THE ROLES OF LIFE SATISFACTION AND MATERIALISTIC VALUES AS MEDIATORS OF APPRECIATION

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Abstract

A growing body of literature supports the positive effects of gratitude/appreciation on well-being. However, few studies have explored these relationships using the eight-aspect appreciation model (Adler & Fagley, 2005), in which gratitude is but one of multiple aspects of “appreciation.” This study explored the relations among the aspects of appreciation, life satisfaction, and materialistic values. Additionally, mediation models involving the three key variables of appreciation, life satisfaction, and materialistic values were tested. Finally, entitlement and meaning in life were included to provide additional validity information.

Participants included 206 undergraduates at Rutgers University who completed an anonymous online survey. As expected, appreciation was correlated positively with life satisfaction ($r = .386$, $p < .001$). Although significant correlations were not found for the materialistic values total score, its Happiness subscale, which represents the belief that happiness is achieved through possessions, was significantly negatively correlated with appreciation ($r = -.191$, $p = .006$) and life satisfaction ($r = -.281$, $p < .001$), and this subscale was thus the aspect of materialism examined in the mediation analyses. All mediation models were significant, such that life satisfaction mediated the relation between appreciation and materialism ($Z = -2.892$, $p < .01$), materialism mediated the relation between appreciation and life satisfaction ($Z = 2.182$, $p < .05$), and appreciation mediated the relation between materialism and life satisfaction ($Z = -2.416$, $p < .01$). Additionally, the “have” focus aspect of appreciation had the largest correlation with life satisfaction ($r = .474$, $p < .001$) and with the appreciation total score ($r = .916$, $p < .001$), indicating that a greater focus on what one has is associated with greater life satisfaction and suggesting that “have” focus may be a key component of overall appreciation. Results from this study point to the positive relationship between appreciation and better quality of life. Further,
findings suggest that increasing one’s appreciation may help minimize the materialistic emphasis on happiness through acquisition, and that reducing one’s belief in happiness through material goods may foster greater appreciation and satisfaction with life.
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Introduction

Within the burgeoning field of “positive psychology,” a growing number of studies have documented the connection between gratitude, viewed here as one aspect of appreciation, and a variety of characteristics, behaviors, and outcomes. These include studies that establish a clear correlational link between appreciation/gratitude and subjective well-being, which is also delineated as life satisfaction and positive affect (e.g., Adler & Fagley, 2005; McCullough, Emmons, and Tsang, 2002; McCullough, Tsang, & Emmons, 2004; Tucker, 2007; Wood, Joseph, & Maltby, 2009). Similar results have also been found in experimental studies (e.g., Emmons & McCullough, 2003; Froh, Kashdan, Ozimkowsi, & Miller, 2009; Froh, Sefick, & Emmons, 2008; Rash, Matsuba, & Prkachin, 2011; Watkins, Woodward, Stone, & Kolts, 2003) and individual therapeutic cases (e.g., Emmons & Stern, 2013).

However, with the increasing research activity in this area, some researchers have struggled to address the broader meaning of appreciation, giving one definition but failing to operationalize the terms in a consistent manner. Sometimes, although called gratitude by the researchers, other aspects of appreciation have been examined. Lambert, Graham, and Fincham (2009) addressed the challenge by defining two types of gratitude: benefit-triggered and generalized gratitude. Adler (2002; Adler & Fagley, 2005) described the broader construct of “appreciation,” which includes the term “gratitude” as but one of multiple aspects of “appreciation.”

This literature review will present a brief overview of the research on appreciation and its aspects, as well as the relationships known to exist between these constructs and outcomes such as life satisfaction and positive well-being. Additionally, given Fagley’s (2012) finding that a focus on what one has is a key component of appreciation that contributes to life satisfaction, this
review will examine current research on the definition of materialism, as well as the relationship of materialistic values to appreciation and life satisfaction. Finally, mediation hypotheses will be proposed and discussed in light of relevant theory and research that suggest a relationship between appreciation, materialistic values, and life satisfaction.

Review of Literature

Appreciation

Appreciation has been demonstrated to be related to many important outcomes, such as increased subjective well-being (e.g., McCullough et al., 2002; McCullough, et al., 2004; Tucker, 2007; Wood et al., 2009). Adler and Fagley (2005) reported that the relationship between appreciation and outcomes such as life satisfaction and positive affect was significant, even after controlling for the variables of optimism, emotional self-awareness, and spirituality. Similar positive relations have been found in experimental studies of groups (e.g., Emmons & McCullough, 2003; Froh et al., 2009; Froh et al., 2008; Rash et al., 2011; Watkins et al., 2003) and individuals (e.g., Emmons & Stern, 2013).

Eight aspects of appreciation. Appreciation is defined as “acknowledging the value and meaning of something—an event, a person, a behavior, an object, and feeling a positive emotional connection to it” (Adler & Fagley, 2005, p. 81; see also Adler, 2002), and it is viewed as having eight aspects, one of which is gratitude. This definition of appreciation includes cognitive and affective components. Fagley (2012) supported the importance of other aspects of appreciation in accounting for life satisfaction (accounting for 11% of the variance when controlling for the Big 5 personality factors, demographics, and gratitude, \( p < .001 \)). The proportion of variance accounted for by gratitude, over-and-above demographics and the Big 5 personality factors, when one does not control for appreciation, was 5.9%. When appreciation
entered before gratitude, gratitude accounted for only 1.3% of the variance and appreciation accounted for 16% of the variance. Therefore, other aspects of appreciation account for variance in life satisfaction that is not accounted for by gratitude.

The construct of appreciation incorporates eight lower-order components, including “have” focus, awe, ritual, present moment, self-social comparison, gratitude, loss/adversity, and interpersonal. Each aspect (remembered by the acronym HARPS-GLI) may involve different processes or mechanisms that may be differentially correlated with various outcomes (Fagley, 2012).

“Have” focus. The “have” focus aspect of appreciation involves noticing, acknowledging, and actively appreciating what one has in life, rather than focusing on what one lacks. What one has in life goes beyond material possessions to include, for example, one’s health, community, friends and family, beliefs and values, privileges, and spirituality. “Have” focus is thus not restricted to tangible items (Adler & Fagley, 2005). Fagley and Adler (2012) suggested that the task developed by Emmons and McCullough (2003) in which people are asked to come up with a list of five things for which they are grateful or thankful should be viewed as a technique targeting the “have” focus aspect of appreciation.

