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An Initial Integration of Constructs That Account for Moral Actions: Moral Foundations, Values, and Character Strengths

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Abstract

Morality has been described as a psychological system comprising sets of values, practices, institutions, and psychological mechanisms that work together to support moral/socially positive behavior. Nonetheless, there have been relatively few efforts to integrate these diverse constructs. We address this limitation using data from two samples who completed measures of moral foundations (Moral Foundations Theory), values (Schwartz Value Theory), and character strengths (VIA Framework). First, we used principal components analysis to summarize the complex patterns of association among these variables. We then tested whether the extracted components overlapped with normal and maladaptive personality trait domains (HEXACO and DSM-5 Model for Personality Disorders). Finally, we tested incremental validity of the three frameworks. In both samples, variance among variables was explained by four components that were suggestive of different "psychological systems" (networks of associated constructs) that may be linked to individual differences in moral action: *Universal caring*, *preservation*, *self-control*, *and self-expansion*. Further analyses suggested these emergent components are not reducible to single personality domains, each sharing variance with multiple domains. Finally, incremental validity analyses suggested that moral foundations, basic values, and VIA character strengths are complementary rather than redundant constructs, each explaining unique variance in criterion variables (empathy and moral identity).

Plain Language Summary

People's moral lives involve values, beliefs about right and wrong, and personal strengths, but these factors are often studied separately. In this study, we examined how these elements are organized and related to one another using data from two samples. We identified four broad moral systems that capture common patterns across values, moral beliefs, and character strengths. Our findings suggest that these frameworks provide complementary information, offering a more integrated picture of individual differences relevant to moral functioning.

Keywords

moral foundations, human values, character strengths

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> "But in the case of man, who alone can with certainty be ranked as a moral being, actions of a certain class are called moral, whether performed deliberately after a struggle with opposing motives, or from the effects of slowly-gained habit, or impulsively through instinct."
>
> Charles Darwin (1871, p. 85)

Introduction

In recent decades, researchers interested in positive psychology, the psychology of morality, and the science of well-being have all recognized the need to better understand the psychological processes that underlie moral, or socially positive, behavior (Seligman & Csikszentmihalyi, 2000). For this purpose, morality is often conceptualized as a psychological system comprising "sets of values, practices, institutions, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make social life possible" (Haidt, 2008, p. 70). Thus, morality implies a broad nomological network of associated psychological constructs that explain human behavior (Schwartz, 1992), yet these are still typically studied in isolation and require integration (Feldman, 2021).

The present article explores this nomological network, focusing particularly on constructs from largely independent theoretical frameworks—Moral Foundations Theory (Haidt, 2007), Schwartz (1992) Value Theory, and the Values in Action (VIA) Classification (Peterson & Seligman, 2004)—that are widely used to explain morally positively valued behavior. We do so because central constructs from these frameworks share various common features. All are theorized to have emerged through evolutionary processes and help ensure group functioning and survival (Haidt & Joseph, 2004, 2008; Schwartz, 1994). Moral foundations and human values both involve cognitive processes and affective responses (Fischer, 2017; Graham et al., 2011; Maio & Olson, 1998; Schwartz, 1992), consistent with the view that tracking moral goods such as fairness requires both recognitional and motivational capacities that develop along evolutionary trajectories (Collier & Stingl, 2013).

Moreover, as we shall elaborate below, certain sets of character strengths, moral foundations, and values also overlap in their content. Despite such overlaps, there has been surprisingly little systematic examination of the links between these constructs, and what does exist is inconclusive (Feldman, 2021; Sverdlik et al., 2012). Hence, to avoid conceptual redundancies, there is a need to clarify how these constructs converge or diverge. To facilitate this process, we first briefly summarize the main features of Moral Foundations Theory, Schwartz Value Theory, and the VIA Character Strength Classification.

Moral Foundations Theory

According to the Moral Foundations Theory (henceforth MFT) of Haidt and colleagues (Haidt, 2007; Haidt & Joseph, 2004, 2008), challenges experienced by *Homo sapiens* across their evolutionary history led to the natural selection of adaptive biological sensitivities to certain social stimuli or scenarios. Such sensitivities are, and form the basis of, unconscious, automatic, and affect-laden moral intuitions. Deliberate, conscious moral judgments about the rightness or wrongness of actions or behaviors are verbalized *post-hoc* rationalizations of these moral intuitions (Haidt, 2001). There are five universal psychological mechanisms (or cognitive modules), each an evolutionary consequence of specific adaptive challenges faced by human ancestors such as the need to protect and care for offspring, that are generally accepted to be biological foundations for morality (Graham et al., 2011, 2018). These moral foundations are named according to five moral values—Care, Fairness, Loyalty, Authority, and Purity—and each is distinguishable by sets of characteristic emotions and associated virtue terms (see Table 1). The five moral foundations are inherent to all humans, but the significance attributed to each varies widely due to a range of personal and environmental factors (Graham et al., 2011; Zakharin & Bates, 2023).

As psychological systems for detecting and reacting to the pain, suffering and injustices of individual people, the Care and Fairness moral foundations are commonly referred to together as *Individualizing foundations* (Waytz et al., 2019). As psychological systems for detecting and reacting to the needs of whole groups, the remaining three foundations are named *Binding foundations.* According to MFT, binding foundations evolved to ensure in-group survival by celebrating individuals who sacrifice for the group (loyalty), respect and obey hierarchies and traditions (authority), and rise above selfish impulses and urges (purity). Supporting these higher-order domains, endorsement of individualizing vs. binding foundations maps onto the ideological differences underpinning liberal vs. conservative political/ideological orientations (Costa & Moreira, 2025; Graham et al., 2009, 2011).

Schwartz Theory of Basic Values

According to Schwartz Value Theory (henceforth SVT), values are a set of relatively stable conscious goals (cognitive representations about desirable end states) that guide individuals, across all situations, in their selection and evaluation of behaviors (Sagiv et al., 2017; Schwartz, 1992, 2012). In its most widely known form[1], SVT posits 10 basic values that are arranged in a quasi-circular circumplex of related motivations (see Table 1). Proximity between values signifies greater congruence while greater distance indicates greater incongruence (Maio et al., 2009; Schwartz, 1992). While the basic values are universal in their content, people differ in how they order values in terms of importance. People endorsing different values believe different goals are important and engage in actions that are compatible with the pursuit of such goals (Roccas & Sagiv, 2017).

The circumplex has two major axes that capture tradeoffs, where actions taken toward the goal(s) at one

Table 1. Overview of Moral Foundation and Schwartz's Value Theory as Well as Approximately Corresponding Character Strengths to Values According to Peterson and Seligman (2004)

Moral foundations theory	Schwartz value theory
Individualizing foundations	Self-transcendence
Fairness: Sensitivity to unequal resource distribution. Relates to the virtues of fairness, justice and trustworthiness.	*Universalism*: Understanding, appreciation, tolerance, and protection for the welfare of **all** people and nature. **†Approximately corresponding character strength(s):** Perspective; fairness
Care: Sensitivity to the suffering and need of the in-group. Relates to the virtues of caring and kindness.	*Benevolence*: Preserving and enhancing the welfare of those from one's "in-group." **†Approximately corresponding character strength(s):** Kindness
Binding foundations	Conservation
Purity: Sensitivity to spiritual and physical uncleanliness. Relates to the virtues of temperance, chastity, piety and cleanliness.	*Tradition*: Respect, commitment, and acceptance of the customs and ideas of one's culture/religion. **†Approximately corresponding character strength(s):** Modesty; spirituality; prudence
Authority: Sensitivity to hierarchies. Relates to the virtues of obedience and deference.	*Conformity*: Restraint of actions, inclinations, and impulses that may upset or harm others and violate social expectations. **†Approximately corresponding character strength(s):** Citizenship; self-regulation
Loyalty: Sensitivity to threats to one's in-group. Relates to the virtues of loyalty, patriotism, and self-sacrifice.	*Security*: Safety, harmony, and stability of society, of relationships, and of self. **†Approximately corresponding character strength(s):** Gratitude
	Self-enhancement
	Power: Social status and prestige, control or dominance over people and resources. **†Approximately corresponding character strength(s):** Leadership *Achievement*: Personal success through demonstrating competence according to social standards. **†Approximately corresponding character strength(s):** Perseverance *Hedonism*: Pleasure for oneself. **†Approximately corresponding character strength(s):** ~appreciation of beauty
	Openness to change
	Stimulation: Excitement, novelty and challenge in life. **†Approximately corresponding character strength(s):** Curiosity; love of learning *Self-direction*: Independent thought and action. **†Approximately corresponding character strength(s):** ~creativity

Note. Definitions of basic values from Schwartz (2012). Definitions for moral foundations adapted from Graham et al. (2013). Approximate matching of values to character strengths from Peterson and Seligman (2004).

end of the continuum conflict with pursuit of the goal(s) at the opposing end. The first axis delineates a conflict between *conservation values* (Conformity, Tradition, and Security) and *openness-to-change* (Self-Direction, Stimulation, and Hedonism). At its core, this continuum reflects a contrast between goals of preserving stability and avoiding anxiety, versus goals of pursuing change and being free from anxiety (Schwartz et al., 2012); in other words, a dimension of propensity to change. According to SVT, actions for expressing conformity, for example, are incompatible with actions in the pursuit of self-direction. The second axis reflects a conflict between *self-enhancement values* (Achievement and Power) and *self-transcendence* (Universalism and Benevolence), capturing the dichotomy between goals that serve personal vs. social interests, emphasizing therefore competition vs.

cooperation. A substantial body of research validates these four higher-order values (Bilsky et al., 2011; Coelho et al., 2019), demonstrating they differentiate between people of different political ideologies (Caprara et al., 2006; Piurko et al., 2011).

