter strength (Macdonald et al., 2008), and *judgment* was predicted by 'openness to experience' (Neto et al., 2014). Summarizing, 'agreeableness' can be considered to be the best predictor of the top five character strengths. However, this dimension is considered to be a superordinate trait, including sub-traits like altruism, compliance, empathy, flexibility, honesty, patience, or trust. The RIASEC types are associated with preferences for vocational activities but also with aversions and by analyzing the description of these traits one can derive ideas on their relationship with certain character strengths. Proyer et al. (2012) described other-directed strengths (*fairness, kindness*), temperance strengths (*honesty*), and transcendence strengths (*love*) coming from the VIA-Youth (Proyer et al., 2012). They showed that 'social' interests were predicted by other-directed and transcendence strengths, whereas temperance strengths were correlated with 'investigative'

interests. Littman-Ovadia et al. (2013) found the same significant correlations for 'social' interests but also for 'artistic' ones with the respective character strengths, for *judgment* 'artistic' and 'investigative' interests were relevant but none significantly for *honesty*. According to their results, 'artistic' and 'social' interests predominate. However, it is important to keep in mind that some character strengths are related to combinations of personality traits or interests and not stand-alone characteristics.

These results might lead to the hypothesis that medical students and resident physicians in this sample tend to be predominantly 'agreeable' while having mostly 'artistic' and 'social' interests. Such people could be described as rather compassionate, cooperative, emotional, friendly, open, and warm. They prefer tasks involving other people and seem to satisfy their needs in helping situations, being in line with literature on the 'social personality' including doing good for others (see Littman-Ovadia et al., 2013) and the physicians' job description.

Limitations and Implications for Future Research

First, data were self-reported by the participants implying possible bias in terms of distortion effects. In particular, social desirability of certain character strengths might be possible. A former study already showed that especially 'niceness' strengths (*fairness, kindness*) but also *honesty* and *love* significantly correlated with social desirability (Macdonald et al., 2008). This is in conflict with Peterson and Seligman (2004) assertion that the VIA-IS is free of social desirability effects because all items are socially desirable. Therefore, additional character strengths assessments by peer-ratings (e.g., friends, family or colleagues) would be helpful. Another issue might be the limited number of participants in some medical specialties. Comparing their respective profiles can only give suggestions or trends and need further evidence. The generalizability of the results is limited due to homogenous sampling (e.g., one culture, same language, similar organizational structures, working climate, etc.). Finally, it might be possible that, in contrast to the assumption of character strengths having a causal impact on well-being, a reverse causality may be present in the data. In a recent study, preliminary evidence is given that (psychological) well-being has a significant positive effect on the applicability of signature character strengths over time indicating that higher levels of well-being might be mandatory first to have access to one's own signature strengths (Huber et al., 2020). Applicability in this regard refers to i.a. asking whether a character strength is 'used' at work or in private life (Harzer and Ruch, 2013). It has to be considered that the level of character strengths and their applicability are different constructs. However, as the VIA-items also contain behavior to some extent, there is a certain overlap enabling possible reverse causal effects.

Future research should focus on a fit between personal characteristics in a more holistic sense. Task-related and social demands in different medical specialties may also warrant future research. Exploring a persons' narrative, story and other biography processes (see Borges and Savickas, 2002) could further improve the understanding of how medical students and aspiring physicians tick leading to more comprehensive profiles facilitating career decision-making processes, e.g., when knowing that working with other people is a basic interest vs. working with things or data, different sub-disciplines might be recommended. Future research questions could address this issue by e.g., looking at all kinds of demographic factors, and further examining if certain medical specialties can be assigned to more or less people-orientation and if it would be a flaw to be 'other-oriented' within the respective discipline. Another research direction should focus on how character strengths could be integrated reasonably in the medical curriculum and further education alongside teaching knowledge and skills. Particularly the hidden medical curriculum, often being contrary to positively valued virtues and different across medical facilities, represents a big issue. When looking through medical oaths there is an extreme variation further undergirding diversity of the hidden curricula (Greiner and Kaldjan, 2018). They need to be uncovered and questioned by educators as well as trainees. Global research on culturally and job-related biased differences in medical professionals' character strengths profiles would be necessary to positively influence curricula development suitable for respective cultures and adjuvant for (work-related) well-being.

Conclusion

This study suggests that the character strengths *hope, perseverance, self-regulation, teamwork,* and *zest* are most relevant when it comes to fostering medical students' and physicians' well-being and work engagement. However, these were not part of the top five character strengths reported by the medical professionals. Additionally, negative effects of e.g., *bravery, creativity,* or *perspectiv*e on well-being and work engagement were discovered. Creating an institutional environment considering these results could be beneficial for medical professionals' future well-being and health (Strecker et al., 2019). According to the modern-day physician's pledge to pay attention to their own health, the recommendation is to promote self-awareness and character building among medical professionals by considering both individual signature character strengths and 'collective' profiles. Moreover, research on character strengths profiles in medical professionals' must also focus on cultural implications with the need for comparing different societies, working cultures, and other parameters of public health systems (e.g., Western vs. Asian culture), focusing on 'medical common ground'.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

This study was conducted in accordance with recommendations of 'The Board for Ethical Questions in Science of the University of Innsbruck' including written informed consent from all subjects. All participants gave written informed consent subject to the

regulations of the Declaration of Helsinki. The protocol was permitted by 'The Board for Ethical Questions in Science of the University of Innsbruck.'

AUTHOR CONTRIBUTIONS

AH, CS, TH, and SH were substantially involved in planning and conducting the study. AH drafted the article. CS and TK carried out the data analyses and reported them. All authors revised the manuscript critically for important intellectual content, read and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2020.566728/full#supplementary-material

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The Practice of Character Strengths: Unifying Definitions, Principles, and Exploration of What's Soaring, Emerging, and Ripe With Potential in Science and in Practice

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What does it mean to be "strengths-based" or to be a "strengths-based practitioner?" These are diffuse areas that are generic and ill-defined. Part of the confusion arises from the customary default of practitioners and leaders across many cultures to label anything positive or complimentary as "strengths-based," whether that be an approach, a theoretical orientation, an intervention, or a company. Additional muddle is created by many researchers and practitioners not making distinctions between very different categories of "strength" in human beings – strengths of character, of talent/ability, of interest/passion, of skill/competency, to name a few. To add clarity and unification across professions, we offer seven characteristics and a comprehensive definition for a character strengths-based practitioner. We center on the type of strength referred to as character strengths and explore six guiding principles for understanding character strengths (e.g., character is plural; character is being and doing) and their practical corollaries. Reflecting this foundation and based on character strengths research, our longstanding work with strengths, discussions with practitioners across the globe, and a practitioner survey asking about strength practices (N = 113), we point out several character strengths practices or approaches we describe as soaring (e.g., explore and encourage signature strengths; practice strengths-spotting), emerging (e.g., the integration of mindfulness and character strengths), or ripe with potential (e.g., phasic strengths; the tempering effect; the towing effect). We use the same framework for describing general research domains. Some areas of research in character strengths are soaring with more than 25 studies (e.g., workplace/organizations), some are emerging with a handful of studies (e.g., health/medicine), and others are ripe with potential that have none or few studies yet opportunity looms large for integrating character science (e.g., peace/conflict studies). Using this framework, we seek to advance the exchange and collaboration between researcher and practitioner, as well as to advance the science and practice of character strengths.

Keywords: character strengths, *VIA* classification, *VIA* Survey, strengths interventions, strengths-based practitioner, strengths-spotting, signature strengths, mindfulness

Knowing is not enough; we must apply. Willing is not enough; we must do.

- Goethe

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INTRODUCTION

Over 700 studies on the *VIA* Classification published in the last 10 years; over 15 million surveys administered (VIA Institute, 2021); steeply increasing annual usage of the *VIA* Survey: all reflect a unique precedence of both scholarship and popularity around advancing the science and practice of character strengths. Despite being a young science, there is substantial scientific grounding for practitioners educating and guiding clients. At the same time, the large number of practitioners across the globe applying character strengths presents an opportunity for researchers to explore gaps in the science and practice and continue to advance the work. This is the quintessential bridge between academia's ivory tower and the practitioner or consumer on main street; it is the dialogue between science and practice.

Myriad definitions of character strengths exist in the literature (e.g., Peterson et al., 2005) and a minimalist definition from the original *VIA* Classification text states they are the routes to the great virtues (Peterson and Seligman, 2004). A more comprehensive definition that sums up the array of cultural, practical, and scientific approaches states: Character strengths are positive personality traits that reflect our basic identity, produce positive outcomes for ourselves and others, and contribute to the collective good (Niemiec, 2018). Said another way, the *VIA* Classification of character strengths is a consensual nomenclature (Peterson and Seligman, 2004), a "common language" to understand what is best in human beings.

Character strengths have been studied across industries (e.g., business/organizations, education, healthcare), professions (e.g., physicians), application areas (e.g., youth, disability), areas of well-being (e.g., mental health, happiness, positive relationships), valued outcomes (e.g., achievement, stress management), and domains of life (e.g., parenting); see VIA Institute (2021) for summaries of the studies in the science of character. One would be hard-pressed to find an area in psychology that has neither some research on character strengths being discussed nor the strong potential for so doing. In part, the recent theory suggests, character strengths are relevant for the full range of human experiences – positive opportunities, as well as adversities and suffering, and the mundane in-between (Niemiec, 2020). Despite the large volume of studies, there remains far more to discover about the practice of character strengths. We attempt here to highlight what we see as patterns or trends in the practice of character strengths.

As we turn to examine strengths-based practices, we intentionally loosely define *practitioner* as any helping professional, such as a psychologist, counselor, social worker, mentor, coach, manager, supervisor, teacher, physician, nurse, health technician, mediator, or professor. Similarly, we loosely define *client* as any person being helped or supported, such as a patient, counseling client, coaches, student, employee, or the general consumer. In addition, we will use the term "character strengths" to refer specifically to the 24 character strengths of the *VIA* Classification (which is the substantial focus of the scientific literature on strengths), while the term "strengths" will refer to the more generic frame of some kind of positive quality. Some studies do not specify the type of strength being investigated, thus, in those cases that lack clarity, we use the term "strengths."

WHAT REALLY IS A STRENGTHS-BASED PRACTICE?

In querying thousands of practitioners in workshops across spheres of application (e.g., workplace, education, coaching, counseling) if they are a strengths-based practitioner or have a strengths-based practice, the majority answer "yes." Then when asked to share what they mean by "strengths-based," the range of responses is almost as varied as the number of people asked. Unfortunately, "strengths" and "strengths-based" have become so generic in their use that in many cases they have become lackluster and meaningless. This trend is only increasing. Yet, the value of strengths is significant and warrants clear definitions and characteristics of strengths-based practices.

Integration of strengths into practice has been discussed for more than two decades and spans many fields, such as social work (Saleebey, 1996), counseling (Smith, 2006), psychotherapy (Rashid and Seligman, 2018), mindfulness (Niemiec, 2014), organizations (Cooperrider and Whitney, 2005), project management (Pearce), disability (Niemiec et al., 2017), personal/executive coaching (Foster and Auerbach, 2015), and education (Linkins et al., 2015). There is not one pathway, model, or theoretical orientation for describing a strengths-based approach or one set of applications for a strengths-based practice. These are unique to each practitioner and infused into their existing approach as a helping professional. However, we believe there are unifying and relevant characteristics of strengths-based approaches applicable across professions.

A first step is to offer specificity on the type of strengths (discussed later) being examined (i.e., strengths of talent or intelligence are different from strengths of character in definition, malleability, and scope). Therefore, our focus is on character strengths. We suggest, based on a review of hundreds of studies on character strengths (VIA Institute, 2021), discussions with strengths-based practitioners across the globe and our own practices with character strengths, that a practitioner taking a character strengths-based approach employs the following seven elements:

- *Embodies character strength*: the practitioner serves as a role model for character strengths use thus displays character strengths awareness and use as they interact and practice.
- *Educates on strengths*: the practitioner teaches about strengths, explains rationale and importance, corrects misconceptions (e.g., strengths are Pollyannaish or happiology; strengths involve ignoring weaknesses), and offers pathways forward for character strengths use.
- *Energizes*: uplifts and fuels the person out of autopilot tendencies, entrapped mental and behavioral routines, and strengths blindness (Biswas-Diener et al., 2011) patterns.

- *Empowers*: focuses on character strengths to help people move from what's wrong to what's strong *and/or* helps them use what's strong to overcome what's wrong.
- *Faces adversity*: acknowledges problems and struggles – and when appropriate for the context/relationship, explores them but does not get lost in them, nor allows the positive to be squashed out.
- *Connects*: a character strengths-based approach engenders connections – helping the person become more connected with others, with the world, and particularly with themselves. This strengths connection naturally extends to the practitioner-client dyad.
- *Cultivates seeds*: a character strengths-based approach offers an orientation of cultivating seeds, not just plucking weeds (the negative). Rather than a prescriptive approach, the descriptive language around character strengths is prioritized to build awareness, to explore, and to help the client grow toward positive action (Niemiec, 2014; Linkins et al., 2015).

We propose that these seven action-focused characteristics are essential for an authentic character strengths-based approach. They are central attributes of a practitioner's mindset. Other beneficial characteristics could be named – such as being goal-oriented or holistic – however, these may not be aligned with certain professions or theoretical orientations. It's important to understand that any approach, theoretical orientation, or model can be infused with character strengths, and the preceding characteristics can support that, from solution-focused and executive coaching protocols to cognitive-behavioral and psychodynamic orientations to humanistic and social-emotional learning approaches (Niemiec, 2018). As a single unifying definition for a character strengths-based approach (or a generic "strengths-based approach"), we offer the following:

> A character strengths-based approach (or practice) is empowering, energizing, and connecting in which practitioners, in their own uniquely personal way and with their own orientation/approach to helping, embody and exhibit their character strengths as they educate clients on strengths and support clients in cultivating their character strengths for boosting well-being and handling adversity.

CHARACTER STRENGTHS PRINCIPLES

In order to operationalize this definition and its many elements, we next offer a framework of six core principles for strengths-based practitioners to understand and deepen their work. A related, practical corollary accompanies each principle. These are adapted from Niemiec (2018).

Character Strengths Are Capacities

Character strengths are viewed as capacities for thinking, feeling, and behaving (Park et al., 2004; Peterson and Seligman, 2004). In practical terms, we can think creatively and fairly and have grateful and prudent thoughts; we can feel love, kindness, hope, and humility in our body; and we can behave in ways that are brave, zestful, honest, and forgiving (Niemiec, 2018).

A corollary to this principle is that character strengths can be developed and improved. New research on personality traits shows that personality is more malleable than originally thought (Blackie et al., 2014; Hudson and Fraley, 2015; Roberts et al., 2017), and that the change is not necessarily slow and gradual, which was another previously held assumption. Personality traits can shift for a number of reasons, including normative changes based on our genetics and predictable changes in social role (e.g., getting married, having a child), as well as nonnormative changes. Nonnormative changes include less common but deliberately chosen changes in one's social role (e.g., joining the military) and atypical life events (e.g., going through a trauma; Borghans et al., 2008). In a study of the latter, the character strengths of gratitude, hope, kindness, leadership, love, spirituality, and teamwork all increased in a United States sample (but not a European sample) 2 months after the September 11, 2001 attack on the World Trade Center in New York City (Peterson and Seligman, 2003). Ten months later these character strengths were still elevated but to a lesser degree.

Deliberate interventions focused on improving a part of our personality such as our character strengths also affect personality change. Intervention studies show that such intentional changes can have a positive impact (Yeager et al., 2014; Hudson and Fraley, 2015; Roberts et al., 2017). Practitioners can help clients tap into their character strengths capacities.

Character and Character Strengths Are Dimensional

Character strengths are expressed in degrees – we have degrees of creativity, honesty, zest, and so on. As opposed to a categorical or diagnostic approach where one has a disorder, condition, or not, these strengths are measured and expressed as "continuous traits," in that any character strength can show up across a wide continuum of more and less (Miller, 2013). For practitioners, it's important to reflect on dimensionality so that clients are not lost in all-or-none labels and placed in the creativity box or the teamwork box or as being empty in the self-regulation or humility boxes.

A corollary is that character strengths can be overused and underused along a dimension of character strengths expression. Any of the 24 character strengths can, in a given situation, be brought forth "too much" (overuse) or "too little" (underuse) which are viewed as strengths expressions or lack thereof that has a negative impact on oneself or others (Niemiec, 2019a). Too much curiosity is nosiness and too little can be apathetic, while an overplay of prudence is stuffiness and an underuse of it can be reckless.

Character Is Plural

As Chris Peterson (2006) often explained, the character is plural. This means people are not simply kind or humble, brave or hopeful, or honest. Rather, people display a variation,

multiplicity, and uniqueness in their character strengths profile that informs the rich tapestry of an individual's character.

A practical corollary is that character strengths are not expressed in isolation but in combinations or constellations (Peterson, 2006; Biswas-Diener et al., 2011; Niemiec, 2018). It's likely that as situations become increasingly complex or challenging, the array of character strengths being expressed increases. For example, a person making a career transition may find themselves leaning strongly on a panoply of character strengths, whereas a person who is doing their standard job on autopilot is likely to be expressing fewer character strengths and with less intensity.

This can also be framed using the relational concept that character strengths are interdependent – they "inter-are" (Niemiec, 2012), to echo the Buddhist concept of interbeing (Nhat Hanh, 1993). The character strengths all relate to one another (McGrath, 2013) to some degree and these interactions might enable or hinder the expression of one another (Peterson and Seligman, 2004).

All 24 Matter

An important pursuit in the creation of the *VIA* Classification was that whichever character strengths and virtues were included that they be ubiquitous across people, universal to the human experience (Peterson and Seligman, 2004). Research was conducted on these strengths among people in remote cultures (Biswas-Diener, 2006) and surveys across nations (Park et al., 2006; McGrath, 2015) that support this principle. The character strengths, although varying in degrees, are part of being human.

A practical corollary to "all 24 matter" is that the importance of any given strength will vary by the situation or the intended consequence. For example, hope and zest are the character strengths found repeatedly to have the strongest links with happiness (Park et al., 2004; Proctor et al., 2009), with some causal evidence (Proyer et al., 2013b). In terms of a different outcome or consequence, achievement, it's likely that perseverance is going to matter in a significant way (Lounsbury et al., 2009; Wagner et al., 2019). While all 24 matter, how they matter will vary by person and situation.

There Are Many Kinds of Strengths

The category of character strengths is not the only type of strength human beings express. Strengths categories can be and should be differentiated. This principle is important for the science of strengths to grow. A number of distinct types of strengths can be identified – talents (abilities or intelligences), skills (competencies), interests (passions), values, and resources.

Talents are hardwired abilities that encompass what we do naturally well; the multiple intelligences of Howard Gardner (1983) represents one set of examples. Skills develop through learning and practice, such as job skill-building with computer programming or presentation skill development or personal skill development around anger management or diversity skills training. The strength category of interests reflects our passions in life, those activities we are drawn to especially during leisure time; such as sport, art, and music. Resources are a strength category that is external to us; examples include having supportive friends, living in a safe neighborhood, and belonging to a spiritual community. Values are what we internally hold dear and reside in our thoughts and feelings; they say nothing about the action we actually take. A value for hard work does not equate to putting that value into action without turning to character strengths of perseverance and zest to transform value into behavior.

A corollary to this principle, we hypothesize, is that character strengths are the central mechanisms that allow these other strength categories to operate. For example, if someone has a talent for playing the guitar, they need to invest in ~10,000 h of deliberate practice over a 10 years period (Ericsson and Ward, 2007) to really develop that talent/intelligence; this requires depths of perseverance, self-regulation, hope, prudence, creativity, and other character strengths to maximize that talent. In this way, character strengths are the driving force for other types of strengths (Niemiec, 2018).

