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Engagement with beauty:
Appreciating natural, artistic, and moral beauty

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Abstract

The Engagement with Beauty Scale (EBS), designed from the aesthetics of Kant, Hegel, and Aquinas, and the psychological work of Haidt (Haidt & Keltner, 2004), measures engagement with (a) natural, (b) artistic, and (c) moral beauty. Studies 1 and 2 describe scale construction, EFA, CFA, internal consistency, and temporal stability with three correlated factors representing the above domains. Studies 1 and 2 also established concurrent validity with the Appreciation of Beauty and Excellence subscale of the VIA-IS (Peterson & Seligman, 2004), the Gratitude, Resentment and Appreciation Test (Watkins, Woodward, Stone, & Kolts, 2003), and the Spiritual Transcendence Scale (Piedmont, 2004). Study 3 used the EBS artistic beauty subscale to differentiate students engaged in the arts from those that were not.

Keywords: natural beauty, artistic beauty, moral beauty, appreciation, engagement

Engagement with beauty:

Appreciating natural, artistic, and moral beauty

A direct interest in the beauty of *nature* is always a mark of a good soul.

-- Immanuel Kant (1790/1987, p. 165)

The three classical *ends* of human being, as elucidated in Western philosophy since at least the time of Socrates, are truth, beauty and the good (Plato, trans. 1937; viz. *The Republic*, Book VI, 505b-508e); and these three foci continue to inform human consciousness, reflection on the purpose of life, and pedagogical design (cf. Gardner, 1999). Poets and philosophers have frequently written on the relationships and unity among truth, beauty and the good. Witness Keats' famous line, "Beauty is truth, truth beauty" (1819/1967; cf. Reber, Schwarz, & Winkielman's, 2004, hypothesis that the same psychological processes underlie judgments of truth and beauty). Granted, the meanings attached to concepts like *truth*, *beauty* or *the good* have been radicalized, subjectivized, relativised, and deconstructed in the last century; nonetheless they continue to have a powerful influence over human beings, one way or another.

Philosophical Approaches to the Appreciation of Beauty

Throughout the course of Western history philosophers have argued for the centrality and importance of beauty (e.g., Aristotle, trans. 2002; Augustine, 400/1964; Dewey, 1934/1958; Ficino, 1475/1964; Hegel, 1835/1993; Kant, 1790/1987; Plotinus, 250/1964; Santayana, 1896/1961; Schopenhauer, 1819/1969; Thomas Aquinas, 1260/1947). Aesthetics is highly valued in many, if not all, cultures (Brown, 1991, 2000), and as Haidt and Keltner (2004) write, "every culture has standards of beauty..." (p. 550), albeit, those standards have great variation across cultures. Experiencing elements of nature as beautiful may have its evolutionary roots in the dawn of humanity's development. Noticing something as beautiful appears to have adaptive

or survival value (Averill, Stanat, & More, 1998; Etcoff, 2000; Richards, 1998). Artifacts from many, if not most, ancient cultures show ornamentation that appears to be, at least partially, an artistic effort to beautify the object.

Western philosophy has focused more on the beauty in art than the beauty in nature, but, nonetheless, beauty in nature has frequently been addressed by philosophers (Beardsley, 1975; Croce, 1902/1960; Hofstadter & Kuhns, 1964; Mothersill, 1984; Santayana, 1896/1961; Sheppard, 1987). Kant was emphatic about differentiating a love of natural beauty from a love of artistic beauty (Baxley, 2005; Eaton, 1999; McCloskey, 1987). He argued that love of the beautiful in art provided no evidence that a person was inclined to be a good human being, yet he thought that an interest in the beauty of nature was always a sign of a “good soul” (1790/1987, p. 165). In the next generation of transcendental philosophy, Hegel disagreed with Kant, and considered artistic beauty to be transcendently higher than natural beauty (1835/1993, viz. p. 4). The point here is not to attempt to determine whether Kant or Hegel was right, but to emphasize that the two major domains of natural beauty and artistic beauty have been the categories of beauty typically differentiated in Western philosophy.

Issues related to moral beauty, a third domain, often arise in the religious and spiritual contexts of ancient civilizations, as well as being common in living religions (cf. Haidt & Keltner, 2004). Religious views of spirituality have had a huge impact on the psychological development of humans over the last few millennia, although in our modern (post-modern) age religion, and perhaps spirituality, appear to be diminishing in influence (cf. Myers, 2001). Nonetheless, it seems likely that religion and spirituality will continue to exert an influence (Gallup & Bezilla, 1992) on what humans consider beautiful, both artistically (Dahl, 1984; Kandinsky, 1912/1942) and in terms of moral beauty. Beauty, especially in the guise of the

concept *glory*, has been an important concept in the sacred texts of most of humanity's regional and world religions and spiritual traditions. Note that *glory* and beauty have much conceptual overlap in sacred texts; the *Merriam-Webster's Third New International Dictionary* (Gove, 1993) states "glory: 4a(1): great beauty or splendor" (p. 967). A brief tour of quotations from some of the world's holy books indicates the importance that beauty has in religious (and perhaps spiritual) worldviews.

In the *Bhagavad-Gita* (Arjuna, ca. 3000BCE/2000) of Hinduism is written, "Fain would I see, as thou Thyself declar'st it, Sovereign Lord! The likeness of that glory [great beauty] of Thy Form wholly revealed. O Thou Divinest One" (Ch. 11, n. p.)! From the *Psalms* (King David, ca. 950BCE/n.d.) of Judaism, "Give unto the LORD the glory due unto his name; worship the LORD in the beauty of holiness" (*The Holy Bible*, 29:2, KJV). In the Buddhist *Dhammapada* (Buddha, ca. 300BCE/1993), "At all times, by day and by night, the Buddha shines in his glory [great beauty]" (Ch. 26, n. p.). From the Christian *Bible*, "And the Word was made flesh, and dwelt among us, (and we beheld his glory [great beauty], the glory as of the only begotten of the Father,) full of grace and truth" (*John*, 1:14, KJV, ca. 50CE/n.d.). From the Muslim *Qur'án* (Muhammad, ca. 630CE/2000), "And he said, 'Truly do I love the love of good, with a view to the glory [great beauty] of my Lord'" (38:32). In the Bahá'í *Seven valleys* (Bahá'u'lláh, ca. 1860CE/1978), "In every face, he seeketh the beauty of the Friend" (p. 7). Besides notions of spiritual and moral beauty, religions have inspired great art in music and painting, and in the gloriously beautiful architecture of many churches, temples, houses of worship, synagogues and mosques; they are a great heritage of beauty to all humankind. These considerations suggest that the experience of engagement with beauty involves an expansion of consciousness that may be

likened to a spiritual experience (cf. Mattis, 2004). This hypothesis will be further considered in the development of the Engagement with Beauty Scale (EBS).

