Higher Goods as Indicators of Self-Transcendent Well-Being: A Two-Dimensional Measure of Contents and Modalities

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ABSTRACT

This research explores the “higher goods” as indicators of self-transcendent well-being. The higher goods are here conceptualized as consisting of both contents and modalities. The contents are the classical transcendentals unity, truth, goodness, and beauty; the modalities are encounter, enlightenment, and transmission. Despite millennia of interest in philosophical and theological literatures, researchers have largely overlooked the intrinsic link between modality and content within empirical psychology. This thesis (a) develops and validates an empirical measure of the higher goods using matrix modeling techniques borrowed from multitrait-multimethod (MTMM) confirmatory factor analysis (CFA), (b) evaluates the correlation of the Big Five personality traits and their respective aspects with the higher goods, and (c) examines the higher goods within the broader self-transcendent well-being conceptual space. By formally conceptualizing, operationalizing, and measuring these constructs within the psychological domain, this thesis paves the way for continued examination and elaboration of higher goods as indicators of self-transcendent well-being.

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This M.S. Thesis is dedicated to my parents and SMM
who have each had a unique effect on making this work possible
AMDG

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Higher Goods as Indicators of Self-Transcendent Well-Being: A Two-Dimensional Measure of Contents and Modalities

A search for the term "self-transcendence" in the psychological literature yields more than 9,000 results spanning contexts from dissociative disorders to clinical interventions and use of psychedelic drugs to sexual arousal and satisfaction. The number and variety of hits suggest a well-developed research topic, but a closer examination reveals that the abundance of research has not coalesced around a clear definition. In fact, the term has now been used in so many different ways as to confound any straightforward examination of the phenomenon itself. This lack of clarity, however, only further demonstrates a burgeoning opportunity for integrative research.

Most researchers have focused on one or the other of what we call the *content* or the *modality* (structure) of self-transcendent experiences, but few have examined the two together. We propose that both content and modality should be considered when defining self-transcendence, and we integrate the two literature streams by developing, validating, and applying a measure of "higher goods" that assesses contents (e.g., unity, truth) and modalities of relating to them (e.g., being moved emotionally, being enlightened). This integrated framework will not only help delimit and parse the conceptual space of so-called self-transcendent experiences but also lay the groundwork for a deeper investigation of self-transcendent well-being. Here we propose to examine the higher goods in relation to personality correlates, determine their factor structure, and place them within the broader transcendence conceptual space.

Defining Self-Transcendence

Definitions of transcendence in the literature range from universal values motivated by underlying concern for others (Caprara et al., 2006; Schwartz, 1992) to goal motivation devoid of self-interest (Yeager et al., 2014), and from loss of self-salience to increase in connectedness (Yaden, Haidt, et al., 2017). Different theorists have posited rather different conditions and criteria for such experiences. Even within theorists' own writings, multiple—often conflicting—definitions arise. Maslow (1971) alone identified 35 ways to define self-transcendence. The multitude of heterogeneous perspectives underscores the need for a more constrained definition.

Grounding our approach is the straightforward definition from the *Oxford English Dictionary*: "overcoming of the limits of the individual self and its desires in spiritual contemplation and realization" ("Self-Transcendence, n.," 2018). Building on this definition, we propose three working criteria for delimiting the core conceptual space of self-transcendence. First, in human experience, the limits of the individual 'self' fall into two broad categories: (1) agentic limits of autonomy and control and (2) communal limits of personal identity and group affiliation. We conceptualize the overcoming of limits as inherently positive, thus excluding dissociative disorders, which qualify as self-transcendent by some definitions. Second, self-transcendence is principally concerned with things of the highest cultural value, far exceeding objects of personal or social concern. This distinction underscores the need to consider both modalities and contents as it has more to do with the ways in which individuals relate to the objects than the objects themselves. For example, something otherwise mundane might be emotionally moving or

enlightening to a particular individual who perceives its true goodness or beauty in a profound, culturally significant way. Finally, overcoming the limits of the self involves passive evocation rather than personal control or volition. The passivity of the initial relation, however, should not belie the potential for such experiences to awaken and actualize an active form of self-transcendent agency.

Multiple Usages of "Self-Transcendence"

We hope the above definition and criteria can differentiate uses of the term self-transcendent, particularly from more mundane applications that lack consideration of either the contents of self-transcendent experiences, the modalities of those experiences, or both. While a more constrained definition helps to delineate what meaning to link with the word, it also results in some common contemporary usages of the term falling outside this working framework. As an organizing heuristic, we cluster usages around two common themes: prosocial motivation and loss of self-boundaries.

These clusters reveal the reciprocal weaknesses of considering only the content of experiences or only the modality of experiences, respectively. There are many cases identified only by content or modality that are truly transcendent in the narrower way we propose here, but there are also some that seem to be more mundane (e.g., helping others) or pathological (e.g., depersonalization, derealization). The content- or mode-focused approaches have laid substantial groundwork for better understanding self-transcendence within a modern psychological idiom, but the presence of two major research clusters (with plenty of additional constructs falling somewhere between them) demonstrates the need for an integrated approach that

considers both contents and modalities together. In the following sections, we discuss some examples to illustrate the limitations of these approaches and propose next steps the field might take towards an integrated framework.

Content-Focused Approaches

An illustrative example of content-focused approaches is other-focused (*e.g.*, altruistic or prosocial) behaviors, which have been discussed in "self-transcendent" terms by several researchers (e.g., Frankl, 1966; Peterson & Seligman, 2004; Reed, 1991; Schwartz, 1992; Yeager et al., 2014). For instance, by focusing on the substantive content of universal criteria for action, the basic human values space (Schwartz, 1992) does not adequately account for individuals' modalities of relation to the contents and thus labels everything covered by universalism and benevolence "self-transcendent." There is, however, heterogeneity in the ways that individuals relate to higher contents, so content alone provides too broad a basis for delimiting self-transcendence and leads to confusion for those who are attempting to study the topic.

Moreover, accessing contents through non-transcendent modalities does not involve going beyond the limits of the individual self. For example, Yeager and colleagues (2014) situate self-transcendent motives opposite self-oriented motives on a prosocial continuum, but again these motives (which are properly ends and therefore contents; see Thrash & Elliot, 2001; Thrash & Hurst, 2008) only consider content without distinguishing modality. As a result, the motives they discuss are limited to the personal and overlapping interpersonal sphere without reaching the transcendent in our more constrained conceptualization.

While concern for others, altruism, and prosocial beliefs and behaviors are all undoubtedly good, they are also comparatively ordinary experiences. The overlap of self and others is a normal and frequent occurrence that is part of the most primitive human nature, not a transcendence of it (Aron et al., 1992). Modalities like goals, motives, and values are also inextricably related to the self and fall short of transcending its limits. Helping others is, in practice, limited by the scope of an individual's empathy and competing concerns (Batson, 1990), rarely intrinsically motivated for the good of an external object, and often endocentric (relating to self-esteem), internalized via introjection (Ryan & Connell, 1989), and contingent on personality (Finkelstien, 2009; Thrash et al., 2019). Often, one helps others in order to feel better about oneself, fulfill a sense of obligation, or receive others' praise, gratitude, and respect. In a word, one *wants* to help others.

Wanting to benefit others is itself highly commendable. It is not, however, self-transcendent per se. (Tellingly, those researchers who study intrinsic prosocial motivations tend not to use the term self-transcendent [e.g., Grant, 2008].) The difference between prosocial behavior and self-transcendence is that the former is acted upon within the limits of the self, is of self-interest and social concern, and is *wanted* and volitionally pursued by the individual, while the latter is non-appetitive and emergent beyond the individual's agency. This difference highlights the need to consider not only the contents (or ends) of values and motives, but also individuals' modalities of relating to them.

Modality-Focused Approaches

The complementary issue is also apparent in the literature where researchers have considered numerous modalities without attention to contents. Defining self-transcendence in terms of modalities or structural boundaries, without reference to content, results in a heterogeneous category, only some of which is self-transcendent in our view. In this case, failure to consider self-transcendent contents results in the inclusion of pathological losses of self and other failures of self-boundaries rather than the overcoming of the limits of the self. Dissociative disorders provide an example of modality without positive content. Cases of ego loss or ego merging are also still centered in the subjective experience of the individual and, to a lesser extent, social concerns, rather than broader cultural implications.

A recent review by Yaden and colleagues (2017) provides an extensive list of experiences of depersonalization in different contexts. Many of the experiences they describe are consistent with our constrained definition of self-transcendence and our criteria for applying the term, but the lack of content-delimited bounds to differentiate among experiences casts a net too wide to accurately capture the essence of transcendence. For example, Yaden and colleagues discuss communion and positive merging of self with others, which seems consistent with overcoming limits of the self, but they also include dissociative disorders involving decreased self-salience (a modality-based definition), which are better described as the pathological breaking or failing of boundaries than as self-transcendence narrowly defined.

Contents with Modalities

In a few notable exceptions, researchers have considered both content and modality together. William James (1902) defined the mystical state of consciousness in terms of both noetic quality (content) and ineffability, often with transiency and passivity (modality). Maslow (1971) discussed the Being-values (B-values) as the proper objects (contents) of unbidden peak-experiences (modality), which mirror the personal illumination (modality) and revelations (contents) of the mystics in most major religions (Maslow, 1964). Thrash and Elliot (2003, 2004) characterized the state of inspiration as involving passive evocation (modality) and transcendent orientation toward an object beyond one's personal concern (content) coupled with motivation to express or make manifest (modality) what has been newly apprehended (content). Transcendent contents and modalities thus work in tandem; self-motivated transcendence would not be self-transcendence at all because true transcendence requires that something transformative (external to the personal will) happen. The core of this phenomenon, then, is to be found at the point where self-transcendent contents and modalities intersect.

Higher Goods as Contents and Modalities of Self-Transcendence

Overcoming limits of the self has been directly addressed by researchers who discuss infrequent but profoundly meaningful experiences of higher psychological states such as insight (Kounios & Beeman, 2014) and inspiration (Thrash & Elliot, 2003, 2004), intense emotions in response to nature, sex, or the arts (Laski, 1962; Maslow, 1971; Whaley et al., 2008), and spirituality in organized religion or personal contemplation (James, 1902; Maslow, 1964; Piedmont, 1999). Despite accurately

capturing aspects of these truly self-transcendent experiences, research on topics meeting the above criteria of inherent value, emergent and resonant cultural concern, and passive potentiation leading to self-transcendent agentic actualization remains disorganized and disunified. This lack of order is partly due to the multiple and varied usages of the terms discussed above, but a major impediment to effective theoretical integration appears to be the lack of systematic investigations integrating the contents of self-transcendent experiences with the different modalities through which people relate to and engage with them.

Grounding our approach in empirical psychology and informed by philosophical and theological traditions spanning millennia, we used the lens of the classical transcendentals—unity, truth, goodness, beauty—to develop and validate a novel two-dimensional instrument measuring both higher goods contents and their associated modalities of relation—encounter, enlightenment, transmission—as indicators of self-transcendent well-being. Generating a list of "higher" goods is a daunting task, despite the precedent of ancient tradition, so it should be said at this point that the contents and modalities here proposed are not meant to be so much definitive as indicative of the ends people value most intrinsically.

Higher Modalities

Implicit in the literature, we identified three modalities of relation through which self-transcendence occurs: encounter, enlightenment, and transmission—each broadly covering a major domain of psychology. We use the term encounter to signify an emotionally significant experience with the environment ("being moved emotionally"). Enlightenment refers to a cognitive change such as insight or

epiphany. Transmission refers to a motivational impetus to share, express, or enact a higher good.