Character Strengths as "Values in Action"

According to the VIA Classification (Peterson & Seligman, 2004), character strengths are morally valued and socially facilitative personality traits that represent psychological manifestations of six core virtues: wisdom, courage, humanity, justice, temperance, and transcendence. Virtues, defined as "the core characteristics valued by moral philosophers and religious thinkers" (Peterson & Seligman, 2004, p. 13), were proposed as universal moral dimensions while character strengths were described as the psychological processes and mechanisms through which virtues are expressed in thoughts, feelings, and behavior. For example, the strengths of creativity, curiosity, judgment, love of learning, and perspective are different pathways to the virtue of wisdom. Importantly, because Peterson and Seligman described strengths as leading to virtues this implies a formative model. In this way, the VIA framework differs from other contemporary personality models (e.g., the Five Factor Model, HEXACO) in that character strengths are not interchangeable manifestations of a latent virtue (Ruch & Stahlmann, 2024).

The VIA model has featured extensively in empirical research in the positive psychology literature over the past two decades (Feraco & Casali, 2025). However, despite Peterson and Seligman's (2004) formative conceptualization of virtues, studies have primarily employed factor analytic methods to study the relationships between character strengths and virtues. In factor analysis, virtues correspond to higher-order factors that account for shared variance among sets of strengths, which is consistent with a reflective rather than formative model. Such studies have championed a variety of structural solutions with different numbers of emergent virtues (see Feraco et al., 2022; McGrath, 2014), with only a few instances of support for the original formative six-virtue model (e.g., Feraco et al., 2022). Notably, however, studies using alternative approaches to testing the structure of the VIA-model (e.g., using expert ratings) have found better evidence for the initially proposed six virtues (Ruch et al., 2020; Ruch & Proyer, 2015).

Despite these conceptual and empirical inconsistencies, recent factor analytic research has converged on a three-factor solution. These three factors—*Self-Control*, *Caring*, and *Inquisitiveness*—capture shared variance across conceptually related strengths (McGrath et al., 2018; McGrath & Wallace, 2021; Moreira et al., 2022). Following Ruch and Stahlmann (2024), we henceforth refer to these as strength factors, to respect their distinction as the reflective components of character strengths, from virtues. Although strength factors are not equivalent to virtues in the original sense envisioned by Peterson and Seligman (2004), they nonetheless represent higher-order positive traits of character that are meaningfully associated with well-being and health outcomes (Moreira et al., 2022). Indeed, these three strength factors map onto self-regulatory, moral, and intellectual domains of human personality that developed over the course of human evolution because they are adaptive for individual and collective thriving (McGrath & Brown, 2020; Peterson & Seligman, 2004). Although studies have extensively tested how values and moral foundations underpin differences in political orientation (see above), evidence of relationships between VIA character strengths and political orientation is currently absent. That said, indirect evidence from personality research suggests potential associations. For example, Carney et al. (2008) found that liberals tend to display more creativity and curiosity than conservatives: traits that map closely onto VIA strengths. This connection is meaningful given that VIA strengths correspond strongly to established personality facets and can be viewed as a subset of positive personality traits (Feraco & Casali, 2025; McGrath et al., 2020).

Integrating Moral Foundations, Basic Values, and Character Strengths

The Foundations-Values Link. Despite the evident conceptual overlap between MFT and SVT, researchers have only recently shown interest in empirically testing the convergence and divergence of values and moral foundations. All such studies sought to test how socially focused higher-order values from SVT (namely *conservation* and *self-transcendence values*) map onto the moral codes underlying moral foundations (Sverdlik et al., 2012). More specifically, conservation values were hypothesized to be convergent with binding foundations. In turn, self-transcendence values were hypothesized to be convergent with individualizing foundations (Feldman, 2021; Zapko-Willmes et al., 2021).

Overall, the studies testing these hypotheses found evidence of partial, but not complete, construct convergence. For example, across five large cross-cultural samples with over thirty thousand participants, Feldman (2021) found that loyalty, authority, and purity foundations (*binding foundations*) were all consistently positively related to tradition, conformity, and security values (*conservation values*). Moreover, harm and fairness foundations (*individualizing foundations*) were positively related to universalism and benevolence values (*self-transcendence values*). However, tests of incremental predictive validity showed that constructs from each framework explained unique variance in moral attitudes and moral behavior, implying that while theoretically proximal, moral foundations and values are not redundant constructs. This conclusion was repeated by the twin study of Zapko-Willmes et al. (2021), who found a genetic link and moderate environmental correlation between conservation values and binding foundations, but also that transcendence values and individualizing foundations were genetically linked but structurally divergent.

Links to Character Strengths. Beyond a few general suggestions of approximate conceptual overlap (see Peterson & Seligman, 2004), researchers have not deeply considered the possibility of correspondence between character strengths and either moral foundations or personal values. Indeed, we identified just one study that attempted to integrate personal values with constructs from the VIA framework (Lavy & Benish-Weisman, 2021). In this article, the authors mostly focused on parallels between higher-order virtues and values, emphasizing how character strengths that manifest the virtues of transcendence and humanity may serve as psychological mechanisms driving the pursuit of self-transcendence values. They presented some initial evidence for this hypothesis, showing that self-transcendence values had a statistically significant indirect effect on prosocial behavior via the character strength of gratitude. However, toward the broader goal of integrating the two theories it is worth considering that Lavy and Benish-Weisman admitted no clear correspondence between all virtues and higher-order values, such as the virtue of wisdom or self-enhancement values. As far as we are aware, only one study has investigated the associations between VIA character strengths and the MFT moral foundations (Plaisance et al., 2024). The authors found only one significant correlation between the strength of fairness and authority. However, the study consisted of only 59 participants.

One possibility is that theoretical links between values and character strengths may be clearer if comparisons are made at the level of the McGrath et al. (2018) strength factors (i.e., *self-control*, *caring*, and *inquisitiveness*) rather than the six originally posited virtues. Character strengths loading on the McGrath et al. (2018) caring strength factor can be relatively easily linked to values. Described as capturing the moral domain of virtue, the caring strength factor is indicated by strengths including VIA kindness (care, compassion), VIA fairness (treating all people the same), VIA forgiveness, and VIA love (valuing closeness to people), which have to do with obligations towards other people. As such, we argue that character strengths strongly associated with the caring strength factor will be related to *self-transcendence values* (benevolence and universalism) because they reflect behavioral tendencies aimed at the protection of other individuals. Given the current empirical evidence linking moral foundations and values (Feldman, 2021), we similarly expected that character strengths associated with the caring strength factor would be associated with *individualizing foundations*.

Character strengths loading on the McGrath et al. (2018) self-control strength factor include intrapersonal strengths that relate to one's capacity to organize behavior to achieve goals. Character strengths loading on this strength factor include VIA prudence (not taking risks, deliberate), VIA self-regulation (discipline, control of appetites), and VIA perseverance (persistence in action). Such traits indicate strengths in one's executive control of appetites (Moreira et al., 2022), including the ability to suppress automatic impulsive, potentially "impure," behaviors or act contrary to social pressures. As such, self-control as a domain of personality can serve the function of self-protection. Specifically, such traits reflect tendencies that protect the individual from social disapproval either by ensuring the individual is successful, powerful and dominant within a group (approach tendencies that allow for personal growth), or by ensuring the individual "toes-the-line" (avoidance tendencies that support groups by helping to maintain the *status quo*). Consequently, it is plausible that character strengths loading on the self-control strength factor might be expressed in pursuit of SVT power and SVT achievement (*self-enhancement values*) and SVT conformity and SVT tradition (*conservation values*), which emphasize subordinating the self. By extension, we expected that character strengths associated with the self-control strength factor might also be associated with *binding foundations*.

Finally, character strengths loading on the McGrath et al. (2018) inquisitiveness strength factor demonstrate engagement with the world and seeking greater awareness about what is good and meaningful, including VIA creativity (originality, ingenuity), VIA curiosity (interest in experience), VIA open-mindedness, and VIA love of learning. Rather than capturing transpersonal aspects of functioning, such as those found in constructs like self-transcendence (Cloninger, 2004), this set of strengths aligns more closely with the enactment of SVT self-direction and SVT stimulation values, the goals of which are autonomy of thought (creativity/imagination, curious/interested) and need for variety, excitement and novelty. Evidence further indicates that inquisitiveness, as a higher-order domain of personality, arises from the more recently evolved learning network of self-awareness (Moreira et al., 2022; Zwir et al., 2021), representing broad psychobiological resources involved in processing interoceptive, proprioceptive, perceptual, and moral information, rather than tendencies shaped by specific moral intuitions. Because moral foundations constitute affect-laden, evolutionary conserved systems that guide cooperation but vary independently across individuals, character strengths loading on inquisitiveness are, therefore, unlikely to reflect prioritization of any particular foundation. Consistent with this distinction, and with mixed findings on whether VIA spirituality relates more closely to the care or inquisitiveness strength factor (McGrath et al., 2018; Moreira et al., 2022), there was no theoretical basis to expect strong associations between inquisitiveness-related VIA strengths or associated SVT values and any of the moral foundations (see Table 1).

The Present Research

Research Question 1. What is the structure of relations among MFT moral foundations, SVT values, and VIA character strengths?

Existing literature suggests that subsets of MFT moral foundations (Haidt, 2007), SVT basic value orientations

(Schwartz, 1992), and VIA character strengths (Peterson & Seligman, 2004) share conceptual overlap (see Table 1). However, few studies have investigated the associations between any two of these sets of constructs and no study, to the best of our knowledge, has investigated all three together. To address this gap in understanding, the first aim of this multi-sample study was to test whether patterns of covariance among MFT moral foundations (Haidt, 2007), SVT personal values (Schwartz, 1992), and VIA character strengths (Peterson & Seligman, 2004) could be summarized by a smaller number of components.