The Psychology of Appreciation of Beauty

There has been little empirical work in the field of psychology regarding the understanding of and the perception of beauty; and the majority of published work is about cosmetic issues of human physical beauty. A notable exception is Milton Rokeach's (1974) work on human values. He framed beauty (a world of beauty) as a human terminal value, and found that Americans considered it to be among the least important of values in the late 1960s and early 1970s (Rokeach, 1974). Rokeach (1943, 1945) also performed pioneering research on the perceptions and correlates of physical beauty of American women. Maslow's (1964) work on the peak experiences of self-actualizers included perceiving the world as beautiful; he (1970) considered that aesthetic needs exist, and may be met through beautiful surroundings and that beauty is a B-value, a value that may guide one's growth (one's being), toward wholeness.

Costa & McCrae (1992) have framed openness to aesthetics as a specific trait within the broader trait of openness to experience, and describe it as, "a deep appreciation for art and beauty. They are moved by poetry, absorbed in music, and intrigued by art" (p. 17). In this trait tradition, and following the lead of Peterson and Seligman (2004; cf. Haidt & Keltner, 2004), we view appreciation of beauty as a character strength, a "psychological ingredient" (p. 13), of the virtue of transcendence. Haidt and Keltner (2004) combine appreciation of beauty with appreciation of excellence and define them together as "the ability to find, recognize, and take pleasure in the existence of goodness in the physical and social worlds" (p. 537). Haidt and Keltner's definition connects the good to beauty in a manner reminiscent of Aquinas (Beardsley, 1975; Ramos, 2004).

We find crucial importance in the concept of *moral beauty*, as the research by Haidt (2000, 2002, 2003, 2006; Keltner & Haidt, 2003) indicates that moral beauty is uniquely able to arouse the moral emotion of *elevation*. Haidt's (2002) research demonstrates that elevation is elicited by moral beauty, that is, by observing humans manifest moral virtues in their behavior "it triggers a distinctive feeling in the chest of warmth and expansion; it causes a desire to become a better person oneself; and it seems to open one's heart, not only to the person who triggered the feeling but also to other people" (p. 864). Haidt notes it shares in common with gratitude a sense of affection for the person who elicited the emotion, but its prosocial action tendencies go beyond gratitude's focus on one's benefactors to include a "generalized desire to become a better person oneself and to follow the example of the moral exemplar" (p. 864). Eco's (2004) observations on the history of beauty echo Haidt's findings, "when we consider a virtuous deed to be good, we should like to have done it ourselves, or we determine to do something just as meritorious, spurred on by the example of what we consider to be good (p. 8)." Haidt's more recent work with his students (2006; Ch. 9) also indicates that elevation may be associated with oxytocin, and encourage feelings of love and bonding.

This may lead one to wonder about the difference between moral goodness and moral beauty. In general, whatever is morally good may be perceived as morally beautiful. Umberto Eco (2004) in his review of the history of beauty notes, "it seems that what is beautiful is the same as what is good, and in fact in various historical periods there was a close link between the Beautiful and the Good" (p. 8). The psychological difference between perceptions of moral goodness and moral beauty is in emotional response and motivation. An observer may cognitively identify an act as one of moral goodness, but remain unmoved and un-elevated. If, however, one refers to the same act of moral goodness as an act of moral beauty, it implies the

observer's emotions have been engaged by the morally good act and she feels moved and elevated. Thus, objectively, moral goodness and moral beauty may refer to the same human act or virtue, but subjectively they differ. When an observer refers to an act as one of moral beauty, she implies that her heart has been moved by that act. When one's emotions are activated by moral beauty, the conditions for *elevation* are created (see below; and viz. Algoe & Haidt, 2004; Haidt, 2003, 2006; Keltner & Haidt, 2003).

Problem Statement: Rationale for the Development of the Engagement with Beauty Scale

Haidt and Keltner (2004) note "there is at present no self-report measure of individual differences in appreciation of beauty and excellence" (p. 546). They are correct, there is no stand-alone measure of appreciation of beauty. There are, however, two established instruments that are related to appreciation of the beauty: the 10 item Appreciation of Beauty and Excellence (ABE) subscale of the 240 item Values in Action Inventory of Strengths (VIA-IS; Peterson & Seligman, 2004); and the Aesthetics facet of the Openness scale of the NEO PI-R (Costa & McCrae, 1992). The ABE subscale of the VIA is not available as a short, independent measure, but rather embedded within the 240 item VIA scale on-line; and the ABE is concerned with both beauty *and* excellence, and is not devoted solely to beauty. The NEO PI-R is a relatively costly instrument to use, and does not tap the important domains of natural or moral beauty (of the 8 questions on the Aesthetics facet, 7 ½ refer to art [music, dance, poetry, art], and ½ question refers to patterns in nature). Available information about the ABE of the VIA and NEO PI-R Aesthetics facet of Openness does not describe, based on philosophical foundations and rationales, the content validity or construct validity of those measures. Thus, the key problem addressed in our research, and reported in this paper, is that of designing a valid stand-alone measure of appreciation of and engagement with beauty that focuses exclusively on beauty, is

relatively short, easily available at no cost to researchers, and has content and construct validity founded on the philosophical distinctions and traditions of natural, artistic and moral beauty (viz. Kant, Hegel & Aquinas). We have designed such an instrument, the *Engagement with Beauty Scale* (EBS), and the studies described below examine its reliability and validity.

Hypotheses

Our hypotheses are typical of instrument development; the Engagement with Beauty Scale (EBS) scores will demonstrate promising reliability and validity. 1. The scores of the EBS, and its subscales, will show moderate to strong internal consistency with two different samples of participants. 2. The scores EBS, and its subscales, will show moderate to strong temporal stability (test-retest reliability) with two different samples. 3. Exploratory and confirmatory factor analysis will reveal the EBS to have three correlated factors, representing natural beauty, artistic beauty and moral beauty, consonant with the three subscales of the EBS. 4. The EBS will show positive, significant correlations with measures of gratitude, spiritual transcendence and satisfaction with life; the EBS will show negative, or no, correlations with measures of materialism and depression. 5. The EBS will discriminate between known-groups in regard to its artistic beauty subscale.

Study 1: Exploratory Factor Analysis (EFA) of the Engagement with Beauty Scale (EBS)

Our hypotheses in the initial study were: (a) that the natural, artistic, and moral beauty subscales of the EBS would resolve, in principal components analysis, into distinct factors; (b) the Engagement with Beauty Scale (EBS) scores would demonstrate adequate internal consistency and test-retest reliability; and (c) the EBS would show concurrent validity by significantly correlating with the 10-item Appreciation of Beauty and Excellence subscale of

Peterson and Seligman's (2004) 240-item Values in Action Inventory of Strengths (VIA-IS) measure.

Method

Participants

A convenience sample of 122 undergraduates attending Lewis-Clark State College, a small college (N = 3300) in Idaho, USA, and enrolled in introductory, developmental and educational psychology classes in December 2004, completed the EBS (the initial 5-point Likert version). The sample was 72% female, 28% male; mean age 23.7 (SD = 7.4); In terms of ethnic and religious identification 83% identified as Euroamerican and 86% as Christian.