Precedents for these modalities are found in ancient Greek poetry and philosophy, where they are characterized as the effects of the daimon (δαίμων), a more primitive source of supernatural agency preceding the attribution of specific forces to named deities (Wilford, 1965). These are similar to but must be distinguished from the three forms of transmission—expression, replication, actualization—in the inspiration literature, which also find analogues in the classical descriptions of the daimon (Thrash, 2021). Paralleling the psychological domains of emotion, cognition, and motivation, the higher modalities of encounter, enlightenment, and transmission exhaustively meet the criteria of transcendence and are distinct from more mundane modalities such as wanting, getting, valuing, or needing (Thrash & Elliot, 2004). As such, they are as transformative as they are transcendental and aimed at objects of intrinsic value, inherently worthy of concern. Within our framework, these objects are the higher goods, which collectively indicate self-transcendent well-being.

Goods can be arranged according to different scales of priority, but the overwhelming majority of the literature is structured around an axiological ordination prioritizing things of intrinsic value (Hartman, 1960; Wolf, 2012). We posit that because higher goods tend to be characterized by what we describe as “emergent appreciation” (the “I know it when I see it” phenomenon), they do not correspond to primitive instinctual drives or even social desires but rather “strike” the percipient in course, causing deep resonance at the cultural level. The experience is similar to what

James (1902) described as the mystical state of consciousness characterized by ineffability, noetic quality, transiency, and passivity (pp. 537-540).

As previously noted, James's (1902) description of the infusion of noetic value combined with a lack of agentic volition occurring within a limited period of time fits the traditional conceptualization of higher goods and suggests that the primitive and social ways of relating to valued objects (i.e., approach motivation, desire, goal orientation) are not indicators of self-transcendence. These intrinsic goods are instead appreciated across the domains of the psyche first passively and potently, and then actively as self-transcendent agency is actualized, allowing the individual to fully participate in the transcendent. We posit that the three modalities increase in self-transcendent agency from passive encounter to active transmission.

Further precedent for our three modalities can be found in cross-cultural spiritual traditions, as noted by many prominent psychologists, both religious and secular. For example, while James (1902) first defined such experiences in the context of religion, Maslow's (1971) "peak" experiences of "highest happiness and fulfillment" attempted to capture the essence of similarly elevated states without the overt religious connotations (p. 69). Elsewhere, however, Maslow (1964) pointed out that elements of such experiences are central to every major religion (p. 19). Whether the ecstasy (encounter), illumination (enlightenment), or revelation (transmission) of a prophet or the self-actualization of a prototypical fully-functioning person, Maslow (1964) described these experiences as rare, deeply moving, and elevating because of the acuity with which the individual perceives reality.

Such experiences are also culturally worthy because they point to things of intrinsic value. The axiologist, Robert Hartman (1960) illustrated the distinction between systemic (conceptual), extrinsic (means to an end), and intrinsic (ends in themselves) goods thus: "I can value a chair extrinsically and say it is a 'good chair' without the urgent desire to use it; but I cannot value it intrinsically without at the same time desiring to use it [for its teleological purpose], if not to live it" (p. 420). The activation he described corresponds with our proposed actualization of self-transcendent agency when engaging with the higher goods through the three higher modalities of relation. The way of valuing intrinsic goods he described also corresponds to our notion that individuals do not value the higher goods because they want them, but rather individuals want the higher goods because they are intrinsically valuable. These considerations demonstrate the need for a structuring dimension of modality as well as a categorizing dimension of contents.

Higher Goods Contents

Among teleological values, truth, beauty, goodness, and unity have been set apart as "higher" goods by virtue of their transcendence from the earliest writings of the Western philosophical tradition. They have been considered transcendental because they are universal and timeless attributes of being and are thus properties of all beings that cannot be reduced to anything more ultimate (cf. Maslow, 1971, p. 44). They also, at times, have been associated with the fullest actualization of human potential, the deepest understanding of reality, the attainment of the "good life," and the divine. By crossing barriers of time and cultures, these higher goods have played

a unique role in the development, transmission, and evolution of what it means to be human.

Giving voice to the venerable philosophical tradition of their time, Greek thinkers such as Parmenides (2017), Socrates, Plato (1992), Aristotle (2001), and Plotinus (I.4.4-14; 2018) as well as their compatriot poets were among the first in the Western Canon to explicitly articulate the transcendental nature of unity, goodness, truth, and beauty. Equally ancient religions—notably the revelatory tradition of Hebraic prophecy (ha-Levi, 2004; Heschel, 1962; Leavitt, 1999)—shared the same aspects of transcendence. These threads remained through the rise of Christianity and the Scholastic Middle Ages (e.g., Aquinas, 2018) to 20th-century religious writings (e.g., Buber, 1970). Thus, it was within the context of religion that many pioneers (e.g., James, 1902) and contemporary theorists (e.g., Maslow, 1964) of empirical psychology first touched upon both the higher goods and the states—if not always modalities—in which people relate to and engage with them.

Within contemporary psychology, the transcendentals appear frequently in humanist, transpersonal, and positive psychology literatures. For example, the "metamotive" B-values associated with peak experiences prominently include the classical transcendentals as ultimate, irreducible, intrinsic goods (Maslow, 1971). Like Maslow (1962), who never organized or fully distinguished his laundry list of goods, however, other theorists have invariably mixed the transcendentals with other things, including combinations of the cardinal (temperance, prudence, courage, justice) and theological (faith, hope, love) virtues (e.g., Peterson & Seligman, 2004)

and experiences associated with play, flow, and absorption (e.g., Csikszentmihalyi, 1975a, 1975b; Tellegen & Atkinson, 1974).

Setting aside virtues as distinct disciplines of excellence, it appears that many of the values included are special cases or more concrete instances of the classical transcendentals. For example, perfection and completion are arguably kinds of beauty and unity, respectively, and justice is a species of goodness (and also a virtue). Other values are more concerned with individual or social contexts (*e.g.*, self-sufficiency, uniqueness, aliveness), but not broader cultural concerns. Some, like playfulness, do have profound cultural implications (Csikszentmihalyi, 1975a, 1975b; Huizinga, 1955), but lie solely within the realm of individual control (often as means to other ends) and are thereby excluded from the highest, intrinsic goods. We acknowledge that these more mundane goods become more transcendent through the higher modalities to the extent they participate in the higher goods. For example, something mundane might be enlightening to the extent that it is true, good, beautiful, or whole just as something mundane might be true, good, beautiful, or whole if it were emotionally moving, intellectually enlightening, or compellingly infectious.

Self-Transcendent Well-Being

Both higher contents and higher modalities through which these contents are experienced have an energizing or renewing effect. While the initial experience of transcendence is necessarily passive (James, 1902), George Hagman (2002) noted the consequences of such experiences are far from inert; “the person does not simply submit to an experience that happens to them,” the experience is interactive and intersubjective, with a vital feeling of engagement with the object (p. 668). This is

consistent with Hartman's (1960) description of the "interpenetration" necessary to fully apprehend something of intrinsic value. Drawing on Immanuel Kant (1914), Elaine Scarry (1999) has also argued that the pleasure one takes in experiencing higher goods—unlike other pleasures such as from food, drink, sex—is inexhaustible (p. 50).

These observations are very much in line with Maslow's (1962) description of peak experiences, after which one views oneself more positively and life as more worthwhile and meaningful—the hallmarks of well-being (Ryff & Keyes, 1995). But such experiences are not fully encapsulated in either hedonic or eudaimonic well-being (Huta & Ryan, 2010; Ryan & Deci, 2001), because the individual recognizes the inherent value of the peak experience and consequently wants to repeat it (Maslow, 1962). And more than repeating the experience oneself, one is also compelled—beyond one's own volition—to transmit and share the experience with others.

Thrash (2021) has argued that considering transmission an indicator of a higher function of well-being is traceable to revelatory traditions associated with divine influence (Aquinas, 2018; Buber, 1970; Heschel, 1962; James, 1902; Leavitt, 1999), mimetic traditions emphasized by secular disciplines such as aesthetics and literature (Aristotle, 2001; Clark, 1997; Kant, 1914), and in their pervasive contemporary progeny. Closely related are ecstatic experiences found and articulated in secular, religious, and artistic contexts (Laski, 1962; Parkinson, 2020; Schmitt, 1994). In the psychological literature, James's (1902) psychology of religion and Maslow's (1971) post-humanist, transpersonal psychology are both consistent with

this understanding of transcendence. Similarly, Ernst Kris (1964) discussed the need to regress the ego in order to achieve insight and its associated psychological well-being.

More recently, researchers (Belzak et al., 2017; Huta, 2017; Joshanloo & Weijers, 2019; Thrash, 2021) have begun to identify a "much neglected 'higher' range of well-being experiences" (Huta & Ryan, 2010, p. 739) that extends beyond the traditional hedonic–eudaimonic paradigm. This "self-transcendent" well-being (as termed by Belzak et al., 2017; Thrash, 2021) is associated with elevating experiences such as inspiration (Cui et al., 2020; Thrash et al., 2010, 2014; Thrash & Elliot, 2003, 2004), insight (Kounios & Beeman, 2014), creativity (Saggar et al., 2021), awe (Keltner & Haidt, 2003; Rudd et al., 2012; Shiota et al., 2007; Yaden et al., 2016), and connection with a greater whole (Csikszentmihalyi, 1990). Current experimental directions have examined self-transcendent traits (Cloninger et al., 1993), emotions (Keltner & Haidt, 2003; Vaidyanathan & Varga, 2020), and psychophysiological responses (Maruskin et al., 2012) as well as transcendence-associated well-being induced by psychedelic drugs (Taves, 2020; Vollenweider & Kometer, 2010; Yaden, Le Nguyen, et al., 2017).

Summary and Present Aims

While all of these different constructs are hypothesized to relate to self-transcendent well-being, there is as yet no instrument to examine it directly. While self-transcendent well-being is not a construct but rather a topic encompassing a set of constructs, our aim is to measure a particular construct (higher goods) that is prototypical and conceptually central to self-transcendent well-being. To do this, we

developed a two-mode measure using the classical transcendentals and transcendent modalities as higher goods (Study 1), examined its factor structure in a large international sample (Study 2), and situated it within related trait frameworks (Study 3).

Study 1

In this study we developed and validated a set of potential questionnaire items, evaluated their factor structure, and established the relationship of our constructs to the Big Five personality traits. We hypothesized a four-factor structure consisting of unity, truth, goodness, and beauty for the contents and a three-factor structure consisting of encounter, enlightenment, and transmission for the modalities. The two-mode conceptual structure formed when combining these distinct modality and content structures is similar to what is tested in multitrait-multimethod (MTMM) matrix models (Campbell & Fiske, 1959) where the covariances attributable to different traits and different measurement methods are modeled as separate sets of factors. In our application, contents and modalities are analogous with traits and methods, respectively. We initially hypothesized that our higher goods measure could be analyzed like a MTMM matrix to produce a correlated traits-correlated methods (CT-CM) model (Brown, 2006; Lance et al., 2002) specified to measure our two sets of crossed factors (contents and modalities). We refer to these sets as modes. The hypothesized seven-factor CT-CM model (Figure 1) is comprised of the four content factors (unity, truth, goodness, beauty) and three modality factors (encounter, enlightenment, and transmission) with each factor indicated by a composite of three cell-level items (see Appendix A).