Notably, Fagley (2012) found that the aspect of appreciation with the greatest Pearson correlation with life satisfaction was the “have” focus aspect of appreciation ($r = .60$), and this was higher than the contribution of any of the Big 5 personality factors or the popular gratitude measure, the GQ-6. This was consistent with Adler and Fagley’s (2005) finding that the subscale with the greatest correlation with life satisfaction was the “have” focus aspect of appreciation ($r = .41$). The “have” focus aspect of appreciation entails focusing on and valuing what one has, as well as not focusing on what one lacks. For instance, an item from this subscale states, “I count
my blessings for what I have in this world.” Fagley’s (2012) finding suggests that a focus on what one has is a key component of appreciation that contributes to life satisfaction.

Further, entitlement has been suggested as an opposing view to appreciation. Watkins and colleagues (2003) reasoned that narcissistic individuals who believe that they are entitled to benefits would be less likely to show gratitude; grateful people, on the other hand, do not feel that they are deprived but rather experience a sense of abundance (Watkins et al.). For instance, items included in their Sense of Abundance Scale of the GRAT included “I really don’t think that I’ve gotten all the good things that I deserve in life,” “For some reason I never get the breaks that others get,” and “Because of what I’ve gone through in my life, I really feel like the world owes me something” (reverse scored items) (p. 434). In her discussion of individual differences in appreciation, Fagley (2012) suggested that some individuals respond to positive events with a sense of entitlement. Emmons and Stern (2013) similarly noted that the “spirituality of gratitude is opposed to a self-serving belief that one deserves or is entitled to the blessings that he or she enjoys” (p. 847).

The “have” focus aspects may also be conceived as an experience of contentment and focusing on the blessing in one’s life. For instance, in semi-structured interviews with 51 participants who engaged in mindful reflection and then recalled a specific experience of gratitude, participants described feeling grounded and safe, feeling contented, and having a sense of well-being (Hlava & Elfers, 2014). Another common theme was “feeling fortunate, lucky, and blessed” (p. 446). Taken even further, this feeling was accompanied by humility, in which individuals described feeling undeserving and singled out as special (Hlava & Elfers, 2014).

Awe. The awe aspect of appreciation refers to feeling a deep connection to something, accompanied by a sense of wonder or awe, in an emotional, spiritual, or transcendent manner. It
may be manifest, for instance, as an overwhelming emotional response or feeling of connection to a special experience or natural phenomenon. An item in this subscale is, “When I see natural beauty like Niagara Falls, I feel like a child who is awestruck.”

Keltner and Haidt (2003) proposed two essential features of the experience of awe: vastness and need for accommodation. Vastness refers to “anything that is experienced as being much larger than the self” (p. 303), whether in physical size, authority, power, symbolic greatness, or prestige. Accommodation refers to the Piagetian concept of adjusting mental structures in order to assimilate new experiences, which are often accompanied with “feelings of enlightenment and even rebirth” (p. 304). Keltner and Haidt suggested that the experience of awe can be both frightening and enlightening, depending on one’s ability to successfully accommodate and understand. When an experience of awe lacks either accommodation or vastness, the emotion is better described by a different name. For instance, feelings of vastness without accommodation result in deference, and accommodation without vastness characterizes surprise. Keltner and Haidt pointed out that awe can “transform people and reorient their lives, goals, and values” (p. 312).

At the same time as awe may focus one’s attention to the present experience, research indicates that it also fosters a sense of transcendence and outward connectedness (Mikulak, 2015). Shiota, Keltner, and Mossman (2007) studied the nature of awe elicitors, the self-diminishing effects of awe, and the effects of awe on one’s self-concept. For instance, students who were assigned to visualize awesome scenes in nature endorsed higher ratings (e.g., “I felt small or insignificant” and “I felt connected with the world around me”) than students who focused on their accomplishments (Shiota et al., 2007). Feelings of awe have also been associated with pro-social behaviors, such as by minimizing one’s focus on the self; this may
ultimately boost one’s well-being (Mikulak, 2015). The experience of awe may also be understood through Frederickson’s broaden-and-build theory of positive emotion (1998, 2001), in which awe may broaden attentional focus and build “personal resources” for future use (2004a, p. 1369) and lead to greater well-being.

Hlava and Elfers (2014) explored the profound sense of awe and transpersonal feelings of connection for individuals in a condition of elicited gratitude. All participants (n = 51) reported feeling a personal connection with a presence or an object beyond the self (transpersonal), with the majority (n = 47) identifying nature or a divine presence as the trigger for their experience. The researchers subsequently delineated three general domains of “relatedness” relating to gratitude (p. 459), including personal, interpersonal, and transpersonal. This is akin to the description of Steindl-Rast (2004) of a state of thankfulness and transcendence that occurs in transpersonal experiences. McCullough et al. (2002) proposed a connection between gratefulness and spirituality, in that “grateful people may also be oriented toward recognition of non-human forces that might contribute to their well-being in a broader, more existential sense. Stated another way, grateful people may tend to be spiritually inclined” (p. 114). Hlava and Elfers (2014) found that transpersonal experiences of gratitude possessed a high degree of emotional intensity, including feelings of reverence, disbelief, and the sublime, across the contexts of nature, the sacred, or overwhelming rushes of emotion. In many cases, participants described themselves as moved to silence in the face of such powerful feelings, pointing to the inability to cognitively accommodate the experiences in that moment.

The relation between awe and materialism was explored by Gheorma, Piff, and Keltner (2014), whereby they found a correlation between awe and material values of -.273, significant at the .05 level. Furthermore, they found that modesty mediated the relationship between awe
and materialism, even when controlling for positive and negative emotions. Modesty was measured using the Modest Behavior Scale (Chen, Bond, Chan, Tang, & Buchtel, 2009; e.g., “In front of others, I attribute success to luck rather than my own ability” and “I avoid showing off in front of others”).

**Ritual.** The ritual aspect of appreciation involves ceremonial or religious acts or personal routines that foster appreciation by promoting conscious awareness and valuing of experiences, things, or people, such as giving thanks, saying grace, or taking a stroll and focusing on one’s surroundings. An example of an item in this domain is “I perform rituals (i.e., pray or say grace before a meal) that remind me to be appreciative.”

In his discussion on religion and gratitude, Emmons (2007) proposed that *grace* is the theological term describing one’s “willingness to recognize the unearned increments of value in one’s experience” (p. 8). This “unearned” quality of grace is the reason “why the discussion of gratitude is so at home in religious discourses” (p. 8), whereby acknowledgment of God’s generosity is a pillar of many religions. For instance, the Jewish and Christian doctrines demand reflection upon the abundance of God’s gifts and expression of thanksgiving and praise. When incorporated in the widely practiced, long-standing rituals, expressions of appreciation permeate the prayers, practices, and traditions and become essential to the religious institution.