Instruments

The Engagement with Beauty Scale (EBS). Based on our review of the philosophy of categories of beauty in the introduction section above, we created an instrument organized around the three domains of natural beauty, artistic beauty and moral beauty (see Appendix for the complete EBS), with fourteen questions, using a 5-point Likert scale. Besides the domains of the beautiful, we also considered the psychological processes by which humans encounter the beautiful, in designing items for the EBS. We focused on the (a) perceptual/cognitive ("I notice beauty"), (b) physiological arousal ("I feel a lump in my throat" or "an expansion in my chest"), (c) conscious emotion ("I feel emotional, it moves me") and (d) the transcendent or spiritual ("I feel a spiritual experience, a sense of oneness, or being united with the universe"). Thus on the EBS each of the three domains (nature, art, morality) had four parallel items tapping the above mentioned four processes (see Appendix for the exact wording of these items). Further, based on the work of Haidt (Algoe & Haidt, 2004; Haidt, 2003, 2006; Haidt & Keltner, 2004; Keltner & Haidt, 2003), we added two additional items to the moral beauty subscale of the EBS.

Congruent with Haidt and Keltner's (2004) view that *appreciation* is “*emotional* responsiveness, the tendency to experience at least subtle self-transcendent emotions such as awe, admiration, and elevation, triggered by the frequent perception of beauty and excellence in one's surroundings” (p. 539), we focused on writing items for the EBS that tapped the *feelings* aroused when one is emotionally engaged with beauty. In fact, we have named the scale *Engagement with Beauty* instead of *Appreciation of Beauty*, as we feel the term engagement is more illustrative of the feelings aroused in the beauty experience than the term appreciation. Haidt and Keltner also emphasized both the biological-emotional aspect of appreciation (lump in throat, dilated chest, etc.), as well as the conscious emotional feelings (awe, admiration, wonder, etc.), and we have represented those processes on the EBS (see Appendix). And, as Kant (nature), Hegel (art), and Aristotle and Aquinas (morality and virtues) all considered beauty to be a spiritual experience, we have included items on the EBS to reflect this.

The 10-item subscale, *Appreciation of Beauty & Excellence*, (ABE) from Peterson and Seligman's (2004) 240 item *Values In Action Inventory of Strengths* (VIA-IS) questionnaire was used as a measure of concurrent validity. Peterson and Seligman (2004) report the ABE subscale to have an α over .70, and 4 month test-retest correlation of over .70. In our study, the ABE had an α of .82.

Procedure

Students were given extra course credit for completing the EBS and a measure of concurrent validity, the ABE subscale of the VIA (Peterson & Seligman, 2004), during class time. The Institutional Review Board at Lewis-Clark State College approved this study, and all studies reported in this paper; informed consent was obtained from all participants, and debriefing offered.

Results

Following principal components analysis, the scree plot's elbow leveled off after three components, and we only kept those with eigenvalues of 1.00 or above (the three had eigenvalues of 5.70, 2.04 and 1.08, and accounted for 40.7%, 14.6%, and 7.7% of the variance, for a total of 63%). The varimax rotation resolved into 3 components, with each component containing the particular EBS items hypothesized (initial confirmation that items 1-4 make a Natural Beauty subscale; that items 5-8 make an Artistic Beauty subscale; and that items 9-14 make a Moral Beauty subscale); see Table 1. Corrected item-total correlations ranged from .42 to .64; Netemeyer, Bearden, & Sharma (2003) recommend item-total correlations in the .50-.80 range for retention, but we kept the four items that ranged from .42-.48 to see how they would fair in the CFA (confirmatory factor analysis).

Cronbach's α for total score on the EBS was .90; EBS Natural Beauty subscale, .80; EBS Artistic Beauty subscale, .87; and EBS Moral Beauty subscale, .85. A subset of the participants ($N = 68$) completed the EBS a second time, one week later, showing test-retest reliability of Pearson $r = .85$ for total scale; EBS Natural Beauty subscale, $r = .84$; EBS Artistic Beauty subscale, $r = .77$; and EBS Moral Beauty subscale, $r = .61$.

The ABE (Appreciation of Beauty and Excellence subscale of the Values in Action Inventory of Strengths) showed an $r = .80$ ($p < .001$) with EBS total score; $.76$ ($p < .001$) with EBS Natural Beauty subscale; $.66$ ($p < .001$) with EBS Artistic Beauty subscale; and $.55$ ($p < .001$) with EBS Moral Beauty subscale.

Additionally, we found no gender difference in this sample. EBS total score showed $t(120) = .447$ ($p = .66$, two-tailed); with females $M = 55.1$ ($SD = 8.70$) and males $M = 54.3$ ($SD = 6.94$).

Discussion

Although unusual, we did not add or delete any items to the EBS prior to the CFA. Prior to the CFA we changed the EBS's 5-point Likert scale to a 7-point scale, because the participants average scores were above the arithmetic mid-point of the scale. That is, the EBS has 14 items, so the arithmetic average on a 5-point scale would be a raw score of 42 (3 x 14); but the actual average raw score in this initial study was 55 (SD = 8.2). Therefore, to increase the sensitivity of the instrument, due to the ceiling effect with the 5-point scale, we increased the response range to a 7-point Likert scale.

This initial study of the psychometric properties of the Engagement with Beauty Scale (EBS) showed promise. Both measures of reliability, the internal consistency and the test-retest study, were moderately high, giving one confidence in the EBS, and laying a foundation for validity studies.

The correlation between the Appreciation of Beauty and Excellence subscale of the Values in Action Inventory of Strengths (ABE; Peterson and Seligman, 2004) and the EBS indicate that they are measuring something quite similar. This lends concurrent validity to the EBS. Ideally, the EBS would correlate high enough with the ABE to show that, if the ABE accurately measures appreciation of beauty, then so does the EBS; but that the correlation would be low enough to indicate that EBS also measures something a bit different, warranting the need for its creation. The correlation of .55 between the ABE and the EBS Moral Beauty subscale indicates that the inclusion of moral beauty items differentiate, to some degree, the EBS from the ABE. The overall high correlation between the ABE and the EBS shows that they are similar enough that they could be used as alternate forms in future research, giving the advantage of

eliminating any practice effect in appreciation of beauty intervention research designs using a pre-test and a post-test.

The exploratory factor analysis was hopeful, indicating that it is reasonable to consider the three subscales of the EBS (Natural, Artistic and Moral Beauty subscales) as distinct factors. Likewise, although not perfect, the corrected item-total correlations on the EBS showed enough promise to warrant a confirmatory factor analysis, without adding or deleting items, with a new sample of participants.

Study 2: Confirmatory Factor Analysis of, and Concurrent Correlations with, the Engagement with Beauty Scale

Consonant with best practices for instrument development, we followed the exploratory factor analysis (EFA) with a confirmatory factor analysis (CFA), using a new, larger and more diverse sample of participants. Thus, the first purpose of this second study is to use the CFA to further refine and validate the three factor structure of the EBS that was demonstrated in the EFA. To increase confidence in the reliability of the EBS scores, we will again examine the internal consistency and test-retest reliability of the EBS scores with this new sample.