This integration of theoretical frameworks offers an opportunity to advance current understanding of moral functioning in several ways. First, identifying broad higher-order constructs across the SVT, MFT and VIA can provide insights into the psychological mechanisms that organize moral behavior. Because SVT values, MFT moral foundations, and VIA character strengths differ in their underlying psychological processes, examining how they co-vary may illuminate core psychological systems (sets of psychological mechanisms that work together; Haidt, 2008) implicated in moral behavior. Second, this integration may help clarify the merits or limitations of the individual frameworks, such as if they fail to capture certain domains of human functioning. Given the exploratory nature of dimension reduction techniques like principal components analysis (PCA), we did not make explicit hypotheses on the number or nature of emergent components. Nevertheless, we expected that the covariance among constructs sharing common themes would be summarized by a small number of higher-order constructs.

Research Question 2. How are emergent components associated with criterion variables? What evidence is there of criterion validity?

The second aim of the study was to test the validity of emergent components by examining how they relate to criterion variables. Evidence of validity can include demonstrating that a construct sits sensibly within a predicted nomological network, and thus shows a pattern of expected convergent and discriminant relations with conceptually related but distinct constructs (Borsboom et al., 2004). For this purpose, we used trait domains from two different personality models: the HEXACO model of normal personality traits and the Alternative DSM-5 Model for Personality Disorders. Research has shown that MFT moral foundations, SVT values, and VIA character strengths are all strongly associated with traits (Noronha & Campos, 2018; Parks-Leduc et al., 2015; Webster et al., 2021).

The HEXACO model (Ashton et al., 2004) provides a morally attuned model of normal personality traits with its inclusion of the honesty-humility trait domain (trustworthiness, modesty, lack of greed) alongside emotionality, extraversion, agreeableness, conscientiousness and openness to experience. Research has shown meaningful, but not total, overlap between HEXACO trait domains and SVT values (Anglim et al., 2017), VIA character strengths (McGrath et al., 2020), and moral foundations (Ścigała et al., 2023). In contrast, the Alternative DSM-5 Model for Personality Disorders (Krueger et al., 2012) captures the higher-order trait domains antagonism, disinhibition, detachment, negative affectivity, and psychoticism that represent maladaptive features of personality. Computing correlations between emergent components and HEXACO/DSM-5 traits will provide indications of whether personality domains offer an organizing framework for the emergent components, or if these components lie beyond the boundaries of these traits. In particular, it will be possible to discern if emergent components are reducible to a single personality domain, or if they share variance with multiple domains.

Research Question 3. To what extent do the SVT, MFT and VIA frameworks explain unique variance in criterion variables. What evidence is there of incremental validity?

Despite their conceptual overlaps, research nevertheless indicates that MFT moral foundations, SVT values, and VIA character strengths are nonredundant constructs (Feldman, 2021). Consequently, a final objective was to investigate the conceptual uniqueness of the MFT, SVT and VIA frameworks. Evidence of conceptual uniqueness can be acquired by testing for incremental validity. Analyses for incremental validity test whether a set of variables make a unique contribution to predicting a criterion variable beyond another set of variables. If, for example, the contribution of SVT values to predicting a criterion variable beyond MFT moral foundations and VIA character strengths combined is negligible, this would be evidence of conceptual redundancy. On the other hand, if the frameworks each predict unique variance in criterion, this would provide evidence that they are complementary rather than redundant.

To test incremental validity, we used trait empathy and moral identity as criterion variables. We chose these variables as relevant criteria because they are implicated theoretically as factors that explain moral behavior and have recently been linked empirically with MFT moral foundations, SVT values, VIA character strengths (Dawson et al., 2023; Feldman, 2021; Han et al., 2023). Trait empathy is a multidimensional construct that captures how an individual typically responds to the experiences of others emotionally (empathic concern) and cognitively (perspective taking) (Davis, 1980). We expect that values explain more variance in perspective taking than empathic concerns because of their cognitive and abstract nature (Schwartz, 1992). Overall, however, we expect moral foundations and character strengths to explain more variance in both empathy dimensions because values are more abstract, whereas moral foundations and character strengths are more concrete (Feldman, 2021).

In contrast, moral identity is "a self-conception organized around a set of moral traits" (Aquino & Reed II, 2002, p. 1424). Moral identity internalization captures the accessibility of an individual's moral self-schema and is

therefore indicative of the subjective experience of having a moral identity. Moral identity symbolization, in turn, measures the degree of importance placed on exhibiting a public moral self, and therefore the degree to which moral traits are expressed intentionally in actions. We did not make any predictions on whether MFT, SVT, or VIA would explain more variance in either of the two moral identity dimensions.

Methods

Participants

A power analysis revealed that to detect correlations of small-to-medium effect size of $r = .20$ (Feldman, 2021; Lavy & Benish-Weisman, 2021) with a power of .95, a minimum of 319 participants were needed.

For Sample 1, participants were 330 students from a large German university, 80% of whom were studying to be teachers. The sample comprised 232 women and 96 men, with two individuals reporting a non-binary gender (M_{age} = 21.18 years, SD = 2.97).

Sample size for Sample 2 was determined the same way as for Sample 1. Participants were 346 undergraduate students from a large German university. The mean age across participants 21.19 years (SD = 3.05; 262 women, 81 men, 3 other).

Measures

All questionnaires were German-language versions. We used either validated versions of the scales (for values, moral foundations, character strengths, empathy) or translated them using back-translation (personality traits, moral identity).

MFT Moral Foundations, SVT Values, and VIA Character Strengths. In both samples we assessed the five moral foundations using the Moral Foundations Questionnaire-30 (MFQ-30; Graham et al., 2011). We downloaded the German version from https://moralfoundations.org/questionnaires/. The MFQ-30 is a self-report instrument, consisting of 30 items (+2 catch questions), equally divided into two parts. In Part 1 (15 items + 1 catch question), participants rate how relevant different concerns (e.g., Item 1: "Whether or not someone suffered emotionally") are to their moral thinking from 0 (*not at all relevant*) to 5 (*extremely relevant*). In Part 2 (15 items + 1 catch question), participants indicate their agreement with statements (e.g., "I am proud of my country's history") from 0 (*strongly disagree*) to 5 (*strongly agree*). We calculated the mean average score of the five moral foundations. Internal consistency reliability estimates for the five foundations were good in Sample 1 (range: ω = .64 to ω = .80) and Sample 2 (range: ω = .65 to ω = .81).

In both samples, we measured character strengths using VIA-120 (Höfer et al., 2020; Peterson & Seligman, 2004). This 120-item measure requires participants to rate how well statements (e.g., "I have many interests.") are applicable to them from 1 (*not applicable*) to 5 (*very applicable*). Internal consistency reliability estimates for the character strength scales were good in Sample 1 (range: ω = .67 to ω = .89) and Sample 2 (range: ω = .60 to ω = .88).

For Sample 1, we used the Short Schwartz's Value Survey (Boer, 2014; Lindeman & Verkasalo, 2005) to assess the basic values. Participants rate a set of 10 values (e.g., "POWER: social status and prestige, control or dominance over people and resources") in terms of their importance as life-guiding principles from 1 (*not important at all*) to 6 (*very important*). A multidimensional scaling analysis (Bilsky et al., 2011) replicated Schwartz's (1992) model, hence providing evidence for the reliability of the survey (Figure S1, cf. Hanel et al., 2018). Further, we replicated the hierarchy (Schwartz & Bardi, 2001): Benevolence was the most important value, power the least important one.

For Sample 2, we assessed values using the 21-item Portrait Values Questionnaire (Schwartz, 2003; Schwartz et al., 2001). Each item of the PVQ provides a two-sentence description of a different person (e.g., "It is important to him/her to show her abilities. He/she wants people to admire what he/she does"). Each basic value type was assessed by 2–3 items. Participants were asked to rate how much they are like the described person from 1 (*not like me at all*) to 6 (*very much like me*). A multidimensional scaling analysis replicated again Schwartz's (1992) model (Figure S2).

Criterion Variables

Normal and Maladaptive Personality Traits (Sample 1). We measured the six dimensions of the HEXACO model with the 24-item Brief HEXACO Inventory (BHI; de Vries, 2013). Responses were given on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Consistent with what can be expected when measuring broad multi-faceted constructs (e.g., Graham et al., 2011), estimates of internal consistency reliability were generally low across the six dimensions (range: ω = .49 to ω = .68). However, supporting construct validity, we found HEXACO traits correlated with values in line with previous meta-analytic evidence (Fischer & Boer, 2015; Parks-Leduc et al., 2015). For example, openness correlated most strongly with openness values, $r(328) = .27$, $p < .001$, and conscientiousness correlated most strongly with conservation values, $r(328) = .24$, $p < .001$ (for correlations see https://osf.io/4p3ux/?view_only=964204bfe9de411886e4241c94a6b930).

To measure maladaptive personality trait domains we used the brief 25-item version of the Personality Inventory for DSM-5 questionnaire (PID-5-BF; Krueger et al., 2015). Participants responded to each item on a 4-point scale from 0 (*very false or often false*) to 3 (*very true or often true*), with higher scores for each trait domain indicating greater personality dysfunction. Estimates of internal reliability consistency across trait domains ranged from ω = .59 (negative affect) to ω = .74 (antagonism).