From a secular perspective, ritual aspects of appreciation, such as the behavioral expression of thanks though letter-writing, have been the subject of many gratitude interventions (Wood, Froh, & Geraghty, 2010). For instance, Seligman et al. (2005) found that adults from an internet sample who wrote and delivered letters expressing gratitude reported more happiness and less depression than those who wrote about childhood memories. Indeed, the two-word expression “thank you” can be seen as a ritualized aspect of appreciation, whereby a child’s “first
unprompted ‘thank you’ is momentous enough to count as a kind of initiation into a new level of human consciousness,” which includes “intentionality, understanding, recognition, deliberate relationship, and memory” (Visser, 2009, p. 10).

**Present moment.** The present moment aspect of appreciation entails focusing attention on one’s present experience, feeling positively about the “here and now” of circumstances, or engaging in “mindful awareness,” while in the midst of an experience. This aspect has also been further explored in the literature on savoring experiences and sensations in the present consciousness. For instance, an item in this scale states, “I notice things like the first flowers of spring.”

The “here-and-now” focus is central to the present moment aspect of appreciation (Adler & Fagley, 2005) and a tenet in the practice of mindfulness. The study of mindfulness has roots in Buddhist and other contemplative traditions (Brown & Ryan, 2003). Researchers defined mindfulness as an attribute of consciousness, whereby “conscious attention and awareness” (p. 822) are actively cultivated in the present. The positive relationship between mindfulness and well-being is consistent with the belief that the present moment aspect of appreciation increases one’s well-being.

Hurley and Kwon (2011) further explored “savoring the moment” as a form of mindfulness in which attention is limited to positive emotions with the aim of enhancing or prolonging the experience; they found evidence among undergraduate college students supporting the utility of savoring the moment in decreasing negative emotions. This could be viewed as targeting the present moment aspect of appreciation. This aspect was also captured in the description of “awakening” (Hlava & Elfers, 2014, p. 446), in which participants in an elicited gratitude condition described feeling energetic and having an enthusiasm to be alive.
Descriptions ranged from feeling physical awakening of every cell of the body to sharper focus, heightened alertness, vigor and excitement, spirited hopefulness and optimism, childlike energy, and “expansiveness” (p. 446). Hlava and Elfers (2014) also highlighted the “shifting frame of reference” (p. 449) as individuals in a condition of elicited gratitude described an overwhelming sense of appreciation and coming into the present moment through centeredness, mindfulness, and awareness.

In his four-factor model of perceived control, Bryant (1989) identified the ability to “savor” positive experiences as a “control-related phenomenon” (p. 794), where one generates, intensifies, or prolongs enjoyment of positive outcomes by one’s own volition. He wrote that one’s perceived ability to savor may originate in beliefs about cognitive or behavioral strategies that prolong enjoyment of positive events, one's ability to anticipate future positive outcomes, one's ability to recall past positive events in ways that enrich present well-being, or the presence of friends or relatives who help one enjoy positive events. In later works, Bryant (2003) discussed the capacity of individuals to savor proactively in three distinct ways—“to consciously anticipate positive experiences, to mindfully accentuate and sustain pleasurable moments, and to deliberately remember these experiences in ways that rekindle enjoyment after they end” (p. 195).

**Self/social comparison.** The self/social comparison aspect of appreciation considers how one uses self/social comparison to foster appreciation. It is the positive feeling one has when evaluating one’s circumstances relative to a downward self- or social-comparison, such as realizing and appreciating that one's job is better than one’s previous job, or one’s friend’s job. For instance, one item states, “I reflect on the worst times in my life to help me realize how fortunate I am now.” A large body of literature demonstrates the effects of social comparison on
an individual’s life (Adler & Fagley, 2005). For instance, Wheeler and Miyake (1992) found among ninety-four college students who recorded details of their social comparisons over two weeks that upward comparison tended to decrease subjective well-being, whereas downward comparison increased it. Similarly, Watkins (2004) suggested that redirecting attention away from upward social comparisons, thus minimizing feelings of deprivation, can increase happiness.

**Gratitude.** The gratitude aspect of appreciation refers to a positive emotional response to a benefactor and acknowledging the benefit, gift, or opportunity that one has been given. For instance, “I acknowledge when people go out of their way for me.” This subscale arguably captures the narrow definition of gratitude, defined as a “grateful emotion directed toward a benefactor for perceived benefits” (Frederickson, 2004; Wood et al., 2009).

In this classic definition of gratitude involving a benefactor and recipient, researchers have referred to gratitude as a “neglected” or “underestimated” value and virtue (e.g., Solomon, 2004, as cited in Emmons & McCullough, 2004; Watkins et al., 2003), one often left off the list of emotions, virtues, and attitudes. Some have asserted that gratitude has historically been perceived as a masked attempt driven by human self-interest to make others beholden to a benefactor (Harpham, 2004; McCullough et al., 2002; Roberts, 2000). Solomon (2004) attributed its historical absence to the fact that the physical expression of gratitude is relatively passive, is often rote, is typically brief, and can sometimes be uncomfortable due to feeling indebted to a benefactor.

Gratitude has also been viewed as a religious virtue and a moral imperative. Emmons (2004) pointed out that gratitude has typically been prominent in religious thought, conceptualized as both the mark of character excellence and a moral obligation. It can thus be
inferred that gratitude is historically defined as a deep-rooted recognition and acceptance of the fact that one is not a self-sufficient creature but rather needs help from others. Conversely, being ungrateful has been generally characterized as a moral defect, attributed to a vice, lack of socialization, or resentment of the need to accept help from others (Solomon, 2004). Building on this, the expression of gratitude may be construed as an attempt to avoid being named an “ingrate,” or, in other words, a socially-regulated response to conform to mainstream practices and norms.

However, with increasing research, definitions of gratitude have expanded, such that researchers use the term gratitude when actually describing other aspects of appreciation. As an emotion, gratitude may be classified into several categories, which Rosenberg (1998) proposed to include an immediate feeling state, a persistent mood, or an affective trait. Classified as an immediate feeling state, gratitude has been conceptualized in its narrow sense as an emotional response directed to a benefactor upon the receipt of benefits (McCullough, Kilpatrick, Emmons, & Larson, 2001). This definition entails a direct contingency, whereby gratitude exists only in connection to receipt of a benefit. Seen as an affective state, gratitude constitutes a “stable predisposition toward certain types of emotional responding” (Rosenberg, 1998, p. 249) and thus determines a person’s threshold for particular emotional responses. This is the “grateful disposition” described by McCullough, et al. (2002, p. 112), or a “generalized tendency to recognize and respond with grateful emotion to the roles of other people’s benevolence in the positive experiences and outcomes that one obtains” (p. 112).