Personality aspects were expected to correlate with the higher goods along the higher-order factor structure proposed by Digman (1997) grouping openness to experience with extraversion and agreeableness with conscientiousness and neuroticism. As the most common correlates of related higher psychological states such as inspiration (Thrash & Elliot, 2003) and awe (Keltner & Haidt, 2003; Shiota et al., 2007), openness to experience and extraversion were hypothesized to be most positively correlated with the higher goods, whereas neuroticism was hypothesized to be the most negatively correlated with the higher goods. Following commonsense intuitions about the core aspects of the traits, agreeableness was expected to correlate more positively with unity and goodness while conscientiousness was expected to correlate more positively with truth.

Method

Preliminary Instrument Development

Disambiguating the higher goods from other values and self-transcendent well-being from more mundane forms of well-being is a vital first step towards synthesizing a broad and varied literature. To that end, we set out to design an instrument capable of capturing both modalities and contents of self-transcendence using only the highest (transcendental) contents and modalities for overcoming limits of the self. To begin developing our two-mode higher goods measure, we first consulted psychological and philosophical literatures to identify and differentiate the highest goods. A previously tested but unpublished measure of higher goods developed in our laboratory served as a springboard from which we first drew distinctions between lower and higher goods contents, and then identified the most

universally accepted higher contents. Through an iterative process of comparing researcher-generated goods contents with psychological and philosophical traditions, we ultimately settled on the four classical transcendentals: unity, truth, goodness, and beauty.

Turning next to the transcendence literature within psychology, we identified the three higher modalities of relation: encounter, enlightenment, and transmission. As noted above, we found these to be comprehensively relevant to self-transcendence as described by thinkers such as James (1902), Maslow (1971), and Buber (1970), consistent with ancient Greek tradition as articulated by Wilford (1965), and exhaustive of the principal domains of psychology covered by emotion, cognition, and motivation.

We then crafted item stems into which contents could singly be paired with modalities. These stems were based on the types of items found in well-validated measures of states related to self-transcendence. Then, combining the content and modality dimensions in a matrix (see Appendix A), we generated three potential items within each cell by combining the stems with the content × modality phrase. To limit noise, we tried to hold each stem as similar as possible between cells while making minor concessions for grammar and clarity.

Participants and Procedure

To test the items, we administered a long form of our questionnaire containing all 36 potential items along with a measure of the Big Five personality traits and their respective aspects to 274 adult undergraduate participants who received credit toward a research participation requirement in a psychology course at a mid-Atlantic liberal

arts university. Participation involved completing a set of online questionnaires remotely via Qualtrics.

Data from 28 participants who withdrew prior to completing the study were excluded from analysis. Data from 36 participants were excluded because the participants failed one or more of three validity items that were included to identify careless responders (Meade & Craig, 2012). These items consisted of two instructed response items ("For this item, please choose option 9 (a few times a day)": 29 failed; "For this item, please select option 1 (disagree strongly)": 17 failed) and a self-reported validity item ("It is critical to the success of our study that we only include data from people who responded in a valid way to our questions. In your honest opinion, should we use the data you provided in our analyses?": 13 responded "no").

The final sample consisted of 124 women, 79 men, and 7 individuals who identified as non-binary or gender non-conforming. Age ranged from 18 to 38 years (M = 19.38; SD = 1.75). Participants in the final sample were White (70.95%); Asian (20.48%); Black (11.43%); Hispanic (9.05%); and Middle Eastern, Pacific Islander, Native American, or another ethnicity (< 7.00% combined).

Measures

In this and subsequent studies, all composite variables were calculated by recoding reversed items and computing means across items. Using means rather than sums avoids unnecessarily large differences in variances, which can complicate model estimation.

Higher goods. Experiences of higher goods were assessed using the 36 potential items derived in the above-described manner and included in Appendix A. Response options ranged from 1 (*Never or almost never*) to 9 (*A few times a day*).

Big Five traits. DeYoung and colleagues' (2007) 100-item Big Five Aspect Scale was used to assess the Big Five personality traits and their respective aspects (subscales): openness to experience (openness, intellect), conscientiousness (industriousness, orderliness), extraversion (enthusiasm, assertiveness), agreeableness (compassion, politeness), and neuroticism (volatility, withdrawal). Items were rated on a scale from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

Social desirability. We used Hart and colleagues' (2015) short form of Paulhus's (1991) Balanced Inventory of Desirable Responding (BIDR-16) to assess self-deceptive enhancement (SDE) and impression management (IM). Responses were recorded on a scale from 1 (*Totally disagree*) to 8 (*Totally agree*) and recoded using the binary scoring method described by Paulhus (1991).

Results and Discussion

Here and in Studies 2 and 3, basic analyses (descriptive statistics, correlations, regressions) were conducted using IBM SPSS v. 27 and R. Factor analyses and reliability estimates were conducted using R and M*plus* 8.6 (Muthén & Muthén, 1998-2021).

Factor structure

Although we initially planned to use a CT-CM model on the grounds that it traditionally has been the preferred model within the MTMM literature, we subsequently concluded that it may be less applicable to our content-modality

conceptual space than to the trait-method space for which the model had been developed. Because it parses variance between the two modes, it removes the variance of the other mode from each factor. This fact is critical to its value in the MTMM literature, given that trait factors may be modeled with method variance removed. In the present context, however, it may be considered undesirable to remove modality variance from the content factors and vice versa. Stated differently, the specified factors would not actually correspond to the subscales of our measure; each factor of the CT-CM model would represent a content or modality *controlling for* the corresponding factors of the other mode (e.g., the 'beauty' factor really only accounts for variance due to beauty after removing variance associated with encounter, enlightenment, and transmission).

To provide models that include all the variance due to each factor across modes, we also ran the data for this and Studies 2 and 3 using correlated trait-correlated uniqueness (CT-CU) models. CT-CU models are specified by modeling one mode of factors while accounting for the other mode by allowing the respective uniquenesses to correlate. Thus, we modeled unity, truth, goodness, and beauty as latent factors and encounter, enlightenment, and transmission as grouped correlated uniquenesses (Figure 2), and vice versa (Figure 3). Unlike the CT-CM approach, the CT-CU model does not remove variance associated with the other mode and hence yields factors that are more readily interpretable and correspond to the computed variables used in the correlations, regressions, descriptives, and reliability statistics presented below.

The CT-CM model is still instructive as a parsimonious account of our two proposed modes and demonstrates that such matrix measures can be developed and deployed to great success. It is also of interest to anyone explicitly seeking to parse modality variance from content variance. Accordingly, we present both CT-CM and CT-CU models in the results for this and Studies 2 and 3.

Fit indexes for confirmatory factor analyses (CFAs) are presented in Table 1. A CT-CM MTMM model using composites of the three cell-level items was found to have good fit. All parameters were significant with the exception of one loading on the encounter factor (suggesting the model is overparameterized), and standardized factor loadings ranged from .06 to .93. The modality factors were moderately positively correlated with correlations ranging from $r = .45$, $p = .01$ to $r = .72$, $p < .01$. The content factors were more strongly correlated, ranging from $r = .80$, $p < .01$ to $r = .85$, $p < .01$.

The CT-CU models were found to have comparably good fit. All parameters (except one correlation between composite uniquenesses) were significant. Standardized factor loadings ranged from .87 to .96 for the content factor model and .81 to .96 for the modality factor model. In the respective models, contents were found to have correlations ranging from $r = .79$, $p < .01$ to $r = .86$, $p < .01$, and modalities showed strong correlations ranging from $r = .91$, $p < .01$ to $r = .93$, $p < .01$.

While correlations among latent factors tend to be higher than those among observed variables, the strength of the correlations between contents and modalities suggests that they are converging on a second order higher goods factor. To test this,

we also specified second order CT-CU CFAs for both content and modality factor models. The second order CT-CU content factor model showed good fit, and all second order standardized loadings were significant, ranging from .89 to .92. The second order CT-CU modality factor model also showed good fit, and all second order standardized loadings were significant, ranging from .94 to .97.

Internal Consistency

Though our CT-CM model was supported, computing reliabilities from those factors would not demonstrate the consistency of the correspondingly-named subscale, only the reliability of that factor controlling for the factors of the other mode (see Figure 1 for reference). We therefore computed separate content and modality subscale scores from the CT-CU models by computing cell-level composites and summing the scores of the corresponding items.

All subscales were found to be internally consistent. Following the recommendation of Hayes and Coutts (2020) for CFAs, we computed McDonald's omega (ω) rather than Cronbach's alpha (α). Values of McDonald's ω ranged from .91 to .94. See Table 2 for all descriptive statistics and reliability estimates.

Effects of Social Desirability

As shown in Tables 4 and 6, social desirability did not substantively influence the predictive utility of our items or their correlations with other measured variables. Though some correlations reached statistical significance, all were weak (not exceeding .19). Moreover, both contents and modalities are inherently desirable, so it is to be expected that a face valid self-report measure would be somewhat sensitive to positive correlations between higher goods contents and measures of social

desirability. For example, goodness (but not the other three contents), encounter, and transmission were significantly related to impression management (see Table 4).

Personality Correlates

We conducted three sets of analyses concerning the personality correlates of the higher goods. First, we tested bivariate correlations of each of the higher goods and a composite overall higher goods variable with the Big Five traits and 10 aspects. Second, we used multiple linear regression analyses to test the unique effects of the higher goods as predictors of personality traits. Third, we repeated the regression analyses controlling SDE and IM. Results from these three sets of analyses are shown in Tables 4-6. Below we report noteworthy trends, without reiterating the full contents of the table.

Higher goods contents tended to relate positively to extraversion (both enthusiasm and assertiveness aspects), openness to experience (specifically the openness aspect), and agreeableness (specifically the compassion aspect). Extraversion and agreeableness (specifically compassion) were slightly more aligned with unity and goodness, whereas openness to experience (specifically openness) was slightly more aligned with truth and beauty. Extraversion and openness to experience were both strongly related to all three modes, while agreeableness was related most strongly to encounter and transmission.

These findings largely support our hypotheses. Overall higher goods correlated most positively with openness to experience ($r = .23$, $p < .01$) and extraversion ($r = .22$, $p < .01$). Agreeableness was also significantly positively related to overall higher goods ($r = .14$, $p = .04$), but was only significantly related to unity

(r = .20, p < .01) and goodness (r = .19, p < .01) as predicted. Conscientiousness, however, was only significantly related to truth (r = .14, p = .04). This support for our conceptualization of the higher goods and the high degree of reliability suggested that we could slim down the 36-item measure to a more manageable 12 items, with one item per cell of the two-mode space.

Study 2

Informed by the results of Study 1, we constructed single-item indicators of each modality × content cell for a total of 12 items. Each item represented a combination of the best loading potential item stems in Study 1 with a descriptive target following syntactic clarity and our conceptual intuitions. The 12 items were then given to naïve undergraduate research assistants to review for comprehension and interpretation. Once the items were finalized, we assessed the factor structure of the measure using CFA in a preregistered (osf.io/7dyhj), large-sample international cross-sectional study. We hypothesized acceptable model fit for the CT-CM, CT-CU, and second order CT-CU models capturing our theorized factor structure as informed by analogous MTMM matrix models (Brown, 2006; Campbell & Fiske, 1959; Geiser & Simmons, 2021). We additionally hypothesized invariance of factor loadings and intercepts across the six countries in the panel.