Trait Empathy and Moral Identity (Sample 2). We assessed participant empathic concern (e.g., "I often have tender, concerned feelings for people less fortunate than me"; ω = .77) and perspective taking (e.g., "I try to look at everybody's side of a disagreement before I make a decision"; ω = .86) using an 8-item version, 4-items per subdimension, of the Interpersonal Reactivity Index (Davis, 1980; Koller & Lamm, 2014). Responses were given on a 6-point scale ranging from 1 (*does not apply at all*) to 6 (*fully applies*).

We used the Moral Identity Scale (Aquino & Reed II, 2002) to assess how important different moral traits are to the participants' self-concept. Participants were presented with a list of nine moral traits (fair, honest, caring etc.)[2] and asked to imagine a person with these characteristics. They were then asked to rate a series of 10 statements (e.g., "It would make me feel good to be a person who has these characteristics") from 1 (*strongly disagree*) to 5 (*strongly agree*). Four of the statements formed the internalization (ω = .63) dimension and six statements the symbolization dimension (ω = .81).

Results

In the following analyses, we examine the first-order variables of each framework: that is, MFT moral foundations, SVT values, and VIA character strengths. However, because our aim was to identify patterns of shared variance among these variables, it is also useful to sometimes report and interpret findings in terms of broader, second-order constructs, which we shall highlight in italics for clarity (e.g., referring to loyalty, authority, and purity jointly as *binding foundations*). Our hope is that this might help readers understand overarching patterns across conceptually related strengths without losing specificity of the first-order results.

Descriptive Statistics

All statistical analyses were conducted using R (R Core Team, 2024) through RStudio (Posit team, 2023).

Scale Distributional Properties. The distributional properties of all study variables are presented in Table S1a (Sample 1) and Table S1b (Sample 2). None of the scales presented values for |kurtosis| ≥ 7 or |skew| ≥ 3, and thus we concluded there was no evidence of severe violations of univariate normality.

Bivariate Correlations. Overall, the correlational analysis provided support for our hypothesized conceptual overlaps (Table 1). Correlations between all study variables are available at https://osf.io/4p3ux/?view_only=964204bfe9de411886e4241c94a6b930. To highlight notable findings, VIA fairness and VIA kindness were positively correlated with the SVT universalism and SVT benevolence, as well as the MFT care, *r*s = .33–.49, *p*s < .001 (Sample 1) and *r*s = .18–.59, *p*s < .001 (Sample 2). Further, VIA spirituality was positively correlated with SVT tradition and MFT purity in both samples, *r*s = .38–.42, *p*s < .001 (Sample 1) and .32–.34 (Sample 2). VIA modesty and VIA prudence were correlated with SVT tradition in Sample 2, *r*s = .14–.42, *p*s < .01, but not in Sample 1, *r*s = .02–.10. In both samples VIA modesty and VIA prudence correlated with MFT purity, *r*s = .13–.24, *p*s < .05.

We noted that the correlations were mostly small-to-medium (Cohen, 1992), suggesting constructs are not redundant. Some variability in the correlations across samples was observed, which is to be expected (Lakens & Etz, 2017).

Research Question 1: Structure of Relations Among MFT Moral Foundations, SVT Values, and VIA Character Strengths

We performed a Principal Components Analysis (PCA) on standardized scores (*z* scores) for the five MFT moral foundations, 10 SVT values, and 24 VIA character strengths variables[3]. To validate the theoretical structures of our chosen frameworks, we followed the recommendations of Tracey (2000) and inspected the second and third principal components for the presence of a circular structure. We visualized the results of the PCA by generating a variable plot with the *factoextra* package (Kassambara & Mundt, 2020).

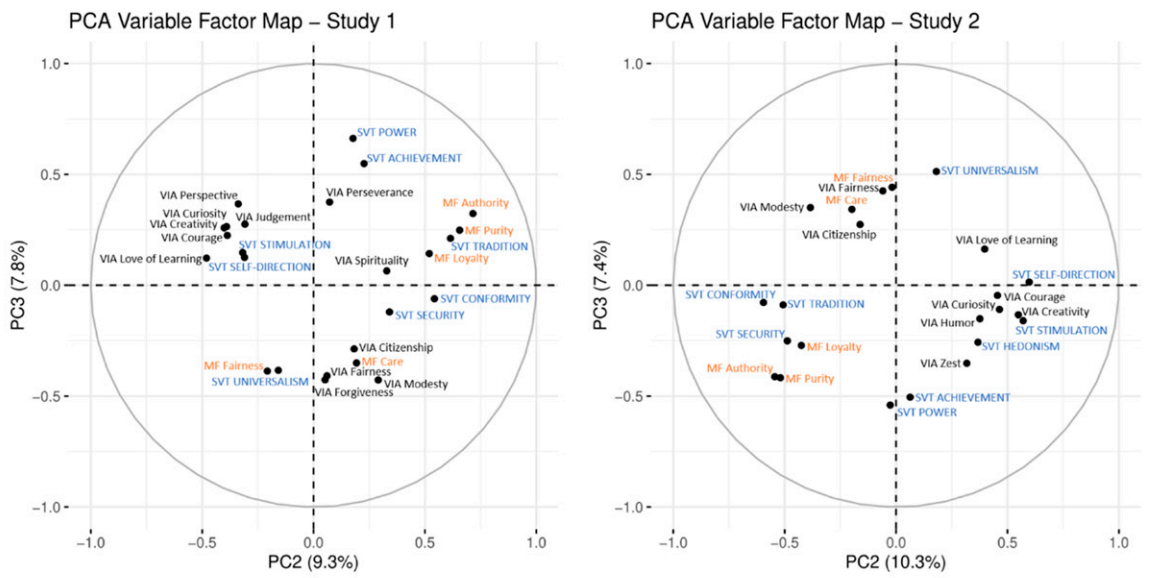
Principal Component Analysis (PCA)

Sample 1. The overall Measure of Sampling Adequacy (MSA), calculated using the KMO function of the *psych* package (Revelle, 2022) was 0.88, indicating sampling was adequate for PCA. Eigen values obtained from the PCA were greater than for simulated data until the sixth component, suggesting the extraction of five components. However, there were visible inflexion points at the second and fourth components (Figure S3).

The variable plot shown in Figure 1 (left-hand plot) support Schwartz's (1992) theoretical structure of basic values. The second principal component (*y*-axis) captured the organization of values according to their relationship with anxiety, with self-protective values in the right-hand quadrants and anxiety-free self-expansive values in the left-hand quadrants. The third principal component (*x*-axis) captured the organization of values according to whether they have a personal (upper quadrants) vs. social (lower quadrants) focus.

Consistent with theory, MFT authority, MFT purity, and MFT loyalty clustered together (*binding foundations*), as did MFT fairness and MFT care (*individualizing foundations*). Consistent with past research (Feldman, 2021), the three *binding foundations* clustered together near SVT tradition, while MFT fairness clustered together near SVT universalism.

We noted a cluster of character strengths comprising VIA fairness, VIA forgiveness, VIA citizenship and VIA modesty (*caring strength factor*) in the lower-right



Note. Moral foundations (MF) are labelled in orange, values in blue, and character strengths in black. The plots from the two studies orient the circumplex differently, but rotation does not affect the meaning of the structure. For clarity, only variables with $\cos^2 > 0.1$ are plotted.

Figure 1. Principle components analysis (PCA) variable plots

quadrant in proximity to MFT care. There was also a second cluster of character strengths comprising VIA curiosity, VIA creativity, VIA perspective, VIA judgment, VIA courage, and VIA love of learning (*inquisitiveness strength factor*) in the upper-left quadrant close to SVT stimulation and SVT self-direction (*openness to change values*).

Sample 2. The overall MSA for Sample 2 was 0.80, indicating that sampling was adequate for PCA. Eigen values for the actual data were greater than for the simulated data until the seventh component (Figure S4). However, there were inflexion points at the third and fifth components. The variable plot generated from this PCA (Figure 1, right-hand plot) showed great resemblance to that obtained in Sample 1. The circumplex was oriented differently to that in Sample 1, although this does not influence the meaning of the structure.

Hierarchical Modeling. We examined the latent structure of shared attributes among MFT moral foundations, SVT values, VIA character strengths using Goldberg's (2006) bass-ackwards approach. This involved performing a series of PCAs to evaluate solutions with increasing numbers of components. The first PCA tested the unrotated principal component (a one-component solution) and in each subsequent PCA a component was added. For these multi-component PCA's, an oblimin rotation was used. With this approach, there is no requirement to predefine a maximum number of components, although we tested only up to the five-component solution. We calculated component scores for each solution and used these to compute correlations between components at adjacent levels of the hierarchy. Loadings for the one-, two-, and three-component solutions are in Table S2a (Sample 1) and Table S2b (Sample 2).

Sample 1. All but three of the variables had positive loadings >.20 on the first unrotated principal component (explaining 23.0% of the variance; see Table S2a for all loadings), which then split into two components reflecting a moral system focused on the growth of individuals and a moral system focused on maintaining the *status quo* within groups (Figure 2). This moral system stayed relatively unchanged as the hierarchy developed. In step three of the hierarchy, the moral system focused on the growth of individuals subdivided into two components reflecting a focus on personal growth versus a focus on the growth of other individuals. Next, the personal focused component further subdivided into components reflecting a self-regulatory domain and an intellectual domain. The five-component solution was an over-extraction and given theoretical consistency, we selected the four-component solution (explaining 45.8% of the variance) for interpretation.

Component loadings for the four-component solution are in the left-hand columns of Table 2. Each component represented a different dynamic principle that organizes the structure of relationships among MFT moral foundations, SVT values, and VIA character strengths.