Character Is Being and Doing

The work of character strengths involves being *and* doing. For "being," character strengths reflect our identity, self-understanding, and supporting people to be themselves. For "doing," character strengths are expressed in behaviors/actions. There is support for both approaches in the literature: Research on signature strengths reflects identity – "being" true to one's best qualities (e.g., Seligman et al., 2005). As researcher Rhett Diessner observed: "Traits are ontologically closer to the core of human being than is thinking or reasoning" (Diessner et al., 2009, p. 255). At the same time, there is an abundance of research linking character strengths and different types of action and outcomes – which can be viewed as our "doing" – putting one's best qualities into action (e.g., Gander et al., 2013). A practical corollary is a connection with the overarching self-development goals of authenticity and goodness (Niemiec, 2014). Individuals aspiring to be more authentic in life may focus on the "character is being" element (i.e., being authentic), while those striving to do more good in the world may resonate with the "character is doing" element (i.e., doing good).

THE PRACTICE OF CHARACTER STRENGTHS: SOARING, EMERGING, OR RIPE WITH POTENTIAL?

To build off the preceding principles and elements and definition of a strengths-based approach, and to further our hypotheses and experiences with character strengths-based practice, we administered a second section, 22 question survey using the Survey Monkey platform. The first section asked participants to rate themselves on each of the criteria of the "Checklist for Strengths-Based Practitioners" in Niemiec (2018; results are discussed in **Table 1**). The second section of the survey asked a number of questions about character strengths use in practice (results are discussed in **Table 2**). To recruit participants,

TABLE 1 | Results from section 1 of the practitioner survey (*N* = 113). Each item from the Character Strengths Practitioner checklist in Niemiec (2018) is shown, including those not asked (noted with N/A).

Average score from 1 (never) to 100 (always)	How often do you do the following with clients?
46	Administer the online *VIA* Survey prior to or at the first meeting with a client.
64	Review the results of the *VIA* Survey and co-explore the connections between the results and the client's life.
75	Ask several questions that assess and explore what is best in the person.
67	Offer an equal amount of exploratory questions that target strengths compared with problems/weaknesses.
71	Address the various categories of human strengths, in addition to character strengths, such as abilities/talents, skills/competencies, interests/passions, and external resources.
71	Deliberately use character strengths to offer an insight or a reframe on problems, conflicts, and stressors.
60	Label character strengths in the moment during sessions and offer an explanation for the strength you spotted.
46	Offer summary feedback on your client's character strengths in every meeting.
67	Consciously use your own character strengths, especially your signature strengths, during client meetings.
51	Prepare for meetings by reviewing your client's signature strengths before you meet with them.
37	Adhere to a structured model to character strengths (e.g., aware-explore-apply) that is embedded in your approach to helping clients.
63	Collaboratively discuss and draw direct links between client goals and their character strengths.
N/A	Really "see" and understand who your clients are – their core identity, by seeing their signature strengths in action.
N/A	Not only know but offer appropriately timed interventions that fit with their personality and issues.
N/A	Reflect on what you did well (including the strengths you used) with a client immediately following the session.

TABLE 2 | Frequency of responses to character strengths-based questions (*N* = 106).

Question	Response options	Percentage of respondents (rounded)
How do you describe your character strengths practices? (Example of *formal* is planning out ways to strategically boost particular strengths; example of *informal* is asking questions about strengths as it comes up in the discussion)	Mainly formal	14%
	Mainly informal	40%
	50–50 formal/informal	40%
	Other	6%
How do you use character strengths in your work?	Character strengths are a supplemental tool or technique	37%
	Character strengths are foundational to the way I do my work	34%
	Character strengths are used by me personally to help support my working mindset.	15%
	Character strengths are new to me	8%
	Character strengths are a personal interest only	6%
What are the most important components of a character strengths practice? (choose up to 4)	Taking action with character strengths	58%
	Self-reflection on optimizing signature strengths use	58%
	Self-reflection on character strengths overall	48%
	Informal character strengths-spotting activities in others	44%
	Sharing character strengths with others	38%
	Planning for action with character strengths	29%
	Formal character strengths-spotting activities in others	28%
	Informal character strengths-spotting activities in self	24%
	Feedback from others on character strengths they see (e.g., Character Strengths 360)	20%
	Formal character strengths-spotting activities in self	14%
	Collecting feedback on character strengths actions	8%
How often do you bring character strengths into your practice?	Always (every interaction I have involves character strengths discussions and questions)	12%
	Frequently (most interactions I have involve character strengths discussions and questions)	48%
	Sometimes (some interactions I have involve character strengths discussions and questions)	25%
	Occasionally/Rarely (every once in a while I bring up character strengths)	11%
	Never	2%

we targeted audiences likely to be practitioners familiar with character strengths, including a robust Facebook group dedicated to character strengths knowledge and use, a personal invitation during a large, weekly, international, online community event dedicated to the topic of character strengths, and through the second author's LinkedIn profile. The survey was open for 2 weeks in May 2020. A total of 113 individuals responded to the first section of the survey and 106 individuals completed both sections. Of the 113 respondents, 62 self-identified as therapists, counselors, or coaches. The remainder represented teachers, managers, and other professionals with some aspect of a helping role.

The instructions offered to participants were minimal, focusing on the purpose of the survey as an informal gathering of information; and that the intended use of the results was to explore, in aggregate, how character strengths practices are emerging. Participants were not required to provide a name or e-mail although most did. Due to the mostly "character strengths" context mentioned, it is likely that participants were responding to the strengths-oriented questions with a mindset focused on "character strengths," however, we did not specifically ask participants which type of strengths (e.g., character strengths, talents, skills, interests, etc.) they used in practice nor did we define these terms, therefore we cannot be certain participants were responding to questions with the 24 character strengths of the *VIA* Classification in mind. Our intention with the survey was to gather general impressions of practitioners' experiences with character strengths and to begin to understand potential trends in the utilization of character strengths-based practices with clients and in personal growth. **Table 2** shows the questions we asked in part two (with forced-choice format as noted) and the results in percentages.

The survey results reveal the use of character strengths practices to be relatively high, with 60% describing their use as always or frequently. About one-third (34%) view character strengths as foundational to their strengths-based practice while 37% view character strengths as a supplemental approach or adjunctive technique to their work. A small percentage (14%) of practitioners takes a formal approach in mapping out their strengths interventions with clients. This might reflect how character strengths practices are new and/or amorphous for many practitioners who perhaps do not feel equipped to map out formal structured approaches.

A general impression from these results is that character strengths continue to gain traction yet there is substantial opportunity for expansion and deepening: becoming more knowledgeable about the range of practices, and more routine and nuanced with the work. That said, this survey should not be viewed as a reflection of any field or profession as a whole as it was intentionally targeted narrowly – toward those who identify as engaging in strengths-based practices (and most likely, character strengths-based practices in particular). We imagine a normative survey of a particular practitioner profession would yield lower percentages in terms of character strengths engagement and application.

The following three subsections discuss the practice ("the how") of character strengths, using a framework of what's soaring, what's emerging, and what's ripe with potential. The purpose of these descriptive labels is to illuminate a range of practices, highlight strong areas, and offer concrete practices for practitioners to consider and for researchers to examine. They are based on an amalgamation of our experiences in practice, educating, and consulting, and conversations with strengths-based practitioners across the globe over a 10-year period, research on strengths practices and character strengths interventions, and the aforementioned survey. Of these, the greatest weight is given to the science of character strengths, followed by our experiences and our discussions with leading practitioners.

Soaring refers to practices that are popular and appear to be well-established among practitioners who work with character strengths. These approaches are research-based and/or solidly grounded conceptually. A soaring practice does not mean it is a foregone conclusion that the activity or approach will be successful for clients, nor that there is a mountain of research. In all cases, the science of character strengths is in need of deeper examination of the many nuances, dynamics, and applications. In some cases, soaring practices are those in which the practice of character strengths precedes the development of an extensive science of character strengths.

Emerging refers to practices that are increasing in popularity among practitioners familiar with character strengths. In such cases, the science is unfolding and does not reach the soaring point because either the science is too sparse or it's not a tip-of-the-tongue approach for practitioners.

Ripe with potential refers to practices that have substantial promise and could be explored and developed for client benefit. These need scientific investigation. All are practices that strike a chord with practitioners and are being deployed with clients on a case-by-case basis. In some cases, the science might be ahead of the practice in that there is a strong scientific backing for the underlying philosophy/approach outside of the strengths field, however, practitioners are not aware of it or routinely using it.

These three categories – soaring, emerging, and ripe with potential – are not a ranking of priorities in practice nor do they represent a hierarchy of approaches.

SOARING PRACTICES

Prioritize Strengths Over Deficits

Due to an entrenched negativity bias coupled with consistent research that bad is stronger than good (Baumeister et al., 2001), it is a paradigm shift for practitioners to teach their clients to look for strengths and to reframe struggles. The degree to which practitioners educate on this – and consistently prioritize strengths – varies significantly but it is becoming more common. Numerous studies have found a strengths-focused approach to be superior to a deficit-focused approach. For example, focusing on strengths prior to student exams boosted optimism and buffered negative emotions, distress, and the decline of well-being compared to focusing on weaknesses (Dolev-Amit et al., 2020). Other studies comparing strengths with weaknesses have revealed benefits for the former group for clinical depression outcomes (Cheavens et al., 2012), for personal growth outcomes (Meyers et al., 2015), and for perceived competence and intrinsic motivation (Hiemstra and Van Yperen, 2015). While this does not imply a unilateral superiority of a strengths-focus, nor is it a rationale to ignore deficits, it clearly encourages and challenges practitioners to question their existing deficit-laden approach.

In our practitioner survey, the majority (84%) of respondents said that they assess and explore what is best in the person

at least half the time; only 8% said they rarely or never do this. This leads us to the next soaring practice.

Use the *VIA* Survey

The *VIA* Survey (also referred to as the *VIA* Inventory of Strengths) is a psychometrically valid tool used to assess the 24 character strengths. It has undergone extensive revisions over the years based on published analyses (McGrath and Wallace, 2019), as well as a technical manual for development and psychometrics on its various versions (McGrath, 2017). Researchers utilize short forms, virtue measures, reverse-scored items, and direct measures of signature strengths (McGrath and Wallace, 2019). Practitioners use the *VIA* Survey to start strengths conversations with clients, to build strengths awareness, to combat strengths blindness, to overcome client preoccupation with weaknesses/flaws, to enrich exploration of problems, and to catalyze interventions that foster client goals.

With over 15 million surveys administered and a steady increase each of the last 5 years, the popularity of the measure is clear. Its use in university positive psychology and well-being courses for students is commonplace and is strongly inclining in organizational/business and educational settings and counseling clinics. In our practitioner survey, practitioners administered the *VIA* Survey to each of their clients by the first meeting less than half the time (see **Table 1** for the items and average scores for this practice and for several other practices we assessed using the "Checklist for Strengths-Based Practitioners" in Niemiec, 2018). The number of practitioners who administer the *VIA* Survey in later sessions is unknown.

Explore and Encourage Signature Strengths

Signature strengths are those character strengths highest in an individual's *VIA* Survey results and are defined as involving the three E's – character strengths that are *essential* or best reflect who the person is at their core; *energizing* in that expressing the strength is uplifting and elicits an increase in energy levels; and *effortless* in that the expression is easy and natural (Niemiec and McGrath, 2019).

Despite only having a few sentences in the 800-page *VIA* Classification text that introduced this consensual nomenclature (Peterson and Seligman, 2004), the concept, research, and practice of signature strengths has received substantial attention, especially in the science of positive psychology. A meta-analysis was published on the intervention, use a signature strength in a new way (Schutte and Malouff, 2019), which involves subjects identifying one of their highest strengths from their *VIA* Survey results and then using that signature strength in a new way each day, typically for 1 week. The meta-analysis found that in randomized controlled studies, this intervention boosted happiness, flourishing and strengths use, and decreased depression. The practical way this intervention is framed in studies makes it easy for practitioners to apply it with clients.

In the practitioner survey, 58% said they self-reflect on signature strengths, that they use their own signature strengths during sessions/meetings about 63% of the time, and they prime themselves to their client's signature strengths before meetings (Fluckiger et al., 2009) ~45% of the time.

Engage in Strengths-Spotting

Operationalized as the SEA model (Niemiec, 2018), the steps of character strengths-spotting involve the practitioner spotting/labeling the strengths they see in action, explaining with rational/behavioral evidence how they saw the strengths expressed, and offering appreciation – pointing out the perceived value of the strength from a perspective of emotionality, meaning, linkage with goals/outcomes.

The spotting of character strengths in oneself or others is easy to hold as an assumption that it's useful and practical and neglect its scientific investigation. In addition, many character strengths intervention studies embed strengths-spotting in the intervention in that the subjects identify their top strengths from a list, use their top five strengths on the *VIA* Survey, or consider a strength they value and want to expand upon and thereby the aspect of character strengths-spotting is not examined separately. That said, a couple of recent studies have looked at strengths-spotting itself and found benefits relating to positive affect, classroom engagement, and need satisfaction (Quinlan et al., 2019); and in an analysis of behaviors associated with strengths-spotted (written about), a variety of valued outcomes were found including empathy, spontaneous affection, helpfulness, friendship, letting go, and speaking positively (Haslip et al., 2019).

While practitioners might not use character strengths-spotting in every meeting, we view this as a soaring approach that has taken hold. In many cases, it is the first step practitioners use when sharing about character strengths with clients or encouraging them to take action. More than half (52%) of the practitioners surveyed use at least one type of strengths-spotting intervention with clients.

Draw the Well-Being/Happiness Link With Character Strengths

One of the character strengths outcomes most investigated has been well-being, in which various measures of flourishing and related concepts such as thriving, life satisfaction, emotional happiness, and elements of flourishing (e.g., positive relationships, accomplishment, meaning) have been positively correlated with character strengths. From early studies (Peterson et al., 2005), to recent studies (Wagner et al., 2019), to cross-cultural work (Shimai et al., 2006), to direct causal work (Proyer et al., 2013a) and multiple intervention studies (e.g., Gander et al., 2013), the alignment of well-being and/or happiness indicators and character strengths is one of the most consistent positive findings in the field of positive psychology.

While broad character strengths work can increase one's well-being and decrease ill-being, many practitioners narrow in on what some researchers have dubbed "the happiness strengths" (Littman-Ovadia et al., 2016). So-named because of their consistent link with happiness across several studies, cultures, and populations (e.g., Park et al., 2004), the five strengths are zest, hope, love, gratitude, and curiosity.

Many practitioners appreciate the single-intervention simplicity and straightforward approach of targeting one of these character strengths in clients. Niemiec (2018) offers evidence-based interventions for each, referred to as activate your zest, best possible self, loving-kindness meditation with strengths, gratitude letter/visit, and boosting curiosity through novelty. Caveats accompany this approach such as that there are many ways to happiness through strengths (not just targeting one or more of these five); that if a client is not high in them it does not mean they cannot boost happiness; and that being high in them is not a happiness guarantee.

EMERGING PRACTICES

Draw the Adversity/Resilience Link With Character Strengths

While we'd like to say this is soaring in popularity, it is clear practitioners focusing on character strengths in the first couple decades of the *VIA* Classification have veered toward well-being, sometimes exclusively when discussing strengths. Theories have been developed that character strengths are at the core of both positivity/opportunity and adversity/suffering. Numerous character strengths functions on the adversity/suffering side include the buffering, reappraisal, and resilience functions (Niemiec, 2020). There are studies looking at character strengths across various forms of adversity, such as stress (Harzer and Ruch, 2015), war and terrorism (Shoshani and Slone, 2016), natural disaster (Duan and Guo, 2015), at-risk/vulnerable populations (Duan and Wang, 2018), traumatic brain injury (Andrewes et al., 2014), suicidal inpatients (Huffman et al., 2014), psychopathology (Freidlin et al., 2017), addictions (Logan et al., 2010), aggression (Park and Peterson, 2008), and intellectual/developmental disability (Niemiec et al., 2017). Several of these studies support and discuss character strengths resilience; one study in particular found character strengths predict resilience over different positive phenomena such as self-efficacy, self-esteem, positive affect, social support, optimism, and life satisfaction (Martínez-Martí and Ruch, 2016). Niemiec (2020) documents studies linking each of the 24 character strengths with resilience.

When Possible in Practice, Default on the Science

This approach involves having and integrating a solid grounding in character strengths science when introducing character strengths to a client. This foundation extends to practitioners favoring a mindset that they first turn to the scientific findings on character strengths when offering an intervention. In many instances, we have observed well-intentioned practitioners make something up and then link it back to "positive psychology research" explaining the activity as "based on evidence." In this emerging scientific field, we suggest a more conservative approach: start with the science and then allow the practice to unfold from there. For example, start with intervention studies that have found using signature strengths to be superior to controls; use that as the practical strategy. If that is not an optimal avenue for your client, you might then turn to theoretical articles, correlation studies, or one activity within an evidence-based program. To flesh out this approach, Niemiec (2018) offered seven, non-sequential categories to guide practitioners in applying strengths, based on evidence; these were later discussed in Ruch et al. (2020) as pathways to justify a strengths-based intervention. A summary of these can be found in **Table 3**.

Overuse, Underuse, and Optimal Use of Character Strengths

An exciting area for practitioners is examining character strengths overuse and underuse. New empirical work using the Overuse, Underuse, and Optimal-Use of Character Strengths Survey (Freidlin et al., 2017) has begun to discover overuse/underuse patterns related to diagnostic conditions, such as for social anxiety disorder (Freidlin et al., 2017) and obsessive-compulsive disorder (Littman-Ovadia and Freidlin, 2019). Central arguments, theory, concepts, research, practical strategies, and language for overuse and underuse have been articulated (Niemiec, 2019a).

Practitioners help clients identify the character strengths that are out of balance in challenging situations and relationship conflicts and discuss client strategies for finding balance – or to arrive at the golden mean for a particular situation – the right combination of strengths, expressed with the right intensity, and in the right situation. That said, there are currently no intervention studies that have tested the overuse of character strengths, which indicates that this intriguing dynamic has much to be explored.

The Integration of Mindfulness and Character Strengths

The integration of these popular areas is of significant interest to practitioners. The weaving of character strengths to improve meditation and mindful living practices is referred to as "strong mindfulness" (Niemiec et al., 2012) while the using of mindfulness and mindful living to bring balance, savvy, and enhancement to character strengths is referred to as "mindful strengths use" (Niemiec, 2012). The 8-week program that guides participants through the boosting and integration of each is called mindfulness-based strengths practice (MBSP; Niemiec, 2014). Several theoretical, applied, and intervention studies offer a good evidence-base for MBSP. Intervention studies have shown benefits for well-being, engagement, meaning, health, and student retention (Wingert et al., 2020). Additional studies have found MBSP to be superior to the most widespread mindfulness program [mindfulness-based stress reduction (MBSR)] for boosting work task performance, workplace satisfaction, and the strength of humor (Hofmann et al., 2019; Pang and Ruch, 2019a).

In the practitioner survey, the integration of mindfulness and character strengths was more common in personal practice than in application with clients.

TABLE 3 | Research-based framework to guide practitioners in applying character strengths.

Category	Reference Base (example)	Name from Niemiec (2018)	Description
Intervention from a controlled strengths intervention study	Harzer and Ruch (2016)	Strengths Alignment	List five work tasks, list five signature strengths, align at least one strength that could be used while working on any and all work tasks.
Variation of a controlled strengths intervention study	Gander et al. (2013)	Holistic Strengths Use	Building off the evidence around "use a signature strength in a new way," this intervention involves exploration of a signature strength as expressed from the heart, the head/mind, intrapersonally, and interpersonally.
Controlled intervention study, with character strengths added in afterward to enhance effects	Loveday et al. (2018)	Best Possible Self with Strengths	Begins with the instructions of imagining a time in the future in which one is expressing one's best self. The second step is to imagine the character strengths pathways one will need to express in order to make that best possible self a reality.
Intervention discussed in peer-reviewed works	Veldorale-Brogan et al. (2010)	Turn Your Strengths Other-Oriented	Direct one signature strength outward in a relationship to bring benefit to that person.
Intervention extrapolated from an observational study	Kashdan et al. (2018)	Character Strengths Appreciation	List three of one's partner's character strengths, an example for each, and convey appreciation to them – why they are valued for their strengths use.
Intervention extrapolated from a theoretical concept	Rempel et al. (2007)	Character Strengths Genogram	As one creates a standard family genogram, add three character strengths that describe each entry; look for patterns and discuss with family members.
Intervention within a multi-activity, research-supported program	Niemiec (2014); Pang and Ruch (2019a)	From Mindless to Mindful	Part of the evidence-based mindfulness-based strengths practice (MBSP) program, this involves choosing a bad habit/vice and each day examining the autopilot mind while engaging in the habit; then bring mindful attention and character strengths into action.