Method

Participants and Procedure

Though our CT-CM model with composite indicators in Study 1 converged to a proper solution with good fit, Marsh and Bailey (1991) found that the CT-CM MTMM model most closely fitting Campbell and Fiske's (1959) original

conceptualization of MTMM matrix data structures tends to yield improper solutions. This problem is alleviated with large sample sizes. Thus, uncertain of whether a 12-indicator, 7-factor CT-CM model would converge, we successfully sought a sample substantially larger than the largest (N = 1,556) Marsh and Bailey (1991) tested. Our starting sample consisted of 5,852 adults in six English-speaking countries (Australia, Canada, the Republic of Ireland, New Zealand, the United Kingdom, and the United States). Participants were recruited remotely through a Qualtrics online panel and compensated monetarily. Participation involved completing the 12-item higher goods measure and three other questionnaires for unrelated projects.

Only complete responses were included in the final dataset. Qualtrics dropped 2,497 participants on the basis of four screening criteria. First, 337 participants declined consent to participate. Second, 34 were not eligible to participate because they were not from one of the six specified countries. Finally, we deployed two instructed response items across the four measures to verify each participant answered in a valid way: 1,618 participants failed the first, 508 participants failed the second. In addition to those screened on the basis of the above four criteria, 640 participants did not finish the questionnaires. Following their own standard procedure, Qualtrics also ensured data quality by dropping 47 cases completed faster than half the median duration (a 3.5-minute cutoff). The final sample of 2,668 participants consisted of 1,334 women, 1,309 men, 17 nonbinary individuals, and 8 individuals who did not identify as a man, woman, or nonbinary. Age ranged from 18 to 89 (M = 44.28, SD = 17.88). Participants identified as White (73.6%), East Asian

(6.3%), South Asian or Indian (6.0%), Black or Afro-Caribbean (5.0%), Latino or Hispanic (2.3%), Middle Eastern (0.7%), and Other (6.0%).

Measures

Higher goods. Higher goods were assessed using the new 12-item higher goods matrix described above and presented in Appendix B. Response options ranged from 1 (*Never or almost never*) to 9 (*A few times a day*).

Results and Discussion

Factor Structure

Fit indexes for CFAs are presented in Table 1. Despite our preliminary concerns, the seven-factor CT-CM higher goods model converged and was found to have good fit. All parameters were significant except for one marginally significant loading on the enlightenment factor, suggesting overparameterization of the model. Standardized loadings were small (exceeding .20) because content factors are controlled for modality loadings and modality factors are controlled for content loadings in the CT-CM model. Modalities were intercorrelated, as were contents. Modality intercorrelations ranged from $r = .84$, $p < .01$ to $r = .88$, $p < .01$. Content intercorrelations ranged from $r = .90$, $p < .01$ to $r = .99$, $p < .01$. The content factors were more highly correlated than the modality factors, in contrast with the highly correlated modality factors in Study 1.

The CT-CU models were found to have comparably good fit. All factor loadings were significant. All standardized loadings ranged from .73 to .82 for the content factor model and from .74 to .81 for the modality factor model. In the respective models, content intercorrelations ranged from $r = .93$, $p < .01$ to $r = .97$,

$p < .01$, and modality intercorrelations ranged from $r = .95$, $p < .01$ to $r = .97$, $p < .01$. These correlations are still exceptionally high and may be partly explained as an artifact of response sets in the Qualtrics data showing negligible variability.

The high intramode correlations are also attributable to the fact that the modeled constructs are all converging on a higher order construct (higher goods). This is supported by the two second order CT-CU CFAs. The second order models were both found to have good fit, and all higher order standardized factor loadings were significant, ranging from .96 to .99 for both models.

Internal Consistency

As we were able to replicate our theorized CT-CM and CT-CU factor structures with the 12-item higher goods measure, we computed the corresponding seven subscale scores by summing the relevant items. Using the CT-CU factors (which individually account only for variance of the construct modeled) specified in the two separate models, subscales were found to be internally consistent, with McDonald's ω values ranging from .81 to .88. Complete descriptive statistics and reliability estimates can be found in Table 2. These findings demonstrate that our theorized factor structure is replicable with a concise 12-item measure with only one item per cell of the higher goods matrix. This confirmation allowed us to proceed to examine our higher goods matrix within the broader self-transcendent well-being conceptual space.

Study 3

Having confirmed the factor structure of the higher goods measure in Study 2, we next examined how the higher goods constructs relate to other related content

within a broader conceptual space. As elaborated above, the classical transcendentals and the modalities through which people relate to them have been associated with a wide variety of other psychological constructs and cultural outlets. Since our novel instrument is the first to operationalize the higher goods together with a two-mode structure, it is imperative to consider the utility of such a measure in relation to those related constructs. We hypothesized that personality trait and aspect correlation trends found in Study 1 would be replicated. We also hypothesized that higher goods would significantly predict higher psychological states associated with self-transcendent well-being (Belzak et al., 2017; Huta & Ryan, 2010), specifically inspiration, chills, mysticism, transcendence, and awe.

Method

Participants and Procedure

Participants were 389 adult undergraduates who received credit toward a research participation requirement in a psychology course. Data from 7 participants were excluded because they did not finish. Data from 39 participants were excluded because they failed one or more of four validity items embedded among different measures. The validity items were two instructed responses ("For this item, please choose option 9 (a few times a day)"; 28 failed; and "For this item, please select option 1 (disagree strongly)"; 22 failed) as well as a false item ("I was born on February 30th"; 11 answered "True"). Participants also self-reported the validity of their data (14 said their data were invalid). The final sample consisted of 217 women, 117 men, and 9 individuals who identified as nonbinary, gender nonconforming, or genderfluid. Age ranged from 18 to 33 (M = 19.08, SD = 1.28). Participants identified

as White (73.2%), Asian (21.3%), Black (9.6%), Hispanic (8.2%), Middle Eastern (2.3%), Pacific Islander (1.7%), Native American (1.2%), and Other (> 1.0%).

Measures

Higher goods. The higher goods were assessed using the 12-item higher goods questionnaire deployed in Study 2 (see Appendix B).

Inspiration. Inspiration was assessed using the Inspiration Scale (Thrash & Elliot, 2003) containing frequency and intensity subscales. Response options ranged from 1 (*Never*) to 7 (*Very often*) for the frequency subscale and from 1 (*Not at all*) to 7 (*Very deeply or strongly*) for the intensity subscale.

Chills. Chills sensations was assessed using the 12-item Chills Questionnaire (Maruskin et al., 2012), which measures goosebumps, tingling, coldness, and shivers along with two higher order constructs, goosetingles and coldshivers. Items were rated on a scale from 1 (*Not at all*) to 7 (*Very strongly*).

Big Five traits. Big Five traits and aspects were assessed using the Big Five Aspect Scale (DeYoung et al., 2007) as in Study 1.

Mysticism. The Hood (1975) Mysticism Scale was used to assess overall mysticism. Response options ranged from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Transcendence. Self-transcendence was assessed using the Temperament and Character Inventory (Cloninger et al., 1993). Items were rated on a binary (*True – False*) scale.

Positive emotions. Joy, contentment, pride, love, compassion, amusement, and awe were measured using the Dispositional Positive Emotions Scale (Shiota et al., 2006). Response options ranged from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Results and Discussion

Factor Structure

Fit indexes for CFAs are presented in Table 1. The full CT-CM model converged to a proper solution with good fit. One factor loading was not significant and one was marginally significant. All other parameters were significant. Standardized factor loadings ranged from .27 to .86. The modality factors were highly intercorrelated with correlations ranging from $r = .93$, $p < .01$ to $r = .96$, $p < .01$. The higher goods content factors were more moderately positively correlated, with correlations ranging from $r = .45$, $p < .01$ to $r = .63$, $p < .01$.

CT-CU models respectively modeling content and modality factors were found to have comparably good fit. All standardized factor loadings were significant, ranging from .68 to .83 for the content factor model and from .65 to .81 for the modality factor model. In the respective models, content factors were correlated at $r = .85$, $p < .01$ to $r = .91$, $p < .01$, and modality factors were correlated at $r = .93$, $p < .01$ to $r = .96$, $p < .01$.

Again, the higher intramode correlations suggest a second order higher goods factor. The second order CT-CU models were found to have good fit. All second order standardized factor loadings were significant, ranging from .91 to .95 for the content factor model and from .95 to .98 for the modality factor model.

Internal Consistency

As in the previous study, the higher goods contents and modalities subscales were found to be internally consistent. McDonald's ω values (computed from the CT-

CU models) ranged between .80 and .85. See Table 2 for complete descriptive statistics and reliability estimates.

Higher Goods Correlates

As shown in Table 9, personality traits and aspects largely showed a pattern of correlations consistent with our findings in Study 1: overall higher goods significantly predicted extraversion, openness, and agreeableness but not neuroticism. Unlike Study 1, conscientiousness also emerged as a significant correlate of higher goods, but only the orderliness aspect (not industriousness) was significant ($\beta = .15$, $p < .01$). These findings suggest the finalized 12-item higher goods matrix measure accurately captures the same constructs as originally intended. As hypothesized, higher goods significantly predicted inspiration ($\beta = .43$, $p < .01$); goosetingles ($\beta = .28$, $p < .01$), coldshivers ($\beta = .25$, $p < .01$), and overall chills ($\beta = .29$, $p < .01$); mysticism ($\beta = .56$, $p < .01$); transcendence ($\beta = .66$, $p < .01$); and awe ($\beta = .58$, $p < .01$). Higher goods also significantly but more modestly predicted contentment ($\beta = .20$, $p < .01$), pride ($\beta = .21$, $p < .01$), and love ($\beta = .25$, $p < .01$); only truth, goodness, and encounter were significantly related to amusement (see Table 9). The predictive utility of the higher goods matrix for these indicators of self-transcendent well-being is encouraging for the validity of our measure.

While most correlations in a sample this size are inevitably statistically significant (Table 9), the unique effects of the higher goods as predictors of related variables (Table 10) help clarify discriminant trends that might otherwise be obscured by suppression effects. For example, the nonsignificant correlation of higher goods overall with the withdrawal aspect of neuroticism ($r = .05$, $p = .32$) belies the fact that

truth negatively predicts withdrawal (β = -.20, p = .03) while beauty positively predicts withdrawal (β = .24, p < .01)—both significant trends when controlling for the other higher goods contents. Similarly, the consistently positive correlations of the higher goods with the compassion aspect of agreeableness do not fully capture that, when controlling for the other modalities, encounter strongly positively predicts compassion (β = .38, p < .01) while enlightenment significantly negatively predicts it (β = -.23, p = .03). These trends also provide strong evidence in support of the discrimination of our proposed contents and modalities, laying the foundation for future examination of their combined role as two-dimensional indicators of self-transcendent well-being.

General Discussion

In the above studies we developed, validated, and applied a novel survey-based measure of higher goods contents and modalities as indicators of self-transcendent well-being. We offer this measure as part of the solution to the conflicting plurality of ways the term self-transcendence has been used in the psychological literature. Our two-mode approach is both unique in and necessary to resolving issues of definition, structure, and function within the literature on self-transcendence.

Instrument Structure

Our novel approach to psychometric design shows that it is possible to construct a matrix instrument measuring two modes with cell-level items. By applying a CT-CM factor structure equivalent to a MTMM matrix model (Figure 1), we demonstrate the ability to parse content and modality variance within a higher

goods matrix. By then separately modeling content (Figure 2) and modality factors (Figure 3) from that two-mode matrix using a CT-CU approach, we also lay the conceptual and statistical grounding for our proposed framework for integrating and restructuring self-transcendence research.