Others have described gratitude as broader than an emotion, and defined it as a life-orientation of “being grateful” for positive aspects of life (McCullough et al., 2001; Wood et al., 2010). These broader conceptualizations are more like the construct of appreciation used here.
Watkins et al. (2003) proposed three characteristics of grateful individuals: (1) they do not feel deprived, but rather experience a sense of abundance, (2) they appreciate simple pleasures (i.e., pleasures that are “readily available to most people” (p. 432), and (3) they are quick to acknowledge and appreciate how others contribute to their well-being, which may extend to acknowledging contributions from a divine source. Steindl-Rast (2004) considered gratitude “a celebration of undeserved kindness” (p. 284), rooted in the two distinct modalities—gratefulness through interpersonal expression and thankfulness through cognitive meditation.

Further broadening the scope of gratitude, Emmons and Stern (2013) referred to gratitude as a “universal human attribute” that encompasses “worldly” and “transcendent” meanings. The “worldly” aspect” denotes a cognitive-affective state of one who receives a personal benefit granted by another person through good intentions; this response is rooted in the recognition of “good things” in one’s life, and that the source of this goodness is external to oneself. Emmons and Stern (2013) described the transcendent meaning of gratitude as synonymous with the spiritual core of thanksgiving, the desire to reflect back goodness by giving to others, and the authentic feeling of connection with humanity. They identified two necessary pieces of information that are processed by an individual who experiences gratitude, namely (a) the goodness in one’s life and (b) the recognition of a benefactor outside oneself.

In a different fashion, Solomon (2004) concluded that gratitude is a “philosophical emotion” (p. ix), one that entails “seeing the bigger picture.” It is expressed in relationships, where one sees particular actions or transactions as part of broader relationships. It can be manifest in a person’s awareness of his or her whole life and reflecting on the individual’s lack of control over many aspects of life and indebtedness to others in humble acceptance. Acknowledging the need for a broader construct when discussing the concepts of gratitude,
Lambert et al., (2009) defined two types of gratitude: benefit-triggered and generalized gratitude. Benefit-triggered gratitude is consistent with the gratitude aspect of appreciation, whereas generalized gratitude represents the broader construct of appreciation.

**Loss/adversity.** The loss/adversity aspect of appreciation involves having a heightened awareness of things previously taken for granted, in response to one’s perceived experiences of loss or adversity, and having feelings of appreciation for that which has not been lost. The subscale contains items that refer to personal growth through challenges, as well as items that reflect existential experiences of loss, for instance, “Thinking about dying reminds me to live every day to the fullest.” Taken further, Kurtz (2008) found that perceived temporal scarcity, or focusing on the imminent end of a positive experience, leads to an increase in subjective well-being. Presumably this is due to enhancing one’s appreciation of the experience, consistent with the loss/adversity aspect of appreciation.

**Interpersonal.** The interpersonal aspect of appreciation represents the positive feelings one has toward others in his/her life, valuing those relationships that contribute to one’s well-being. For instance, an item in this domain states, “I let others know how much I appreciate them.”

Adler and Fagley (2005) argued that the building and maintaining of social bonds is one mechanism through which appreciation fosters well-being. Further, evidence suggesting that social support mediates the relationship between appreciation and well-being was presented by Fagley and Langione (2013). Watkins et al. (2003) suggested that gratitude/appreciation may enhance “one’s social network” (p. 449). They referred to a “cycle” in which gratitude and happiness build on each other and feed into continued experience of gratitude and happiness (see Fredrickson, 1998), thus enhancing one’s experience of positive events, supporting adaptive
coping to negative events, promoting encoding and retrieval of positive events, increasing social networking, and mitigating depression. Polak and McCullough (2006) supported this with their view that gratitude makes a person aware of others’ interest in his or her well-being, subsequently motivating the individual to reciprocate in order to expand “reservoirs of social capital” (p. 356). This observation led Polak and McCullough to assert that grateful people may actually experience, and not simply perceive, greater social support in their lives. In other words, the interpersonal aspect of appreciation may be seen as self-propagating.

In their study in which participants focused on the experience of gratitude in the context of relationships, Hlava and Elfers noted that “the intentionality of gratitude was focused on the relationship with an Other” (p. 459), delineated in three general domains—relatedness with (1) a part of oneself (personal), (2) an individual or group (interpersonal), or (3) something outside oneself (transpersonal). A primary feature of the participants’ reported experience of gratitude was “an altered or enhanced feeling of connectedness” (p. 438), as boundaries between oneself and others were diminished. They found that “the intentional object of gratitude often shifted from the receipt of a gift to the value and significance of the relationship with the gift-giver” (p. 439), and participants reported a range of feeling—“from sensations of feeling physically close, not feeling separate or alone, having a sense of community, enjoying deep communication, to a feeling of merging with something outside of or larger than oneself” (p. 439). This sense of connection and belonging was reported in relation to individuals, groups, families, and communities.

**Measurement instruments.** With its eight aspects, the Appreciation Scale is far more encompassing than the other instruments designed to measure similar constructs. The Gratitude Questionnaire (GQ-6; McCullough et al., 2002) is a 6-item self-report assessment to measure
gratitude, defined by McCullough and colleagues as “a generalized tendency to recognize and respond with grateful emotion to the roles of other people’s benevolence in the positive experiences and outcomes that one obtains” (p. 112), and included items such as “I have so much in life to be thankful for.” Similarly, the Gratitude, Appreciation, and Resentment Test (GRAT; Watkins et al., 2003) is a 44-item instrument designed as a measure of one’s “predisposition” (p. 432) to experience gratitude, or the feeling of thankfulness for favors. The researchers developed their measure on four aspects that characterize the grateful person: a sense of abundance, appreciating the contribution of others to one’s well-being, the tendency to appreciate simple pleasures, and acknowledging the importance of gratitude. Based on their second order factor analysis of the GQ-6, the three GRAT subscales, and the eight appreciation subscales, researchers Wood, Maltby, Stewart, and Joseph (2008) called for consideration of a “higher order gratitude construct” by integrating gratitude and appreciation literatures. The Appreciation Scale appears to provide such a comprehensive measure.