Use the Character Strengths Model: Aware, Explore, Apply

The most straightforward character strengths process is the three-phase model, Aware-Explore-Apply (Niemiec, 2014) which entails: first, raising awareness of a character strength the client was previously unaware of or had limited use of; next, co-exploring the character strength with questions, activities, reflections, and challenges; and finally, moving into the application as the client chooses concrete goals and next steps for putting the character strength into action. These phases have been studied and revealed positive results, including a boost to thrive and decrease in negative emotions (Bu and Duan, 2018) and increases in strengths use and well-being (Dubreuil et al., 2016). This model can be applied in any field in which working on character strengths is part of the focus.

Keep a Personal Character Strengths Practice

As with teaching other practices, it's important the practitioner first applies the practice to themselves (e.g., for mindfulness, see Dunn et al., 2012). This facilitates the "know thyself" and "practice what you preach" adages common in areas of self-development, and it enhances the understanding, depth, and facility when later working with a client's character strengths. There are many ways to set up a practice with character strengths (which can, in turn, be taught to clients). Four main practice pathways from Niemiec (2018) include:

- *Formal*: having a regular practice with strengths, often the same time each day or week, e.g., practicing gratitude every evening by counting three good things that happened at the end of each day; or having a strengths appreciation conversation with one's relationship partner every Sunday morning.
- *Informal*: using character strengths when needed such as at times of stress, e.g., when one's body feels tight from stress, one pauses to breathe and consider which of their character strengths they could immediately bring forward.
- *In-the-moment*: looking to daily routines and areas of life taken for granted for character strengths to be discovered, e.g., while reflecting/journaling, a person realizes they have already been using their appreciation of beauty, prudence, and curiosity as they take their dog for a walk.

- *Cued*: use of the external environment to cue or remind the individual to use their character strengths, e.g., the individual arranges that every time they hear a bell in their environment, they will pause and consider how they can use one of their signature strengths.

Target Specific Strengths

A number of strength practitioners focus on one particular character strength in their practice with clients (37%). There is an extensive literature on each of the 24 strengths (Peterson and Seligman, 2004) so focusing on a specific character strength can have a scientific foundation. The practitioner should be familiar with intervention studies supporting the targeted strength, such as for the strength of hope, being familiar with interventions such as teaching clients about agency and pathways thinking (Snyder, 2000). This is an emerging approach that offers practitioners a simple inroad into helping clients, although it's important to point out it can be narrow and limiting if one or two-character strengths are the sole focus or the only tools in the practitioner's armamentarium.

RIPE WITH POTENTIAL PRACTICES

These are areas that are strong conceptually yet empirical research is scant. In workshops and trainings for practitioners, these are usually received with significant enthusiasm and curiosity. Several of these areas reflect character strengths dynamics. This is not an exhaustive list and is meant to offer initial ideas for researchers to investigate and for practitioners to work with and offer observations to researchers. Further exploration and examples for each can be found in Niemiec (2018).

Phasic Strengths

These are strengths of an individual that are not signature strengths, yet the individual brings forth the strength strongly when the situation calls for it (Peterson and Seligman, 2004). A person who's not high in zest might bring forth significant energy and enthusiasm when presenting to students. Despite being discussed in the original text of the *VIA* Classification, including a tentative measurement tool called the Rise to the Occasion Inventory (Peterson and Seligman, 2004), we are not aware of any empirical studies assessing or examining phasic strengths. Some observations have been made about these strengths as situational strengths (Escandón et al., 2016), and some conceptualizing has been done on phasic strengths and stress (Niemiec, 2019b). This is where the practice runs ahead of the research as practitioners ask clients about phasic strengths and explore situations in which clients rise to the occasion with character strengths at uncertain and challenging times.

Hot-Buttons

Hot buttons are sensitive areas in which another person's perceived strengths overuse or underuse triggers discomfort/frustration in the observer. This might stem from the observer's own character strength beliefs, preferences, or expectations. Hypothetically, the observer's character strength has been affronted or offended in a way that feels personal and deliberate. This area is ripe for research investigation and for practitioners to explore relational conflicts and troubling interactions clients have.

Receiving Character Strengths

Most of the research and practice on character strengths has focused on inwardly and outwardly expressing one's character strengths. What about how the character strength is received by the other? First introduced as a character strength name, the "capacity to love and be loved," Peterson and Seligman (2004) may not have realized they were touching upon an interesting strength dynamic. Pileggi Pawelski and Pawelski (2018) advanced this dynamic by highlighting how gratitude is given and received in couples. We argue that all 24 character strengths have this characteristic, however, research on the topic is sparse. Observationally, how a relationship partner receives humor from their partner's frequent use of humor might dictate whether the relationship will deepen or be constrained. The expression of forgiveness by someone can be herculean in terms of the emotional toll and therefore how the forgiveness is received by the other can be an important factor in the giver's healing.

Character Strengths Collisions

A character strengths collision can occur intrapersonally or interpersonally and refers to the dynamic when two character strengths are opposed to one another and are eliciting an internal or external tension/conflict.

Character Strengths Synergies

These are win-win situations in which the character strengths of two or more people combine and are greater than the sum of the parts. Synergies can also occur internally with character strengths expressed together to a positive effect.

The Tempering Effect and Towing Effect

Described in the context of overuse and underuse of character strengths in Niemiec (2019a), these dynamics occur when one character strength is used to bring balance to another character strength. The tempering effect refers to the use of character strength to help manage a higher strength, for example, using self-regulation to temper one's curious questioning. The towing effect refers to the use of a higher character strength (e.g., signature strength) to boost or tow-along a lower character strength, for example, the use of one's top strength of the love of learning to read about and explore new knowledge about how to use one's lower strength of humility.

THE RESEARCH ON CHARACTER STRENGTHS: SOARING, EMERGING, OR RIPE WITH POTENTIAL?

We use the same framework – soaring, emerging, ripe with potential – for the current status of the research on character strengths. The first author has been tracking the science of character for more than a decade and an exhaustive summarized list of over 700 studies can be found categorized on the *VIA* Institute website (VIA Institute, 2021). Note that this number does not include the thousands of studies that have amassed on particular character strengths (e.g., creativity, hope, leadership, love), rather it represents studies using a *VIA* Survey assessment measure (there are 17 validated measures available to any researcher), the *VIA* Classification, or clusters of specific character strengths (e.g., studies of the character strengths under the transcendence virtue, Huta and Hawley, 2010).

As opposed to an exhaustive list of research areas or domains that are soaring, emerging, or ripe with potential, we selected a handful of examples of domain areas for each of the three categories. These examples are offered to catalyze researchers to build off of what is soaring or emerging or to consider pursuing areas that would benefit from growth.

Soaring Research Domains

To be an area of research that is soaring, we considered domain areas that have at least 25 studies that explored the science of character in that domain. The domains of work/organizations and education meet this criterion (see VIA Institute, 2021). While still neophyte character strength domains, these areas have examined situations within their respective domain, replicated findings, offered basic and applied research, and deployed a number of character strengths concepts for further research and practice. While we frame these as "soaring," we want to highlight the observation that there is far more that we do not know about the application of character strengths in work and education than we do know. That said, a strong foundation is being built for not only researchers but also practitioners to explore and advance.

The workplace has been the most thriving domain in the study of character strengths as character strengths relate to a number of positive and ambitious workplace behaviors (Gander et al., 2012). A range of strengths-related outcomes include job performance (Harzer and Ruch, 2014), job satisfaction, work engagement, and work well-being (Miglianico et al., 2019), improved workplace climate (van Woerkom and Meyers, 2014), employee levels of self-efficacy and proactive behavior (van Woerkom et al., 2016), and improved coping with stress at work (Harzer and Ruch, 2015), to name a few. The importance to both managers and employees of character strengths awareness, alignment with work tasks, and appreciation among colleagues is substantial (Mayerson, 2015).

Novel findings with employees' top strengths have been conducted and found that signature strengths are connected with positive work experiences, irrespective of which character strengths of the 24 are highest (Harzer and Ruch, 2013). Another study found that workers who used four or more of their signature strengths at work had more positive work experiences and work-as-a-calling than those who used less than four signature strengths (Harzer and Ruch, 2012). A study with work supervisors support found that employees who received supervisor support around character strengths (but not colleague support) increased their character strengths use the following day (Lavy et al., 2016). Different subset categories of character strengths (e.g., lower strengths, happiness strengths) have been examined in the workplace with interesting results. For example, Littman-Ovadia et al. (2016) found that the subsets of signature, lower, and happiness strengths were each associated with positive outcomes, but for work performance, organizational citizenship behavior, and (less) counterproductive work behavior, signature strengths contributed most while for work meaning, engagement, and satisfaction, the happiness strengths contributed most.

The second soaring domain in the science of character strengths is education. Positive education examines character strengths patterns and interventions in children and adolescents within and outside of the school context. Character strengths have been articulated as central to the educational experience of young people and a number of practices for the classroom setting have been discussed (Linkins et al., 2015; Darwish and Niemiec, 2021). Character strengths have been outlined as central for boosting 21st-century competencies relating to cognitive, interpersonal, and intrapersonal competencies as identified by the American National Research Council (Lavy, 2019). In addition, systems thinking and systems-wide implementation of character strengths are crucial for this domain (Darwish and Niemiec, 2021).

A wide range of positive classroom outcomes have been found such as positive affect, negative affect, and school achievement (Weber et al., 2016), well-being (Oppenheimer et al., 2014), strengths use, class cohesion, relatedness, and less class friction (Quinlan et al., 2014), as well as social relationships, school performance, and academic motivation (Grinhauz and Castro Solano, 2014).

Intervention studies of programs from different parts of the world have shown positive findings. In the United Kingdom, a study evaluated the impact of a character strengths program on adolescents and found that adolescents who participated in the character strengths exercises had significantly higher life satisfaction than adolescents who did not participate (Proctor et al., 2011). In a Chinese educational context, a strengths training intervention was found to be effective in boosting life satisfaction in the short- and long-run (Duan et al., 2013). Some positive education programs which have character strengths as core to the program have found increases in academic scores, social skills, and students' enjoyment and engagement in school, as well as improve character strengths such as curiosity, love of learning, and creativity (Seligman et al., 2009). In New Zealand, a strengths-spotting intervention of teachers found benefits for improving student outcomes which were explained by better classroom engagement, positive affect, and needs satisfaction (Quinlan et al., 2019). In India, randomized controlled trials involving thousands of girls in

poverty found that those who received a curriculum which incorporated character strengths (i.e., identification and use of signature strengths and concrete examples of using other strengths) exhibited significantly greater physical health and psychosocial health benefits in comparison to those girls who received a similar curriculum which did not include character strengths and girls who did not receive any curriculum at all (controls; Leventhal et al., 2016). In Australia, while not an intervention study, the integration of character strengths knowledge and activities into an entire school revealed a number of benefits for teachers and students and is documented in White and Waters (2014).

Emerging Research Domains

For the category of emerging domains, we identified domains with at least 10 peer-reviewed/scholarly articles on character strengths in the domain and were published recently (within the last 5 years) indicating a spike of interest. This points to a new literature beginning to emerge, perhaps reflecting enthusiasm from research groups and scholars claiming an interest in the area. We discuss two domains: health/medicine and mindfulness.

Character strengths have been examined across various dimensions of physical health, including healthy eating, physical fitness, personal hygiene, substance avoidance, and living an active way of life, finding some character strengths more relevant in each area (Proyer et al., 2013a). A randomized controlled trial with seriously ill children found that a "granting a wish" intervention reduced nausea and increased life satisfaction, positive emotions, and strengths, compared to a control group (Chaves et al., 2016). Niemiec and Yarova (2019) reviewed the implication of character strengths integration for health across three levels – the individual, the healthcare provider, and the system.

Intervention studies have brought character strengths in as one piece of a healthcare program and received positive feedback from patients as some of the most impactful elements. For example, patients suffering from acute coronary syndrome benefitted from an 8-week phone intervention which included identification and use of a signature strength (Huffman et al., 2016). A number of significant findings surround the integration of character strengths with physicians (Strecker et al., 2019), including the connections with physician work engagement and well-being (Huber et al., 2019), and the mutual impact of signature strengths applications and perceived hospital climate (Höge et al., 2019).

The integration of mindfulness and character strengths was mentioned earlier as an emerging practice. The research has received similar support with ~20 publications since the development of the first positive psychology program to integrate mindfulness with positive qualities in a systematic way – MBSP (Niemiec, 2014). MBSP has received theoretical support for its two-way, mutual integration (Pang and Ruch, 2019b) and there are several intervention studies with positive findings (e.g., Wingert et al., 2020). A wide range of application areas have been explored with MBSP (e.g., Bretherton and Niemiec, 2020), for example, supervision (Sharp and Rhinehart, 2018), early childhood development (Lottman et al., 2017), meaning in life (Littman-Ovadia and Niemiec, 2017), and intellectual/developmental disability (Shogren et al., 2017).

Additional areas that meet or nearly meet the criteria for emerging research domains with character strengths include military, positive psychotherapy, positive parenting, intellectual/developmental disability, workplace/team roles, overuse/underuse/optimal-use, stress management, and positive relationships.

Ripe With Potential Research

For the ripe with potential domain, we selected areas in the science of character strengths that have between zero and three studies and the potential contribution of character strengths is robust and synergistic. We highlight three areas that are ripe for character strengths integration: spirituality, environment/nature connection, and peace/conflict studies. Each has seedlings emerging yet is wide open for extensive scientific investigation and eventually best practices.

The integration of spirituality and character strengths has been piecemeal with spirituality links to particular character strengths such as forgiveness, gratitude, humility, and love. The mutual synergy informed by the latest character strengths concepts, hundreds of studies in character science, character strengths interventions, and new research in spirituality has been largely unexplored. Niemiec et al. (2020) approached these areas by laying out a map of the six existing levels of integration for spirituality within the *VIA* Classification, and offered models for exploring this integration in the context of the psycho-spiritual journey toward wholeness. They offer two theoretical pathways by which character strengths and spirituality integrate and mutually benefit one another – the grounding path (where strengths offer tangibility and thereby deepen spirituality) and the sanctification path (where spirituality can elevate character strengths) and expound on several integration practices for each pathway that are grounded in science. Another article (Littman-Ovadia and David, 2020, this issue) shares how character strengths contribute to non-dual spirituality. Future studies might examine these pathways of integration and the practices therein.

The area of environment/nature connection also represents significant potential for the importance of character strengths. Considering the wide-ranging benefits of character strengths applications, it would seem reasonable to believe there would be a contribution to both pro-environmental behaviors and nature connectedness. One study showed character strengths were connected with sustainable behaviors, defined as actions intended to protect the socio-physical resources of the planet (Corral-Verdugo et al., 2015). Another study examined psychological barriers to environmental self-efficacy and found certain character strengths were strongly related (e.g., zest and leadership) and others were related but less strongly (e.g., kindness, humility, prudence, fairness, and forgiveness; Moeller and Stahlmann, 2019). Work on the integration of MBSP and nature connectedness/pro-environmental behaviors is in the beginning stages.

Peace studies (or peace/conflict studies) is the area that surprises us most that there has not been extensive research integrating character strengths to date. Cohrs et al. (2013) offered ways in which positive psychology contributes to peace and point out that character strengths offer strategies for inner peace and peace of mind and might contribute to peace, nonviolence, reduced reactivity, and building a global resilience.

In the literature on peace, a common distinction is made between positive peace and negative peace, where positive peace refers to the creation or building up of harmony and equity while negative peace refers to the decrease or elimination of violence, war, and human conflict (Christie et al., 2008; Neto and Marujo, 2017). In addition, there are many types of peace including inner/personal peace, relational peace, intragroup peace, intergroup peace, and international peace. Character strengths would seemingly have a significant place in positive and negative peace across each of these levels. The first author has begun an investigation of the role of character strengths with these levels.

Additional areas we believe are ripe with potential include social/racial justice, positive leadership, addictions and psychopathology, and sport/performance psychology.

Conclusion

The science of well-being, or science of positive psychology, was conceived as a bridge between academic scholarship, practical wisdom, and applied psychology/self-development. It is enveloped with many scholars, researchers, and practitioners eager to advance the field. One of the challenges is the siloed nature of the work. One of our aims with this paper has been to catalyze dialogue for scientists and practitioners by offering definitions, principles, and trending areas to unify disparate scientists and practitioners and spur collaborations.

We suggest the need for more seminal thought leadership papers and basic research in the areas mentioned as ripe with potential, and for researchers to take the next steps in examining the areas in the soaring and emerging domains. From a big-picture vantage point, the work in all these areas is only beginning; there are many nuances and challenges to untangle and discover in advancing the science of character strengths (Ruch et al., 2020).

We encourage practitioners to deepen their study of the principles of character strengths outlined and consistently engage in research-based practices with character strengths, which includes using the science as the default, having your own personal practice with character strengths, and taking action with practices such as strengths-spotting, signature strengths exploration, integration with mindfulness, and adhering to character strengths models such as aware-explore-apply.

We have found – and as noted here the science supports this – character strengths play a substantial role for both the boosting of well-being and the handling of adversity. Each is mountainous areas for researchers and trained practitioners to continue exploring in the pursuit of understanding and benefiting the human condition.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

RN researched, drafted, and revised the paper. RP lead the practitioner survey discussed and revised the paper. All authors contributed to the article and approved the submitted version.

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Character Strengths as "Values in Action": Linking Character Strengths With Values Theory – An Exploratory Study of the Case of Gratitude and Self-Transcendence

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Character strengths are widely studied positive traits considered to be "values in action," reflecting morally valued virtues. They are hypothesized to serve as pathways to the manifestation of values in life for the benefit of individuals and societies. However, there is surprisingly limited theoretical writing and empirical research on the expected links of character strengths with specific values [e.g., as defined by Schwartz (1992)] or on character strengths as the pathway for behavioral and social manifestations of these values. In this paper, we delineate theoretical links between the two theories and outline their implications. We then provide an initial empirical examination of a specific character strength – gratitude, as a pathway from Schwartz's self-transcendence values (self-reported) to prosocial behavior and peer acceptance (rated by peers), in two samples of adolescents (9th grade and 11th grade). The findings indicated that most pathways were significant, providing initial support for the theoretical model. However, in one of the samples, the indirect path from self-transcendence values to prosocial behavior was only marginally significant. Taken together, the findings point to the need for further research on the role of character strengths in creating a pathway from values to various social outcomes.

Keywords: values, character strengths, social outcomes, prosocial behavior, social acceptance, gratitude

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INTRODUCTION

Character strengths constitute a family of positive traits (Peterson and Seligman, 2004) reflecting routes to morally valued virtues (Dahlsgaard et al., 2005). They are often considered to be "values in action" (VIA; e.g., Park and Peterson, 2006), as each strength is related to the application of a certain virtue and reflects psychological mechanisms fostering its practice (Peterson and Seligman, 2004). The 24 character strengths are thus hypothesized to serve as the mechanisms enabling the behavioral practice of moral virtues in everyday life for the benefit of the individuals who practice them and others in their social environment (Peterson and Seligman, 2004).