Though latent factor correlations tend to be higher than measured variable correlations requiring that interpretation be shifted accordingly, the high intercorrelations among content factors and among modality factors suggest that they do converge with a second order higher goods factor. Moreover, these strong positive intercorrelations among the higher goods contents indicate that individuals who experience one of the classical transcendentals tend to experience the others as well. Similarly, the pattern of correlations among the modalities indicates that those who relate to the classical transcendentals in one way tend to also experience them through the other modalities as well. These findings are consistent with our general hypotheses about the data structure as well as longstanding philosophical, spiritual, and literary traditions.

Cultural Evolutionary Function of Transcendence

What are the functions and consequences of encountering, being enlightened by, or transmitting higher goods like unity, truth, goodness, and beauty within the tradition? Scarry (1999) offered a phenomenological account in which beauty, for example, serves as a doorway that pulls the individual into the larger world: "Something beautiful fills the mind yet invites the search for something beyond itself, something larger or something of the same scale with which it needs to be brought into relation" (p. 29). Hagman (2002) agreed that beauty "lifts us out of everyday life

and provides us with an occasion for transcendence" (p. 669). Others (e.g., Arcangeli & Dokic, 2020; Scarry, 1999) have noted that the higher goods have a "decentering" and "unselfing" function, which not only pulls one out of oneself but also enables one to recognize that one is not the center of the world while awakening the desire to preserve and to share what has been experienced, even if this is not in one's self-interest. Such experiences may play a role in cultural evolution because objects appraised as beautiful, good, true, or whole are valued and shared. These experiences thus signal objects of intrinsic cultural value and thereby contribute to cumulative culture, which in turn strengthens the entire civilization or species—well beyond more mundane or primitive social and personal concerns—and makes it more likely to survive (Thrash, 2021). These are the quintessence of transcendence.

By calling these goods "higher," we do not mean to imply that transcendence is somehow reserved for the elite; rather, we simply emphasize that these are ultimate ends that cannot be meaningfully reduced. Their transcendental nature, by definition, suggests that they permeate across experiences, thus ensuring that they are not confounded with or limited by socioeconomic status. Unlike Maslow's hierarchy of needs, one who lacks access to the resources necessary to satisfy basic physical needs is no less capable of encountering, being enlightened by, or transmitting unity, truth, goodness, or beauty. Often (as especially reflected in the Christian tradition), those who lack physical or social resources may be better poised to experience these transcendentals than those surrounded by personal material wealth and social status. The higher goods, thus, do not merely propagate the culture of the elite, but rather cut across human experience to illuminate objects of intrinsic cultural value.

Re-examining Self-Transcendence

We are not lexicologists, and we are not in the business of policing how people use terms in their research. We do, however, want to advance the field in meaningful, principled, and intelligible ways, and this requires clarity of the conceptual space and constructs within it. We therefore propose the following criteria be considered when applying the term self-transcendence within a psychologically operationalized context.

First, transcendence denotes overcoming limits, typically with an inherently positive connotation. We propose these are properly agentic limits of autonomy and control and communal limits of identity and affiliation. Second, self-transcendence most properly concerns things of the greatest intrinsic cultural value. Third, self-transcendence is an evoked experience, not subject to individual control or volition. Only after initial passive evocation is an individual's agency actualized, motivating action.

Finally, in light of our theory and findings, we propose adding a fourth criterion concerning the intersection of modality and content. While the contents of self-transcendent experiences principally concern the overcoming of limits, transcendentals (like unity, truth, goodness, and beauty) alone are not enough to evoke self-transcendence. The way in which one relates to the contents of the experience, properly valuing them and recognizing their worthiness (rather than just material worth), is a necessary—and perhaps sufficient—component of transcendence. This intersection of modality and content bears further examination.

We hope our contribution of a purpose-built two-mode psychometric will help pave the way towards that eventuality.

Limitations and Future Directions

As noted above, the higher goods matrix and the constructs we seek to measure with it are ripe for additional experimental interrogation. We propose examining the role of modality more closely by comparing our higher modalities to more mundane counterparts, using our higher goods measure as a manipulation check.

The question of modality also raises issues of model conceptual interpretation. We initially set out to model our higher goods matrix using the MTMM approach, which prefers the CT-CM model. CT-CM models, however, experience interpretational problems when all trait and all method factors are correlated, as in the case of the higher goods matrix; method (or modality) factor correlations might show true associations between methods or be confounded with general trait (or content) effects (Geiser & Simmons, 2021). The higher goods CT-CM models are therefore presented here for academic interest and to demonstrate that it is possible to separate out variance due to contents and modalities. For practical computations and intuitive understanding of the higher goods factors, however, the CT-CU model is preferred.

As understanding of the statistical issues involved in modelling a two-mode measure increases, other models should also be considered if they make sense on theoretical and empirical grounds. For this reason, we intend to continue examining alternative models that better describe the relationship of contents to modalities within our higher goods matrix even if the resulting models exhibit less ideal fit than

the current CT-CM and CT-CU models employed. We contend that a theoretically sound model is more valuable than a model with perfect fit and no practical meaning.

The studies reported here are also beholden to the typical limits of survey-based science. While we included a large, international sample in Study 2, all three studies exclusively represent residents of English-speaking Western countries. In future studies, it will be important to continue striving for a more diverse sample, especially as the constructs we are studying have rich cross-cultural analogues.

Additionally, as noted in the Results and Discussion of Study 1, self-report data comes with a measure of individual subjectivity built into it. While this is a great asset in studying how individuals experience and relate to things like the higher goods, it also means that responses are only accurate to the extent each respondent answers veridically. To assess the true validity of our constructs better, a multimethod, multimodal approach is necessary, perhaps starting with the aforementioned experimental manipulation of modalities, but also including behavioral and biometric techniques.

Finally, we should note that the transcendent and transcendentals have been recognized and appreciated for millennia. Though we stand behind our matrix and model of its modalities and contents as a measure of human engagement with the transcendent, we must underscore that it is a model—designed to capture a likeness of one facet of reality like a lens focused to a particular depth of field but liable to focal imperfections and optical illusions. Just as the lens operates by magnifying and refracting light, we propose our model might be thought of in terms of the metaphor of the higher goods as light: a person might distinctly see or encounter light, be

enlightened, and transmit that light to others. The image of giving and receiving light is ubiquitous in the wisdom of centuries and cultures, and yet, it itself is but a shadow of what it represents. In the same way, by formally conceptualizing, operationalizing, and measuring the higher goods as both contents and modalities within empirical psychology, we pave the way for an elaboration of the tradition and a new examination of these constructs as hallmark indicators of self-transcendent well-being.

Appendix A
36-item higher goods matrix

	Encounter	Enlightenment	Transmission
Unity	Witnessing someone promote social unity or universal oneness moves me emotionally.	In a moment of enlightenment, my eyes are opened to what true social unity or universal oneness really is.	A spirit of social unity or universal oneness is embodied in me and my actions.
	Seeing dedication to social unity or universal oneness moves me deeply.	During a moment of insight, I recognize social unity or universal oneness in the world.	A sense of social unity or universal oneness infects me to my core, spreading its reach through my actions.
	Encountering an exemplar of social unity or universal oneness is deeply moving.	In a moment of illumination, I see what social unity or universal oneness really means.	A spirit of social unity or universal oneness flows through me; I become a transmitter of it.
Truth	Witnessing someone stand up for intellectual truth or a higher reality moves me emotionally.	In a moment of enlightenment, my eyes are opened to what intellectual truth or a true higher reality really is.	A spirit of intellectual truth or a higher reality is embodied in me and my actions.
	Seeing dedication to intellectual truth or a higher reality moves me deeply.	During a moment of insight, I recognize intellectual truth or a higher reality in the world.	A sense of intellectual truth or a higher reality infects me to my core, spreading its reach through my actions.
	Encountering an exemplar of intellectual truth or a higher reality is deeply moving.	In a moment of illumination, I see what intellectual truth or a higher reality really means.	A spirit of intellectual truth or a higher reality flows through me; I become a transmitter of it.
Goodness	Witnessing someone embody moral goodness or virtue moves me emotionally.	In a moment of enlightenment, my eyes are opened to what true moral goodness or virtue really is.	A spirit of moral goodness or virtue is embodied in me and my actions.
	Seeing dedication to moral goodness or virtue moves me deeply.	During a moment of insight, I recognize moral goodness or virtue in the world.	A sense of moral goodness or virtue infects me to my core, spreading its reach through my actions.
	Encountering an exemplar of moral goodness or virtue is deeply moving.	In a moment of illumination, I see what moral goodness or virtue really means.	A spirit of moral goodness or virtue flows through me; I become a transmitter of it.
Beauty	Witnessing someone create a thing of aesthetic beauty or sublimity moves me emotionally.	In a moment of enlightenment, my eyes are opened to what true aesthetic beauty or sublimity really is.	A spirit of aesthetic beauty or sublimity is embodied in me and my actions.
	Seeing dedication to aesthetic beauty or sublimity moves me deeply.	During a moment of insight, I recognize aesthetic beauty or sublimity in the world.	A sense of aesthetic beauty or sublimity infects me to my core, spreading its reach through my actions.
	Encountering an exemplar of aesthetic beauty or sublimity is deeply moving.	In a moment of illumination, I see what aesthetic beauty or sublimity really means.	A spirit of aesthetic beauty or sublimity flows through me; I become a transmitter of it.

Appendix B
Final 12-item higher goods matrix

	Encounter	**Enlightenment**	**Transmission**
Unity	Witnessing the unity of all people or all things moved me emotionally.	In a moment of enlightenment, my eyes were opened to what universal oneness really is.	A feeling of social unity came over me and guided my actions.
Truth	Seeing dedication to intellectual truth moved me deeply.	In a moment of illumination, I saw what objective truth really means.	A sense of deeper truth infected me to my core, spreading its reach through my actions.
Goodness	I felt moved by human goodness I encountered.	During a moment of insight, I recognized what moral goodness really means.	A spirit of goodness or virtue flowed through me; I became its transmitter.
Beauty	I was moved by sublime beauty I encountered in the world.	In a moment of insight, I realized what artistic beauty really is.	A spirit of aesthetic beauty was embodied in me and my actions.

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Tables

Table 1
Fit indexes for confirmatory factor analyses

Study: Model	χ^2	*df*	CFI	TLI	RMSEA	SRMR
Study 1 ($N = 210$)						
CT-CM	33.75	33	1.00	1.00	.01	.02
CT-CU (contents)	39.97	30	1.00	.99	.04	.02
SO HG contents	48.92*	32	1.00	.99	.05	.02
CT-CU (modalities)	72.02**	39	.99	.98	.06	.03
SO HG modalities	72.02**	39	.99	.98	.06	.03
Study 2 ($N = 2{,}668$)						
CT-CM	95.61**	33	1.00	.99	.03	.01
CT-CU (contents)	149.24**	30	1.00	.99	.04	.01
SO HG contents	156.20**	32	.99	.99	.04	.01
CT-CU (modalities)	269.95**	39	.99	.98	.05	.01
SO HG modalities	262.95**	39	.99	.98	.05	.01
Study 3 ($N = 343$)						
CT-CM	58.56**	33	.99	.98	.05	.02
CT-CU (contents)	69.82**	30	.98	.97	.06	.02
SO HG contents	71.84**	32	.98	.97	.06	.02
CT-CU (modalities)	87.56**	39	.98	.97	.06	.03
SO HG modalities	87.56**	39	.98	.97	.06	.03

Note. N = sample size, CT-CM = Correlated trait-correlated method model, CT-CU = Correlated trait-correlated uniqueness (modeled factors noted parenthetically), SO = Second order factor model, HG = Higher goods, CFI = Comparative fit index, TLI = Tucker-Lewis index, RMSEA = Root-mean square error of estimation, SRMR = Standardized root mean square residual.
* $p < .05$, ** $p < .01$: Marsh (1989) points out that even the best models cannot veridically represent reality, merely approximate it. For this reason, all models are in the strictest sense false *a priori*. A large sample will have sufficient power to demonstrate this in a χ^2 test (Cudeck & Browne, 1983). Therefore, it is important to consider a variety of fit indexes.