Principal Component 1 ("Universal Caring") had strong positive associations with MFT care and MFT fairness (*individualizing foundations*); SVT universalism

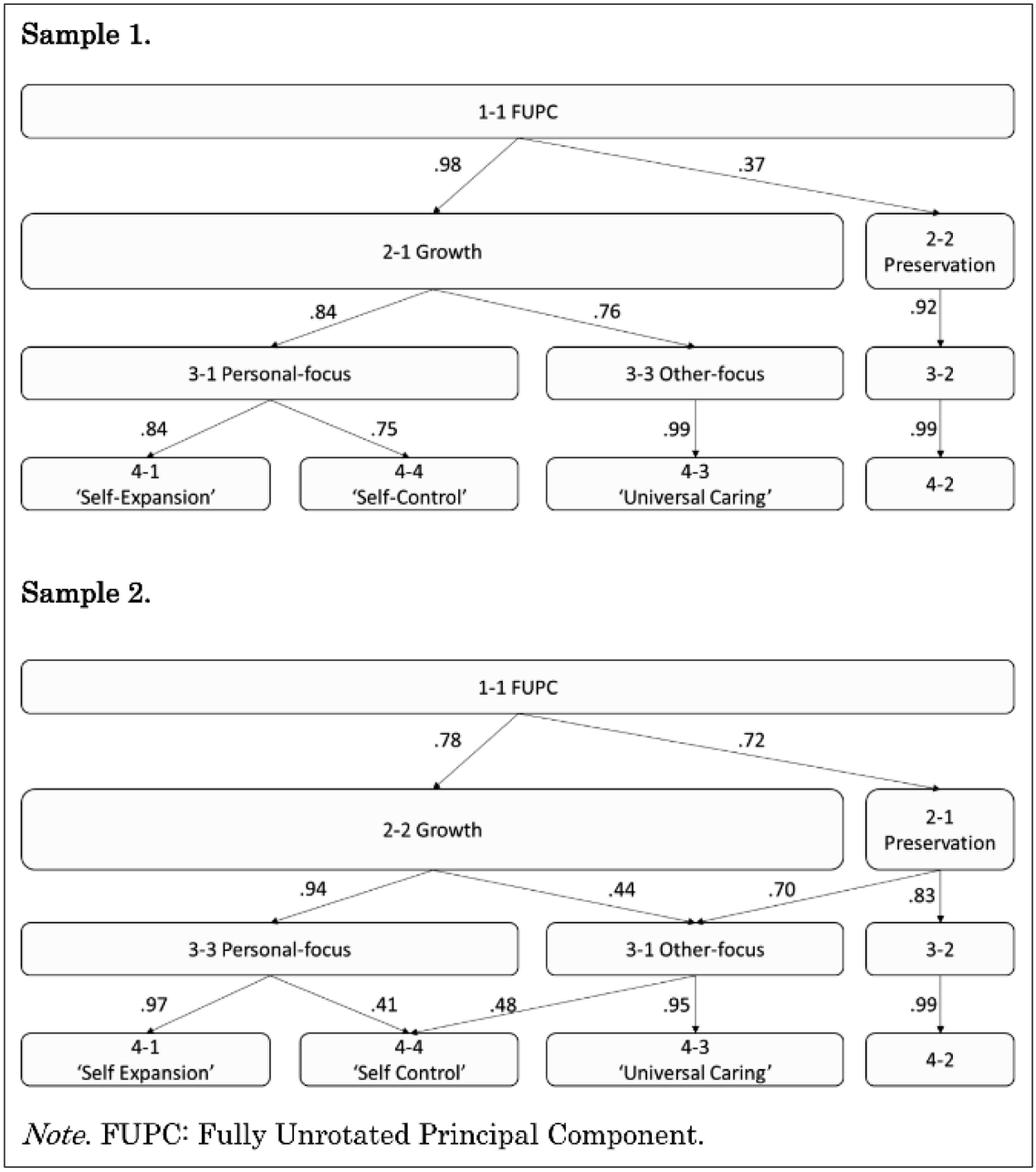


Figure 2. Hierarchical structure across principal components analyses. Values associated with arrows are Pearson correlations between component scores

and SVT benevolence (*self-transcendence values*); and VIA fairness, VIA modesty, VIA kindness, and VIA citizenship (*care strength factor*). Thus, this component captured a moral system that regulates how individuals relate socially to all other people.

Principal Component 2 ("Self-Expansion") had strong positive associations with STV stimulation (and to a lesser extent STV hedonism), VIA creativity, VIA curiosity, VIA zest, VIA hope, VIA humor, and VIA love (*inquisitiveness strength factor*). Tentatively, therefore, this component captured a moral system linked to personal growth and expansion through engagement with one's world.

Principal Component 3 ("Preservation") had strong positive association with MFT loyalty, MFT authority, and MFT purity (*binding foundations*); SVT power and SVT achievement (*self-enhancement values*); SVT tradition and SVT conformity (*conservation values*); and VIA spirituality. With these characteristics, this component captured a moral system underpinning maintenance of the *status quo* and in-group protection.

Principal Component 4 ("Self-Control") had weak positive associations with SVT power, SVT achievement and SVT self-direction (*self-enhancement values*). This component also had a strong positive association with VIA judgment, VIA perseverance, VIA perspective, VIA prudence, VIA self-regulation, and VIA integrity (*self-control strength factor*).

Sample 2. Loadings for the Sample 2 four-component solution are in the right-hand columns of Table 2. Figure 2

Table 2. Factor Loadings and Communalities (h^2) for the Four-Component Solutions

	Sample 1					Sample 2				
	Self-expansion	Preservation	Universal caring	Self-control	h^2	Self-expansion	Preservation	Universal caring	Self-control	h^2
MFT moral foundations										
Care/harm	−.04	.15	**.63**	.09	.47	.01	.13	**.61**	−.05	.40
Fairness/cheating	.05	−.25	**.58**	.18	.44	−.02	−.13	**.55**	−.05	.29
Loyalty/betrayal	.11	**.62**	.15	−.01	.46	.04	**.61**	.03	.10	.41
Authority/subversion	−.03	**.83**	−.05	.03	.69	.02	**.76**	−.08	.00	.57
Purity/degradation	−.04	**.76**	.02	.04	.58	.08	**.77**	−.04	.00	.60
SVT values										
Power	.20	**.43**	**−.55**	.21	.47	.12	.28	**−.56**	.18	.35
Achievement	.16	**.46**	−.33	.29	.40	.25	.25	**−.45**	.23	.32
Hedonism	**.44**	.09	−.06	−.14	.18	**.55**	−.03	−.09	−.21	.30
Stimulation	**.61**	−.15	−.04	−.03	.36	**.67**	−.21	−.01	−.13	.47
Self-direction	.33	−.16	.03	.26	.24	**.55**	−.35	.07	.12	.45
Universalism	.23	−.18	**.58**	.00	.44	.10	−.29	**.60**	.13	.46
Benevolence	.29	−.06	**.48**	−.06	.36	.26	.11	**.54**	−.06	.42
Tradition	.10	**.71**	.01	−.14	.52	−.06	**.57**	.23	−.05	.42
Conformity	−.24	**.51**	.24	.01	.36	−.24	**.57**	.14	.15	.45
Security	−.02	.35	.39	.07	.33	−.08	.60	−.01	.12	.38
VIA character strengths										
Appreciation of beauty	.36	−.03	**.40**	−.03	.35	**.51**	.04	.21	−.13	.31
Courage	.37	−.18	−.02	**.40**	.38	.32	−.29	−.12	**.43**	.38
Creativity	**.50**	−.16	−.04	.34	.45	**.57**	−.24	−.06	.15	.41
Curiosity	**.71**	−.12	−.01	.22	.62	**.58**	−.13	.05	.21	.44
Fairness	.03	.02	**.70**	.13	.56	.05	−.01	**.63**	.21	.50
Forgiveness	.12	−.02	**.60**	−.13	.38	.03	.06	**.46**	.05	.24
Gratitude	**.49**	.15	**.43**	−.11	.55	**.55**	.34	.19	−.04	.50
Integrity/honesty	.08	.16	.36	**.49**	.54	.17	.13	.30	**.45**	.45
Hope	**.62**	.21	.10	.06	.53	**.50**	.27	.03	.16	.40
Humor	**.66**	.01	.08	−.09	.43	**.53**	−.07	.02	−.02	.28
Kindness	.28	.08	**.62**	.06	.59	.38	.21	**.49**	−.05	.50
Leadership	.12	.10	.38	**.47**	.53	.14	.03	.38	**.41**	.43
Love of learning	.16	−.36	−.04	**.41**	.32	.17	−.38	.05	.35	.29
Love	**.43**	.11	**.32**	−.04	.37	**.41**	.30	.09	.00	.29
Modesty	−.34	.16	**.64**	.13	.49	−.19	.23	**.56**	.15	.47
Judgment	−.05	−.11	−.01	**.80**	.62	−.09	−.07	−.02	**.76**	.54
Perseverance	.13	.31	−.01	**.55**	.50	.09	.28	.07	**.54**	.46
Perspective	.26	−.08	−.10	**.62**	.52	.26	−.07	−.14	**.57**	.42
Prudence	−.17	.11	.19	**.69**	.54	−.18	.06	.25	**.70**	.61
Self-regulation	.06	.25	.05	**.41**	.28	.03	.17	−.17	**.58**	.38
Social intelligence	.37	−.01	.33	.28	.46	.35	.18	.23	.20	.34
Spirituality	.31	**.41**	.12	−.21	.32	.38	.34	.05	−.16	.27
Citizenship/teamwork	.14	.19	**.61**	.05	.53	.07	.16	**.54**	.14	.43
Zest	**.77**	.18	.06	.03	.70	.71	.18	−.02	.05	.55

Note. Loadings > |.40| are in bold.

presents a graphic representation of relationships among components. The results obtained were similar to those from Sample 1, although the two-component solution did not as clearly differentiate the growth vs. maintenance of status quo components. A comparison of loadings obtained from Sample 1 and Sample 2 for the four-component solutions revealed the same general pattern of component loadings. Estimation of Tucker's

congruence coefficients to compare components from each sample (φ; Lorenzo-Seva & ten Berge, 2006), showed the highest congruence for the Self-Control Component (φ = .91), followed by the Self-Expansion Component (φ = .78), the Universal Caring Component (φ = .77), and the Preservation Component (φ = .69).