These compelling theoretical ideas portraying character strengths as psychological pathways for pursuing moral values have attracted surprisingly limited empirical examination

(although their connections with positive behavior and social outcomes have been demonstrated; e.g., Niemiec, 2013). This may be partly because the initial categorization linking specific character strengths with specific virtues, suggested by Peterson and Seligman (2004), has been subjected to criticism about the theoretical structure and connections among the strengths and between strengths and virtues, and has received limited empirical support (e.g., Kristjánsson, 2013; McGrath, 2019; Miller, 2019; Snow, 2019; Stichter and Saunders, 2019). Another reason may be that virtues were typically computed as aggregated character strengths measures, as detailed below (e.g., McGrath, 2014, 2015). In our article, we suggest a possible way to fill this void by bringing together two theoretical frameworks, one for human values (Schwartz, 1994) and the other for character strengths (Peterson and Seligman, 2004), and examining character strengths as potential pathways for behavioral manifestation of values as defined by the human values theory, linking them to positive social outcomes (**Figure 1A**).

The character strengths and virtues framework (Peterson and Seligman, 2004) is different from the human values theory (Schwartz, 1994, 2012), and the meaning of *values* in the two theories is different (as detailed below). However, as also noted by Peterson and Seligman (2004), there are notable connections between the theories, and certain constructs seem to have parallel elements. In what follows, we delineate commonalities and differences and suggest that connections between the two theories can provide a valuable route to an external, empirical examination of character strengths as values in action. We then provide an initial example of this kind of empirical exploration, in a humble exploratory case study of one character strength – gratitude – hypothesized to provide a pathway from self-transcendence values with two frequently studied positive social outcomes, prosocial behavior, and peer acceptance (Schwartz, 2010; Cillessen and Bellmore, 2011). Based on the theoretical model, this idea is examined in two samples of adolescents.

Character Strengths

Character strengths have been widely researched over the past decade (e.g., Harzer, 2016), and their endorsement and use are consistently associated with increased well-being and functioning (e.g., Lavy et al., 2014; Littman-Ovadia et al., 2016; Lavy and Littman-Ovadia, 2017). As noted above, they have been defined as "values in action" (VIA; e.g., Park and Peterson, 2006), representing the psychological manifestations of moral values, reflected in thoughts, feelings, and behavior. As such, they represent "the psychological processes or mechanisms that define the virtues" (Park and Peterson, 2006; p. 893), with virtues considered basic values appreciated across cultures (Peterson and Seligman, 2004; Park and Peterson, 2006). Thus, character strengths are theorized to create the pathway through which core values (or "core virtues" in Peterson and Seligman's words) become mundane behaviors, leading to positive social outcomes.

Although notable research has explored the associations of character strengths with the anticipated end result of practicing noble values – personal and social well-being and functioning (e.g., Littman-Ovadia and Lavy, 2012; Harzer, 2016; Lavy et al., 2016; Littman-Ovadia and Lavy, 2016) – more limited empirical evidence links character strengths with valued social outcomes, and this evidence usually focuses on a few specific character strengths (Niemiec, 2013). Empirical research linking character strengths with values is equally scarce and is typically restricted to examinations of the hierarchical structure of character strengths and virtues (each virtue is thought to reflect basic values, which can be manifested *via* certain character strengths). Such examinations have questioned the initial theoretical structure suggested by Peterson and Seligman (2004), as various studies revealed a factorial structure of character strengths which was different than expected [for a review and analysis, see McGrath (2014, 2015)]. More important for present purposes, when examining links of virtues/values and character strengths, researchers have typically remained within the character strengths framework only. We sought to broaden the understanding of character strengths' relations with values by including another well-known framework of human values, posited by Schwartz (1994).

Proposed Theoretical Integration of Character Strength and Virtues and Human Values Theories

In his seminal theory of human values, Schwartz (1992, 2012) defined values as representations of desirable goals and important broad motivators of behavior. Thus, Schwartz's values are not identical to Peterson and Seligman's (2004) strengths and virtues: while Schwartz's working definition concerns what people value or think is important in their lives, character strengths and virtues are concerned with people's characteristics. Moreover, Peterson and Seligman's (2004) character strengths and virtues have moral valence. They are based on what are considered noble values, ones that people should appreciate. Schwartz's (1994, 2012) human values represent what people value in a non-judgmental, descriptive (not prescriptive) attitude, making his theory, in essence, a-moral.

There are four types of higher-order values, each representing a broad motivational goal: self-transcendence, openness-to-change, self-enhancement, and conservation (Schwartz, 1992, 1994). This values structure has been found in 70 countries (e.g., Schwartz and Rubel, 2005), and research has consistently demonstrated associations of the four value types with personality (Parks-Leduc et al., 2015), attitudes (Boer and Fischer, 2013), and behaviors (Bardi and Schwartz, 2003; Benish-Weisman, 2015, 2019).

We suggest that each higher-order value will be associated with certain virtues or virtues that comprise character strengths reflecting the personal characteristics required to attain the goals related to this value (**Table 1**). This is different from Peterson and Seligman's (2004) approach to the connection between the two theories, as they expressed an interest in comparing the measures of character strengths (not virtues) to those of specific values (not higher-order values). Such connections may indeed be more accurate, especially as the hierarchical structure of the VIA virtues has not gained much empirical support (as mentioned above; e.g., McGrath, 2015). However, we chose to explore, in our theoretical overview, the links between the higher-order levels

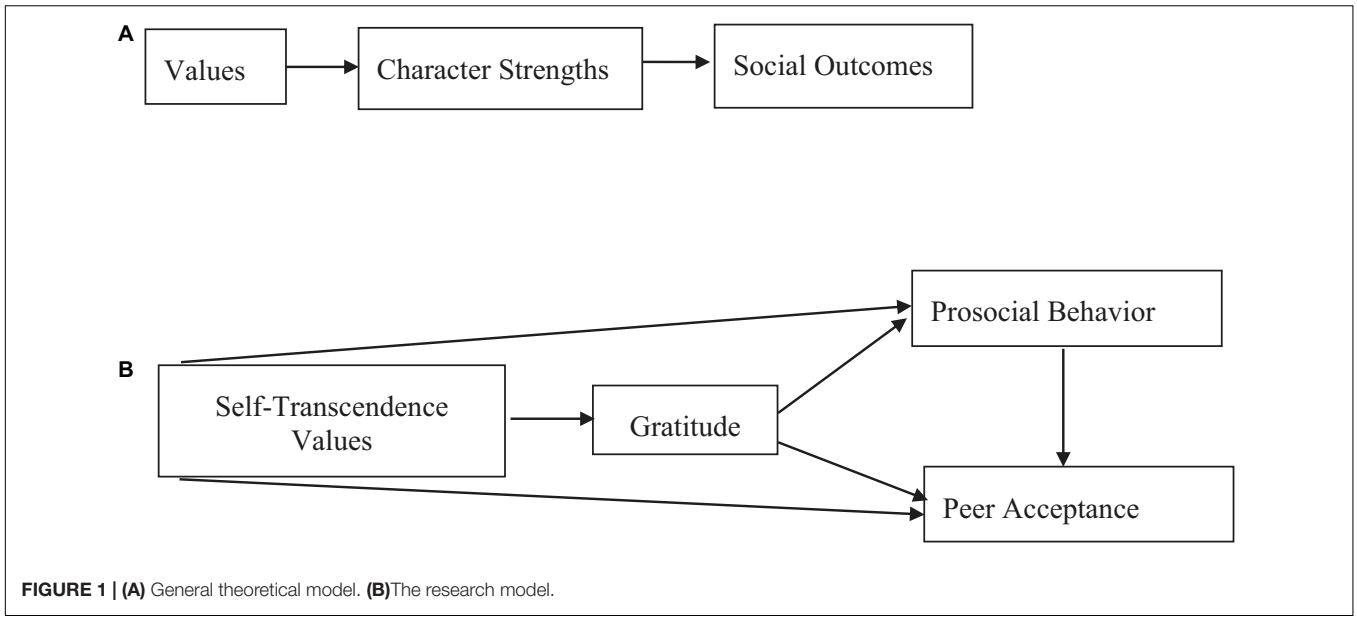

FIGURE 1 | (A) General theoretical model. **(B)**The research model.

TABLE 1 | An initial suggestion for corresponding values and virtues.

Schwartz's higher-order values (and the values related to them)	**VIA virtues (and the strengths related to them)**	
Self-transcendence reflects a concern for the welfare and interests of others (universalism and benevolence).	**Transcendence** reflects the connection to something "higher," something larger than ourselves, which can provide a sense of purpose or meaning (gratitude*, hope, humor, spirituality*, appreciation of beauty, and excellence*).	**Humanity** reflects feelings and values of basic love and companionship with all human beings (love, kindness, and social intelligence).
Conservation is concerned with order, self-restriction, preservation of the past, and resistance to change (security, conformity, and tradition).	**Temperance** (or moderation) is related to self-management, and conservation of social harmony and resources (forgiveness∼, modesty, prudence, and self-regulation).	**Justice** is about the connections with the community or group in different ways and situations (fairness*, leadership∼*, and teamwork/citizenship).
Openness to change is related to independence of thought, action, and feelings and readiness for change (self-direction and stimulation).	**Courage** focuses on strength of will, and pursuing one's beliefs and goals even in the face of adversities (bravery, persistence∼*, honesty, and zest).	
Self enhancement reflects a focus on pursuing one's own interests, success, and dominance over others (power and achievement).		
		Wisdom is about good judgment, based on profound knowledge and understanding (creativity*, curiosity, love of learning*, judgment, and perspective*).

∼The Human Values Theory claims the strength is related to a different value. Specifically, it suggests forgiveness is related to self-transcendence values, and leadership is related to self-enhancement values.

**Peterson and Seligman (2004) claim the strength is related to a different value. Specifically, they suggest appreciation of beauty and excellence corresponds with hedonism; gratitude and spirituality are related to conservation values (i.e., security and tradition, respectively); fairness and perspective are related to self-transcendence values (i.e., universalism); creativity, leadership, and persistence are related to self-enhancement values (i.e., corresponding with self-direction, power, and achievement values, respectively); curiosity and love of learning are related to openness to change values (i.e., stimulation).*

in both theories (i.e., virtues and higher-order values): We feel that linking more specific levels may be premature at this initial stage of mapping the links between the theories and require more information (including empirical evidence) about such connections. Furthermore, as each virtue is hypothesized to be manifested *via* a few character strengths, it is sensible to examine whether the character strengths related to a certain virtue indeed "operate" as pathways from the higher-order values paralleled with this virtue and the expected social outcomes (**Figure 1A**).

We followed Peterson and Seligman's (2004) suggestion that Schwartz's values assessment is "not identical with the measures of strengths we have developed. It measures what people value, not their traits or habitual actions" (p. 76). Following this line of thought, we explored the associations of Schwartz's (2012) higher-order values with Peterson and Seligman's (2004) typology of virtues, arguing that if character strengths are indeed "values in action," they will be related to Schwartz's (2012) values. Furthermore, in these cases, character strengths will

serve as the psychological mechanism promoting the behaviors embodying these values.

Connecting Specific Human Values With VIA Virtues

Before we move to the specific initial examination, we would like to offer an integrative framework. Our proposed theoretical connection is summarized in **Table 1**. We believe that the most salient connection of values and virtues is that between the higher-order *values of self-transcendence* stressing concern for the well-being and interests of others (Schwartz, 1994) and the VIA *virtue of transcendence* focusing on the connection to something larger than ourselves and looking above our own needs to engender a sense of purpose or meaning (Peterson and Seligman, 2004). Connecting to something above ourselves can be translated into taking care of others, as in self-transcendence values. Another core virtue which can be perceived as closely related to the higher-order value of self-transcendence is *humanity* – related to basic love of and companionship with all fellow humans (Peterson and Seligman, 2004). Linking VIA virtues to self-transcendence values is relatively intuitive, as these values focus on others/the universe, and can thus be considered moral (e.g., Han, 2019- about other-focused values and morality).

Higher-order *conservation values*, reflecting concerns for order, self-restriction, preservation of the past, and social harmony (Schwartz, 2012, p. 8), correspond with core aspects of the VIA virtues of *justice*, focusing on connecting with the community or group, and *temperance*, focusing on self-management and the maintenance of harmony with others.

The higher-order *openness-to-change values*, comprising values related to independent thought, action, and feelings (Schwartz, 2012, p. 8), correspond with certain aspects of the VIA virtue of *courage* and its concern with pursuing one's will in the face of adversity. However, this connection is more complex, as courage may be used to pursue values not closely connected to change and may even contradict it. This is also revealed in the strengths related to courage. It is possible to see how openness-to-change is related to two of these strengths – bravery and zest. However, the other two strengths related to courage, perseverance, and honesty seem more loosely connected to openness-to-change. Thus, in this case, a more nuanced connection of specific strengths with Schwartz's (2012) values may be more helpful.

In a similar vein, it is difficult to link the VIA virtue of *wisdom* to a specific higher-order value of Schwartz's (1994) theory. Wisdom seems to be an inclusive virtue, more loosely connected to a certain set of beliefs; it represents an advanced state of personal knowledge and understanding, stemming from highly developed perceptions and interpretive abilities and courageous actions to pursue it (Peterson and Seligman, 2004). Interestingly, most character strengths categorized under the wisdom virtue can be connected to other higher-order values (e.g., openness to change: creativity, curiosity, love of learning, perspective).

From the human values perspective, it is difficult to find a virtue that corresponds with *self-enhancement* values. Although certain aspects of courage and temperance can be related to the pursuit of personal success (e.g., perseverance and self-regulation), the moral valence of the VIA virtues limits their focus on self-enhancement and, in essence, gives more attention to other-oriented values, concerned with the good of others, and society. As noted above, while Schwartz's (1994) values theory is non-judgmental (i.e., a-moral), virtues are defined as "dispositions to behave in moral ways" (Park and Peterson, 2006, p. 895), emphasizing a universal moral valence.

Interim Summary

Despite the different focuses, Schwartz's human values conceptualization and measurement can be helpful in providing a broader theoretical perspective and alternative tools for examining character strengths as pathways from values to behaviors and social outcomes. Like virtues, Schwartz's higher-order values are perceived as basic constructs reflecting desirable ideas/goals and guiding desirable behavior. And as demonstrated above (and in **Table 1**), there are multiple links between higher-order values and virtues. To the best of our knowledge, although the link of Schwartz's (1994) values with character strengths in pursuit of predicting behavior has been suggested (Crossan et al., 2013), no studies have systematically examined associations of character strengths with other classifications of values.

In this research, we began to examine the theoretical model in which character strengths are theorized to be the pathways linking values/virtues (which are suspected to be paralleled, as mentioned above) with social outcomes. This examination is complex, especially because the various 24 character strengths (Peterson and Seligman, 2004) provide paths from the four higher-order values (Schwartz, 1994) to a host of social behaviors and outcomes. Thus, we conducted only an initial examination of one case in the theoretical model (**Figure 1B**), focusing on the more evident and relatively clear conceptual connections. Specifically, we focused on one character strength – gratitude – as a possible pathway from self-transcendence values to two positive social outcomes (Schwartz, 2010; Cillessen and Bellmore, 2011): prosocial behavior and peer acceptance.

Gratitude, Self-Transcendence Values, and Positive Social Outcomes

Gratitude, one of the 24 character strengths, has been studied by psychologists, philosophers, and theologists and has several definitions (Gulliford et al., 2013). Focusing on Peterson and Seligman's (2004) definition, we propose that it reflects a person's awareness and thankfulness for a good thing that has happened and/or the devotion of time to express this awareness and is related to the virtue of transcendence, because it can enable individuals to connect to the "larger universe" and give meaning to their lives (p. 519). The acknowledgment of goodness bestowed upon them is expected to connect people directly with goodness (in its diverse expressions) and the notion that we have benefited from someone else actions, resulting in feelings of grace, is considered a transcendent emotion (Peterson and Seligman, 2004, p. 524).

Gratitude and Values

Empirical research provides some support for the categorization of gratitude as a strength of transcendence, while showing its associations with altruistic values (e.g., Romani et al., 2013). Thus,

we suggest gratitude is positively related to self-transcendence values (Schwartz, 1992). It should be acknowledged that Peterson and Seligman (2004, p. 74) argue that gratitude corresponds with the value of security, because it may be related to nurturing and strengthening close relationships that provide security. Although gratitude may indeed serve the need for security (and the more basic value of conservation), we rely on its adherence to the initial definition of self-transcendence and on recent literature (accumulated after 2004) to suggest it may be more closely related to self-transcendence values.

Gratitude as a Pathway From Self-Transcendence Values to Positive Social Outcomes

We further suggest that gratitude will provide a pathway from self-transcendence values to prosocial behavior and peer acceptance – two social outcomes with a far-reaching impact on human lives (Prinstein and La Greca, 2004), because they help preserve the social fabric required for human existence and thriving. Although all higher-order values defined by Schwartz (1994) have the potential to contribute to individuals and societies, the values which are theoretically most closely connected to prosocial behavior and positive social outcomes are self-transcendence values (Schwartz, 2010; Arieli et al., 2014). These values emphasize concern for the well-being and interests of others, and their positive association with and effect on prosocial behavior have been established in a laboratory setting (e.g., Maio et al., 2009; Arieli et al., 2014). However, knowledge of these relations in natural settings and of the personality mechanisms through which they operate (e.g., gratitude or other character strengths) is scarcer (e.g., Benish-Weisman et al., 2019), and their examination could help explain the antecedents of these desired social behaviors.

Our decision to also examine peer acceptance was based on the compelling evidence that values are related to both behavior and social adjustment (Sagiv and Schwartz, 2000). We argue that transcendence values may be related to a specific kind of social adjustment – acceptance by the peer group – because they entail a focus on others and concern for the social environment. We further proposed that gratitude may pave the path from self-transcendence values to peer acceptance, because one of the ostensible functions of gratitude is to build and preserve relationships by encouraging reciprocity of the "grace" individuals receive from others, thus promoting prosocial behavior and partnerships (Emmons and McCullough, 2004; Bartlett and DeSteno, 2006). Empirical studies have demonstrated that gratitude is linked with and affects not only prosocial behavior, but also positive relationships and social integration (McCullough et al., 2002; Bartlett and DeSteno, 2006; Algoe et al., 2008; Froh et al., 2010; Wood et al., 2010).

In sum, the integrative research model (**Figure 1B**) suggests self-transcendence values give rise to gratitude, which, in turn, promotes prosocial behavior and peer acceptance:

> *H1: Gratitude will provide a pathway from self-transcendence values to prosocial behavior.*
> *H2: Gratitude will provide a pathway from self-transcendence values with peer acceptance.*

The Present Study

We examined the model in two samples of adolescents. We focused on adolescents because values and character strengths are thought to develop during adolescence (Weber et al., 2013; Daniel and Benish-Weisman, 2019), and social behavior and outcomes are especially important (Parker et al., 2006). Initial examination of the research model was conducted in a pilot sample comprising mostly Jewish-Israeli 9th graders. Then, we replicated the findings in a larger, more diverse sample. Acknowledging the importance of cultural context in examining the application of moral values/virtues (e.g., Han, 2019; Snow, 2019), and the notable differences between Jews and Arabs living in Israel in terms of values, behavior, and social outcomes (e.g., Daniel et al., 2014), the main sample comprised both Jewish and Arab 11th graders.

METHOD

Participants

Sample size was determined using power analysis in G*Power 3.1. Based on correlations extracted from a data set collected for a previous study (Knafo-Noam, Unpublished data set, also used in Abramson et al., 2018), the association between prosocial behavior and self-transcendence values was 0.25. Assuming one-tailed α values of 0.05, the required sample size was 168. The pilot sample comprised 161 students (53.4% women) in the 9th grade in a Jewish school in Israel. Most were Jews born in Israel (78.1%) or Jews born in Russia (19.2%), with a few other ethnicities (2.7%). The second, main sample comprised 344 (51% girls) 11th grade students from four high schools in Israel, including Jews born in Israel (34.5%), Arabs born in Israel (33%), and Jews born in Russia (31%).