**Correlates of appreciation aspects.** Though not always presented using the same terminology, a large body of research supports the positive outcomes of the various aspects of appreciation. For instance, feelings of awe have been associated with pro-social behaviors and increased well-being (e.g., Shiota et al., 2007; Mikulak, 2015), and mindfulness has been related to a variety of well-being constructs and enhanced self-awareness (Brown & Ryan, 2003). Similarly, downward social comparison was found to increase subjective well-being among college students (Wheeler & Miyake, 1992). In keeping with the loss/adversity aspect of appreciation, Kurtz (2008) found that perceived temporal scarcity, or focusing on the imminent end of a positive experience, led to an increase in subjective well-being. McCullough et al. (2002) found a positive relationship between gratitude, measured using the GQ-6, and positive
emotionality, vitality, happiness, life satisfaction, hope, and optimism, as well as a negative association with depression and anxiety. Watkins et al. (2003) reported positive associations between “more sophisticated measures of gratitude as an affective trait” and measures of positive affect, happiness, and life satisfaction. Researchers have also suggested a causal relationship between aspects of appreciation and well-being through experimental manipulation (e.g., Emmons & McCullough, 2003; Watkins et al., 2003).

In his review, Watkins (2004) consistently found positive correlations between measurements of gratitude, broadly defined, and life satisfaction. For instance, a positive correlation was found between gratitude (measured by both the GQ-6 and the GRAT) and life satisfaction, measured by the Satisfaction With Life Scale (SWLS) (e.g., Diener, Emmons, Larsen, & Griffin, 1985). McCullough et al. (2002) found a strong positive association between the GQ-6 and SWLS ($r = .53$). Watkins, Gri, and Hailu (1999) found a similar relationship between the GRAT and SWLS ($r = .49$), as did Watkins and colleagues (1997) ($r = .50$). In their development of the GRAT scale, Watkins et al. (2003) found strong relationships between dispositional gratitude and a variety of measures of happiness and subjective well-being. Watkins (2004) noted the surprising finding from the first thirty years of research into subjective well-being that demographic variables have been poor predictors of happiness. Rather, in keeping with findings that personality variables are better predictors, Watkins asserted that the disposition of gratitude, broadly conceived, is a reliable predictor.

What mechanisms are involved in the relation between appreciation and well-being? Based on their review of positive emotions and subjective well-being, McCullough et al. (2002) referred to a “positive emotional valence” (p. 113) that typically surrounds the appreciative person and asserted that this disposition is “rooted in the basic tendencies to experience positive
emotions and subjective well-being” (p. 113). In their study, McCullough et al. (2002) found correlates of gratitude to include positive affect and well-being, prosocial behaviors, and traits, and religiousness/spirituality. They also found that gratitude has negative associations with envy and materialistic attitudes. The protective features of gratitude, broadly conceived of as moral affect and life-orientation, were explored by Ma, Kibler, and Sly (2013), who reported among African American youth a positive correlation with protective factors (e.g., academic interest, academic performance, and extra-curricular engagement) and a negative correlation with risk factors (e.g., sexual activity and drug/alcohol use).

Wood et al. (2010) proposed that schematic biases serve as a mechanism in the relationship between gratitude and well-being. Specifically, they referred to the literature that grateful people, due to cognitive biases, demonstrate more gratitude after receiving help than do characteristically less grateful people. For example, Wood et al. (2008) found that grateful people viewed help as more beneficial, seeing help-giving situations differently as a result of cognitive biases. In other words, “grateful people go around life with a particular interpretive lens, seeing help as more costly, valuable, and altruistic” (Wood et al., 2010, p. 901).

Watkins (2004) suggested that the benefits of gratitude include the ability to wait for rewards, which has been found to contribute to a sense of well-being; he refers to this as the ability to “delay gratification” (p. 177; see Watkins, 2004, for a literature review on the positive outcomes of delayed gratification).

Watkins et al. (2003) suggested that gratitude/appreciation results in enhanced “experience of positive events” (p. 449). Watkins (2004) referred to this as the emotional advantage one gains when perceiving oneself to be receiving a gift. C. S. Lewis (1958) is oft quoted for his assertion that one’s “delight” with another person is “incomplete until it is
expressed” (p. 95). Lewis pointed out that enjoyment will be somewhat restrained, unless a person expresses gratitude/appreciation for the benefit one is experiencing (Watkins, 2004). It follows that appreciation should increase one’s enjoyment of a positive event, and thus contribute to levels of well-being.

Polak and McCullough (2006) supported this view with their functional description of gratitude. For instance, they noted that gratitude makes a person aware of others’ interest in his or her well-being, subsequently motivating the individual to reciprocate; grateful people may thus actually experience, and not simply perceive, greater social support in their lives. Similarly, Watkins (2004) suggested that gratitude leads to happiness by redirecting attention from upward social comparisons, thus minimizing feelings of deprivation.

Researchers have noted that gratitude/appreciation serves as a positive coping strategy that results in greater well-being (e.g., Emmons & McCullough, 2003; Wood et al., 2010). A person who views life with a deep appreciation may be able to better cope with stressful or aversive circumstances, a fact which should promote a greater long-term sense of well-being (Emmons & McCullough, 2003). Watkins (2004) referred to this effect when he stated that “gratitude may give one a helpful perspective on life that assists in mood repair following a stressful event” (p. 178), as well as enhance one’s “adaptive coping” to negative events (Watkins et al., 2003). Similarly, Masingale and colleagues (2001) found gratitude to predict the level of PTSD symptoms in trauma survivors, whereby grateful people reported lower PTSD symptoms on two PTSD scales than did less grateful individuals.

In their review, Wood et al. (2010) identified three categories of coping that were shown to relate with gratitude. Across two samples, they found that grateful people were more likely to seek support and to approach and deal with the problem, and were less likely to engage in
maladaptive behaviors such as withdrawal, substance use, denial, or escape.

In what is perhaps a feature of a coping response, cognitive reframing is another possible mediator between appreciation and well-being. Watkins (2004) suggested that gratitude helps reframe memories of negative events, such as through “redemptive sequences” (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001), or the person’s ability to transform negative events into positive scenes as they reflect on past episodes in their lives. Individuals who are appreciative tend to view life with the attitude that life is a blessing, and they are more likely to find “redeeming” aspects to even bad circumstances, as encapsulated in the loss/adversity aspect of appreciation.

Watkins et al. (2003) proposed that gratitude/appreciation has positive effects on the “encoding and retrieval of positive events” (p. 449). Watkins (2004) proposed that grateful individuals are more likely to see the positive in their lives, as well as have enhanced accessibility to positive memories. Thus, he argued, gratitude increases the elaboration of positive information at both the encoding and retrieval stage of memory and enhances the ability to retrieve positive experiences.