Table 2

Descriptive statistics and reliability estimates for the higher goods measure

Study: Subscale	*M*	*SD*	Min	Max	ω
Study 1					
Unity	4.70	1.87	1	9	.93
Truth	4.73	1.98	1	9	.94
Goodness	5.30	1.89	1	9	.93
Beauty	4.86	1.88	1	9	.94
Encounter	5.30	1.69	1	8.92	.91
Enlightenment	4.68	1.82	1	8.92	.93
Transmission	4.72	1.99	1	8.92	.93
Study 2					
Unity	4.41	2.05	1	9	.81
Truth	4.53	2.15	1	9	.85
Goodness	4.92	2.02	1	9	.83
Beauty	4.59	2.07	1	9	.83
Encounter	4.94	1.94	1	9	.85
Enlightenment	4.53	2.03	1	9	.88
Transmission	4.37	2.11	1	9	.87
Study 3					
Unity	3.67	1.84	1	9	.83
Truth	3.99	1.86	1	9	.80
Goodness	4.98	1.64	1	9	.82
Beauty	4.37	1.93	1	9	.82
Encounter	4.89	1.68	1	9	.82
Enlightenment	3.79	1.84	1	9	..85
Transmission	3.86	1.93	1	9	.84

Note. *N* = Sample size, *M* = Mean, *SD* = Standard deviation, Min = Minimum, Max = Maximum, ω = McDonald's omega (computed from relevant CT-CU model), U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission

Table 3
Study 1: Higher goods internal correlation matrix

	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
U	1							
T	.79	1						
G	.81	.79	1					
B	.76	.83	.81	1				
Enc	.88	.87	.89	.88	1			
Enl	.87	.90	.88	.90	.88	1		
Tra	.88	.90	.90	.88	.87	.90	1	
HG	.91	.93	.93	.92	.95	.96	.97	1

Note. $N = 210$; HG = Higher goods overall, U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
All internal correlations are significant at the .01 level.

Table 4
Study 1: Correlations

Correlate	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
Neuroticism	-.08	-.09	-.07	.01	0	-.05	-.12	-.06
Volatility	-.07	-.05	-.03	.03	.03	-.02	-.09	-.03
Withdrawal	-.08	-.11	-.11	-.01	-.03	-.08	-.13	-.08
Extraversion	**.24****	**.17***	**.25****	**.14***	**.25****	**.20****	**.18****	**.22****
Enthusiasm	**.27****	.08	**.22****	.10	**.21****	**.15***	**.14***	**.17***
Assertiveness	**.17***	**.21****	**.21****	**.14***	**.21****	**.20****	**.17***	**.20****
Openness	**.15***	**.21****	**.18***	**.32****	**.24****	**.21****	**.22****	**.23****
Openness	**.21****	**.21****	**.25****	**.40****	**.32****	**.27****	**.25****	**.29****
Intellect	.03	.13	.04	.12	.08	.08	.09	.09
Agreeableness	**.20****	.05	**.19****	.09	**.16***	.07	**.17***	**.14***
Compassion	**.19****	.05	**.19****	.10	**.19****	.07	**.15***	**.14***
Politeness	**.14***	.03	.13	.05	.07	.05	**.14***	.10
Conscientiousness	.08	**.14***	.08	.09	.09	.09	.12	.10
Industriousness	.05	.11	.05	.04	.03	.06	.10	.07
Orderliness	.09	.13	.09	.12	.13	.09	.11	.12
Social Desirability								
SDE	.05	.11	.13	.08	.12	.03	**.14***	.10
IM	.04	.10	**.19****	.09	**.14***	.06	**.14***	.12

Note. $N = 210$; HG = Higher goods overall, U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission, SDE = Self-deceptive enhancement, IM = Impression management
* $p < .05$, ** $p < .01$

Table 5
Study 1: Standardized regression coefficients

Criterion	Contents				Modalities		
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*
Neuroticism	-.06	-.24	-.13	**.36***	**.39***	.08	**-.53****
Volatility	-.15	-.16	-.01	**-.29***	**.37***	.12	**-.52****
Withdrawal	.05	**-.27***	-.23	**.37****	.33	.03	**-.44***
Extraversion	.17	-.05	**.33***	-.21	**.35***	.02	-.13
Enthusiasm	**.32***	**-.31***	**.34***	-.15	**.41****	-.09	-.13
Assertiveness	-.03	.22	.22	-.20	.19	.12	-.09
Openness	-.13	-.05	-.16	**.59****	.22	-.01	.04
Openness	-.05	**-.34****	-.07	**.77****	**.38***	.04	-.12
Intellect	-.15	.22	-.17	.19	-.01	-.06	.16
Agreeableness	**.30***	**-.35***	**.29***	-.09	.24	**-.55****	**.45****
Compassion	**.27***	**-.35***	**.31***	-.06	**.48****	**-.57****	.24
Politeness	.25	-.24	.18	-.09	-.06	**-.37***	**.53****
Conscientiousness	-.06	.25	-.03	-.04	-.04	-.10	.25
Industriousness	-.07	.29	0	-.15	-.24	-.02	.33
Orderliness	-.04	.11	-.05	.10	.21	-.16	.07

Note. $N = 210$; Standardized regression coefficients (β) computed separately for contents and modalities; U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
* $p < .05$, ** $p < .01$

Table 6
Study 1: Standardized regression coefficients with SDE and IM

Criterion	Contents						Modalities				
	U	*T*	*G*	*B*	*SDE*	*IM*	*Enc*	*Enl*	*Tra*	*SDE*	*IM*
Neuroticism	-.14	-.19	-.02	**.32***	**-.25****	-.09	**.47****	-.13	**-.37***	**-.25****	-.10
Volatility	-.24	-.12	.12	.25	-.14	**-.19***	**.44****	-.05	**-.39***	-.13	**-.18***
Withdrawal	0	-.23	-.16	**.33***	**-.32****	.04	**.41****	-.19	-.27	**-.33****	.01
Extraversion	.16	-.07	**.35***	-.21	**.18***	-.13	**.33***	.09	-.19	**.19***	-.11
Enthusiasm	**.31***	**-.33***	**.36***	-.16	.13	-.10	**.40***	-.06	-.16	.12	-.09
Assertiveness	-.03	.20	.23	-.20	**.18***	-.12	.16	.20	-.17	**.20***	-.10
Openness	-.05	-.08	**-.28***	**.63****	.10	**.18***	.15	.13	-.07	.11	.15
Openness	-.01	**-.35****	-.14	**.79****	-.01	.13	**.36***	.09	-.15	-.01	.11
Intellect	-.07	.18	**-.28***	.23	**.16***	.15	-.09	.12	.03	**.17***	.12
Agreeableness	**.39****	**-.37****	.14	-.05	0	**.29****	.18	**-.46****	**.40***	-.06	**.27****
Compassion	**.32***	**-.37****	.23	-.04	.06	.13	**.45****	**-.51****	.20	-.01	.12
Politeness	**.35****	-.26	.02	-.04	-.05	**.35****	-.13	-.26	**.47****	-.10	**.34****
Conscientiousness	-.02	.21	-.09	-.02	**.23****	0	-.09	.05	.13	**.23****	-.01
Industriousness	.01	.24	-.09	-.11	**.31****	.03	**-.32***	.20	.15	**.32****	.03
Orderliness	-.04	.12	-.05	.11	.06	-.03	.21	-.15	.06	.05	-.05

Note. $N = 210$; Standardized regression coefficients (β) computed separately for contents and modalities; U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission, SDE = Self-deceptive enhancement, IM = Impression management

Table 7
Study 2: Higher goods internal correlation matrix

	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
U	1							
T	.81	1						
G	.81	.82	1					
B	.78	.80	.79	1				
Enc	.87	.86	.87	.86	1			
Enl	.87	.90	.87	.86	.83	1		
Tra	.87	.88	.88	.87	.82	.85	1	
HG	.92	.93	.93	.91	.94	.95	.95	1

Note. N = 2,668; HG = Higher goods overall, U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
All internal correlations are significant at the .01 level.

Table 8
Study 3: Higher goods internal correlation matrix

	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
U	1							
T	.70	1						
G	.75	.74	1					
B	.73	.71	.73	1				
Enc	.82	.81	.82	.83	1			
Enl	.84	.85	.83	.85	.81	1		
Tra	.84	.82	.88	.82	.79	.84	1	
HG	.89	.89	.90	.89	.92	.94	.94	1

Note. N = 343; HG = Higher goods overall, U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
All internal correlations are significant at the .01 level.

Table 9
Study 3: Correlations

Correlate	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
Inspiration	**.39****	**.36****	**.39****	**.40****	**.42****	**.41****	**.39****	**.43****
Mysticism	**.49****	**.50****	**.49****	**.52****	**.51****	**.56****	**.50****	**.56****
Transcendence	**.57****	**.57****	**.61****	**.62****	**.59****	**.64****	**.63****	**.66****
Chills	**.31****	**.27****	**.20****	**.26****	**.29****	**.28****	**.25****	**.29****
Goosetingles	**.29****	**.27****	**.18****	**.25****	**.28****	**.27****	**.24****	**.28****
Coldshivers	**.28****	**.22****	**.18****	**.23****	**.25****	**.24****	**.23****	**.25****
Positive Emotions								
Joy	**.35****	**.31****	**.36****	**.32****	**.34****	**.32****	**.39****	**.37****
Contentment	**.20****	**.19****	**.20****	**.13***	**.16****	**.19****	**.21****	**.20****
Pride	**.19****	**.22****	**.20****	**.15****	**.20****	**.19****	**.20****	**.21****
Love	**.23****	**.17****	**.29****	**.20****	**.22****	**.19****	**.28****	**.25****
Compassion	**.37****	**.30****	**.44****	**.35****	**.44****	**.36****	**.36****	**.41****
Amusement	.09	**.11***	**.14****	.10	**.14****	.11	.11	**.12***
Awe	**.49****	**.50****	**.51****	**.59****	**.57****	**.53****	**.53****	**.58****

(continued)

Table 9 (continued)