Measures

Self-transcendence values were measured with the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001), previously found suitable for use with children and adolescents (Schwartz et al., 2001; Knafo et al., 2008). The PVQ includes four sub-scales assessing the four higher-order values. The self-transcendence subscale includes short verbal descriptions of 10 people (matched to the respondent's gender) indicating the importance of caring for the welfare and interests of others (e.g., "It's very important for her to help the people around her. She wants to care for their well-being"). For each description, participants rate their similarity to the person described, on a 6-point scale, ranging from 1 (not like me at all) to 6 (very much like me). Respondents' own values are inferred from their self-reported similarity to the described people. As a standard procedure when using the PVQ, we controlled for response tendency by centering each participant's responses around his or her average response to all questions on the scale (Bardi et al., 2014). The scale's internal reliability was good in both the pilot and main samples (α's = 0.82 and 0.85, respectively).

Gratitude was assessed with the first five items of the Gratitude Questionnaire (GQ-6; McCullough et al., 2002; Froh et al., 2011). The last item was omitted because low loadings have consistently

been found in previous studies, especially in youth (Froh et al., 2011). Participants' agreement with each item (e.g., "I have so much in life to be thankful for") was rated on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale's reliability was satisfactory (α = 0.74 and 0.78 for the pilot and main samples, respectively).

Prosocial behavior was assessed by peer nomination (Ungvary et al., 2018). The inventory included three questions tapping prosocial behavior (e.g., "Who cooperates?"), and participants marked, on a list of their classmates, the names of those whose behaviors fit each of the given descriptions. Each participant's score on each item was computed by dividing the number of nominations he or she received by the total number of classmates who could have nominated him or her for that item. The final scores for each item were standardized within all the participating students within each class. The scale's reliabilities are α = 0.83 and 0.64 in the pilot and main samples, respectively.

Peer acceptance was also assessed by peer nomination. The inventory included four items tapping social acceptance (e.g., "Who is liked by the other children?"), and participants marked, on a list of classmates, those that fit the descriptions. Items were scored as described above (prosocial behavior assessment). The scale's reliability was good (α = 0.89 and 0.78 for the pilot and main samples, respectively).

Procedure

Consent forms were sent to parents of students in participating schools, with over 95% approval rate. Trained research assistants distributed the questionnaires to the participating children during a class session. As a token of gratitude for their participation, students received small, attractive incentives (e.g., pencils). The University of Haifa and the Israeli Ministry of Education ethical review boards approved the study.

RESULTS

Table 2 presents the variables' means, standard deviations, and zero-order correlations. The research model (**Figure 1B**) was examined using structural equation modeling (SEM) in the AMOS statistical package, while including the covariance between the dependent variables, and controlling for gender (and also ethnicity, in the main sample). For the pilot sample, the measurement model showed good fit with the data (TLI = 0.91, CFI = 0.92, RMSEA = 0.06). The items' loadings were acceptable: The self-transcendence items loadings were 0.42–0.69 (with one exception 0.28), and the gratitude, prosocial behavior, and peer acceptance items had loadings of 0.44–0.82, 0.67–0.89, and 0.82–0.90, respectively. In the research model (path analysis), all direct and indirect paths were significant (see details in **Figure 2A**), and thus, both research hypotheses (H1 and H2) were supported.

In the main sample, again, the measurement model showed a good fit to the data (TLI = 0.90; CFI = 0.92; RMSEA = 0.60). The self-transcendence items loadings were 0.51–0.75 (with one exception −0.30). The gratitude, prosocial behavior, and peer acceptance items had loadings of 0.64–0.82, 0.72–0.83, and 0.67–0.83, respectively. In the research model (path analysis), the direct effects of self-transcendence values on gratitude and of gratitude on peer acceptance were significant, as well as the indirect effect of self-transcendence values on peer acceptance *via* gratitude (supporting H1). The direct effect of gratitude on prosocial behavior and the indirect effect of self-transcendence values on prosocial behavior *via* gratitude were marginally significant (see details in **Figure 2B**), providing marginal support for H2.

TABLE 2 | Means, standard deviations, and correlations of sample 1 and 2 variables.

	Means	SD	Self-transcendence values	Gratitude	Prosocial behavior
Sample 1					
Self-transcendence values	4.23	0.46			
Gratitude	5.38	1.04	0.12		
Prosocial behavior	0.03	0.80	0.18*	0.17†	
Peer acceptance	0.06	0.77	0.02	0.28***	0.31***
Sample 2					
Self-transcendence values	4.15	0.50			
Gratitude	4.96	1.37	0.13**		
Prosocial behavior	0.15	0.81	0.06	0.10†	
Peer acceptance	0.12	0.80	−0.03	0.14**	0.52***

†*P* < 0.1.; *P < 0.05; **P < 0.01; ***P < 0.001.

DISCUSSION

The paper introduces a framework for exploring character strengths' role as "values in action," linking Peterson and Seligman's (2004) theoretical framework with that of Schwartz (1994, 2012). It suggests that the VIA character strengths (Peterson and Seligman, 2004) may provide a path from higher-order values (as defined by Schwartz, 1994) to behaviors and social outcomes. Thus, character strengths may serve as psychological mechanisms driving the pursuit of these values in life. We show how this connection between the theories can be examined in an initial example of a case study of gratitude.

The empirical study focused on a higher-order value (self-transcendence) which has a relatively salient connection with the VIA virtue transcendence. It examined one pathway from this value to social outcomes (prosocial behavior and peer acceptance) – *via* gratitude, a character strength thought to present a psychological manifestation of transcendence. We examined this theoretical model in two samples. The results generally supported the model, suggesting that gratitude may serve as a pathway from self-transcendence values to prosocial behavior and peer acceptance. However, in the main sample, the indirect path to prosocial behavior *via* gratitude was only marginally significant, suggesting that other factors may be involved and that more research is needed.

The findings provide initial empirical evidence that character strengths may serve as psychological mechanisms linking values

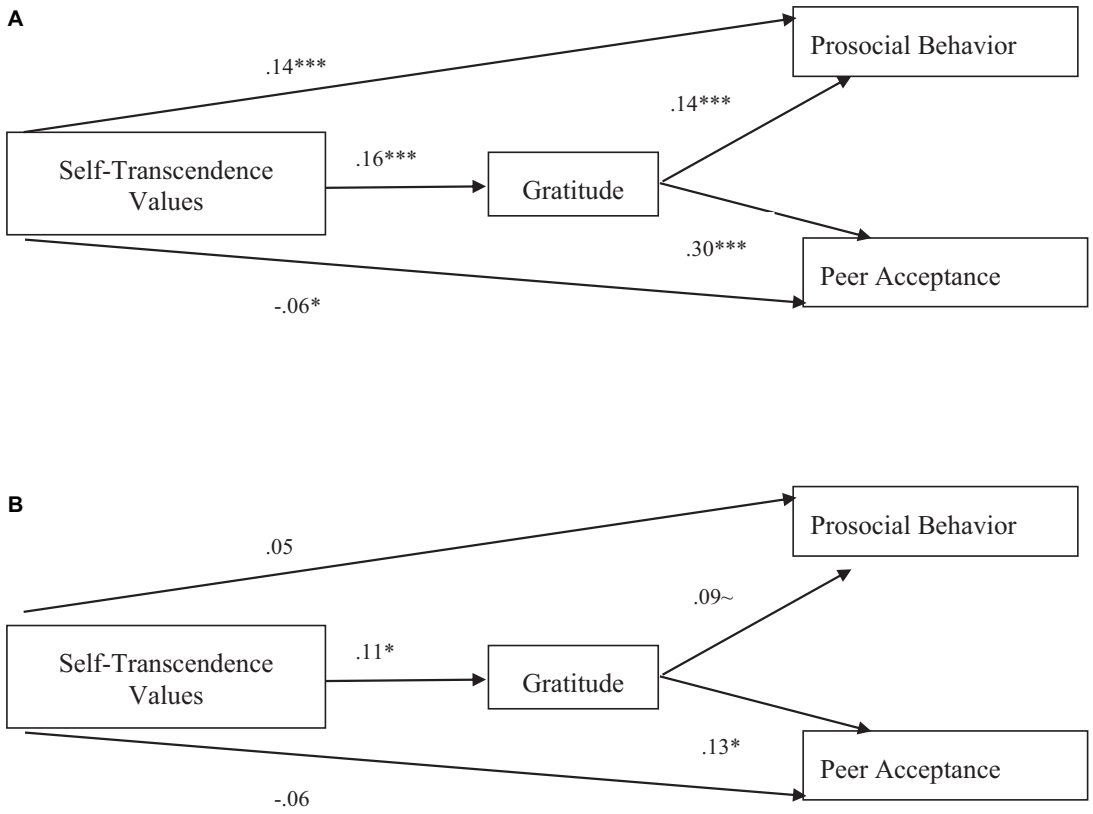

FIGURE 2 | (A) Standardized estimates of SEM saturated model linking self-transcendence values, gratitude, prosocial behavior, and peer acceptance in 9th graders (pilot sample). *$P < 0.05$; ***$P < 0.001$. All direct and indirect effects were significant. The standardized indirect effect of self-transcendence values was 0.023, $P < 0.001$ (SE = 0.004; 95% CI = 0.015, 0.033) on prosocial behavior, and was 0.048, $P < 0.001$ (SE = 0.007; 95% CI = 0.035, 0.062) on peer acceptance, suggesting that both indirect effects were significant. **(B)** Standardized estimates of SEM saturated model linking self-transcendence values, gratitude, prosocial behavior and peer acceptance in 11th graders (main sample). Notes: *$P < 0.05$; ~$P = 0.08$. The standardized indirect effect of self-transcendence values was 0.11, $P = 0.058$ (SE = 0.008; 95% CI = 0.000, 0.033) on prosocial behavior, and was 0.015, $P < 0.05$ (SE = 0.009; 95% CI = 0.002, 0.039) on peer acceptance, suggesting that the first indirect effect was marginally significant, and the second was significant. All error terms were omitted in the figures, as well as the covariance between the dependent variables, to enhance simplicity and comprehension; ethnicity and gender were controlled.

with behavior, as theorized (e.g., Park and Peterson, 2006). They shed light on how the application of values, which are broad and abstract, can be encouraged, as character strengths can be cultivated through practice (Peterson and Seligman, 2004; Quinlan et al., 2012). Furthermore, because character strengths' use and development depend (at least to some extent) on an individual's social, organizational, and familial contexts (e.g., Harzer and Ruch, 2013; Lavy et al., 2017; Lavy, 2020), we may be able to enhance their use and promote positive social behavior by structuring environments (e.g., workplaces, schools) in ways that encourage it. For example, self-transcendence may be practiced in classes (or organizations) by encouraging gratitude expressions. However, as in the second sample, the indirect path to prosocial behavior *via* gratitude was only marginally significant, these findings should be interpreted with caution, while acknowledging that additional factors may heavily influence social behavior and outcomes, and other processes (e.g., developmental and cultural) may affect the moderating role of character strengths.

We also had other unexpected findings not related to the main hypotheses: the zero-order correlations of self-transcendence values with gratitude (pilot sample) and with prosocial behavior (main sample) were not significant (**Table 2**). These findings may be due to demographic factors that were controlled in the subsequent analyses (i.e., gender and culture) and may be worthy of further investigation in light of the cultural characteristics of the two samples: The Jewish population is characterized more by Western and individualistic values, but also prize family and communal values (Mayseless and Salomon, 2003; Mayseless and Scharf, 2003). The Arabic population is considered in transition, but traditionally endorses more conservative and collectivistic values (Lapidot-Lefler and Hosri, 2016).

The research findings should be considered in light of its limitations; our cross-sectional design did not allow inference of causality. Our analysis was based on limited questionnaires and peer assessment, and the samples included only adolescents from only two cultures in one country. Although the design

included relatively powerful measurements of behavior and social outcomes of peer nominations (which are less inclined to social desirability effects), further exploration of concrete behaviors can be helpful, as well as a longitudinal study. Furthermore, although the theoretical research framework generally proposes that the 24 character strengths serve as pathways from values to social outcomes, the present research provides a very humble empirical examination of this idea, in a specific case – of one set of values, one character strength, and two social outcomes. A more thorough examination of other character strengths as pathways from values to social outcomes is needed in order to ascertain its validity. Such examination can also help map the connections of human values with character strengths.

Despite the limitations of the research, our findings offer initial evidence for potential links of Schwartz's (1992) human values theory with the VIA framework, thus deepening our understanding of social behavior. As no studies to date have systematically examined associations of character strengths with other classifications of values, we hope this research will inspire further empirical research that openly links character strengths to other theoretical frameworks.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the University of Haifa, Faculty of Education Ethics Committee and the Chief Scientist of the Israeli Ministry of Education. Written informed consent from the participants' legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

MB-W was responsible for data collection. SL wrote an initial draft, on which MB-W provided the meaningful comments and changes, and both authors continued to work together on the manuscript until finalized. Both authors jointly developed the theoretical framework and research design and conducted the analysis together.

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Character Strengths in the Life Domains of Work, Education, Leisure, and Relationships and Their Associations With Flourishing

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A growing body of research demonstrates the relevance of character strengths for flourishing in general, but also for important outcomes across different life domains (e.g., work performance and relationship satisfaction). Studies have also shown that there are differences in the extent to which character strengths are applied, that is, perceived as relevant and shown in behavior in a given context, between work and private life, but they have not considered other life domains. This study aims to close this gap by examining the life domains of work, education, leisure, close personal relationships, and romantic relationships. The present study investigates whether (a) strengths-related behavior across different life domains explains additional variance in flourishing beyond the trait level of each respective character strength and studies (b) differences in the relevance of character strengths and strengths-related behavior across different life domains, and examines (c) their relationships with flourishing. A sample of 203 German-speaking adults (78.8% females; mean age = 29.4 years) completed self-reports assessing flourishing and character strengths. They also indicated which of the five life domains were personally relevant to them (i.e., on average 4.23 life domains) and reported the character strengths' perceived relevance and the frequency of displaying strengths-related behavior for each of these life domains separately. The results demonstrate that (a) strengths-related behavior averaged across all relevant life domains explained unique variance in flourishing above the trait-level of character strengths in some cases (e.g., creativity, kindness, and fairness), (b) different life domains were characterized by specific profiles of character strength—regarding both their relevance and strength-related behavior. Moreover, (c) character strengths and strengths-related behavior in different life domains both showed substantial correlations with flourishing. In some cases, these associations were domain-specific (e.g., displaying love of learning in the context of education was related to higher levels of flourishing). In conclusion, we suggest that examining strengths-related behavior across different life domains represents a worthwhile addition to research on character strengths.

Keywords: character strengths, strengths-related behavior, applicability of character strengths, strengths use, strengths deployment, life domains, flourishing, well-being

INTRODUCTION

Do we experience flourishing when we are creative in our leisure time? Is love of learning displayed particularly often in the context of education? Do we consider prudence to be more relevant at work than in other domains of life? Character strengths, such as creativity, love of learning, and prudence, are conceptualized as positively valued personality traits (Peterson and Seligman, 2004), so we generally assume that they can be and are displayed across a variety of different situations in various life domains (see Niemiec, 2020). Character strengths can be investigated at different levels. Typically, they are conceptualized as traits that are relatively stable across time and context. However, investigating whether character strengths are perceived as important and displayed in a specific life domain allows for a more nuanced understanding of the role character strengths play in different life domains.

Empirical findings demonstrate the relevance of character strengths both for well-being and flourishing in general (e.g., Hausler et al., 2017a; Wagner et al., 2020a) and for desirable outcomes in different life domains (e.g., workplace, Harzer and Ruch, 2014; Heintz and Ruch, 2020, or education, Lounsbury et al., 2009; Wagner and Ruch, 2015). These findings suggest that some character strengths are relevant across all life domains, but some strengths might be of particular relevance to specific life domains (e.g., love of learning to education). The present study aims to extend the knowledge on the role of character strengths across different life domains. To achieve this aim, we assessed character strengths as traits (i.e., as individual differences that are relatively stable across time and context) as well as the character strengths' relevance and strengths-related behavior (i.e., perceived importance of each respective character strength and the frequency with which one displays behavior consistent with that character strength) for each life domain. Specifically, we investigated whether (a) strengths-related behavior across different life domains explained additional variance in flourishing beyond the contribution of character strengths as traits, (b) life domains differed concerning the perceived relevance of character strengths as well as the frequency of their display, and (c) perceived relevance and strengths-related behavior across life domains were related to a global assessment of flourishing.

Character Strengths

The Values in Action (VIA) classification (Peterson and Seligman, 2004) describes character strengths as a family of positively valued traits, a set of qualities that enable individuals (and their communities) to thrive, that is, to achieve optimal psychological functioning or flourishing. The classification represents a cornerstone of positive psychology, which is aimed at studying what makes life worth living (Seligman and Csikszentmihalyi, 2000). The VIA classification comprises 24 character strengths that are assigned to six core virtues: creativity, curiosity, judgment, love of learning, and perspective (assigned to the virtue of wisdom and knowledge); bravery, perseverance, honesty, and zest (assigned to the virtue of courage); love, kindness, and social intelligence (assigned to the virtue of humanity); teamwork, fairness, and leadership (assigned to the virtue of justice); forgiveness, humility, prudence, and self-regulation (assigned to the virtue of temperance); and appreciation of beauty and excellence gratitude, hope, humor, and spirituality (assigned to the virtue of transcendence).

These character strengths were selected based on a broad review of positively valued traits in research, history, and popular culture across different cultures (Peterson and Seligman, 2004) and had to fulfill most of the 12 criteria to be included (see Ruch and Stahlmann, 2019). One of these criteria is that character strengths are trait-like characteristics, which demonstrate relative stability across time and different situations. Relative stability means that traits are shown to a similar degree across situations, but there is also variability between different contexts. Variability in the enactment of personality traits across situations has many sources (e.g., Green et al., 2019), yet it can be argued that life domains account for a relatively large part of this variability, in part because they vary in goals and social roles to be fulfilled (see, e.g., Bleidorn and Denissen, 2015). Character strengths are thus expected to be displayed across all life domains of an individual, yet to also show variation across life domains. Harzer and Ruch (2013) have demonstrated this for the broad distinction between work and private life; the present study takes a closer look at this by studying life domains in more detail.

Character Strengths and Flourishing

Previous studies have provided consistent support for the relationship of the 24 character strengths described in the VIA classification with various facets of well-being and flourishing (e.g., Peterson et al., 2007; Proyer et al., 2011, 2013; Buschor et al., 2013; Martínez-Martí and Ruch, 2014; Hausler et al., 2017a; Gander et al., 2020c; Wagner et al., 2020a). The character strengths of curiosity, zest, love, gratitude, and hope have consistently shown the most substantial relationships with subjective well-being. In addition to this set of strengths, the character strengths of honesty, perseverance, kindness, social intelligence, self-regulation, and humor have been found to be robustly related to overall psychological well-being (Hausler et al., 2017a). However, there were also hints at differential relationships of character strengths with specific aspects of well-being, such as mastery or accomplishment in the case of perseverance (Hausler et al., 2017a; Wagner et al., 2020a), giving rise to the idea that character strengths contribute differentially to various life outcomes and as a consequence may vary in their relevance across life domains.

Variations between contexts can be studied by investigating the display of character strengths across different situations (i.e., in various life domains). This has been done using varying terminologies—for example, "application," "applicability," "use," "deployment," or "strengths-related behavior"—which all refer to the extent to which a person shows behavior related to a character strength in a given context. However, the term "applicability," character strengths as introduced by Harzer and Ruch (2012, 2013), covers four aspects: (a) the promotion ("it is encouraged"), (b) the helpfulness ("it is helpful"), and (c) the importance ("it is important to me") of a character strength as well as (d) strength-related behavior ("I behave like this") in the respective context. By taking the aspects of promotion, helpfulness, and importance

into account, this conceptualization specifically acknowledges the role of environmental demands that might influence the degree to which a character strength can be displayed in a given context—in other words, the character strengths' relevance in the context.