The second purpose of study 2 was to further examine the concurrent validity of the EBS through correlations with relevant instruments. We predicted medium to high positive relationships with the cognate measures of gratitude and spiritual transcendence, a low positive relationship with satisfaction with life, and low negative relationships with material values and depression. Haidt and Keltner (2004; Keltner and Haidt, 2003) have predicted a relationship between gratitude and appreciation of beauty and excellence; and Gibler, Watkins, Mathews, and Kolts (2004) have shown that aesthetic experience does enhance gratitude. Likewise, Haidt and Keltner (2004) have predicted that spiritual transcendence and appreciation of beauty will be

positively correlated, as both involve experiences of transcendence. Previous research was equivocal on the relationship between appreciation of beauty and satisfaction with life (SWL) (Isaacowitz et al., 2003; Park et al., 2004). As we consider that appreciating beauty would add to satisfaction with life, we anticipate at least a small, positive, significant correlation between the two. We also predicted, as did Haidt and Keltner (2004), that appreciation of beauty will negatively correlate with materialism, based on the negative correlation between materialism and gratitude found by McCullough, Emmons, & Tsang (2002). We also predicted that depression and appreciation of beauty are unlikely bedfellows, and thus will be negatively correlated.

Method

Participants

The N = 206 sample for this CFA, and concurrent correlational study, were new participants from a convenience sample drawn from several courses (psychology, natural science, education, humanities and art classes) at Lewis-Clark State College (Lewiston, ID, USA) in April 2005. The participants were 58% female and 42% male; age ranged from 16 to 47 ($M = 23.7$, $SD = 7.7$); The most common ethnic and religious identifications were 77% Euroamerican, 6% Asian, 6% Latino/a, 5% African-American-Caribbean, and 78% Christian, 7% Agnostic, 5% Muslim.

Instruments

The Engagement with Beauty Scale was used as in Study 1, but with responses to each item on a 7-point scale as shown in the Appendix.

Gratitude. The participants' levels of gratitude were measured with Watkins's Gratitude, Resentment and Appreciation Test (GRAT; Watkins, Woodward, Stone, & Kolts, 2003), using his revised short form (Thomas & Watkins, 2003). The GRAT is scored on a 5-point Likert

scale and has been shown to have good internal consistency and temporal stability, as well as showing a variety of predictive and concurrent validity; and the short form of the GRAT has demonstrated an α of .92 (Thomas & Watkins, 2003; in our study it showed an $\alpha = .87$). The GRAT has subscales for measuring (a) Lack of a Sense of Deprivation (or Sense of Abundance; $\alpha = .80$ in our study), (b) Appreciation for Simple Pleasures ($\alpha = .76$ in our study), and (c) Social Appreciation ($\alpha = .75$ in our study).

Satisfaction with life. The Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985) consists of five items scored on a 7-point likert scale, created to reflect life satisfaction and well-being as a whole; it has good internal consistency ($\alpha = .87$) and temporal stability (2-month test-retest .82), and has been validated through a wide range of studies (Pavot & Diener, 1993).

Spiritual transcendence. We assessed participants levels of spiritual transcendence with the Spiritual Transcendence Scale (STS; Piedmont, 1999, 2004), using the 9-item short form, which has been shown to have adequate internal consistency ($\alpha = .76$), and promising construct and predictive validity (French & Piedmont, 2004). According to Piedmont (1999), “Spiritual Transcendence refers to the capacity of individuals to stand outside of their immediate sense of time and place to view life from a larger, more objective perspective” (p. 988). Both the full scale STS and the short form have three subscales (Piedmont, 1999, 2004): (a) Prayer Fulfillment ($\alpha = .89$), which includes feelings of joy and contentment through a positive connection to a transcendent reality, (b) Universality ($\alpha = .59$), a belief in the unitive nature of, and broad meaning and purpose to, life” (p. 5), and (c) Connectedness ($\alpha = .68$), feelings of responsibility and belonging to a larger human reality and in particular with the dead.

Materialism. The participants' levels of materialism were measured using the shorter form of the Material Values Scale (MVS; Richins, 2004; Richins & Dawson, 1992). The MVS is scored on a 5-point Likert scale, and has three factor analytically confirmed subscales: (a) acquisition centrality (the centrality of material possessions in a person's life), (b) success (using possessions to judge the success of one's life and others' lives), and (c) happiness (possessions bring happiness and life satisfaction). Recent item analysis studies, and CFA, show that a 15-item version (Richins, 2004) has better dimensional properties than the original 18-item MVS (Richins & Dawson, 1992), and similar internal consistency: the mean α for the 15-item MVS total score is .86, and the mean alphas for the subscales ranged from .67 - .78. The MVS has demonstrated a wide range of construct, predictive and concurrent validity (Richins, 2004; Richins & Dawson, 1992).

Depression. The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is composed of 21 categories of symptoms and attitudes that manifest behaviorally in patients diagnosed with depression. Each category consists of a graded series of four self-evaluative statements ranked 0-3 to reflect the range of severity of the symptom from neutral to maximal severity. The BDI showed relatively good stability and the corrected split-half reliability coefficient was .93. Validity studies comparing psychiatric expert ratings with BDI scores were strong (Beck et al., 1961).

Procedure

Students completed the EBS, and several other measures, in class for course credit. A packet consisting of six measures (described above in the Instruments subsection) and a demography form were given to 210 students. We created five random sequences of the six measures within the packets, and then randomly organized the sequence of packets, to avoid any

sequencing effects. Four of the packets returned were incomplete, and were discarded. Twenty-three participants skipped a total of 26 individual items on various scales; these packets were retained, and the average item score, for the scale on which they were missing, was substituted for the missing item score. The Institutional Review Board at Lewis-Clark State College approved this study; informed consent was obtained from all participants, and debriefing offered.

Results

The 7-point Likert scale used in this new sample offered a possible range of 14-98 on EBS total score, with actual range in this sample of 26-98 ($M = 68.7$, $SD = 15.5$); the natural beauty (EBSnat) and artistic beauty (EBSart) subscales both had possible ranges of 4-28, with actual ranges 4-28 ($M = 20.7$, $SD = 5.1$) and 4-28 ($M = 16.7$, $SD = 5.9$), respectively. The 6-item subscale of engagement with moral beauty (EBSmor) had a possible range of 6-42, and an actual range of 10-42 ($M = 31.4$, $SD = 7.4$).

Based on the results of the EFA a three-factor model was fitted using AMOS (Arbuckle & Wothke, 1995). It was noted that thematic similarities occurred between items 1, 5, and 9 (noticing beauty), 2, 6, and 10 (physiological response), 3, 7, and 11 (emotional response), 4, 8, and 12 (spiritual experience), and 13 and 14 (change for the better). Accordingly the model fitted allowed for significant correlations between the corresponding residuals, as shown in Figure 1.

Application of a Generalized Least Squares confirmatory factor analysis to the EBS data fitting a factor for each subscale produced a $\chi^2(61, N = 206) = 72.96$, $p = .140$, which indicates a satisfactory fit. Likewise, the root-mean-square error of approximation (RMSEA) = .031, was less than the conventional benchmark of .08 for indicating reasonable model fit (Wegener & Fabrigar, 2000). The goodness-of-fit index (GFI) = 0.949; adjusted goodness-of-fit index (AGFI) = 0.912; and comparative fit index (CFI) = 0.968 all indicate that the 3-factor model of

EBS is reasonable (Byrne, 2001). As allowed for in the model, there were significant positive correlations between residuals of thematically related items (with only three exceptions). The correlations between the factors were: natural and artistic beauty $r = .61$, natural and moral beauty, $r = .65$; artistic and moral beauty, $r = .48$.