Researchers have also found correlational evidence for the role of gratitude/appreciation in preventing and mitigating depression, thus enabling an individual to experience greater levels of well-being (e.g., Watkins, 2004; Watkins et al., 2003). For instance, depression was negatively correlated with gratitude, as measured by the GRAT ($r = -.49$) (Watkins et al., 2003). The capacity for gratitude/appreciation to promote positive mental health is well grounded from a theoretical standpoint, as explained by Wood et al. (2010):

A life orientation towards noticing and appreciating the positive in life may be expected to be strongly related to well-being, and may be contrasted with the Beckian view of
depression, which views the disorder as involving a life orientation towards perceiving the negative in the self, world, and future. (Beck, 1976; 2010, p. 892)

Given the eight-aspect definition of appreciativeness (Adler & Fagley, 2005), it becomes all the more important to explore which specific aspects of appreciation are most significantly related to its strikingly positive outcomes. In addition, it is important to examine potential mediators to better understand the processes involved.

**Materialism**

In a separate stream of research, materialistic values have been associated with lower well-being. The definition of materialism has evolved over time, drawing from its roots in religion, philosophy, consumer economics, and psychology. Whereas philosophy defined materialism as the “natural” or “physical” elements, materialism was equated with “consumerism” in economics, and may be construed in a colloquial sense as conspicuous and excessive consumption and luxury. Belk (1985) conceptualized materialism as a consumer value, which subsumes related personality traits like possessiveness, envy, and lack of generosity. Richins and Dawson (1992) defined materialism as "a value that guides people's choices and conduct in a variety of situations, including, but not limited to, consumption arenas" (p. 307). In popular media, materialism has been incriminated as a gross deviation from moral and wholesome ways of life, as conveyed by the term “affluenza” that signifies materialistic excess. Popular anti-materialist movements have sprung up to combat issues such as “cultural narcissism” (Lasch, 1979) and “social saturation” (Gergen, 2000), advocating, for instance, a “return to inner resources,” “cultural restoration,” and “getting back to the basics” of traditional values (1991, p. 206). In their meta-analysis on assessment of materialism, Dittmar, Bond, Hurst, and Kasser (2014) defined materialism as “individual differences in people’s long-term
endorsement of values, goals, and associated beliefs that center on the importance of acquiring money and possessions that convey status” (p. 880), concluding that materialism is best conceptualized as a collection of values and beliefs. Based on correlational evidence pointing to the short-term and long-term ills of the materialistic lifestyle, Kasser and colleagues (2004) defined materialistic value orientation as the values and behaviors of a consumption-based culture. They suggested that this orientation is shaped by developmental experiences that foster emotions of insecurity and exposure to social models that promote materialistic values.

Richins and Dawson (1992) defined three primary characteristics of materialism: (1) acquisition centrality, whereby materialists focus their lives on possessions and their acquisition as a goal, also described as “consumption for the sake of consumption” (Csikszentmihalyi & Rochberg-Halton, 1981, p. 231). This worship of objects can be construed as taking the place of religion in shaping values and behaviors; (2) acquisition as the pursuit of happiness, whereby materialists view possessions and their acquisition as critical to life satisfaction and well-being; and (3) possession-defined success, whereby materialists judge success by possessions amassed, both in quantity and quality, as exemplified by the saying, “The one with the most toys wins.” Within each of these themes, materialists judge their success by their ability to acquire and possess objects that project a wanted image (Richins & Dawson, 1992). These three themes are well-aligned with popular perceptions of materialism, as noted in a study of ordinary consumers' notions of materialism (Fournier & Richins, 1991).

Interestingly, Richins and Dawson (1992) attempted to delineate between the potentially positive characteristics of materialism (e.g., inducing motivation and self-sufficiency, productivity, and higher living standards) and its predominantly unfavorable characterization in the literature. “Instrumental materialism,” a term attributed to Csikszentmihalyi and Rochberg-
Halton (1978, p. 8), is a potentially harmless form of materialism in which objects function as a medium through which one discovers and pursues personal values and goals; on the other hand, “terminal” materialism represents the popular view of materialism as distasteful or dangerous consumption that furthers no goal beyond possession itself. Notwithstanding this dichotomy, Richins and Dawson (1992) asserted that the value judgments inherent in this "good" and "bad" materialism and difficulty operationalizing the terms rendered the distinction difficult to apply.

Aside from the active nature of pursuing and amassing goods, a key feature of the materialistic value system is the social context in which it is nested. This can be understood with the dry axiom that “Money is relative. The more money, the more relatives” (source unknown, n.d.). This truism speaks to a fundamental feature of money: relativity. That is, material gratification is less about the absolute amount that one owns, and more about the amount one has relative to everyone else. Ryan (2002) offered an explanation to the quality of relativity inherent to material wealth: “Many of us, consciously or unconsciously, have learned to evaluate our own well-being and accomplishment not by looking inward at our spirit or integrity, but by looking outward at what we have and what we can buy. . . it is not simply about having enough, but about having more than others do” (pp. ix-x). According to Kashdan and Breen (2007), the materialistic individual is preoccupied with competition and self-appraisal against others, a lifestyle that represents “the antithesis of mindful engagement and living in congruence with intrinsic goals and values” (p. 535).

Kasser and colleagues (2004) suggested that one of the primary routes to transmitting materialistic values is through exposure to social models that encourage these values. Polack and McCullough (2006) noted that the unrealistic standards of material wealth conveyed through media and cultural channels diminish life satisfaction. Similarly, researchers have isolated
exposure to commercial messages as a factor that can increase materialistic values (Kasser, Ryan, Couchman, & Sheldon, 2004). Kasser and colleagues (2004) regarded psychological insecurity resulting from early developmental experiences to be one of the primary routes through which materialistic value orientation takes hold. Because the family environment constitutes the primary social setting for children during their formative years, this setting has great ramifications for the transmittal of values and lifestyles.

Kasser (2002) asserted that, in response to family environments that fail to satisfy their need for security, many children adopt value systems that emphasize material possessions. He cited the research of Ryan, Zax, Sameroff, and Kasser (1995), in which parents of adolescents were interviewed and completed surveys about parenting philosophies to obtain a measure of “maternal nurturance.” As predicted, adolescents with mothers who were less nurturing exhibited stronger materialistic values than those whose mothers were more nurturing; the latter adolescents, in turn, placed more value on self-acceptance, community, and good relationships. Similar findings were reported in other studies, such as that children of divorced parents were more likely to be materialistic (Rindfleish, Burroughs, & Denton, 1997). Kasser (2002) proposed two reasons why children of less nurturing parents seek to compensate with materialistic values: first, these children may be more susceptible to consumer messages that feed on their insecurities and promise happiness through material consumption, and second, these children are more likely to seek approval in order to boost their own sense of security.