Typically, all four aspects assessed by the Applicability of Character Strengths Rating Scales (ACS-RS; Harzer and Ruch, 2013) are summed up into a total score. In the present study, however, we considered the perceived relevance in a given context (i.e., the items referring to promotion, helpfulness, and importance) separately from the display of strengths-related behavior (i.e., the item assessing behavior) to provide a more nuanced picture of the relationships studied. The item assessing strengths-related behavior is highly similar to other assessments of strengths deployment, which is displaying character strengths in a given context, such as the Strengths Deployment Measure (Littman-Ovadia and Steger, 2010; Littman-Ovadia et al., 2017). While both aspects (relevance and strengths-related behavior) reflect an individual's perception, we argue that perceived relevance more strongly refers to features of the context, whereas strengths-related behavior refers directly to the display of behavior.

Overall, it has been assumed that the display of character strengths is related to individual well-being, and that individual well-being can be increased by displaying character strengths (Peterson and Seligman, 2004). Randomized placebo-controlled trials have indeed shown that the positive psychological interventions that instruct participants to find new ways to display their signature strengths (i.e., those strengths that are most typical of an individual) are effective in improving well-being and alleviating depressive symptoms (see Schutte and Malouff, 2019, for a meta-analysis).

However, it is unclear whether the effectiveness of such interventions is limited to increasing the display of signature strengths—two studies found that the same intervention was equally effective when it was not limited to an individual's signature strengths (Rust et al., 2009; Proyer et al., 2015). Therefore, it seems that displaying character strengths is generally beneficial for well-being, irrespective of whether the strengths are the individual's signature strengths. In addition, the VIA Inventory of Strengths (VIA-IS; Peterson and Seligman, 2004) is not designed to assess signature strengths, and it has not been tested whether the five highest strengths in the VIA-IS match the signature strengths assessed by different means (i.e., *via* interview or by testing the proposed criteria for signature strengths directly; Ruch, 2013). As a consequence, the present study investigated the role of displaying all character strengths across various life domains, without limiting the focus to signature strengths.

Huber et al.'s (2020) results provided the first support for the idea that the applicability of a character strength might explain additional variance in well-being beyond the influence of the trait level of the respective strength. However, the authors only addressed this question for five of the 24 character strengths and in smaller subsamples of $n < 100$. In the present study, we investigate this question for all character strengths and also extend the life domains studied.

Building on the results reviewed, we derived the following expectations:

Hypotheses 1.1–1.11: We expect the character strengths of curiosity, perseverance, honesty, zest, love, kindness, social intelligence, self-regulation, gratitude, hope, and humor to be positively related to flourishing.

Hypotheses 2.1–2.11: We expect the mean strengths-related behavior across life domains for the character strengths of curiosity, perseverance, honesty, zest, love, kindness, social intelligence, self-regulation, gratitude, hope, and humor to be positively related to flourishing.

Hypothesis 3: We expect the aggregat level of strengths-related behavior across different life domains to explain unique variance in flourishing when analyzed together with the VIA-IS scores of all 24 character strengths.

Character Strengths' Roles Across Different Life Domains

The first criterion for a character strength is that it contributes to different fulfillments that make up a "good life" (Peterson and Seligman, 2004). Previous research has shown that character strengths differentially relate to orientations to well-being (Seligman, 2011; pleasure/positive emotions, engagement, meaning, and accomplishment; Wagner et al., 2020a). It can be assumed that different life domains offer different opportunities for fulfillment, and thus, it can be assumed that the character strengths' relevance varies between life domains, at least to a certain extent. While previous studies only considered one life domain or compared the broad domains of private and work life, the present study focuses on character strengths in a range of different life domains that we consider most relevant in the lives of (young) adults: work, education, leisure, close personal relationships, and romantic relationships.

In the following, we provide an overview of the evidence regarding associations between (a) character strengths and (b) the applicability of character strengths or strengths-related behavior with relevant outcomes in the respective life domain, as well as any studies providing information on (c) the perceived relevance of character strengths in this context, for each of these five life domains. From these findings, we derive hypotheses on which character strengths are of particular relevance in each respective life domain. Given the scarcity of results differentiating (a), (b), and (c), we tentatively assume that the character strengths of particular relevance are (1) perceived as more relevant and (2) displayed more frequently in behavior than in other life domains and that their (3) relevance and (4) display in this life domain are positively related to flourishing. It is, however, likely that the results regarding these aspects will diverge for some of the character strengths.

Work

Much research has focused on the role of character strengths in the workplace. In particular, the character strengths of zest and perseverance have been highlighted as particularly conducive to work-related outcomes, including being satisfied with one's work, perceiving one's work as meaningful, showing

little counterproductive work behavior, and performing well (Peterson et al., 2009; Littman-Ovadia and Lavy, 2016).

While the character strengths associated most strongly with job satisfaction overlap with those most strongly associated with life satisfaction (i.e., zest, hope, curiosity, love, and gratitude), differential relationships were also found for different occupational subgroups (Peterson et al., 2010; Heintz and Ruch, 2020). Gander et al. (2020b) recently showed in a sample that was nationally representative for Switzerland that work satisfaction is not only concurrently but also predictively related to character strengths (i.e., zest, love, kindness, social intelligence, leadership, forgiveness, gratitude, and hope showed positive relationships at all time points). Underlining the role of the work context, a fit with the typical character strengths' configuration in the occupational group is also relevant for job satisfaction (Peterson et al., 2010; Gander et al., 2020b). Gander et al. (2012) found that character strengths explained 35% of the variance in satisfaction with work results (as compared with 53% of the variance in life satisfaction), with the character strengths of hope, perseverance, zest, curiosity, perspective, and bravery yielding the highest correlations. Character strengths have also been shown to relate to adaptive coping strategies in the workplace and lower levels of work-related stress or burnout (Harzer and Ruch, 2015; Allan et al., 2017). Further, some character strengths go along with better self- and supervisor-rated work performance (Harzer and Ruch, 2014; Gander et al., 2020a), including both task performance and contextual performance. Finally, differences in character strengths have been observed in working versus retired individuals after controlling for age in a sample representing middle adulthood to old age, although the observed effects were small (Baumann et al., 2020).

The role of displaying character strengths in the context of work has also been studied. For instance, Littman-Ovadia and Steger (2010) presented the names of the 24 character strengths of the VIA classification and asked employees and volunteers to rate the extent to which they had the opportunity to display the respective strengths in their daily activities, which was then summed up into an overall score. This global assessment was positively related to overall well-being and meaning (in both life and work) across both groups. A more nuanced approach for the assessment of displaying character strengths at work was suggested by Harzer and Ruch (2012, 2013, 2014): using the ACS-RS, they showed that (1) there are differences in the applicability of character strengths between private and work life (e.g., all character strengths assigned to the virtues of wisdom and knowledge were more applicable in work life, whereas all character strengths assigned to the virtues of courage and humanity were more applicable in private life), (2) the relationship between an individual's level of a character strength score and the applicability was, on average, of medium and similar size for both work and private life (i.e., there seemed to be a similar degree of environment selection in both contexts), and (3) the applicability of character strengths at work (also when rated by supervisors) was positively related to both well-being and performance at work. These findings were corroborated by a randomized, placebo-controlled intervention that found increases in calling and life satisfaction for the intervention group that was instructed to show their four highest character strengths more frequently at work for 4 weeks in comparison with the control group that was instructed to reflect on four situations in which they were "at their best" (Harzer and Ruch, 2016).

Extending this work, several studies have been focused on the applicability of signature character strengths (typically the four character strengths in which an individual scores highest) at the workplace and its relationship to work-related and general well-being (Hausler et al., 2017b; Merritt et al., 2019; Höge et al., 2020; Huber et al., 2020; Strecker et al., 2020). Among these, Huber et al. (2020) also report initial results suggesting that, in particular, the applicability of judgment at work is relevant to work-related outcomes, such as higher levels of work engagement and lower levels of emotional exhaustion and depersonalization. Another group of studies has used generic measures of strengths use that are not related to the character strengths of the VIA classification (e.g., Dubreuil et al., 2014; Lavy and Littman-Ovadia, 2016; Bakker and van Woerkom, 2018). The studies converge in supporting the notion that showing strengths-related behavior at work is conducive to desirable outcomes; however, given the general nature of the assessment of strengths use (using the phrase "my strengths," which can be construed in very different ways by participants), their results are of limited usefulness for the present study. Nonetheless, these studies support the claim that strengths-related behavior at work is relevant for both work-related and global life outcomes.

Hypotheses 4.1–4.6: Building on the results reviewed, we expect the character strengths of judgment, perseverance, zest, teamwork, leadership, and self-regulation to be of particular relevance in the life domain of work (i.e., that they will be perceived as more relevant and displayed more frequently in behavior than in other life domains and that their relevance and display in this life domain will be positively related to flourishing).

Education

The role of character strengths in educational contexts has mostly been studied in adolescents. Studies demonstrate that (a) several character strengths are related to educational outcomes, including school-related well-being, positive classroom behavior, and school achievement; (b) these associations are robust when controlling for the influence of cognitive ability; and (c) there is a differential pattern of associations depending on the outcome of interest (e.g., prudence and self-regulation seem to be of particular relevance for positive classroom behavior), but certain character strengths (in particular, perseverance and love of learning) seem to be of general relevance in the educational setting (e.g., Park and Peterson, 2006; Weber and Ruch, 2012a; Wagner and Ruch, 2015, 2021; Weber et al., 2016; Wagner et al., 2020b).

Wagner and Ruch (2021) studied the role of strengths-related behavior at school for academic achievement and school-related well-being. Drawn from a diary study, the results demonstrate that strengths-related behavior in the context of school explained additional variance in educational outcomes (school achievement and well-being) beyond the level of the character strengths (i.e., the "possession" of the respective strength), on both the between-person and the within-person level. This study's findings also substantiate the notion of separating the perceived relevance of

character strengths from the display of strengths-related behavior in a given context: several character strengths were perceived as highly relevant at school but were not reported to be shown frequently (e.g., love of learning and leadership), whereas other character strengths (e.g., humility and humor) were not perceived as highly relevant but shown frequently.

In the context of college or university education, perseverance has emerged as a consistent predictor of academic achievement (as assessed by grade point average), and college satisfaction was found to be highly correlated with the character strengths of hope, self-regulation, zest, and perseverance (Lounsbury et al., 2009; Karris Bachik et al., 2020). In addition, love of learning has also been found to relate to the educational level obtained in adults, hinting at its general relevance for education (Ruch et al., 2010).

Kachel et al. (2020) investigated the applicability of signature character strengths in studies and private life in a sample of medical students. Overall, they found higher scores for the applicability of signature character strengths in private life than for the applicability in university life, in particular for those students with high or increasing levels of cynicism. While this suggests that applying signature strengths during studies may be related to higher levels of well-being, because of the methodological approach of only assessing the applicability of each individual's five highest character strengths, these results do not advance the question of which character strengths are most relevant in the university context.

Hypotheses 5.1–5.4: Building on the results reviewed, we expect the character strengths of love of learning, perseverance, prudence, and self-regulation to be of particular relevance in the life domain of education (i.e., that they will be perceived as more relevant and displayed more frequently in behavior than in other life domains and that their relevance and display in this life domain will be positively related to flourishing).

Leisure

To date, very little research has considered the role of character strengths in leisure activities. Satisfaction with leisure time assessed globally was found to relate positively to curiosity, zest, love, gratitude, hope, and humor (Ruch et al., 2010)—a set of character strengths almost identical to those that consistently show the highest correlations with life satisfaction (e.g., Buschor et al., 2013), so this finding might not be specific to leisure activities *per se*. In a qualitative study regarding a very specific leisure activity, participants in charity sports events indicated showing zest, kindness, teamwork, and hope during these events (Coghlan and Filo, 2016). We expect character strengths' relevance to differ between different leisure activities (as it differs between different occupations or even workplaces). However, certain character strengths, such as curiosity, love of learning, and appreciation of beauty and excellence, might be more commonly relevant in leisure activities that involve cultural activities (see Ruch et al., 2010), whereas the character strength of zest might facilitate the initiation of leisure activities in general. It can also be assumed that leisure time offers more opportunities than other life domains to display creativity and spirituality and, as a consequence, that these character strengths are perceived as more relevant in this context.

Hypotheses 6.1–6.6: Building on the results reviewed, we expect that the character strengths of creativity, curiosity, love of learning, zest, appreciation of beauty and excellence, and spirituality would be of particular relevance in the life domain of leisure (i.e., that they will be perceived as more relevant and displayed more frequently in behavior than in other life domains and that their relevance and display in this life domain will be positively related to flourishing).

Close Personal Relationships

We use the term "close personal relationships" to describe intimate relationships with family and friends. An orientation to positive relationships (i.e., to having close personal relationships) was found to be consistently related to the character strengths of honesty, zest, love, kindness, social intelligence, teamwork, fairness, leadership, forgiveness, humility, gratitude, and humor across different samples and self- and informant ratings (Wagner et al., 2020a). A strongly overlapping set of character strengths (curiosity, honesty, zest, love, kindness, social intelligence, teamwork, fairness, leadership, gratitude, hope, and humor) correlated positively with satisfaction with friendships, and kindness, social intelligence, and humor were additionally correlated with spending more time with friends during a typical month (Ruch et al., 2010). In a sample of adolescents, the character strengths of perspective, honesty, love, kindness, social intelligence, teamwork, leadership, gratitude, and humor were identified as most relevant for positive peer relationships across several analyses (desired characteristics in a friend, associations with likeability, number of friends, and friendship quality and satisfaction; Wagner, 2019).

Strengths-related behavior in the context of close personal relationships has been shown to relate to mood regulation: in their quasi-experimental diary study, Lavy et al. (2014) found that unfavorable mood enhanced strengths-related behavior on the following day. Conversely, strengths-related behavior was related to higher levels of positive daily mood on the following day, and this effect was stronger in the experimental group, in which participants were instructed to write a note to a loved person every day. These results suggest that close personal relationships increase the positive consequences of strengths-related behavior. However, no study in the context of close personal relationships has considered strengths-related behavior at the level of character strengths.

Hypotheses 7.1–7.10: Building on the results reviewed, we expect the character strengths of honesty, love, kindness, social intelligence, teamwork, fairness, leadership, forgiveness, gratitude, and humor to be of particular relevance in the life domain of close personal relationships (i.e., that they will be perceived as more relevant and displayed more frequently in behavior than in other life domains and that their relevance and display in this life domain will be positively related to flourishing).

Romantic Relationships

Individuals who are currently in romantic relationships or cohabitating with a partner report a different trait levels of some character strengths compared with those without romantic relationships or living alone, as demonstrated by Karris Bachik

et al. (2020) in a sample of college students (those in romantic relationships reported higher scores in the character strengths of love, gratitude, and hope) and by Baumann et al. (2020) in a sample of older adults (those living with a partner reported higher scores mainly in love and teamwork). The character strengths of curiosity, love of learning, perspective, zest, love, kindness, social intelligence, teamwork, self-regulation, gratitude, hope, and humor were found to be negatively related to either attachment avoidance or attachment anxiety, providing indirect support for their relevance in the domain of romantic relationships (Lavy and Littman-Ovadia, 2011). In addition, love, teamwork, fairness, gratitude, and hope were reported to correlate positively with satisfaction with one's family or partnership (Ruch et al., 2010).

Character strengths are also perceived as desirable qualities in romantic partners, which speaks to their relevance in this life domain. Both adolescents (Weber and Ruch, 2012b) and adults (Steen, 2003) value character strengths in potential partners—in particular, the character strengths of honesty, love, kindness, and humor. It also seems that some of the partner's character strengths (perseverance, social intelligence, forgiveness, and prudence) might explain variance in the other partner's life satisfaction beyond the influence of their own character strengths (Weber and Ruch, 2012b). This notion is supported by the finding that both an actor's self-reported strengths endorsement (i.e., the average across all character strengths) and their partner's self-reported strengths endorsement predicted the actor's relationship satisfaction in a sample of married couples (Lavy et al., 2016).

Lavy et al.'s (2016) results also underline the role of strengths-related behavior in romantic relationships: similar to the endorsement of character strengths, both the actor's and the partner's deployment of character strengths (i.e., the extent to which character strengths were shown in the relationship) predicted the actor's relationship satisfaction. While there are, to our knowledge, no published studies that have considered strengths-related behavior at the level of all 24 character strengths, showing gratitude in romantic relationships has also been studied extensively as a powerful predictor of relationship quality and satisfaction (e.g., Algoe et al., 2010).

Hypotheses 8.1–8.9: Building on the results reviewed, we expect the character strengths of honesty, love, kindness, social intelligence, fairness, forgiveness, gratitude, hope, and humor to be of particular relevance in the life domain of romantic relationships (i.e., that they will be perceived as more relevant and displayed more frequently in behavior than in other life domains and that their relevance and display in this life domain will be positively related to flourishing).

METHODS

Participants

The sample consisted of 203 German-speaking adults (21.2% men, 78.8% women) who were primarily living in Switzerland (66.5%) and Germany (30%). Their mean age was 29.4 years (SD = 13.5; ranging from 18 to 77 years). A majority (69.5%) reported being currently in education (school, university, or in-service training; many of which were also working part-time), 26.5% were either employed or self-employed, and 3.0% were currently not in education or working (e.g., unemployed or retired). On average, the sample was highly educated: 57.6% held a higher-education entrance qualification, 26.1% held a university degree, 13.3% had completed vocational training, 1.5% had completed secondary school, and 1.5% were still in secondary school.

The sample size was selected based on considerations regarding statistical power. We wanted to be able to detect a correlation of $r = 0.30$ with a power of at least 0.80 (and an α-level of 0.01 using two-tailed tests). A calculation of the required sample size using G*Power 3.1 (Faul et al., 2009) resulted in a sample size of at least $N = 125$. Because participants were able to select the life domains relevant to them (as described in the Procedure section), we recruited more participants with the aim of reaching this target for all of the life domains.

Instruments

Character Strengths

For measuring character strengths, the German version of the VIA-IS (Peterson and Seligman, 2004; German version: Ruch et al., 2010) was used. This instrument consists of 240 items that are rated using a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"), representing the defined 24 character strengths. A sample item for the character strength of gratitude is "I feel thankful for what I have received in life." Past studies (e.g., Ruch et al., 2010) have provided evidence for the internal consistency (median $\alpha = 0.77$) and stability (median $r_{tt} = 0.73$ over a period of 9 months) of the VIA-IS. In the present study, the median Cronbach's α was 0.79.

Relevance and Strengths-Related Behavior

For measuring the relevance and strengths-related behavior in different life domains, the ACS-RS (Harzer and Ruch, 2013) was used. This instrument measures four aspects of the applicability of each of the 24 character strengths in a certain life domain: (a) promotion, (b) helpfulness, (c) importance, and (d) behavior. For the life domain of work, for example, each character strength is described and rated on these four items: (a) "It is encouraged in my professional life," (b) "It is helpful in my professional life," (c) "It is important to me in my professional life," and (d) "I behave like this in my professional life". For each life domain, 96 items are rated using a five-point Likert scale (1 = "never" to 5 = "almost always"). The internal consistency of the ACS-RS has been acceptable in earlier studies (Cronbach's α between 0.77 and 0.93). In the current study, each scale was split up into *relevance*, that is, items (a), (b), and (c) and *strengths-related behavior*, that is, item (d). The median Cronbach's alphas for *relevance* in the respective life domain in this study were between 0.78 (education) and 0.89 (leisure).

Flourishing

For measuring flourishing, the German version of the Flourishing Scale (FS; Diener et al., 2010; German version: Esch et al., 2013) was used. This instrument consists of eight items rated on a seven-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree") and covers different aspects considering important characteristics of positive functioning. A sample item

is "I am engaged and interested in my daily activities." In previous studies, this scale has shown a high reliability (Cronbach's α between 0.79 and 0.85). In this study, it yielded an internal consistency of $\alpha = 0.87$.