Following Byrne (2001, pp.120-135) a further model with a single second-order factor was then fitted to also explain the correlations between the three factors. (In Byrne's procedure two of the residual variances for the factors are constrained to be equal. Based on the earlier analysis, the variances of the residuals for natural and moral beauty were made equal in order to fit the model). This model was also a satisfactory fit, $\chi^2(62, N=206) = 76.51, p = .102$, RMSEA = .034, GFI = .947, AGFI = .910, CFI = .962. The full model with three first-order factors and a second-order factor is shown in Figure 1. The obtained loadings provide strong support for the proposed scale.

We also ran corrected item-total correlations with this sample, and they ranged from .53 to .69 for the 14 items; Netemeyer, Bearden, & Sharma (2003) recommended correlations in the .50-.80 range for retention of items. We also completed item-total correlations with each facet (subscale) of this multifaceted scale; thus we correlated each item with its corrected subscale total, and then also correlated each item to the total subscale scores of the other two subscales. Each of the 14 items of the EBS correlated higher with its own corrected subscale total than with either of the other two subscale totals. Additionally, every item-to-subscale total correlation was within the .50 - .80 range recommended by Netemeyer et al. (2003), except for item #11 on the EBS Moral Beauty subscale (see Appendix), which correlated .81 with the EBS Moral Beauty subscale total.

The reliability of the scores on the EBS and its subscales appear acceptable. Cronbach's α for the EBS total score was .91; EBS Natural Beauty subscale = .80, EBS Artistic Beauty subscale = .88, EBS Moral Beauty subscale = .89. An $N = 52$ subset of the participants completed the EBS a second time, three weeks after the initial administration. This revealed a test-retest reliability, based on Pearson r , for the total EBS of .79, EBS Natural Beauty subscale = .79, EBS Artistic Beauty subscale = .77, and EBS Moral Beauty subscale = .67. We anticipated higher temporal stability, as we view appreciation of beauty as a trait (Peterson & Seligman, 2004). On the other hand, we also consider *engagement* with beauty to be strongly emotionally based (as do Haidt & Keltner, 2004), and as emotions tend to fluctuate, perhaps the .68-.76 correlations for the reliability of the scores on the subscales are reasonable.

Although the EBS showed no significant differences for gender in our initial sample, with this sample the gender difference just reached significance on the EBS total score, with $t(203) = 1.99$ ($p = .048$; two-tailed); females $M = 70.5$ ($SD = 15.3$) and males $M = 66.1$ ($SD = 15.4$); the effect size was small, with $\eta^2 = .019$. This is congruent with Haidt & Keltner's (2004) brief review of gender and appreciation of beauty and excellence, which indicated that females might score somewhat higher on appreciation and related transcendent constructs. There also was a small developmental influence shown in this study: age and EBS total score had $r = .24$ ($p < .001$); EBS Natural Beauty subscale, $.25$ ($p < .001$); EBS Artistic Beauty subscale, $.15$ ($p < .04$); and EBS Moral Beauty subscale, $.21$ ($p < .004$) (all p values two-tailed).

Concurrent Correlations with Relevant Instruments

Correlations between the various scales and EBS subscales and total are shown in Table 2. There were substantial and significant positive correlations between the EBS and its subscales and the Gratitude and Spiritual Transcendence measures. The correlation between the

EBS and the Satisfaction with Life Scale was low and positive. Low significant negative correlations were obtained between the Material Values Scale and EBS; and low non-significant correlations with the Beck Depression Inventory.

Discussion

The confirmatory factor analysis confirmed the initial findings of the exploratory factor analysis – the Natural Beauty, Artistic Beauty, and Moral Beauty subscales of the EBS, do comprise three factors. Therefore, noting that the Chi squared test and RMSEA were consistent with a reasonable fit, the other goodness of fit indices were high enough, and the item-total correlations were within the desired range, we did not propose adding or deleting any items to the EBS or its subscales. As in Study 1, this second study confirmed that the EBS, and its subscales, are reliable, based on Cronbach's alpha and the test-retest study.

The correlational findings reported in Table 2 indicate strong concurrent validity for the EBS, and are consistent with our predictions, the conceptualization of the scales, and previous research. These results indicate that as levels of engagement with beauty increase, a person's trait of gratitude grows stronger, spiritual transcendence grows more lofty, and life is a bit more satisfying in general. Also, as predicted, the higher the level of engagement with beauty, the less likely a person is to be materialistic.

As depression may involve an immoderate degree of focus on self, and transcendental character strengths tend to lift one out of the self (Peterson & Seligman, 2004, consider appreciation of beauty to be one of the transcendental character strengths), we hypothesized that the EBS would negatively correlate with depression as shown on the BDI. The EBS total score, and two of the EBS subscales, correlated negatively with this modified BDI, and the unadjusted

p values were significant. Once the Benjamini-Hochberg (1995) adjustment was applied, however, it was shown to not be significant (see Table 2).

It is notable that the EBS natural beauty subscale correlated higher with every associative measure (Gratitude, Satisfaction with Life, and Spiritual Transcendence) and lower with the dissociative comparative measure (Materialism) than did the EBS artistic beauty subscale (see Table 2). This may be a hint that Kant was ‘right;’ that the “good soul” is more appreciative and engaged with natural beauty than with artistic beauty – that is, engagement with natural beauty correlates higher with being grateful, satisfied with one’s life, spiritually transcendent, hopeful and less materialistic.

Study 3: Artistic Beauty and Known-Groups

We presumed students who electively took art and music classes constitute a group known to be more appreciative of beauty than students who do not take such classes. We hypothesized that art and music students would score significantly higher on the EBS artistic beauty subscale (EBSart) than comparison students who were education and psychology majors.

Method

Participants

The “known-group” comprised a convenience sample of students who electively enrolled in one of three different applied art and music classes at Lewis-Clark State College; the *M* age of this *N* = 26 group was 28.0 (*SD* = 11.9; range 19-68); 70% were female, 30% male; 3.8% Asian, 84.6% were of Euro-Americans, 7.7% Latina/o, and 3.8% Native American; 46% considered themselves Christians, 19% agnostic, 8% atheist, 15% marked “other,” and 12% marked “none.” The comparison group consisted of *N* = 32 students in a developmental psychology class (no students in that class that had ever taken an elective art or music class in college). The *M* age of

the comparison group was 23.0 (SD = 6.8; range 18-40); 72% were female, 28% male; 87.5% were Euro-Americans, 3.1% Latina/o, 6.3% identified themselves as “mixed,” and 3.1% Native American; 3.1% Buddhist, 84.4% Christian, 6.3% agnostic, 3.1% atheist, and 3.1% marked “other.”

Instrument

The Engagement with Beauty Scale (see Appendix).

Procedure

The students completed the EBS in class for bonus course credit. The Institutional Review Board at Lewis-Clark State College approved; informed consent was obtained from all participants, and debriefing offered.