Correlate	Contents				Modalities			HG
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*	*All*
Personality Aspects								
Neuroticism	.03	.01	.04	.08	.07	.03	.03	.05
Volatility	.02	.03	.02	.03	.05	.01	.02	.03
Withdrawal	.04	-.01	.05	**.11***	.08	.04	.04	.05
Extraversion	**.19****	**.20****	**.17****	**.15****	**.21****	**.16****	**.19****	**.20****
Enthusiasm	**.23****	**.18****	**.22****	**.16****	**.21****	**.16****	**.24****	**.22****
Assertiveness	.11	**.17****	.07	.10	**.15****	**.12***	.09	**.13***
Openness	**.16****	**.32****	**.25****	**.37****	**.36****	**.27****	**.25****	**.31****
Openness	.05	**.26****	**.14****	**.18****	**.22****	**.15****	**.14****	**.18****
Intellect	**.21****	**.27****	**.26****	**.44****	**.38****	**.29****	**.27****	**.33****
Agreeableness	**.27****	.10	**.31****	**.20****	**.26****	**.19****	**.24****	**.25****
Compassion	**.30****	**.19****	**.34****	**.25****	**.33****	**.23****	**.29****	**.30****
Politeness	**.15****	-.02	**.19****	.10	**.11***	.10	**.11***	**.12***
Conscientiousness	**.13***	.10	.08	.07	.09	.10	**.11***	**.11***
Industriousness	.06	.03	.02	-.01	-.01	.05	.03	.03
Orderliness	**.16****	**.14****	**.12***	**.13***	**.15****	**.12***	**.16****	**.15****

Note. $N = 343$; U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
* $p < .05$, ** $p < .01$

Table 10
Study 3: Standardized regression coefficients

Criterion	Contents				Modalities		
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*
Inspiration	.14	.05	.12	**.18***	**.23***	.16	.08
Mysticism	.14	**.17***	.08	**.24****	.16	**.37****	.07
Transcendence	.10	.11	**.25****	**.28****	.13	**.29****	**.29****
Chills	**.29****	.14	**-.18***	.09	.18	.14	0
Goosetingles	**.25****	**.19***	**-.21***	.09	**.19***	.16	-.05
Coldshivers	**.28****	.07	-.12	.06	.13	.10	.04
Positive Emotions							
Joy	.16	.03	.17	.06	.12	-.10	**.38****
Contentment	.14	.09	.12	-.12	-.04	.09	.16
Pride	.09	.16	.07	-.08	.09	.04	.09
Love	.09	-.13	**.33****	-.02	.08	-.18	**.36****
Compassion	.11	-.11	**.41****	.04	**.40****	-.01	.05
Amusement	-.06	.04	.15	.01	.16	-.02	-.01
Awe	.04	.10	.11	**.41****	**.36****	.12	.15

(continued below)

Table 10 (continued)

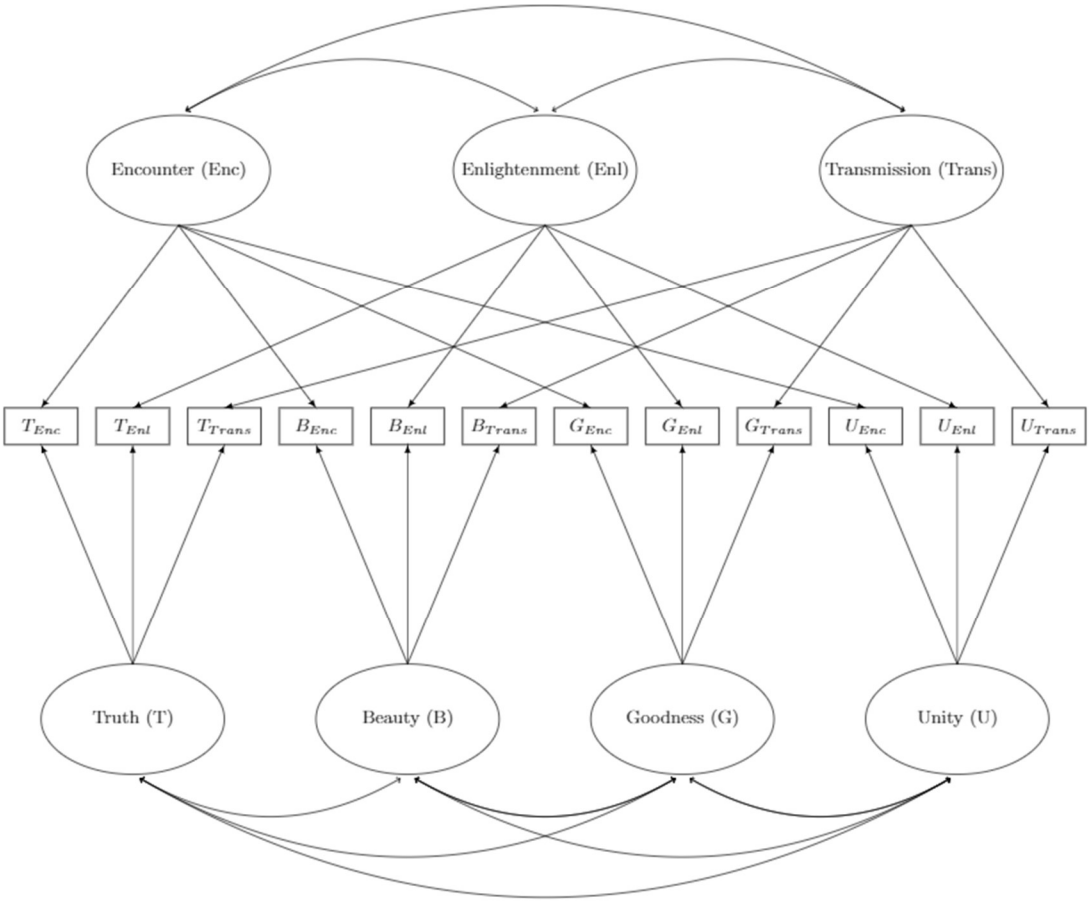
Criterion	Contents				Modalities		
	U	*T*	*G*	*B*	*Enc*	*Enl*	*Tra*
Personality Aspects							
Neuroticism	-.02	-.09	.01	.15	.14	-.07	-.02
Volatility	0	.03	-.03	.04	.11	-.08	.01
Withdrawal	-.04	**-.20***	.05	**.24****	.14	-.05	-.04
Extraversion	.12	.15	-.01	-.03	**.19***	-.09	.12
Enthusiasm	.17	.01	.14	-.08	.15	-.21	**.30****
Assertiveness	.03	**.23****	-.14	.02	.18	.03	-.07
Openness	**-.34****	**.25****	-.02	**.46****	**.44****	-.02	-.09
Openness	**-.33****	**.41****	-.02	.14	**.29****	-.05	-.05
Intellect	**-.23****	0	-.02	**.63****	**.44****	.02	-.09
Agreeableness	**.20***	**-.34****	**.42****	-.01	**.25****	-.14	.15
Compassion	**.18***	**-.18***	**.35****	-.01	**.38****	**-.23***	.19
Politeness	.16	**-.39****	**.36****	-.01	.05	0	.07
Conscientiousness	.16	.06	-.04	-.06	0	.02	.10
Industriousness	.14	.04	-.03	-.12	-.12	.14	.01
Orderliness	.12	.06	-.03	.02	.12	-.11	.15

Note. $N = 343$; Standardized regression coefficients (β) computed separately for contents and modalities; U = Unity, T = Truth, G = Goodness, B = Beauty, Enc = Encounter, Enl = Enlightenment, Tra = Transmission
* $p < .05$, ** $p < .01$

Figures

Figure 1

Illustration depicting seven-factor correlated trait-correlated method model



Note. Disturbance terms omitted for illustrative clarity

Figure 2

Illustration depicting content factor correlated trait-correlated uniqueness model

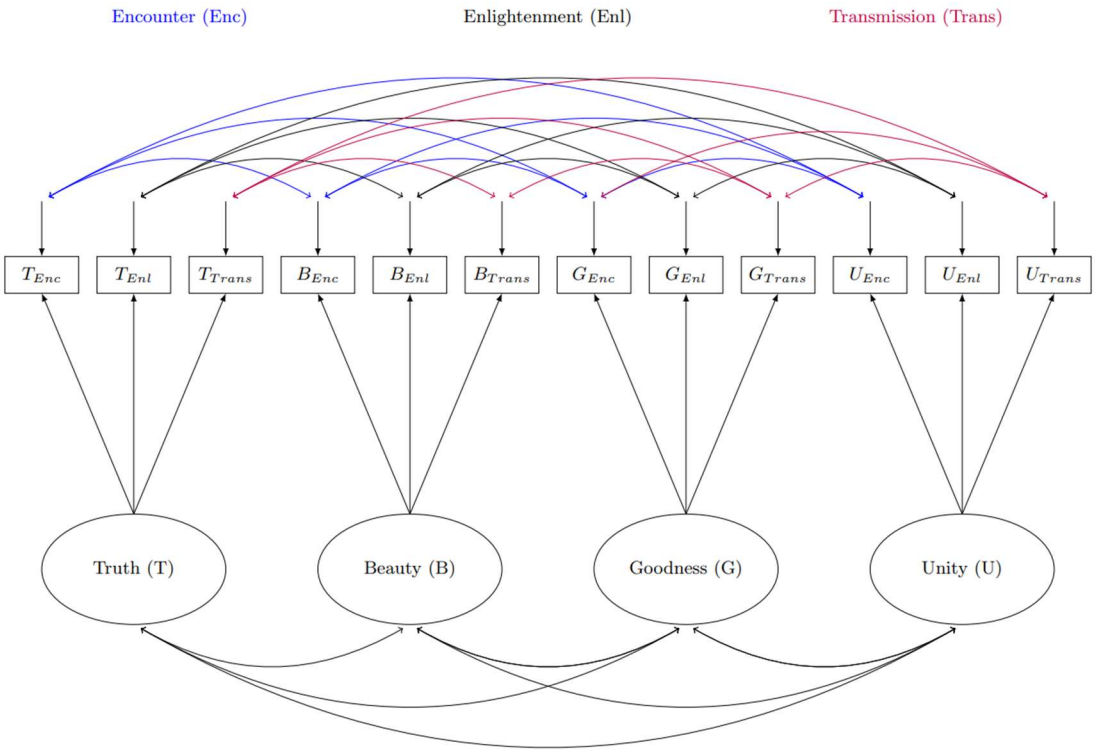
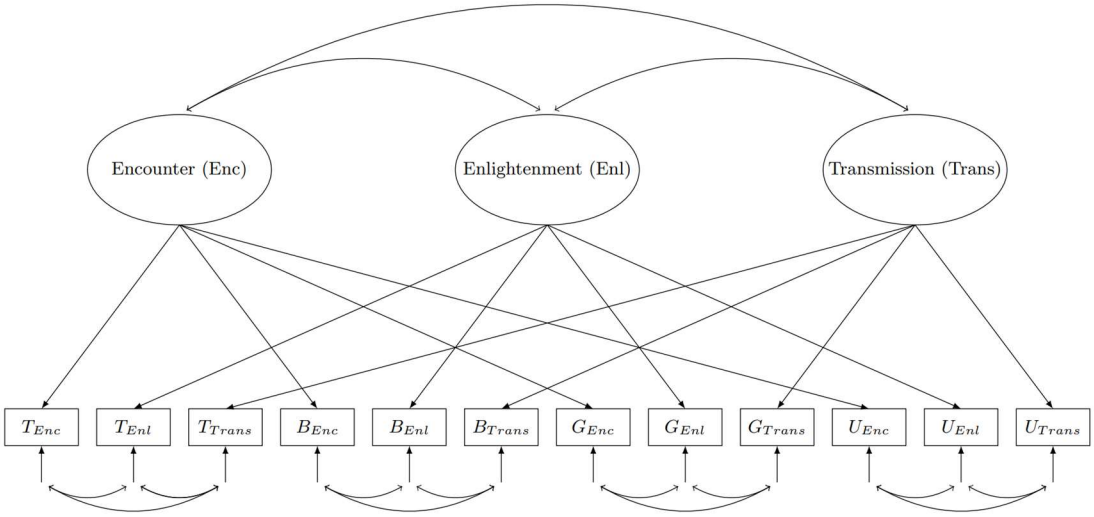