Procedure

According to the guidelines of the institutional ethics board at the University of Zurich, the present study did not require ethical approval. All participants were recruited via university mailing lists, social media, and personal contacts. They participated voluntarily and provided written informed consent. As an incentive for participation, individualized feedback on the individual rank order of character strengths and partial course credit (for students) was offered.

Participants first completed information on demographic variables, followed by the FS, the VIA-IS, and other measures not relevant to the present study. Then, participants were presented with five life domains (work, education, leisure, close personal relationships, and romantic relationships). To enable a common understanding of the life domains, each domain was described briefly. For instance, close personal relationships were described as follows: "Close personal relationships: This life domain includes your family and friends. When answering the following questions, please think of the people with whom you share your thoughts and feelings and with whom you feel closely connected." The life domain descriptions are provided in the **Supplementary Materials**. After reading each of the descriptions, participants had to indicate whether this life domain was relevant to them ("Is this life domain a part of your life?"). Participants selected an average of $M = 4.23$ life domains as relevant. Following this selection, they completed the ACS-RS for all the life domains selected. For instance, if a participant indicated that work, leisure, close personal relationships, and romantic relationships were relevant in their life, they completed the ACS-RS four times, once for each of the four domains.

The data were collected as part of a larger project and partly overlap with the sample of self-raters in Study 2 of Wagner et al. (2020a), which studies the relationships between character strengths and orientations to well-being (i.e., PERMA, Seligman, 2011), and one of the four samples of Ruch et al. (2020), which studies the relationships between character strengths and virtues. However, the research questions are unrelated, and the overlap in the data only refers to the VIA-IS.

Data Analysis

The data analysis followed three steps. To address Hypotheses 1.1–1.11 and Hypotheses 2.1–2.11, both VIA-IS scales and strengths-related behavior (averaged across all relevant life domains) were correlated with flourishing. To determine the amount of variance explained in flourishing by both sets of predictors (addressing Hypothesis 3), we conducted a commonality analysis for each character strength (see, e.g., Nimon and Reio, 2011). This adecomposes the amount of explained variance into variance associated with each predictor uniquely and variance associated with the common effects of all predictors in a multiple regression framework. To conduct the commonality analyses, we performed a set of multiple regression analyses. To address Hypotheses 4.1–4.6, 5.1–5.4, 6.1–6.6, 7.1–7.10, and 8.1–8.9, we conducted two analyses for each life domain: first, *t*-tests were performed for each character strength to compare each life domain's mean on relevance and strengths related-behavior to the respective overall mean across all life domains (e.g., the relevance of creativity at work was compared with the mean relevance of creativity across all five life domains). This approach was chosen because participants were allowed to choose the life domains that they considered important in their lives, and only a smaller subsample of participants selected all domains, making direct comparisons between life domains more difficult. Second, both relevance and strengths-related behavior in each of the life domains were correlated with flourishing. We used the guidelines by Gignac and Szodorai (2016) for research on individual differences to interpret the size of the effects (i.e., $r = 0.10$ representing a small effect, $r = 0.20$ a medium-sized effect, and $r = 0.30$ a large effect). To adjust for the effects of multiple comparisons, we used an α level of 0.01 throughout the analyses.

RESULTS

Descriptive statistics for the character strengths scales, internal consistency coefficients, and correlations with age and sex are displayed in **Supplementary Table 1**. Correlations with demographic variables were of small to medium size. **Supplementary Tables 2, 3** show the descriptive statistics of the ACS-RS for each of the life domains, separately for relevance and strengths-related behavior.

As shown in **Table 1**, the highest correlations with flourishing were observed for the character strengths of hope, zest, love, curiosity, perseverance, self-regulation, and teamwork, but all hypothesized character strengths (including honesty, kindness, social intelligence, gratitude, and humor) showed positive correlations with flourishing of at least medium size. Besides the character strengths hypothesized, perspective, bravery, leadership, forgiveness, appreciation of beauty and excellence, and spirituality also showed positive correlations, although of smaller size.

Strengths-related behavior averaged across life domains was most strongly related to flourishing for the character strengths of zest, hope, love, teamwork, and kindness, but, as hypothesized, also for perseverance, honesty, social intelligence, and gratitude. However, contrary to expectations, no relationships were found for curiosity, self-regulation, and humor.

Different patterns of results could be observed from the commonality analyses (see **Table 1**). One group of character strengths (curiosity, self-regulation, and humor) showed mostly unique contributions of the VIA-IS scales to the variance explained in flourishing, no unique contributions of strengths-related behavior, and only small contributions of common variance. Another group (perspective, perseverance, zest, love, social intelligence, teamwork, gratitude, and hope) showed mostly unique contributions of the VIA-IS scales and common variance. A third group (honesty, kindness, and leadership) showed relatively equal contributions of all three sources of variance. Finally, a fourth group (creativity, judgment, fairness,

TABLE 1 | Correlations between character strengths (VIA-IS scales), strengths-related behavior (mean across all life domains), and flourishing and results of commonality analyses.

	Correlations with flourishing		Amount of explained variance in regression analysis predicting flourishing			
	VIA-IS	Behavior	Unique VIA-IS	Unique behavior	Common	Total
Creativity	0.17	0.26*	0.000	0.041	0.027	0.068
Curiosity	0.44*	0.16	0.169	0.002	0.023	0.194
Judgment	0.17	0.23*	0.005	0.026	0.025	0.056
Love of learning	0.18	0.12	0.018	0.002	0.013	0.033
Perspective	0.31*	0.25*	0.048	0.016	0.045	0.109
Bravery	0.21*	0.13	0.030	0.002	0.014	0.046
Perseverance	0.44*	0.28*	0.118	0.002	0.075	0.195
Honesty	0.25*	0.24*	0.031	0.026	0.031	0.088
Zest	0.61*	0.49*	0.153	0.025	0.213	0.391
Love	0.55*	0.36*	0.176	0.004	0.122	0.302
Kindness	0.29*	0.31*	0.031	0.044	0.051	0.126
Social intelligence	0.38*	0.29*	0.079	0.015	0.067	0.161
Teamwork	0.40*	0.33*	0.068	0.005	0.104	0.177
Fairness	0.15	0.26*	0.000	0.046	0.022	0.068
Leadership	0.30*	0.29*	0.029	0.023	0.060	0.112
Forgiveness	0.25*	0.17	0.033	0.002	0.028	0.063
Humility	0.07	0.01	0.008	0.003	−0.003	0.008
Prudence	0.14	0.01	0.026	0.005	−0.005	0.026
Self-regulation	0.42*	0.16	0.148	0.001	0.024	0.173
Beauty	0.19*	0.26*	0.002	0.032	0.034	0.068
Gratitude	0.36*	0.29*	0.053	0.003	0.080	0.136
Hope	0.64*	0.36*	0.278	0.003	0.125	0.406
Humor	0.31*	0.16	0.076	0.005	0.022	0.103
Spirituality	0.19*	0.04	0.067	0.031	−0.029	0.069

N = 203. Beauty = appreciation of beauty and excellence.
**p < 0.01 (two-tailed).*

and appreciation of beauty and excellence) showed no unique variance explanation in flourishing by the VIA-IS scales but only unique contributions of strengths-related behavior and common variance between both.

Table 2 shows the means of the character strengths' rated relevance for all life domains individually and averaged across life domains, and **Table 3** shows the means of strengths-related behavior for all life domains individually and averaged across life domains. Both tables also indicate the results of the *t*-tests comparing the means in each respective life domain with the overall mean across all life domains. The effect sizes (Cohen's *d*) for these comparisons are provided in **Supplementary Table 4**. The largest effect sizes, that is, the strongest positive deviations from the overall mean, for character strengths' relevance were found for leadership (life domain of work), love of learning (life domain of education), creativity (life domain of leisure), and love (life domains of close personal relationships and romantic relationships). For strengths-related behavior (see **Supplementary Table 4**), the strongest deviations from the mean across all life domains were observed for the same strengths, except for the life domain of work (strongest effect for self-regulation), but overall, the effect sizes tended to be smaller than for relevance.

Overall, the character strengths' relevance and strengths-related behavior showed distinguishable patterns across the different life domains (work, education, leisure, close personal relationships, and romantic relationships). The means are depicted in **Figure 1**.

As shown in **Figure 1**, the ratings were most similar for the life domains of close personal relationships and romantic relationships, and the life domains of work and education also showed some overlap but clear differences as well. The domain of leisure showed the fewest similarities with other life domains.

Finally, we analyzed the correlations between the character strengths' relevance and strengths-related behavior for each of the five life domains with flourishing (see **Table 4**). All effect sizes ranged between medium-sized and large effects. Notably, across all correlations in **Table 4**, no negative correlation reached statistical significance.

TABLE 2 | Means and standard deviations of relevance for all character strengths and means across all life domains.

	Work ($N = 154$)		Education ($N = 179$)		Leisure ($N = 190$)		Close personal relationships ($N = 197$)		Romantic relationships ($N = 140$)		*M* across all life domains
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Creativity	3.52	0.96	3.37	0.92	3.92[a]	0.87	3.35[b]	0.86	3.57	0.89	3.53
Curiosity	3.81	0.78	4.23[a]	0.64	4.01	0.76	3.65[b]	0.76	3.76	0.77	3.90
Judgment	3.95[a]	0.74	4.01[a]	0.74	3.44[b]	0.93	3.76	0.70	3.91	0.69	3.78
Love of learning	3.74	0.87	4.31[a]	0.70	3.85[a]	0.92	3.04[b]	0.91	3.37[b]	0.93	3.65
Perspective	3.78	0.85	3.86	0.81	3.45[b]	0.94	3.86	0.71	3.88[a]	0.72	3.74
Bravery	2.90[b]	1.06	2.76[b]	0.96	3.18	1.03	3.39[a]	0.82	3.65[a]	0.88	3.14
Perseverance	3.90	0.77	4.22[a]	0.65	3.98	0.86	3.59[b]	0.81	4.06	0.77	3.93
Honesty	4.06	0.75	3.57[b]	0.93	3.66[b]	1.03	4.34[a]	0.61	4.44[a]	0.57	3.98
Zest	3.73[b]	0.82	3.52[b]	0.81	4.15[a]	0.70	4.13[a]	0.67	4.13[a]	0.69	3.91
Love	3.22[b]	1.02	2.96[b]	1.00	3.07[b]	1.05	4.40[a]	0.64	4.56[a]	0.53	3.60
Kindness	4.23[a]	0.71	3.62[b]	0.87	3.55[b]	1.04	4.50[a]	0.51	4.51[a]	0.49	4.05
Social intelligence	4.15	0.76	3.86[b]	0.88	3.49[b]	1.09	4.53[a]	0.49	4.54[a]	0.51	4.09
Teamwork	4.02[a]	0.85	3.58[b]	0.90	3.41[b]	1.16	4.06[a]	0.74	4.01[a]	0.86	3.78
Fairness	3.96	0.85	3.49[b]	0.90	3.51[b]	1.12	4.18[a]	0.66	4.12[a]	0.74	3.83
Leadership	3.49[a]	1.01	2.95	0.95	2.87	1.14	3.04	0.98	3.04	1.14	3.03
Forgiveness	3.23	0.97	2.75[b]	0.95	2.93[b]	1.10	3.96[a]	0.72	4.19[a]	0.69	3.38
Humility	3.22	0.84	2.98[b]	0.93	3.13[b]	0.98	3.63[a]	0.70	3.66[a]	0.80	3.32
Prudence	3.48[a]	0.89	3.37	0.87	3.19	0.96	3.09[b]	0.89	3.40	0.95	3.28
Self-regulation	3.93[a]	0.75	3.83[a]	0.78	3.39[b]	1.00	3.48[b]	0.80	3.63	0.89	3.63
Beauty	3.08[b]	1.16	2.77[b]	1.03	3.80[a]	1.03	3.65[a]	0.88	3.95[a]	0.95	3.44
Gratitude	3.26[b]	1.06	2.85[b]	0.99	3.49	1.09	3.98[a]	0.73	4.25[a]	0.65	3.54
Hope	3.39[b]	0.95	3.42[b]	0.92	3.52	0.97	3.80[a]	0.76	4.15[a]	0.66	3.62
Humor	3.74	0.93	3.24[b]	0.95	3.62	1.04	4.25[a]	0.65	4.25[a]	0.67	3.78
Spirituality	1.92	1.13	1.83[b]	1.05	2.16	1.28	2.18	1.22	2.21	1.30	2.06

Beauty = appreciation of beauty and excellence.

[a]*Higher than the mean across all life domains ($p < 0.01$, two-tailed).* [b]*Lower than the mean across all life domains ($p < 0.01$, two-tailed).*

DISCUSSION

The present study investigates how the relevance of character strengths and the frequency of strengths-related behavior differ across life domains and how both relate to overall flourishing. Taken together, the findings demonstrate that different life domains (work, education, leisure, close personal relationships, and romantic relationships) show distinguishable profiles of relevant character strengths. Moreover, strengths-related behavior across different life domains explained additional variance in flourishing beyond the trait level of each respective character strength for a number of character strengths.

The correlations with flourishing were in line with our expectations (Hypotheses 1.1–1.11), whereas additional strong relationships ($r \geq 0.30$) were observed for perspective, teamwork, and leadership. For most of the hypothesized character strengths (Hypotheses 2.1–2.11), we also found positive relationships of strengths-related behavior across life domains, with the exceptions of curiosity, self-regulation, and humor. While the overall pattern of correlations with flourishing was similar for character strengths (as assessed by the VIA-IS) and averaged strengths-related behavior (as assessed by the ACS-RS) across life domains, some notable differences emerged, which were supported by the results of the commonality analyses. In particular, the character strengths of creativity, judgment, and fairness showed relatively strong contributions of unique variance of strengths-related behavior to flourishing, whereas the VIA-IS scales contributed no unique variance explanation. Conversely, the character strengths of curiosity, self-regulation, and humor showed a strong unique contribution of the VIA-IS scales but no to small contributions of unique variance in strengths-related behavior or common variance, suggesting for these character strengths that aspects other than displaying strengths-related behavior across different life domains are relevant to the strengths' relationships with flourishing. In the case of self-regulation, for instance, it is conceivable that its relationship with health and health behaviors (see Proyer et al., 2013) is more relevant in explaining variance in flourishing than the frequency with which self-regulation is shown in the life domains considered here.

Regarding Hypothesis 3, we found a unique variance explanation in flourishing (of at least $R^2 = 0.02$) of strengths-related behavior for the character strengths of creativity, judgment, honesty, zest, kindness, fairness, leadership, and

TABLE 3 | Means and standard deviations of strengths-related behavior for all character strengths and means across all life domains.

	Work ($N = 154$)		Education ($N = 179$)		Leisure ($N = 190$)		Close personal relationships ($N = 197$)		Romantic relationships ($N = 140$)		*M* across all life domains
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Creativity	3.47	1.04	3.23	1.05	3.76[a]	0.92	3.31	0.99	3.52	0.94	3.42
Curiosity	3.95	0.85	4.12[a]	0.77	4.02	0.81	3.73[b]	0.93	3.78	0.82	3.92
Judgment	3.99[a]	0.71	3.84	0.84	3.49[b]	1.03	3.78	0.82	3.85	0.81	3.76
Love of learning	3.73	1.03	4.01[a]	0.87	3.80[a]	0.97	3.19[b]	1.04	3.36[b]	1.04	3.61
Perspective	3.79	0.91	3.75	0.85	3.46[b]	0.96	3.85	0.79	3.84	0.84	3.71
Bravery	3.15	1.15	2.79[b]	1.05	3.14	1.10	3.36[a]	1.00	3.56[a]	0.98	3.16
Perseverance	3.97	0.88	3.97	0.82	3.92	0.95	3.62[b]	0.93	4.03	0.87	3.87
Honesty	4.18	0.79	3.81[b]	0.92	3.91	0.99	4.25[a]	0.77	4.41[a]	0.73	4.08
Zest	3.72	0.90	3.54[b]	0.94	4.01[a]	0.80	3.93	0.81	3.89	0.77	3.79
Love	3.44	1.09	3.14[b]	1.04	3.27[b]	1.11	4.11[a]	0.87	4.34[a]	0.71	3.61
Kindness	4.38[a]	0.74	4.03[b]	0.84	3.85[b]	1.03	4.47[a]	0.62	4.42[a]	0.62	4.21
Social intelligence	4.28	0.75	3.97	0.85	3.75[b]	1.08	4.39[a]	0.69	4.38[a]	0.66	4.13
Teamwork	4.09[a]	0.81	3.64	0.91	3.56[b]	1.13	3.92	0.87	3.89	0.96	3.79
Fairness	4.13[a]	0.76	3.80	0.90	3.63[b]	1.08	4.10[a]	0.70	4.16[a]	0.71	3.93
Leadership	3.55[a]	1.06	3.05	1.08	2.92	1.17	3.07	1.06	3.11	1.18	3.09
Forgiveness	3.38	0.94	3.20[b]	1.02	3.19[b]	1.13	3.78[a]	0.88	3.93[a]	0.86	3.47
Humility	3.68	0.90	3.60	0.97	3.40[b]	1.07	3.77	0.83	3.70	0.91	3.64
Prudence	3.69[a]	0.95	3.62[a]	0.91	3.23	1.05	3.21[b]	0.98	3.39	1.01	3.41
Self-regulation	4.02[a]	0.79	3.81[a]	0.81	3.46	1.03	3.53	0.88	3.47	0.96	3.64
Beauty	3.31	1.16	3.01[b]	1.13	3.78[a]	1.07	3.68[a]	0.97	3.80[a]	1.01	3.49
Gratitude	3.49	1.06	3.27[b]	1.06	3.62	1.12	3.91[a]	0.81	4.10[a]	0.83	3.65
Hope	3.58	0.99	3.50	0.97	3.63	1.03	3.72	0.87	4.03[a]	0.80	3.66
Humor	3.83	1.00	3.59[b]	1.10	3.84	1.03	4.07[a]	0.85	4.09[a]	0.88	3.85
Spirituality	2.09	1.34	1.88	1.19	2.14	1.36	2.12	1.28	2.19	1.36	2.08

Beauty = appreciation of beauty and excellence.

[a]*Higher than the mean across all life domains ($p < 0.01$, two-tailed).* [b]*Lower than the mean across all life domains ($p < 0.01$, two-tailed).*

appreciation of beauty and excellence and therefore consider the hypothesis supported for these character strengths. For 18 character strengths, the VIA-IS scales and strengths-related behavior jointly explained a small but relevant proportion of the variance of flourishing (with a contribution of common variance of at least $R^2 = 0.02$), further supporting the role of strengths-related behavior across life domains in explaining variance in flourishing.

The findings regarding the different life domains are summarized in **Figure 2**. It shows for each character strength and life domain how many effects–out of a maximum of four: (1) it was perceived as more relevant than the mean across the life domains, (2) it was displayed more frequently than the mean across the life domains, (3) the relevance in the life domain was related to flourishing, and (4) the display of strengths-related behavior in the life domain was related to flourishing–were found and whether these effects had been hypothesized.

For the life domain of *work*, in line with our expectations (Hypotheses 4.1, 4.4, 4.5, and 4.6), we found evidence for the particular relevance of the character strengths of judgment, teamwork, leadership, and self-regulation; all strengths were perceived as more relevant and displayed more frequently than in other life domains, and their perceived relevance at work was associated with flourishing (with the except for self-regulation). Regarding the character strengths of perseverance (4.2) and zest (4.3), we found no or little support for their particular relevance when displayed in the domain of work, which seems to contradict previous studies highlighting the role of these two character strengths at studies in particular (Peterson et al., 2009; Littman-Ovadia and Lavy, 2016). However, perceiving zest as relevant at work was positively related to flourishing even when controlling for the trait level of zest (additional analyses, not reported in detail here), which might speak to its relevance in this domain. In addition, both character strengths showed relatively little variation and relatively high overall ratings, making it more difficult to demonstrate a higher relevance and frequency of display as compared with other life domains. In conclusion, the present results do not speak against the relevance of perseverance and zest at work, but question whether those character strengths are more relevant in the domain of work than in other life domains. In addition to the character strengths in Hypotheses 4.1–4.6, both kindness and prudence were also perceived as more relevant and displayed more frequently at work than in other life domains.