Sensitivity Analysis. To determine the robustness of the four-component PCA solutions to alternative statistical decisions we repeated the PCAs in each sample using: (1) an oblique promax rotation; and (2) an orthogonal varimax rotation. The pattern of component loadings for both Sample 1 and Sample 2 remained essentially unchanged. When comparing alternative solutions to the originals, congruence coefficients were φ > .95, indicating components were essentially identical. We also performed EFAs with oblimin rotation and these supported 4-factor solutions that mapped well onto the components identified in PCA (see Supplemental Analysis 1 for full description).

Research Question 2: Associations Between Component Scores and Personality Traits

Our second objective was to understand the extent to which the four emergent domains of moral functioning—universal caring, preservation, self-control, and self-expansion—were associated differently with criterion variables. Using Sample 1, we assessed construct convergence and divergence by examining correlations with HEXACO trait domains and PID-5 maladaptive trait domains.

The correlations presented in Table 3 showed the four components each had different patterns of association with personality trait domains. Most statistically significant correlations were of a small-to-medium size (Cohen, 1992). Moreover, it was evident that universal caring and self-expansion shared variance with multiple HEXACO traits. The pattern of negative correlations with PID-5 trait domains was consistent with the theoretical expectation that emergent moral domains are indicators of adaptive and socially-positive human functioning.

Universal caring was positively correlated with HEXACO honesty-humility (r = .40) and HEXACO agreeableness (r = .37), and negatively correlated with PID-5 antagonism (r = −.56). Self-expansion was positively correlated with HEXACO extraversion (r = .63) and HEXACO openness to experience (r = .33), and negatively correlated with PID-5 detachment (r = −.50). Self-control was positively correlated with HEXACO conscientiousness (r = .34) and negatively correlated with PID-5 disinhibition (r = −.40). Preservation showed the weakest associations with the personality trait domains, although the weak positive correlation with HEXACO conscientiousness was statistically significant (r = .27; for the results of multiple regressions see Tables S4 and S5).

Sensitivity Analysis. We performed additional analyses to check the robustness of the observed associations (see Supplemental Analysis 2 for full description). Specifically, we assessed whether modeling variables as latent factors rather than observed variables had a substantive impact on our conclusions. SEM was employed to estimate the relationships between the four components and HEXACO traits modeled as latent factors. This approach allows for estimation of associations accounting for measurement error, which may be important given the low reliability estimates for the used measure of HEXACO (Borneman, 2022). The general pattern of associations in terms of direction and magnitude was consistent with those in Table 3, although several correlations were disattenuated, the largest association seen between HEXACO extraversion and self-expansion (r = .78). Most notably, each component had latent correlations >.30 with a unique set of multiple HEXACO dimensions, which

Table 3. Correlations and 95% CIs Between Component Scores and HEXACO and PID-5 Trait Domains (Sample 1)

	Component			
Variable	Universal caring	Self-expansion	Preservation	Self-control
HEXACO				
Honesty-humility	**.404***** [.309, .490]	−.128 [−.233, −.021]	.042 [−.066, .149]	−.108 [−.213, .000]
Emotionality	.212*** [.106, .312]	−.190*** [−.292, −.084]	.119 [.011, .224]	−.092 [−.198, .016]
Extraversion	.148 [.041, .252]	**.634***** [.565, .695]	−.032 [−.140, .076]	.156 [.049, .259]
Agreeableness	**.367***** [.270, .457]	.026 [−.082, .134]	.170 [.063, .273]	−.039 [−.146, .069]
Conscientiousness	.123 [.016, .228]	.223*** [.118, .323]	.272*** [.169, .369]	**.338***** [.238, .430]
Openness to experience	.156 [.049, .260]	**.332***** [.232, .425]	−.173 [−.275, −.066]	.151 [.044, .255]
PID-5				
Negative affect	.117 [.009, .222]	−.203*** [−.304, −.097]	.075 [−.034, .181]	−.058 [−.165, .050]
Detachment	−.173 [−.276, −.067]	**−.502***** [−.579, −.417]	−.062 [−.169, .047]	−.026 [−.134, .082]
Antagonism	**−.563***** [−.633, −.485]	.056 [−.052, .163]	−.032 [−.140, .076]	.049 [−.059, .156]
Disinhibition	−.043 [−.150, .065]	.114 [.006, .219]	−.107 [−.213, .000]	**−.402***** [−.488, −.307]
Psychoticism	.061 [−.048, .167]	.048 [−.060, .155]	−.153 [−.256, −.046]	−.116 [−.221, −.008]

Note. ***p < .001. Correlations in bold are >.30.

strengthened evidence that the components do not appear to be interchangeable with any single personality domain.

Research Question 3: Incremental Predictive Validity

To address Research Question 3, we used Sample 2 to test a series of hierarchical multiple regressions testing the incremental contribution of each set of constructs beyond the other two in predicting unique variance in trait empathy and moral identity.

The incremental validity analyses (Table 4) showed that MFT moral foundations did not account for any statistically meaningful additional variance beyond SVT values and VIA character strengths for any of the four criterion variables besides empathic concern ($\Delta adj.\ R^2 = .043$, $p < .001$), thereby only partly supporting our predictions (see Table S6 for independent contributions of each framework in predicting the four criterion variables). SVT values accounted for statistically significant, albeit small, unique variance in empathic concern ($\Delta adj.\ R^2 = .021$, $p = .020$), perspective taking ($\Delta adj.\ R^2 = .041$, $p = .002$), and moral identity internalization ($\Delta adj.\ R^2 = .023$, $p = .047$). Finally, VIA character strengths accounted for the most unique variance for all criterion variables, with the largest effect for perspective taking ($\Delta adj.\ R^2 = .139$, $p < .001$). Thus, our predictions were only partially supported.

Discussion

The present research tested and found across two samples that VIA character strengths (Peterson & Seligman, 2004), moral foundations (Haidt, 2007; Haidt & Joseph, 2004, 2008), and human values (Schwartz, 1992; Schwartz & Bilsky, 1987) can be integrated into one framework. Specifically, the 39 variables from all three frameworks formed four factors which we labeled universal caring, self-expansion, preservation, and self-control. Additionally, we found that the VIA character strengths explained the most variance overall in personality traits, empathy, and moral identity.

Evidence of Four Psychological Systems Linked to Moral Functioning

To expand current understanding of the interrelations among different SVT values, MFT moral foundations, and VIA character strengths we performed PCA. This approach allowed us to summarize the complex patterns of association among the large number of variables as a smaller number of components. A small number of studies have already explored associations between SVT values and MFT moral foundations (Feldman, 2021; Zapko-Willmes et al., 2021), but this study is the first to also incorporate VIA character strengths.

In both samples, we found that covariance among variables could be accounted for by four components, which we tentatively labeled universal caring, self-expansion, preservation, and self-control. This four-component solution was robust to using different rotation methods in the PCA. The factor loadings of individual variables on these components revealed convergence between hypothesized sets of constructs (Table 1) and were suggestive of different psychological systems that may help describe individual differences in moral attitudes and behaviors. Importantly, we note here that PCA is an inherently descriptive technique. While it provides information on which MFT moral foundations, SVT values, and VIA character strengths co-vary together statistically, it does not permit inferences about temporal or causal relations among constructs. We first discuss findings relating to the universal caring component, which was loaded on by constructs from all three frameworks. We then proceed to present the three remaining components that highlight "blind spots" for at least one of the tested frameworks.

Table 4. Incremental Validity of Moral Foundations, Values, and Character Strengths in Predicting Empathy and Moral Identity (Sample 2)

	MFT moral foundations		SVT values		VIA character strengths	
	Step 1: SVT + VIA	Step 2: + MFT	Step 1: MFT + VIA	Step 2: + SVT	Step 1: SVT + MFT	Step 2: + VIA
Criterion variable	*Adj.* R^2	*Δ Adj.* R^2	*Adj.* R^2	*Δ Adj.* R^2	*Adj.* R^2	*Δ Adj.* R^2
Trait empathy						
Empathic concern	.370	.043***	.392	.021*	.318	.095***
Perspective-taking	.326	.007	.292	.041**	.194	.139***
Moral identity						
Internalization	.194	.005	.176	.023*	.114	.085***
Symbolization	.106	.000	.109	−.003	.067	.039*

Note. Values represent Adjusted R^2 at Step 1 and the incremental change (Adj. R^2) at Step 2 from hierarchical regression analyses. Step 1 models establish the baseline variance explained by two predictor sets combined; Step 2 models test the unique incremental validity (Adj. R^2) of the third framework added to the model.
MFT, Moral Foundations Theory; SVT, Schwartz Values Theory; VIA, Values in Action Character Strengths.
See Table S7 for the unique variance explained by each framework independently.*$p < .05$, **$p < .01$, ***$p < .001$.