Figure 3

Illustration depicting modality factor correlated trait-correlated uniqueness model



Curriculum Vita

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EDUCATION:

(2024)	**DPhil Experimental Psychology** **Christ Church, University of Oxford** Oxford, UK
(2021)	**MS Psychology** **The College of William & Mary in Virginia** (W&M) Williamsburg, VA
2019	**BA Psychology**, *summa cum laude* Phi Beta Kappa, University Scholar *Minors in* Neuroscience, Philosophy, Theology & Religious Studies *Honors in* Classical Philosophy, Theology, Humanities **The Catholic University of America** (CUA) Washington, D.C.
2015	**High School Diploma**, *magna cum laude* *Pre-conservatory concentration in* Guitar Performance **The Ruth Asawa School of the Arts** (SOTA) San Francisco, CA

HONORS & AWARDS:

2021	W&M Arts & Sciences Graduate Fellowship
2019-2020 (annually)	W&M Graduate Studies & Research Fellowship W&M Graduate Arts & Sciences Scholarship
2020	W&M Graduate Studies Advisory Board Research Grant Pi Gamma Mu Effie B. Urquhart Scholarship W&M Arts & Sciences Graduate Fellowship
2015-2019 (every semester)	CUA Dean's List with Distinction CUA Parish, Alumni, and Academic Merit Scholarship Awards
2019	CUA School of Arts & Sciences Senior Speaker Phi Beta Kappa Msgr. James M. Campbell Award CUA President's Award CUA Distinguished BA Psychology Major Award Phi Sigma Tau Honor Society in Philosophy
2018	Dr. Ingrid Merkel Endowed Honors Program Fund Scholarship
2017	Psi Chi International Honor Society in Psychology
2016	Phi Eta Sigma Freshman Honor Society Knights of Columbus California State Council Scholarship
2015	Knights of Columbus Bishop O'Dowd Council Scholarship Catholic University Honors Program Dartmouth Alumni Club Book Award William Graziani English Award SOTA Concerto Competition Winner SOTA Artistic Excellence in Guitar Award

PUBLICATIONS:

Cui, Y., Thrash, T. M., Shkeyrov, R., & **Varga, P. J.** (2020). Inspiration in the creative process. In *Encyclopedia of Creativity* (3rd ed., pp. 660–666). Elsevier. https://doi.org/10.1016/B978-0-12-809324-5.23840-6

Varga, Peter (2014, December). *Corvus melicus*. Quartet for 2 violins, viola, and cello. 5 minutes. Premiered at the Ruth Asawa School of the Arts, San Francisco, CA, 2014. *Umläut* 14, no. 1 (Spring 2015): 92-96.

INVITED TALKS:

Varga, P.J. (2021, June 8). *Self-efficacy and inspiration in the writing center.* [Invited talk]. Southeastern Writing Center Association – Virginia Chapter Summer Directors Meeting: "Wellness and the Post-Pandemic Writing Center", Williamsburg, VA, United States.

Varga, P.J. (2020, October 2). *Writing apprehension and self-efficacy: Choosing a research topic.* [Invited roundtable presentation]. Writing Center Theory & Practice Practicum, The Catholic University of America, Washington, D.C., United States.

PRESENTATIONS:

Varga, P.J. (2020, November 2 & 9). *Truth, beauty, goodness, unity, and personality: A psychological measure of higher goods.* [Colloquium presentation]. Department of Psychological Sciences Colloquium, William & Mary, Williamsburg, VA, United States. https://www.wm.edu/as/psych-sciences/gradprogram/our-students/gradstudentsclassof2021/index.php

Vaidyanathan, B. & **Varga, P.J.** (2020, August 8-11). *The aesthetic dimensions of science: Scientists' experiences of awe, wonder, and beauty in four countries*. [Paper presentation]. American Sociological Association Annual Meeting, San Francisco, CA, United States. https://drive.google.com/file/d/1IhmwziWVlvUcCtAZ08SuU_UQC4AkjdcU/view

Varga, P.J. (2020, April 13 & 20). *Lumping and splitting: Cognitive style and personality in daily life*. [Colloquium presentation]. Department of Psychological Sciences Colloquium, William & Mary, Williamsburg, VA, United States. https://www.wm.edu/as/psych-sciences/gradprogram/our-students/gradstudentsclassof2021/index.php

Varga, P.J. (2020, March 20-21). Lumping and splitting: Cognitive style and personality in daily life. In A. Ohman and S.F. Richards (Chairs), *We have vision* [Symposium]. William & Mary 19th Annual Regional Graduate Research Symposium, Williamsburg, VA, United States. https://sites.google.com/email.wm.edu/virtualgrs/home

Hughes, E.R., **Varga, P.J.**, & Clawson, D.M. (2019, May 23-26). *The effect of acute stress and implementation intentions on prospective memory*. [Poster presentation]. Association for Psychological Science Annual Convention, Washington, D.C., United States. https://www.psychologicalscience.org/conventions/archive/2019-2

Fioriti, C., **Varga, P.J.**, Busog, D., Adoremos, I., Rahill, K., & Sebrechts, M. (2019, April 9). *3D field of view: Effects of immersive VR on visual perception and experience*. [Poster presentation]. University Research Day, The Catholic University of America, Washington, D.C., United States. https://kattrahill.com/lunar-vr-lab-1

Hughes, E.R., **Varga, P.J.**, & Clawson, D.M. (2019, April 9). *Committing to memory: Using implementation intentions to remember planned tasks*. [Poster presentation]. University Research Day, The Catholic University of America, Washington, D.C., United States. https://communications.catholic.edu/news/2019/04/research-day.html

Varga, P.J. (2018, October 10-13). *Measures of success: The effects of writing center sessions on client writing apprehension and self-efficacy (revisited)*. [Poster presentation]. International Writing Centers Association Annual Conference, Atlanta, GA, United States. https://drive.google.com/file/d/1BZhC2oLmIIFRTgMc6WA5b9NnnkaMqOqz/view

Varga, P.J. (2018, April 19). *Measures of success: The effects of writing center sessions on client writing apprehension and self-efficacy*. [Poster presentation]. University Research Day 2018, The Catholic University of America, Washington, D.C., United States. https://nest.cua.edu/event/1991566

Varga, P.J. (2017, February). *Are faster walkers less socially approachable than slower walkers?* [Poster presentation]. Department of Psychology Meeting, The Catholic University of America, Washington, D.C., United States. https://psychology.catholic.edu

EXPERIENCE:

Research

2019-present
Williamsburg, VA
Postgraduate Student Researcher
PI: Todd M. Thrash, PhD
Thrash Motivation & Inspiration Lab
Department of Psychological Sciences
William & Mary

2018-present
Washington, D.C.
Research Consultant
PI: Brandon Vaidyanathan, PhD
Global Research on the Aesthetic Dimensions of Science (GRADS)
Catholic University

2019
Washington, D.C.
Research Assistant
PIs: Katherine Rahill, PhD, Marc Sebrechts, PhD
Lunar Psychophysics Virtual Reality Laboratory
Department of Psychology
Catholic University

2017-2019
Washington, D.C.
Senior Research Assistant
PIs: Evan R. Hughes, MA, Deborah M. Clawson, PhD
Mental Load & Performance Laboratory
Department of Psychology
Catholic University

Teaching & Mentoring

2019-2021
Williamsburg, VA
Graduate Teaching Assistant
Department of Psychological Sciences
William & Mary

Summer 2021
Teaching Assistant
PSYC 301: *Elementary Statistics*
Instructor of Record: Christopher Ball, PhD

Fall 2020 &
Spring 2021
Teaching Assistant
PSYC 100: *Interplay of Nature and Nurture*
Instructor of Record: Catherine A. Forestell, PhD

Spring 2020
Teaching Assistant
PSYC 150: *Body Image in Children and Adolescents*
Instructor of Record: Meghan M. Miller, PhD

Teaching Assistant
PSYC 150: *Theories of Psychotherapy*
Instructor of Record: Michael P. Nichols, PhD

Teaching Assistant
PSYC 201: *Introduction to Psychology as a Natural Science*
Instructor of Record: M. Christy Porter, PhD. MST

Fall 2019
Laboratory Instructor
PSYC 414L: *Research Methods in Social Psychology Laboratory*
Instructor of Record: Jaclyn M. Moloney, PhD

2019-2021 — **Lead Graduate Consultant/Graduate Administrative Assistant**
Williamsburg, VA — Writing Resources Centers, William & Mary

2017-2019 — **Undergraduate Tutor**
Washington, D.C. — University Writing Center, Catholic University

Music & Liturgy

2016-present — **Music Copyist, Engraver, Compositor** and **Audio Engineer**, Freelance

2021 — **Visiting Musician in Residence**
Amherst, VA — Ascension Episcopal Church

2020-2021 — **Director of Music**, **Cantor**, **Organist**
Williamsburg, VA — Catholic Campus Ministry at William & Mary Schola Cantorum

2019-2021 — **Music Director**
Williamsburg, VA — William & Mary Schola Cantorum

2019-2020 — **Graduate Pilgrimage Fellow**
Williamsburg, VA — Canterbury Association at William & Mary

2017-2019 — **Founding Director of Music & Liturgy**
Washington, D.C. — Catholic University Medieval Society Festival Schola Cantorum

2017-2019 — **Music Ministries Administrative Assistant**
Washington, D.C. — Cathedral of Saint Matthew the Apostle

2016 — **Inaugural Director of Music**
Rome, Italy — Rome Center of CUA and Australian Catholic University

2012-2015 — **Organ Scholar**
San Francisco, CA — Saint Dominic's Catholic Church

Professional Service

2020-2021 — **MS Programs Representative**
Williamsburg, VA — Dean's Graduate Student Advisory Group, W&M Arts & Sciences

2019-2021 — **Psychological Sciences Department Representative**
Williamsburg, VA — W&M Graduate Student Association

2018-2019 — **President's Society Member**
Washington, D.C. — Office of the President, The Catholic University of America

2018-2019 — **Head Copyeditor** and **Citations Editor**
Washington, D.C. — *Inventio*: The Undergraduate Research Journal of Catholic University

MEMBERSHIPS:

2019-present — *Member*
2020-21 academic year — *Chapter Leader*, William & Mary Chapter
Thomistic Institute

2020-present — *Member*
Society for Neuroscience (**SfN**), **D.C. Metro Area Chapter**

2020-present — *Member*
American Sociological Association (**ASA**)

2019-present — *Graduate Student Affiliate*
Association for Psychological Science (**APS**)

2019-present	*Member* *Member,* Northern California Association **Phi Beta Kappa Society**
2018-present	*Member* **International Writing Centers Association** (**IWCA**)
2018-present 2018-19 academic year	*Member* *Vice President*, Alpha of the District of Columbia **Pi Gamma Mu International Honor Society in Social Sciences**
2017-present	*Member* **Psi Chi International Honor Society in Psychology**
2012-present	*Member*, San Francisco Chapter; Washington, D.C. Chapter **The American Guild of Organists** (**AGO**)