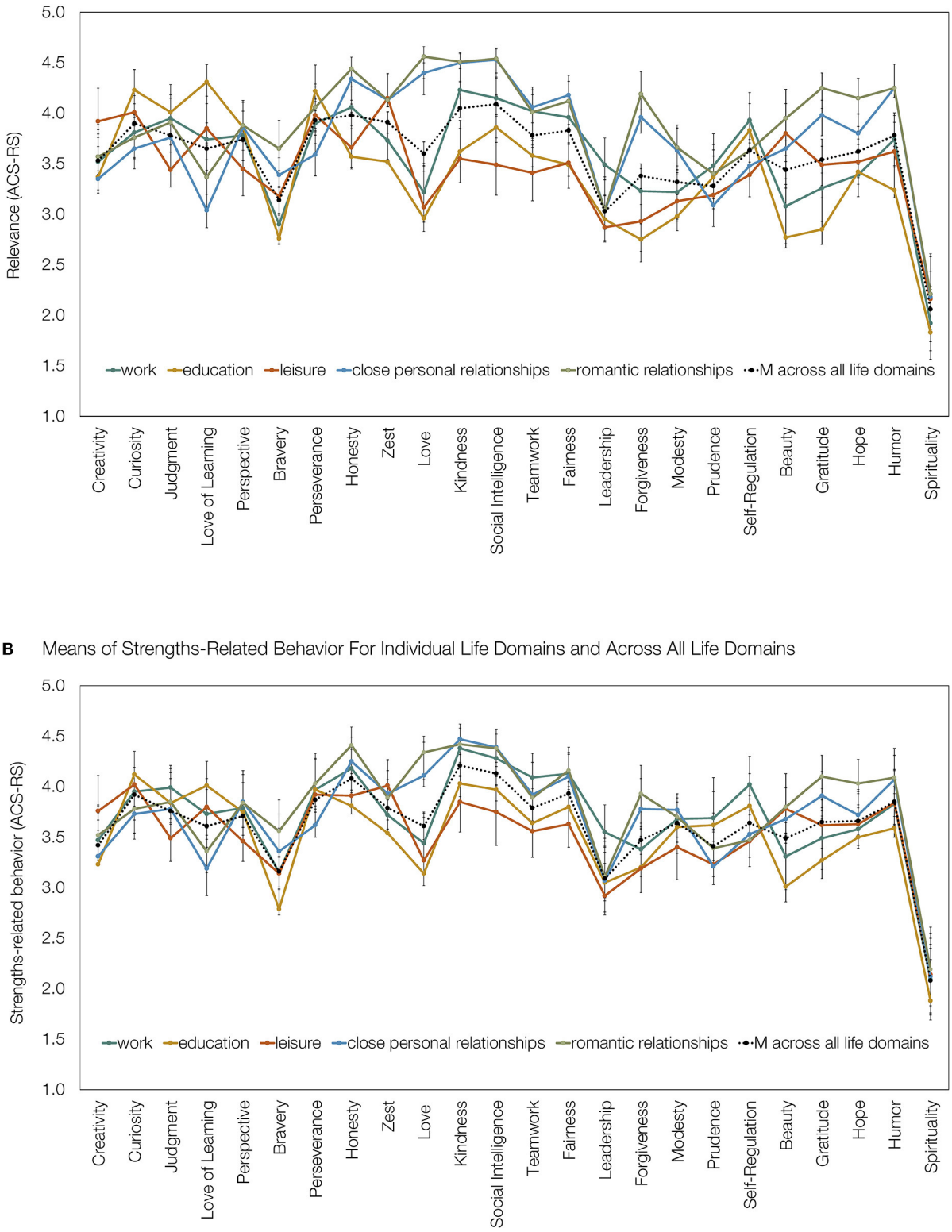

FIGURE 1 | Means of character strengths' relevance **(A)** and strength-related behavior **(B)** with regard to the life domains of work, education, leisure, close personal relationships, romantic relationships, and across all life domains. Beauty = appreciation of beauty and excellence. Error bars: 95% confidence interval. $N = 140–197$.

TABLE 4 | Correlations of relevance of character strengths and strengths-related behavior across life domains with flourishing.

	Work ($N = 154$)		Education ($N = 179$)		Leisure ($N = 190$)		Close personal relationships ($N = 197$)		Romantic relationships ($N = 140$)	
	Relevance	Behavior	Relevance	Behavior	Relevance	Behavior	Relevance	Behavior	Relevance	Behavior
Creativity	0.16	0.18	0.30*	0.29*	0.04	0.07	0.12	0.21*	0.18	0.26*
Curiosity	0.20	0.22*	0.20*	0.19*	0.03	0.05	0.08	0.04	0.11	0.20
Judgment	0.21*	0.15	0.24*	0.30*	0.13	0.09	0.05	0.09	0.05	0.13
Love of learning	0.15	0.16	0.22*	0.24*	−0.03	−0.06	0.11	0.03	0.11	0.20
Perspective	0.24*	0.18	0.19	0.29*	0.04	0.09	0.16	0.09	0.15	0.20
Bravery	0.09	0.12	0.13	0.09	0.11	0.04	0.07	0.15	0.02	−0.01
Perseverance	0.17	0.19	0.20*	0.25*	0.03	0.14	0.17	0.18	0.05	0.04
Honesty	0.24*	0.10	0.19	0.20*	0.17	0.20*	0.15	0.17	−0.10	−0.05
Zest	0.37*	0.42*	0.37*	0.46*	0.23*	0.27*	0.30*	0.35*	0.18	0.28*
Love	0.19	0.09	0.23*	0.32*	0.29*	0.24*	0.14	0.20*	−0.04	0.03
Kindness	0.19	0.17	0.19	0.25*	0.20*	0.21*	0.13	0.16	0.16	0.26*
Social intelligence	0.21*	0.15	0.15	0.21*	0.21*	0.18	0.17	0.16	0.15	0.16
Teamwork	0.27*	0.18	0.16	0.21*	0.25*	0.17	0.21*	0.29*	0.22*	0.21
Fairness	0.26*	0.07	0.23*	0.21*	0.16	0.14	0.13	0.18	0.18	0.13
Leadership	0.24*	0.19	0.32*	0.24*	0.24*	0.19*	0.26*	0.23*	0.19	0.13
Forgiveness	0.20	0.13	0.14	0.10	0.21*	0.09	−0.01	0.12	0.00	0.08
Humility	0.15	−0.02	0.14	0.04	0.06	−0.01	0.07	0.01	0.01	−0.08
Prudence	0.10	0.04	0.04	0.01	0.09	0.05	0.02	−0.03	−0.01	−0.02
Self-regulation	0.06	0.12	0.07	0.18	0.11	0.10	0.00	0.06	0.05	0.11
Beauty	0.15	0.19	0.24*	0.22*	0.07	0.11	0.22*	0.15	0.08	0.25*
Gratitude	0.21*	0.29*	0.20*	0.20*	0.14	0.13	0.16	0.17	0.02	0.29*
Hope	0.21*	0.23*	0.21*	0.31*	0.17	0.11	0.18	0.27*	0.01	0.29*
Humor	0.10	0.14	0.18	0.12	0.20*	0.12	0.10	0.13	0.01	0.11
Spirituality	0.08	0.18	0.04	0.04	−0.05	−0.06	0.00	0.04	0.05	0.03

Beauty = appreciation of beauty and excellence.
$^*p < 0.01$ (two-tailed).

Regarding *education*, we found support for Hypotheses 5.1 and 5.2 (i.e., for the relevance of love of learning and perseverance); however, perseverance was not displayed more frequently in education than in other life domains. This is in line with studies on the relationships between character strengths and educational outcomes highlighting the important role of these two character strengths in particular (e.g., Wagner and Ruch, 2021). However, less support was found for the relevance of prudence (5.3), which was shown more frequently, and self-regulation (5.4), which was also perceived as more relevant than in other life domains. Additionally, the character strength of judgment was perceived as more relevant here than in other life domains, and its relevance and display in education were related to flourishing. The results also suggested the relevance of curiosity across all four analyses. When considering an average across all the relevance and the display ratings of all 24 character strengths, participants seemed to perceive fewer opportunities to display character strengths in the educational setting than in other life domains, which is also in line with Kachel et al.'s (2020) finding that the applicability of signature strengths in the life domain of education was perceived as lower than that in private life. This might be a starting point for strengths-based interventions in the educational context. Specifically, these might aim to increase awareness of opportunities to display character strengths and to encourage students and staff to create such opportunities.

For the life domain of *leisure*, the character strength of zest was clearly supported as being of particular relevance (Hypothesis 6.4). Three of the remaining five strengths in Hypotheses 6.1–6.6 (creativity, love of learning, and appreciation of beauty and excellence) were also perceived as more relevant and displayed more frequently than in other life domains. However, no support was found for the particular relevance of curiosity (6.2) or spirituality (6.6). Based on our literature review, leisure can be described as an underexplored life domain in terms of the role of character strengths. Given the large variety of leisure activities, future studies might benefit from comparing different types or characteristics of leisure activities with regard to the relevance of character strengths.

Regarding our hypotheses on *close personal relationships* (7.1–7.10), we found the strongest support for the relevance of love, teamwork, and leadership. In addition, honesty, kindness, social intelligence, fairness, forgiveness, and gratitude were also perceived as more relevant and displayed more frequently than in other life domains, so our hypotheses can also be considered confirmed for this set of character strengths.

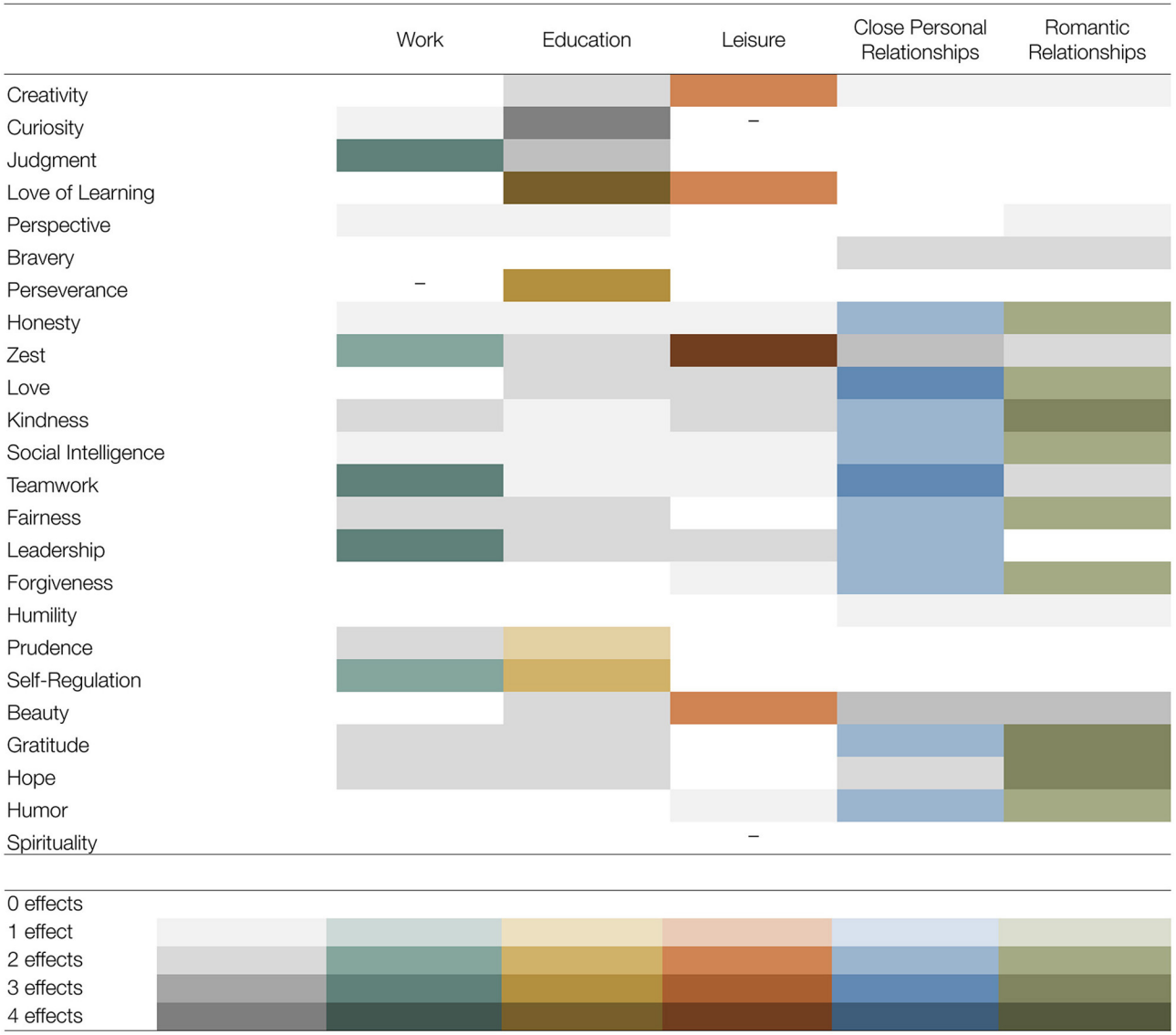

FIGURE 2 | Overview of results regarding the hypotheses on the different life domains. Beauty = appreciation of beauty and excellence. Gray = Effects that were not hypothesized. Colored = Effects that were hypothesized. Different shade of a color denote a different number of effects observed. - = Effects hypothesized, but no effects found.

Finally, for the domain of *romantic relationships* (Hypotheses 8.1–8.9), the most consistent support was observed for the relevance of kindness, gratitude, and hope. Further, honesty, love, social intelligence, fairness, forgiveness, and humor were perceived as more relevant and displayed more frequently than in other life domains. Thus, all these character strengths can also be considered to be of particular relevance in romantic relationships.

When comparing the life domains' profiles, there were strong similarities between the domains of close personal relationships and romantic relationships; the only slight differences come from the character strengths of bravery, perseverance, gratitude, and hope, which were all perceived as somewhat more relevant in the domain of romantic relationships. However, the similarities certainly outweigh the differences, and in future studies aiming to compare life domains, it would be reasonable to merge both types of relationships into one domain. The profiles of the domains of work and education also shared some similarities overall yet were distinguishable by higher levels for curiosity and love of learning in the domain of education and higher levels for character strengths related to interpersonal relationships (e.g., those assigned to the virtues of humanity and justice) in the domain of work.

Overall, some character strengths were considered similarly relevant and displayed similarly frequently across the life domains (e.g., curiosity, spirituality, humility, perspective,

perseverance, teamwork, zest, and prudence), whereas these variables varied more strongly between life domains for other character strengths (e.g., love, gratitude, love of learning, appreciation of beauty and excellence, bravery, and forgiveness). The latter set of character strengths might be more sensitive to environmental demands or influences, and these findings may inform the discussion on tonic versus phasic character strengths (see Peterson and Seligman, 2004). Spirituality was found to be least relevant and displayed least frequently in all life domains. However, it also yielded the highest standard deviations in both variables (relevance and strengths-related behavior); that is, a stronger variability between individuals was observed for spirituality than for other character strengths. In addition, some character strengths' relevance ratings displayed little variation between individuals: for instance, love and kindness were rated as highly relevant to close personal relationships and romantic relationships. While this was to be expected, this restricted variation might have impacted the correlations that could be observed with these variables.

Limitations

Several limitations need to be considered when interpreting the results of the present study. First, the results are based on self-reports, making them prone to potential response biases. However, studies using informant reports of character strengths, well-being or both (e.g., Buschor et al., 2013; Wagner et al., 2020a) have shown that the results are highly comparable with those exclusively using self-reports. Second, we studied five life domains (work, education, leisure, close personal relationships, and romantic relationships) that we considered to be generally most relevant for (young) adults. However, additional or more narrowly defined life domains are conceivable (e.g., volunteer work and parenting/family). In addition, the domains were conceived as broad, general areas of life, and a more fine-grained analysis would certainly warrant further research. For instance, in the domain of education, it would be interesting to investigate to which extent the context of school differs from the context of higher education. As we know from research within individual life domains (e.g., Wagner et al., 2020b), differential relationships of character strengths with specific outcomes within these domains can be anticipated. Because of the study design, which allowed participants to select the life domains that were relevant to their lives and therefore did not require them to answer the questions for all life domains, we were also are not able to directly compare means across the different domains. Third, we only considered relationships to a broad measure of flourishing, and other outcomes (such as other aspects of psychological functioning, achievement, or the well-being of others) would certainly also be of relevance. We also only looked at flourishing in general, not in relation to the specific life domains. It is to be expected that the unique contribution of strengths-related behavior might be even larger if domain-specific outcomes were predicted (see Wagner and Ruch, 2021 for an application in the educational context). Fourth, this study is limited by the composition of the sample: participants were rather young, mostly female, and mostly students or highly educated, which might have led to a biased representation of the life domain of work. In addition, it is conceivable that there are age-related trajectories in the reported associations (see Baumann et al., 2020). Finally, given the cross-sectional nature of the data, the results do not allow for any claims regarding causality or directionality.

Implications

In general, ratings provided for the relevance of certain character strengths in a specific context may be caused by several factors. The environmental demands or rewards for showing strengths-related behavior are assumed to represent a shared perception by everyone in that environment, which is supported by findings that suggest a considerable agreement between different raters regarding the relevance of character strengths in a given context (Harzer and Ruch, 2013). However, an individual's perception of opportunities to display a certain strength is by no means unrelated to the individual's level of character strengths and flourishing: generally, individuals high in a certain strength also tend to see this strength as more relevant (see **Supplementary Table 5**). As a consequence, when aiming to increase the relevance of character strengths in a certain life domain or environment, both the objective environment and the individual's perception of opportunities to display certain character strengths can be targeted (see job crafting toward strengths; Kooij et al., 2017).

It seems that individuals perceive opportunities to display a larger number of character strengths in the domains of close personal relationships and romantic relationships. Thus, these life domains may also be promising starting points in character strengths-based interventions. More generally, the present results inform character strengths-based interventions on the general patterns of relevance in life domains, which may be used in the design of interventions.

The present study's results also trigger open questions to be addressed in future research. Such open questions include: is it relevant in how many life domains an individual perceives a certain character strength as relevant or displays a character strength? Are there compensation effects—that is, if a character strength is considered to be of low relevance in one domain (such as work), is it more frequently displayed in another domain (such as leisure) as a consequence?

Moreover, the present study also has implications for the study of character strengths in general: we were able to demonstrate that the average strengths-related behavior across different life domains was, in some cases, a better predictor of flourishing than the respective VIA-IS scale. This suggests that the relationships of some character strengths, such as creativity, judgment, and fairness, to flourishing might have been somewhat underestimated in previous research using the VIA-IS. In revising the VIA-IS or in constructing other measures of character strengths, it would be advisable to consider the item content carefully with regard to the representation of items relating to affect, behavior, cognition, and desire (ABCD; Wilt and Revelle, 2015).

CONCLUSIONS

The literature review revealed that there is a relative lack of knowledge regarding the role of character strengths in several life domains, in particular, adult romantic relationships and close personal relationships, and leisure. Future research programs might be devoted to shedding more light on character strengths' contribution to flourishing in these life domains. The present study underlines that studying the role of character strengths in different life domains allows for more nuanced conclusions than only relying on the trait levels of character strengths.

DATA AVAILABILITY STATEMENT

The dataset underlying this article is available on the Open Science Framework: https://osf.io/7zvgq/.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

LW and WR designed the study. LW oversaw data collection and collected parts of the data. LW and LP analyzed the data and contributed to writing the manuscript. All authors provided feedback and approved the final version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.597534/full#supplementary-material

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