Universal Caring: What Is Good Is What Helps Other People. Supporting our theoretical predictions (Table 1), the Universal Caring component was loaded on by MFT care and MFT fairness (*individualizing foundations*) and SVT universalism and SVT benevolence (*self-transcendence values*), which have been shown to be structurally divergent but genetically linked (Feldman, 2021; Zapko-Willmes et al., 2021). Consistent with Peterson and Seligman's (2004) approximation of VIA character strengths to SVT values we found that this component was also loaded on by VIA fairness, VIA modesty (humility), VIA citizenship (social responsibility), VIA capacity to love, VIA social intelligence (emotional intelligence), and VIA kindness (generosity, care, compassion). These character strengths support cooperative teamwork in the pursuit of mutual goals and, aligning with this, load together on McGrath et al.'s (2018) second-order *caring strength factor*. Overall, therefore, this component reflects a constellation of constructs linked by an underlying evolved human motive for social communion and collaboration (McGrath, 2021; Zapko-Willmes et al., 2021) and thus strong interpersonal focus.

The prosocial nature of this component was further evidenced by its associations with personality trait domains from global models of personality. Specifically, component scores for universal caring were correlated positively and relatively strongly with the honesty-humility (sincerity, fairness, modesty) and agreeableness (forgiveness, gentleness, patience) trait dimensions of HEXACO, which are argued to be different aspects of a broad tendency for prosociality (Ashton et al., 2014). Universal caring was also negatively correlated with the PID-5 trait domain antagonism [attention seeking, callousness, deceitfulness], which is consistent with research that has shown a moderate negative correlation between antagonism and honesty-humility (Ashton et al., 2012). Consistent with prior research (Graham et al., 2009, 2011), we would expect high activation of this psychological system to be associated with prosocial and cooperative behavior such as charitable giving, and endorsement of liberal political attitudes (e.g., pro-immigration attitudes) and civil liberties.

Preservation: What Is Good Is What Protects the Group. As predicted, we found that MFT loyalty, MFT authority, and MFT purity (*binding foundations*) and SVT tradition, SVT conformity, and SVT security (*conservation values*) loaded together on a component, which we labeled Preservation. This is consistent with research showing these constructs share both a substantial genetic link and some content overlap (Zapko-Willmes et al., 2021) and that political conservatives, who tend to report *conservation values*, also prioritize *binding foundations* (Graham et al., 2011). It has been proposed that the common factor accounting for overlap between these constructs is a broad evolved existential motive for security and stability that can allow individuals to thrive as collectives, particularly in times of threat (Schwartz, 2007).

Unlike Universal Caring, we found that the preservation component was mostly unrelated to VIA character strengths. While Peterson and Seligman (2004) proposed several approximations of VIA character strengths to SVT tradition, SVT conformity and SVT security (see Table 1), in this study only VIA spirituality (which is measured partly in terms of religious practicing and identification with a faith, and therefore in terms of conformance to dogma) loaded on the Preservation component meaningfully. Given that Preservation was not strongly associated with any personality trait domains, one possibility is that Preservation reflects a set of constructs linked by a distinct evolved anxiety-based (Schwartz, 2012) motive for group survival that sits apart from basic personality structures.

However, another possibility is that the VIA framework currently omits character strengths (e.g., loyalty, fidelity, or respect for authority) that might serve as mechanisms for enabling the behavioral practice of socially conservative goals. Indeed, as Kinghorn (2017) has argued, the VIA classification reflects values prioritized within modern liberal democracies, leaving little room for traits that indicate regulation of relationships within collectives, kinship networks, or hierarchical social structures. These omissions highlight a limitation in the VIA system's coverage of socially binding strengths and raise the possibility that the weak associations of VIA with the Preservation component stem not from an inherent separation between preservation and character strengths, but from a measurement gap. Aligning with extant literature (Graham et al., 2009; Zakharin & Bates, 2023), we expect that high activation of this group-protective psychological system would be associated with endorsement of conservative political attitudes (tough on law-and-order, anti-immigration) and greater behavioral conformity to rituals and practices (e.g., be more religious).

Self-Control: What Is Good Is What Is Fairly Earned. The Self-Control component was not loaded on by any of the MFT moral foundations, and was instead largely defined by VIA character strengths linked to McGrath et al.'s (2018) second-order *self-control strength*. This included VIA judgment (critical thinking), VIA prudence (foresightedness, deliberate thinking), VIA perspective (wisdom), and VIA perseverance (persistence, industriousness). Although the association was weak, Self-Control was also loaded on in both samples by SVT achievement. In this respect, Peterson and Seligman's (2004) proposed approximation of VIA perseverance to SVT achievement was supported (Table 1).

Strong endorsement of this set of VIA character strengths reflects a capacity to act intentionally, weight consequences, and maintain long-term goal pursuit. Consistent with this, the Self-Control component showed moderate positive correlations with HEXACO conscientiousness (diligence, prudence, perfectionism) and negative correlations with the PID-5 disinhibition (distractibility, impulsivity). Although these capacities have a strong intrapersonal focus, and are not moral in content *per se*, they are nonetheless theorized to have evolved because they support the survival of communities

by facilitating the direction of personal behavior in pursuit of group goals (McGrath, 2021). One possible reason for why SVT achievement and these VIA character strengths co-vary is that self-regulatory strengths serve as mechanisms through which the goal of competent performance, and therefore personal and group success, can be achieved. In this sense, these traits may contribute functionally to moral functioning even if their content is not moral in a narrow descriptive sense. The fact that none of the MFT moral foundations loaded on this component, combined with its moderate-to-strong association with HEXACO conscientiousness, may suggest that Self-Control merely captures a general self-regulatory domain of human personality rather than a specific psychological system relevant to moral behavior. However, we note that the sensitivity analysis testing latent-factor correlations showed self-control also had a moderate positive association with extraversion (r = .35; note that the HEXACO factors were modeled as being orthogonal). Thus, there is evidence against the idea that self-control is fully interchangeable with trait conscientiousness.

However, in recent work by Ylä-Anttila's (2023), SVT achievement has been argued to align with the moral principles of competition and deservingness, which underpin a meritocratic ideology ("those who are most successful *should* be rewarded the best or have most influence"). This type of morality has recently been incorporated into MFT as the foundation proportionality, which is directed toward ensuring, in social relations, that rewards or punishments for each party are proportional to factors such as effort, merit and contribution (Atari et al., 2023). An important task for future research will be to use newer moral foundations questionnaires (i.e., the MFQ-2; Atari et al., 2023) to test whether MFT proportionality loads on a Self-Control component. We tentatively predict that high activation of this psychological system could be associated with meritocratic thinking and support for policies such as selective admissions (Son Hing et al., 2011). Research has indicated that MFT proportionality is endorsed by both conservatives and liberals, although slightly more strongly by conservatives (Skurka et al., 2020).

Self-Expansion: What Is Good Is What One Finds Rewarding. Finally, the Self-Expansion component was loaded on by a set of VIA character strengths associated with McGrath et al.'s (2018) second-order *inquisitiveness strength factor*, including VIA zest (vitality, energy), VIA curiosity (interest, openness to experience), VIA humor (playfulness), and VIA creativity (originality, ingenuity). According to McGrath (2014), this broad domain of human functioning captures virtuous engagement with the physical world and is thought to have emerged through human evolutionary history because such tendencies facilitated flexible creative innovation and imaginative problem solving, which are critical for achieving societal goals (Zwir et al., 2022). We also found the Self-Expansion component was associated with SVT stimulation, SVT hedonism, and SVT self-direction (*openness-to-change values*). Thus, Peterson and Seligman's (2004) proposed mapping of VIA creativity to SVT self-direction and VIA curiosity to SVT stimulation were supported (see Table 1).

As with the Self-Control component, Self-Expansion was not meaningfully loaded on by any of the five original MFT moral foundations, and its associated SVT values and VIA character strengths are not moral *per se* (Schwartz, 2007). Nevertheless, we speculate that Self-Expansion could be associated with the moral foundation liberty, a more recent addition to MFT (Iyer et al., 2012). High MFT liberty reflects sensitivity to social dominance, oppression, and imposed moral codes, and is characterized by "a general opposition to forcing any particular moral code upon others" (Iyer et al., 2012, p. 2). This moral concern is conceptually close to the SVT value of self-direction, the belief that people should freely determine their own actions. Consistent with this conceptual overlap, prior research has shown that libertarians score higher in SVT self-direction than either liberals or conservatives (Iyer et al., 2012; Ylä-Anttila, 2023). The idea that liberty involves resisting prevailing social norms also implies a need to manage the uncertainty that accompanies norm-challenging behavior. Under such conditions, inquisitiveness, creativity, and preference for novelty may serve adaptive functions by enabling flexible responses and the generation of alternative solutions (McGrath et al., 2020; Moreira et al., 2023).

One possibility, therefore, is that the Self-Expansion component uncovered in this study captures a pattern of covariance among constructs that may underpin libertarian-learning ideological profiles. This interpretation is consistent with the moderate-to-strong positive association observed between the Self-Expansion component and HEXACO openness to experience (*inquisitiveness*, *creativity*, *aesthetic appreciation*), which prior work has also linked to libertarians (Iyer et al., 2012). However, the Self-Expansion component was also strongly correlated with HEXACO extraversion (*social boldness*, *sociability, liveliness*) and PID-5 detachment (*social withdrawal*, *intimacy avoidance*), which does not fully align with the interpersonal tendencies reported in libertarians (Iyer et al., 2012). These mixed associations likely reflect content overlap between VIA and HEXACO items. Therefore, although libertarian tendencies may help organize some of the observed associations, we caution against reducing Self-Expansion to this ideological identification.