Results

A *t* test revealed a significantly higher engagement with artistic beauty score, $t(56) = -3.07$, $p = .003$ for the art and music students ($M = 15.7$, $SD = 2.3$) over the comparison group ($M = 13.2$, $SD = 3.6$); this difference showed a large effect size, with $\eta^2 = .14$. And although the education and psychology majors in the comparison group did score slightly higher ($M = 24.6$, $SD = 3.9$) on the moral beauty subscale than the art and music students ($M = 23.9$, $SD = 3.8$), the *t* test indicated no significant difference; likewise, neither the EBS total score nor the EBS Natural Beauty subscale score showed a significant difference between groups. With a Benjamini-Hochberg (1995) adjustment, accounting for running the four *t*-tests, the difference between the art/music students, and the comparison group, remained significant (B-H critical value was $p = .00625$).

Discussion

As anticipated, this indicates that the EBS is effective in differentiating a known-group of art appreciators from a group with no particular reason to be highly engaged in artistic beauty, thus adding to the predictive validity of the EBS Artistic Beauty subscale. However, we also anticipated that the psychology and education majors would show higher engagement with moral beauty than the art and music students would, and this was not demonstrated. This may be ethically good news concerning persons who are engaged by artistic beauty; art majors and lovers of art see just as much moral beauty around them as do education majors who want to become teachers, or psychology majors who want to become psychotherapists. Or this may be potentially bad news for society -- that education and psychology majors are no more highly engaged with moral beauty than art majors are.

General Discussion

Our goal in this paper was to examine the reliability and validity of the scores of a new scale for measuring appreciation of and engagement with beauty. Based on philosophical works from Aristotle, Kant, Hegel, Aquinas, and others, we divided the beauty domain into the three sub-domains of natural, artistic, and moral beauty, and suggested that this provided for exhaustive content validity. Items were constructed for each domain and became the subscales of Natural Beauty, Artistic Beauty, and Moral Beauty for the Engagement with Beauty Scale (EBS). The EBS evidenced adequate internal consistency and temporal stability: EBS total score α ranged from .90-.91, and test-retest reliability from .79-.85; the EBS Natural Beauty subscale α was .80 in both studies 1 & 2, and its temporal stability ranged from .79-.84; the EBS Artistic Beauty subscale α from .87-.88 with temporal stability of .77 in both studies 1 & 2; and the EBS Moral Beauty subscale α from .85-.89 with temporal stability of .61-.67. Corrected item-total correlations ranged from .53 to .69 for the 14 items, which is in the desired range (Netemeyer et

al., 2003). Following a confirmatory factor analysis the chi-squared test and the root-mean-square error of approximation (RMSEA) demonstrated a satisfactory fit for the model with three correlated subscales of the EBS and a single second-order factor. Likewise, several goodness of fit indices (AGFI, GFI, CFI), ranging from .91-.97, indicated the 3-factor model of the EBS as reasonable.

In terms of convergent validity the EBS had a substantial positive correlation of .80 with the Appreciation of Beauty and Excellence subscale of the Values in Action Inventory of Strengths (the ABE of the VIA-IS; Peterson & Seligman, 2004). This correlation is so high that it indicates that these two instruments are likely measuring the same thing. However, there are some advantages that the EBS has over the ABE of the VIA-IS. The EBS has a clear theoretical background based on the philosophy of aesthetics, including the manner in which Kant, Hegel and Aquinas have differentiated forms of beauty; at this point in time no construct/content validity arguments for the ABE have been published. The ABE's items focus on both beauty *and* excellence, whereas the EBS is solely devoted to beauty. The ABE is not readily available to researchers as a stand-alone measure, but only as imbedded in the 240 item VIA-IS. Although the structure of the questions on the EBS is quite different from the ABE, there is some overlapping content: the ABE has 1 item addressing moral beauty (the EBS has 6), it has 2 items that directly address artistic beauty (the EBS has 4), and it has one item directly on natural beauty (the EBS has 4). The EBS has subscales, or facets, which can separately measure natural, artistic and moral beauty, and the ABE does not. For copyright reasons, we cannot reproduce the 10 items of the ABE here, but the reader may examine them on the VIA-IS: they are items 17, 41, 65, 89, 113, 137, 161, 185, 209 and 233 (the VIA-IS may be accessed at

<http://www.authentic happiness.sas.upenn.edu/>), and compare them to the items on the EBS (see appendix below).

The medium to high positive correlations with measures of gratitude and spiritual transcendence also support the validity of the EBS and suggest that those more highly engaged by beauty are more likely to have a grateful personality and to experience more spiritual transcendence (as predicted by Haidt and Keltner, 2004). The low but statistically significant positive correlation with satisfaction with life, and the low negative correlation with material values were in the predicted directions. A known-groups study demonstrated specific predictive validity for the EBS Artistic Beauty subscale in differentiating students engaged in the arts from those that were not.

Reported elsewhere (Diessner, Rust, Solom, Frost, & Parsons, 2006), an engagement with beauty intervention study demonstrated further predictive validity for the EBS by showing that the EBS differentiated between a group of students who participated in focused engagement with beauty exercises from a group that did not. Diessner et al. (2006) have also shown a significant correlation between the EBS (esp. the EBS Moral Beauty subscale) and the trait of agentic hope (cf. Snyder, et al., 1991), a relationship that was predicted based on hope and appreciation of beauty both being strengths of the transcendence virtue (viz. Peterson & Seligman, 2004). We conclude that the EBS has shown satisfactory psychometric properties, a range of evidence for validity, and should be considered a measure worth studying further, as well as useful in character strength research.

Limitations and Future Research

There are several limitations and qualifiers concerning the studies reported here. One major issue is that of generalizability; our samples were all fairly homogeneous college students in one

state college in the USA. Clearly, further studies need to be performed across age, occupation, educational achievement, and ethnic groups in both America and from cultures outside the United States. In fact, the whole approach to engagement with beauty needs to be examined in various cultures through the methods of psychological anthropology. At the present time most of the influential texts on cultural psychology or psychological anthropology, however, do not even have an index entry for beauty (cf. Cole, 1996; Matsumoto & Juang, 2004; Rogoff, 2003; Shore, 1996; Shweder, 2003). Surely, through empirical cultural psychology methodologies, this omission should be addressed. One of the advantages of the EBS for cross-cultural contexts is that it focuses on the response to beauty, which is arguably more likely to generalize across cultures, than the particular qualities which may evoke this response.

Although our goal was to create a relatively simple paper-and-pencil test of individual differences in engagement with beauty, the EBS shares the validity pitfalls of most self-report measures, such as the “ability and willingness” of participants to accurately report their views of themselves (Wegener & Fabrigar, 2004, p. 165). Haidt (personal communication, January 18, 2006) has also noted to us that we should more carefully examine “third variable problems,” such as “trait positive affect” in the studies reported here. The fact that we found a positive correlation with the SWLS (Pavot & Diener, 1993), reinforces this concern. The fact that the correlation was quite low (.20), however, indicates that the EBS is not simply a measure of general positive affect trait.