These patterns are not restricted to people of financial means. In what may perhaps be seen as a paradox, poverty has been found to be positively associated with materialism. Given the economic principle that scarcity enhances value, it follows that people who have less material goods and resources would value them more (Fagley, personal communication, August 2015).
Kasser (2002) developed the thesis that poverty creates circumstances in which children worry about their basic needs across the wide gamut of “resources” that differentiate between the rich and poor, as elaborated by Ruby Payne (2012) in her classic works on poverty; these children may then seek need fulfillment through materialistic goals, a tendency which can persist throughout a lifetime. Thus, due to the critical role of feelings of psychological security, the context in which children are raised plays a large role in determining their materialistic value orientation.

**Outcomes of materialism.** Scholars in the field of well-being are often interested in the question asked by Csikszentmihalyi (1999): If we are so rich, why aren’t we happy? The outcomes of materialism have been carefully documented by researchers. In their review of literature on materialism, Polack and McCullough (2006) noted the irony that people often pursue materialism with the belief that wealth and material objects can provide happiness, yet “materialism has exactly the opposite effect: It has a negative association with nearly every quality of life measure studied to date” (Polak & McCullough, 2006). A review of extant literature suggests that high levels of materialism, including a strong focus on acquiring money and possessions, is detrimental to well-being and is associated with virtually all indicators of negative psychological well-being (Kasser, 2002). In their study examining generational cohort changes on the MMPI, Twenge and colleagues (2010) found correlational evidence suggesting that the rise in psychopathology in U.S. adolescents co-occurs with increasing importance attached to extrinsic goals such as material wealth. Researchers have shown that materialism negatively affects life satisfaction (Richins & Dawson, 1992), happiness (Belk, 1985), and levels of relatedness, competence, autonomy, gratitude, and meaning in life (Kashdan & Breen, 2007). Additionally, materialists have less positive social relationships, as reported by themselves.
(Kasser & Ryan, 2001) and by others (Solberg, Diener & Robinson, 2004). These findings are consistent with theoretical models of materialism that point to a curvilinear time course, in which the void-filling satisfaction attained by acquisition reaches a finite peak and is followed by an increasing sense of emptiness. In their recent meta-analysis, Dittmar et al. (2014) examined 753 effect sizes and found that materialism was associated most significantly with risky health and consumer behaviors and with negative self-appraisals, with weaker effects for life satisfaction and negative affect.

Researchers have postulated various processes that account for the relationships between materialism and its negative outcomes. From a pragmatic perspective, Kasser (2002) postulated that materialism is associated with unhappiness because it imposes a burden, demanding increased exertion and a frenetic pace of life to keep up with the drive for more material goods; this, in turn, leaves less time for “living, loving, and learning,” which Kasser characterized as the most satisfying aspects of life. Also referred to in self-determination theory, researchers suggest that materialistic pursuits lead individuals to engage in a lifestyle that precludes other, more satisfying experiences and undermines the pursuits that lead to psychological thriving (Deci & Ryan, 2000; Kasser, 2002). In their meta-analysis of materialism literature, Dittmar et al. (2014) found support for the hypothesis derived from self-determination theory that a materialism-driven lifestyle may result in poor satisfaction of psychological needs like relatedness, competence, and autonomy; thus, poor need satisfaction may account for the negative relationship between materialism and well-being.

From a social perspective, researchers have examined the negative self-appraisals that individuals experience in response to cultural messages that emphasize material wealth (e.g., Richins, 1991). When people are oriented toward material goods, they may find themselves
constantly comparing themselves with idealized material standards reflected in advertising and social ideals. Thus, increasingly vulnerable to negative self-appraisals, materialistic individuals may experience a wide range of negative outcomes.

Another perspective suggests that materialism is not only symptomatic of, but also breeds, a psychological insecurity that results in diminished well-being. The competitive orientation common among materialistic individuals prevents one from reaching a point of contentedness and instead leads to constant strivings toward dominance; as described by Kashdan and Breen (2007), one’s material standing serves as an “index of insecurity and source of vulnerability” (p. 535).

Given the finding of a positive association between poverty and materialism, Kasser (2002) proposed that poverty creates circumstances in which children worry about their basic needs, causing many to seek fulfillment of these needs through materialistic goals, as noted earlier. Children of poverty may “over-compensate” and see material gain as a pursuit unto itself. Thus, due to psychological security, the context in which children are raised plays a large role in determining their materialistic value orientation. Ironically, while materialism is often an attempt to cope with feelings of psychological insecurity, it actually may exacerbate those very feelings it is intended to subdue (Kasser & Sheldon, 2000).

From a theoretical standpoint, humanistic and existential psychological approaches view material strivings as filling a basic human need; an excessive focus on wealth beyond the purview of necessities can detract from the individual’s search for psychological fulfillment and happiness (Kasser, 2002). As Ryan (2002) noted, “Thus materialism, although promising happiness, actually creates strain and stress. Yet if materialism causes unhappiness, it is also the case that unhappiness ‘causes’ materialism.” Feelings of needing more are connected with
feelings of insecurity, and materialism ripens among those with insecurities and anxieties.

**Materialism and appreciation.** Recently, a small number of studies have demonstrated a connection between greater gratitude, one aspect of appreciation, and less materialism. Based on their literature review, Polak and McCullough (2006) suggested that the feeling of gratitude may serve as an intervention to counteract the negative effects of materialistic pursuits on well-being. They attributed this outcome to the power of gratitude to change social cognition, social relationships, and motivation. At that time, Polack and McCullough found only one published study that examined the gratitude-materialism association. Findings of McCullough and colleagues (2002) showed a negative correlation between gratitude measured as an affective trait and self-report measures of materialism (including those by Ger & Belk, 1990; Richins and Dawson, 1992). The strongest negative correlation ($r = -0.38$) was found between gratitude and the materialism subscale measuring the belief that material possessions lead to happiness. More recently, Lambert, Fincham, Stillman, & Dean (2009) found that inducing high levels of gratitude caused a decrease in materialism, based on assignment of participants to a low gratitude (envy) and high gratitude condition. In their effort to validate the Gratitude, Resentment, and Appreciation Test (GRAT; Thomas & Watkins, 2003), Diessner and Lewis (2007) found that the GRAT and its subscales had a positive correlation with a measure of spiritual transcendence and a negative correlation with measures of materialism. Kashdan and Breen (2007) found that higher levels of materialistic values were associated with more negative emotions ($r = .25$) and less relatedness ($r = -.22$), autonomy ($r = -.23$), competence ($r = -.23$), gratitude ($r = -.23$), and life meaning ($r = -.23$).