Incremental Predictive Validity of Moral Foundations, Basic Values, and Character Strengths (VIA)

The present study also tested the conceptual uniqueness of the MFT, SVT, and VIA frameworks by testing their incremental validity in predicting two morality-related constructs: trait empathy and moral identity (Research Question 3). Although MFT, SVT, and VIA overlap conceptually (see Table 1), they nevertheless differ in the types of psychological constructs they capture, and past research has supported these frameworks are not

redundant (Feldman, 2021). MFT posits that moral judgments arise primarily from rapid, affectively charged intuitions, with emotion serving as the principal driver of moral evaluation (Haidt, 2007; Zaki & Stellar, 2025). In contrast, SVT conceptualizes values as higher order, cognitively represented beliefs that motivate behavior and serve as standards for evaluation. Although values are indirectly associated with emotion (values become infused with feeling when activated; Schwartz, 2012) they serve a largely cognitive function (Miceli & Castelfranchi, 1989). VIA character strengths, by comparison, capture broader positive dispositional tendencies that are expressed across thoughts, feelings, and behaviors (Park et al., 2004). In short, MFT explains why certain moral concerns arise rapidly (dependent on automatic emotionally-driven processing), SVT explains what goals people consciously prioritize (cognitive representations), and VIA explains who has the capacities to act in specific socially desirable ways.

The results of the incremental validity analyses clearly showed that the VIA character strengths add additional variance to MFT and SVT in explaining trait empathy and moral identity dimensions, with the largest contribution for perspective taking (explaining around 14% of additional variance). The results also indicated that the SVT values add additional variance to MFT and VIA in explaining these criterion variables, although this was less compared to VIA. SVT explained between 2% and 4% of additional variance in empathic concern, perspective taking, and moral identity internalization. Finally, the results showed that although MFT explained approximately 4% of additional variance in empathic concern over and above SVT and VIA, it did not explain additional variance in any other construct. This pattern of results from incremental validity analyses provides evidence of the distinctive value of the MFT, SVT, and particularly the VIA, and generally supports considering MFT moral foundations, SVT values, and VIA character strengths within an integrated framework for explaining moral behavior. Although the three sets of variables shared considerable variance when predicting criterion variables, each was able to explain some unique variance in at least one outcome variable. This was consistent with our theoretical expectations, with each framework tapping into psychological constructs that operate at different levels of moral functioning.

Given that 24 VIA character strengths are broad traits (representing constellations of behaviors, attitudes, and motivations; McGrath, 2019), it is not surprising that the VIA accounted for more additional variance than MFT and SVT, which both measure a far smaller number of narrower constructs. That said, we acknowledge that as a measure of traits, it cannot be discounted that the VIA accounted for more additional variance in trait empathy dimensions relative to MFT and VIA because of content overlap between its items (particularly those that measure VIA kindness and VIA social intelligence) and those of the Interpersonal Reactivity Index.

A notable finding was that MFT only accounted for additional variance above and beyond SVT and VIA in empathic concern, and not for perspective taking or either moral identity dimension. However, this finding is not surprising considering that MFT accounted for less variance in these variables compared with SVT and VIA (4%–6%), indeed with none of the individual MFT moral foundations being significantly associated with either moral identity dimension (see Supplemental Materials). Indeed, our observation that MFT explained 22% of variance in empathic concern but little variance in other criterion variables is theoretically consistent, given that both moral foundations and empathic concern reflect affective processes.

Implications

This study demonstrates that variability in how individuals self-report on MFT moral foundations, SVT values, and VIA character strengths can be effectively summarized by four principal components. This finding suggests a meaningful degree of convergence among these psychological constructs, which have traditionally been studied independently, with only limited exceptions (Feldman, 2021; Lavy & Benish-Weisman, 2021; Zapko-Willmes et al., 2021). Such convergence supports the notion that these frameworks, while conceptually distinct, capture overlapping sets of constructs relevant for moral and socially positive behavior. Importantly, our interpretation does not assume that each component reflects a moral domain in the narrow, content-based sense. Rather, consistent with systems theories, these components reflect interconnected psychological systems (some constructs moral in content, others morally enabling) that jointly contribute to variation in moral functioning. Future research in moral psychology may benefit from adopting a more integrated perspective that reflects these underlying shared structures.

By identifying higher-order aggregate constructs, our findings provide a foundation for developing more parsimonious models of moral functioning. An integrated framework could allow researchers to examine moral behavior through a multidimensional lens, capturing both the motivational underpinnings (e.g., values and moral foundations) and their behavioral manifestations (e.g., character strengths). This approach would move beyond isolated construct analyses to better capture the dynamic interplay between moral motivation, cognition, and action. Such integration aligns with contemporary approaches to moral psychology that emphasize moral functioning as a complex system where various psychological processes operate in concert (Haidt, 2008).

Limitations and Future Directions

The present findings should be interpreted considering several limitations that may constrain the strength and

generality of our conclusions (Simons et al., 2017). First, the study had a cross-sectional design, which limits our ability to draw causal inferences about the relationships among MFT moral foundations, SVT values, and VIA character strengths. Although these constructs are theorized to occur within broader psychological systems that guide moral behavior (Haidt, 2008), our data do not allow us to determine the directionality of their associations or the mechanisms through which they may jointly influence moral outcomes.

A second limitation concerns the characteristics of our samples. As is common in the literature (Arnett, 2008), this study made use of samples from a single Western country. Past research has mixed findings on whether student samples produce different results to more representative samples (Hanel & Vione, 2016; Mullinix et al., 2015). However, student samples tend to be younger than the general population, and age is positively associated with more conservative character strengths, moral foundations, and values (Castilla-Estévez & Blázquez-Rincón, 2021; Heintz & Ruch, 2022; Robinson, 2013). Therefore, it is unclear whether our results reflect relationships that would generalize to older adults or to more heterogeneous samples. Additionally, the gender distribution of our samples was skewed toward women. Although we are not aware of any evidence that gender moderate associations involving character strengths, moral foundations, or values, this imbalance nonetheless narrows the range of populations to which our conclusions confidently apply.

Measurement limitations further constrain the scope of our conclusions. For example, the moral traits assessed by the Moral Identity Scale (Aquino & Reed II, 2002) are biased toward individualizing moral concerns. Studies have shown that moral identity predicts moral action in Western cultures that stress an individual-oriented morality, but not in non-Western cultures that tend to stress a societal-oriented morality (Jia & Krettenauer, 2017). Furthermore, although we discuss theoretical links between some components (e.g., Self-Expansion, Self-Control) and newer moral foundations such as Liberty or Proportionality, these inferences remain speculative because these foundations were not measured in the present study. Future research incorporating these measures will be necessary to empirically assess these proposed connections. Additionally, while our research includes three frequently used frameworks, it is by no means exhaustive. There are other relevant frameworks future research might want to include such as Curry's (2016) morality as cooperation approach, primal world beliefs (Clifton et al., 2019), or various motives (Talevich et al., 2017). We believe our research makes a useful contribution by synthesizing three major frameworks, but the resulting component structure may not be exhaustive, as including additional frameworks could reveal dimensions not captured here.

Furthermore, although moral foundations appeared to be the least predictive of our selected criteria, this pattern should not be overgeneralized. Recent work has shown that moral foundations may outperform values when predicting people's fundamental beliefs about right and wrong (Jung & Clifford, 2025). However, it is possible that for other outcomes, particularly those that are more abstract, such as political orientation or religiosity, values may demonstrate stronger predictive power (Eyal et al., 2009; Maio, 2016; Schwartz, 1992). Future research should examine the incremental validity of MFT, SVT, and VIA in relation to a wider array of criterion variables to assess whether the relative importance of these moral constructs shifts across domains.

Finally, we acknowledge that the hierarchical regressions used to answer RQ3 are based on observed variables. This can lead to increased type-I error rates (Westfall & Yarkoni, 2016). As a solution, Westfall and Yarkoni proposed SEM approaches. However, these are not suitable for MFT, SVT, and VIA, because all three frameworks do poorly in confirmatory models (e.g., Han & McGrath, 2023; Harper & Rhodes, 2021). We therefore recommend interpreting the results of the hierarchical regressions with caution.

Conclusion

The present research shows that three widely used but typically separately studied frameworks, VIA character strengths (Peterson & Seligman, 2004), moral foundations (Haidt, 2007; Haidt & Joseph, 2004, 2008), and human values (Schwartz, 1992; Schwartz & Bilsky, 1987) can be integrated into four broad psychological components linked to moral functioning: universal caring, preservation, self-control, and self-expansion. Each framework also explained unique variance in personality traits, empathy, and moral identity, supporting their complementary rather than redundant roles. Future research should examine whether this four-component structure replicates in more diverse samples, whether the components predict moral behavior beyond self-reports, and whether incorporating additional frameworks such as morality as cooperation or primal world beliefs would reveal further dimensions not captured here.

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The data and R-code to reproduce our analyses can be found online at https://osf.io/4p3ux/?view_only=964204bfe9de411886e4241c94a6b930. The two studies were not pre-registered.

Supplemental Material

Supplemental material for this article is available online.

Notes

1. Refined versions of Schwartz's theory posit 19 different values (Schwartz et al., 2012), but these can be collapsed into the "classic" 10 values.
2. The moral traits assessed by the Moral Identity Scale are biased toward individualizing moral concerns. Studies have shown that moral identity predicts moral action in Western cultures that stress an individual-oriented morality, but not in non-Western cultures that tend to stress a societal-oriented morality (Jia & Krettenauer, 2017).
3. PCA is data reduction strategy that assumes a *reflective* model. Such models assume: (1) the existence of the latent constructs (in this case, moral systems) independent of the indicators used; (2) that variation in this latent construct results in variation in its indicators; and (3) that indicators share common variance, as evidenced by strong positive intercorrelations (Coltman et al., 2008). Reflective models are inappropriate for testing hypotheses about formative constructs, such as how VIA character strengths lead to virtues (Ruch & Stahlmann, 2024). However, in this study we were interested in understanding the empirical overlaps among strengths, values and moral foundations (i.e., interrelations) without evoking formative constructs such as virtues, which justifies our use of reflective models.

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