Haidt (personal communication, January 18, 2006) also notes that although art and beauty have been traditionally closely associated, in the 20th century they diverged considerably, with many artists losing any interest in portraying beauty (cf. Danto, 1994). Haidt is thus concerned that the artistic beauty subscale may not be measuring a person’s engagement with beauty in art,

but perhaps a person's experiences with art and museums. He also notes that this concern is reinforced by the artistic beauty subscale correlating lower than the natural beauty or moral beauty subscales with nearly every associative correlational measure in the studies reported here. Although based on our philosophical analysis we find content validity in the artistic subscale, and the known-groups study lends some predictive validity to it, we share Haidt's relevant concerns and hope to address them in future studies with the EBS.

Haidt (personal communication, January 18, 2006) also proposes that sexual beauty may be a distinct form of beauty not addressed in the EBS, and that our psychological systems that respond to art may be based on two very different systems, with differing "phylogenetic heritages:" that of "the beauty of landscapes" and "the beauty of a potential sexual partner." These are provocative hypotheses, and can be addressed in future empirical work with the EBS.

Perhaps the most important next step regarding investigating the properties of the EBS is a correlational study with the big five. An administration of the EBS with the NEO PI-R would provide a useful analysis of engagement with beauty as a trait, as well as examine concurrent validity of the EBS Artistic Beauty subscale with the Aesthetics facet of the broad trait of Openness.

Another important use of the EBS would be to further explore the connection between moral emotions and moral action. Although moral reflection and deliberation are crucial to some moral judgments (cf. Kohlberg, 1984), it seems that moral emotions may be more causally implicated in day-to-day moral judgments, and to moral action, than is deliberative moral reasoning (Haidt, 2001, 2002, 2006; Haidt & Joseph, 2004; Shweder & Haidt, 1993). The EBS Moral Beauty subscale was specifically designed to capture elements of Haidt's (2003; Algoe & Haidt, 2004) description of the moral emotion of *elevation*, an emotion that increases pro-social action

tendencies; therefore the EBS might be helpful for intervention studies that aim to increase the experience of elevation.

The importance of beauty in living the good life has been severely under-appreciated in the last century in the Western world, particularly in America. In the world of art, wherein one might hope that beauty would be substantially represented, most artists during the 20th century have purposely avoided beauty (Danto, 1994). When reviewing the three classic goals of the good life -- truth, beauty, and the moral good -- one finds that science, in the pursuit of truth, has dominated Western discourse in the last century, and has brought humanity many gifts (and a few horrors). Science, however, like the field of art, has divorced itself from beauty, and there is little discourse on the elegance of beautiful proofs, or the sheer beauty of biological and chemical structures. Yet, at the beginning of this 21st century, the call to bring beauty back into art (Danto, 2003) and science (Fitzpatrick, 2001) is being made.

As Dewey (1934/1958) noted in the 20th century, and as Haidt (2003; Haidt & Keltner, 2004) has in the 21st century, moral goodness and beauty are intimately connected. Aristotle (Sachs, 2002) viewed the human virtues as the signs of moral beauty, and the argument can well be made that “an education in beauty can be a training in the love of virtue” (Winston, 2006). In the last decade, every news service in the world has been proclaiming the moral bankruptcy of our business, corporate and political leaders. Can our moral degeneracy be traced to divorcing morality and beauty? We think it may. It appears that the main difference between simply perceiving something as “moral,” versus perceiving something as “morally beautiful,” is that when we perceive an act as morally beautiful we are motivated to act morally ourselves (cf. Algoe & Haidt, 2004; Diessner et al., 2006; Haidt, 2006).

Therefore, as Winston (2006) argues, educating children (and adults) to love and appreciate beauty can have a morally salubrious effect on both individuals and society. But how will we know if our educational efforts are effective? Until now there has been no reliable and valid instrument to assess levels of engagement with the full range of natural and artistic beauty; in particular, there has existed no pencil and paper measure of engagement with moral beauty. This problem has been remedied; research reported here demonstrates that the Engagement with Beauty Scale (EBS) has moderately strong reliability and promising validity, and the largest subscale of the EBS does measure engagement with moral beauty.

Engagement with and appreciation of beauty is its own reward, but recent research has shown that appreciation of beauty also acts as a buffer for those suffering from psychological disorders. Peterson, Park, & Seligman (2006), in a web-based study of 2087 adults, found that those participants who were high in appreciation of beauty were more likely to recover from depression and anxiety disorders with greater levels of life satisfaction. They demonstrated that two character strengths, appreciation of beauty and love of learning, mediated between life satisfaction and psychological disorders, significantly more than 22 other character strengths. This implies that the development of appreciation of beauty interventions with clinical populations is warranted. The Engagement with Beauty Scale could be used to evaluate the effectiveness of those interventions.

Conclusion

Beauty is an essential third of the classical Western triumvirate of truth, beauty and the good. Beauty has received the least attention from psychologists of the three, and until now, there existed no measure solely devoted to examining individual differences in appreciation of and engagement with beauty. The Engagement with Beauty Scale can help fill this void.

For the sake of the beautiful, for this is the end of virtue.

-- Aristotle (trans. 2002)

The Greek identification of good conduct with conduct having proportion, grace, and harmony, the *kalon-agathon* [the beautiful-the good], is a more obvious example of distinctive esthetic quality in moral action.

--John Dewey (1934/1958)

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Appendix

Engagement with Beauty Scale

In regard to all responses below: Keep in mind that we are only asking about your *experience with perceiving and feeling something as beautiful*. We are **not** asking if you like something; we are **not** asking if you think something is important; we only ask if you **feel it as beautiful**.

Mark each statement below with a number between 1 and 7:

1 = very unlike me; 2 = unlike me; 3=a little unlike me

4 = neutral; 5 = a little like me; 6 = like me; 7 = very much like me

Statements 1-4 below refer to experiences with nature and the physical world, including, mountains, rocks rivers, lakes, oceans, deserts, plants, flowers, trees, animals, etc. (but NOT the human body).

___ 1. I **notice beauty** in one or more aspects of nature.

___ 2. When **perceiving beauty** in nature I **feel** changes in my body, such as a lump in my throat, an expansion in my chest, faster heart beat, or other bodily responses.

___ 3. When **perceiving beauty** in nature I **feel** emotional, it “moves me,” such as feeling a sense of awe, or wonder or excitement or admiration or upliftment.

___ 4. When **perceiving beauty** in nature I **feel** something like a spiritual experience, perhaps a sense of oneness, or being united with the universe, or a love of the entire world.

Statements 5-8 below refer to experiences with art, such as paintings, sculpture, music, dance, architecture, poetry, novels, literature, etc.

___ 5. I **notice beauty** in art or human made objects.

___6. When **perceiving beauty** in a work of art I **feel** changes in my body, such as a lump in my throat, an expansion in my chest, faster heart beat, or other bodily responses.

___7. When **perceiving beauty** in a work of art I **feel** emotional, it “moves me,” such as feeling a sense of awe, or wonder or excitement or admiration or upliftment.

___8. When **perceiving beauty** in a work of art I **feel** something like a spiritual experience, perhaps a sense of oneness, or being united with the universe, or a love of the entire world.

Statements 9-14 below refer to experiences with humans, in which you perceive (or hear about) some person demonstrating an *impressive act of charity or loyalty or kindness or compassion or forgiveness or sacrifice for others or sincere service to others*. We refer to these as acts of moral beauty.

___9. I **notice moral beauty** in human beings.

___10. When **perceiving** an act of **moral beauty** I **feel** changes in my body, such as a lump in my throat, an expansion in my chest, faster heart beat, or other bodily responses.

___11. When **perceiving** an act of **moral beauty** I **feel** emotional, it “moves me,” such as feeling a sense of awe, or wonder or excitement or admiration or upliftment.

___12. When **perceiving** an act of **moral beauty** I **feel** something like a spiritual experience, perhaps a sense of oneness, or being united with the universe, or a love of the entire world.

___13. When **perceiving** an act of **moral beauty** I find that I desire to become a better person.

___14. When **perceiving** an act of **moral beauty** I find that I desire to do good deeds and increase my service to others.

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Table 1

EFA Varimax Rotated Component Matrix

Item	Component		
	1	2	3
ebs1	.125	.221	.689
ebs2	.299	.199	.671
ebs3	.163	.350	.790
ebs4	.294	.309	.637
ebs5	.080	.755	.220
ebs6	.139	.776	.258
ebs7	.164	.862	.250
ebs8	.142	.801	.193
ebs9	.683	.023	.184
ebs10	.757	.313	.148
ebs11	.791	.278	.101
ebs12	.739	.313	.061
ebs13	.676	-.038	.430
ebs14	.692	-.060	.275

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Bolding indicates the heaviest loadings of the three subscales of the EBS (EBS Natural Beauty subscale = items 1-4; EBS Artistic Beauty subscale = items 5-8; EBS Moral Beauty subscale = items 9-14).

Table 2

Study 2: Correlations between the EBS total and subscales scores (Natural Beauty, Artistic Beauty & Moral Beauty), and other Measures (N = 206)

Correlations	t	df	r	p value	Unadjusted ¹	B-H ² critical	B-H adjusted ³
BDI ⁴ x EBS Moral	.86	204	-.06	.1958	NS	.0250	NS
BDI x EBS Total	1.73	204	-.12	.0429	*	.02375	NS
MVS ⁵ x EBS Art	1.73	204	-.12	.0429	*	.0225	NS
BDI x EBS Nat	1.87	204	-.13	.0313	*	.02125	NS
BDI x EBS Art	2.02	204	-.14	.0224	*	.02	NS
MVS x EBS Moral	2.02	204	-.14	.0224	*	.01875	NS
SWLS ⁶ x EBS Art	2.02	204	.14	.0224	*	.0175	NS
SWLS x EBS Moral	2.02	204	.14	.0224	*	.01625	NS
MVS x EBS Total	2.61	204	-.18	.0048	**	.015	*
SWLS x EBS Total	2.92	204	.20	.002	**	.01375	*
MVS x EBS Nat	3.07	204	-.21	.0012	**	.0125	*

1 Unadjusted p values: * $p < .05$; ** $p < .01$; *** $p < .001$

2 Benjamini-Hochberg adjustment, critical values (Benjamini & Hochberg, 1995)

3 Benjamini-Hochberg adjustment: * $p < .05$

4 BDI = Beck Depression Inventory

5 MVS = Material Values Scale

6 SWLS = Satisfaction with Life Scale

STS ⁷ x EBS Art	3.07	204	.21	.0012	**	.01125	*
SWLS x EBS Nat	3.38	204	.23	.0004	***	.01	*
GRAT ⁸ x EBS Art	4.66	204	.31	.0001	***	.00875	*
STS x EBS Nat	5.69	204	.37	.0001	***	.0075	*
STS x EBS Moral	6.05	204	.39	.0001	***	.00625	*
STS x EBS Total	6.05	204	.39	.0001	***	.005	*
GRAT x EBS Moral	6.61	204	.42	.0001	***	.00375	*
GRAT x EBS Nat	7.4	204	.46	.0001	***	.0025	*
GRAT x EBS Total	7.61	204	.47	.0001	***	.00125	*

7 STS = Spiritual Transcendence Scale

8 GRAT = Gratitude, Resentment, and Appreciation Test

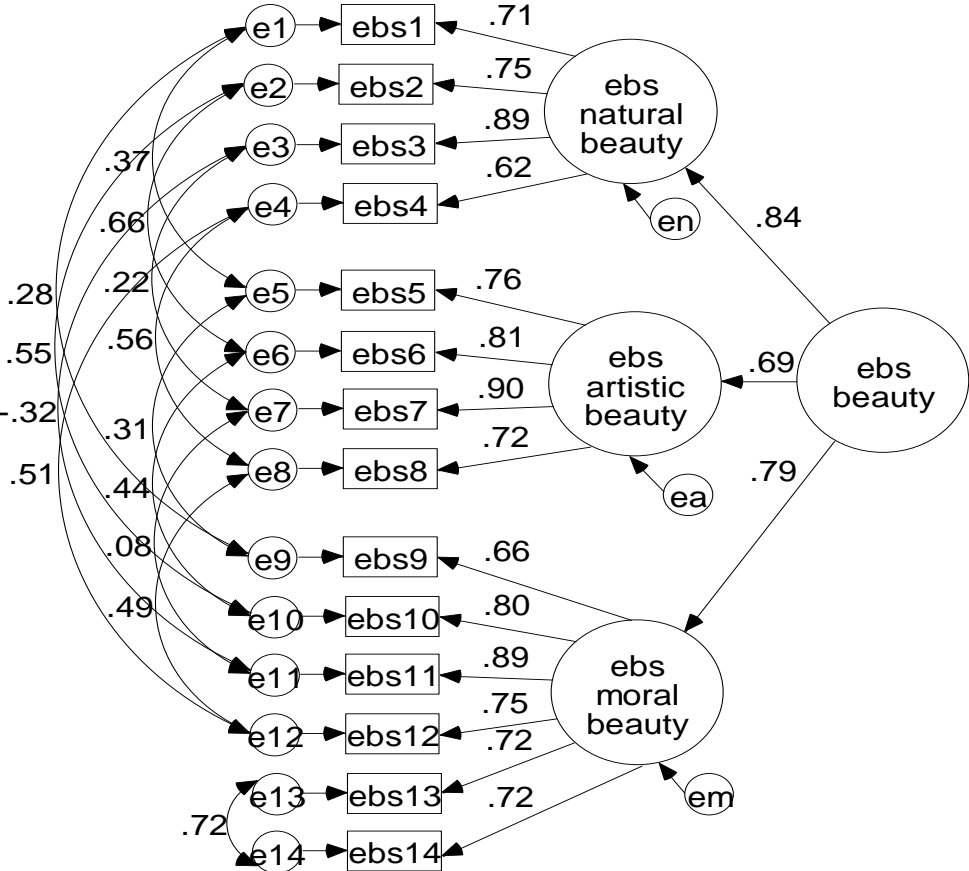


Figure 1. Confirmatory factor analysis of the 14 items of the *Engagement with Beauty Scale* allowing for correlations between parallel item types and showing standardized estimates for first and second order factors.