Further, one recent study (Lambert et al., 2009) suggested that life satisfaction may function as a mediator between gratitude and materialism. In addition to their finding that life
satisfaction mediated this relationship, they also found that gratitude partially mediated the relationship between life satisfaction and materialism. Tsang, Carpenter, Roberts, Frisch, and Carlisle (2014) found that gratitude and need satisfaction mediated the relationship between materialism and life satisfaction. Building on principles of gap theory (Solberg et al., 2004), which posits that materialists have unrealistic expectations for the gratification that material goods and acquisitions will yield and are thus positioned for disappointment, Tsang and colleagues (2014) explored the “chronic dissatisfaction” (p. 63) that impairs the ability of the materialistic individual to be grateful for what he or she has. When the acquisition of material goods does not meet expectations, this leads to reduced positive emotions and the drive to continually seek new materialistic pursuits. Further, they noted that “a materialistic outlook, which looks for satisfaction in what one does not have, would impair the ability to be grateful for what one has now” (p. 63). This is akin to Richins’ (2013) finding that materialists experience greater expectations and anticipatory satisfaction prior to making a purchase than do non-materialists. Further, Tsang and colleagues (2014) noted that materialistic individuals tend to have unmet psychological needs (e.g., relatedness and autonomy; Kashdan & Breen, 2007), whereas grateful individuals satisfy important psychological needs. For instance, gratitude is a “social emotion” (Tsang et al., 2014, p. 63) that may lead to connectedness with others, enhance autonomy, and increase competency through perceived support from others.

However, it seems equally plausible that materialism could mediate the relation between gratitude and life satisfaction, as experimentally induced greater gratitude has been shown to result in less materialism (e.g., Lambert et al., 2009). This suggested mediation effect of materialism can be further examined in the relation between the “have” focus aspect of appreciation and life satisfaction. Based on desire-fulfillment theories (e.g., Parfit, 1984), Norris
and Larsen (2011) proposed a have-want discrepancy model, which portrays happiness as a function of the extent to which our desires are fulfilled. Wanting more, on the other hand, is associated with lower well-being, to the extent that our wants overcome our haves. Those who want more are more likely to be classified as materialistic, especially when one considers the close affiliation between “wanting more” and materialistic values (Norris & Larsen, 2011, p. 878). Norris and Larsen found that materialistic values mediated the relationship between wanting and well-being. Further, because materialists focus on acquiring goods, they are prone to wanting more.

Although Lambert et al. (2009) examined gratitude as a mediator between materialism and life satisfaction as an alternative model to life satisfaction mediating between gratitude and materialism, they did not examine materialism as a mediator between gratitude and life satisfaction. The current study will also examine this alternate model.

Most of the research to date has focused on gratitude. However, gratitude is viewed as only one aspect of appreciation. There are other aspects of appreciation that may be even more relevant to materialism and its connection to life satisfaction. For instance, the “have” focus aspect of appreciation may serve as a catalyst in its relationships with materialism and life satisfaction because, as noted earlier, those who “want more” are more likely to be classified as materialistic (Norris & Larsen, 2011, p. 878) and are thus more susceptible to the have-want discrepancy that leads to unhappiness (Norris & Larsen, 2011). As another example, the self/social comparison aspect of appreciation may be particularly responsible for improving well-being by directing attention away from upward social comparisons, thus minimizing feelings of deprivation (Watkins, 2004); conversely, unhealthy social comparison and perceived deprivation
drive the competitive pursuit of material goods. Consequently, this study will examine the notion that several aspects of appreciation are relevant to materialism and life satisfaction.

**Well-Being**

Research has shown that appreciation and materialism have both been closely linked to well-being. In contrast, demographic variables have been found to be poor predictors of happiness (Watkins, 2004). There are two widely accepted approaches to defining well-being. One definition of well-being is traced to Diener (1984), who operationally defined subjective well-being (SWB) according to the three factors of experiencing high levels of positive affect, low levels of negative affect, and a high degree of satisfaction with life. The other primary approach to well-being, referred to as psychological well-being, was described by Ryff (1989; Ryff & Keyes, 1995). It focuses on self-actualization and meaning in life. These two approaches are also known as the hedonic versus eudemonic views of well-being. Kashdan, Uswatte, and Julian (2006) noted that hedonic well-being, or the “experience of pleasant emotions in one’s life,” is commonly referred to in psychological literature as happiness or life satisfaction, whereas eudemonic well-being is viewed as the “experience of enriching activities and personal growth” (p. 180).

Contemporary views often define well-being according to both the hedonic and eudemonic traditions. The hedonic tradition, or the “the presence of positive affect and absence of negative affect” (Deci & Ryan, 2006, p. 1), resonates with the contemporary view of subjective well-being that includes a cognitive component to represent one's appraisal of one's life (i.e., life satisfaction; Pavot & Diener, 1993) and an affective component representing how one feels (i.e., positive and negative affect). In contrast to the hedonic tradition, the eudemonic tradition takes a broader view of well-being, which entails “living life in a full and deeply
satisfying way (Deci & Ryan, 2001, p. 1), or living in accordance with one’s daimon, or “true self” (see Waterman, 1993). The eudemonic approach maintains that maximizing individual potential and achieving purpose in life results in a sense of fulfillment; this, in turn, is characterized by feelings of meaning, relatedness, autonomy and competence (Kashdan & Breen, 2007), which are key human needs identified by self-determination theory (see Ryan & Deci, 2000).

In the current study, well-being is examined in its narrower conceptualization as life satisfaction, which emphasizes the cognitive appraisal of one's life. Thus, life satisfaction is measured to better understand the role of cognitive factors in activating and maintaining aspects of appreciation in one’s life. Underlying this model are various theorized mechanisms that may help cause, promote, and maintain life satisfaction.

**Broaden-and-build theory.** According to the broaden-and-build theory, positive emotions are seen not only as an indication of optimal functioning, but also as a critical factor in producing optimal functioning (Fredrickson, 2004a). In her broaden-and-build theory of positive emotion (1998, 2001), Frederickson asserted that positive emotions broaden people’s “momentary thought-action repertoires,” undo “lingering negative emotions,” fuel psychological resiliency, and build “personal resources” for future use (2004a, p. 1369). For instance, contentment fosters the urge to savor circumstances and integrate new perspectives and perceptions of self and the world. Joy sparks a desire to play and express creativity. The emotional states are expressed through immediate adaptive responses, but the broadening effects can be indirect and long-term, enduring in the form of personal resources. On the other hand, the experience of negative emotions, such as fear, narrows a person’s thought-action repertoire. These responses can include direct and immediate adaptive responses to a perceived threat, such
as in the set of “fight or flight” actions. Over time, the negative emotions form a downward spiral of worsening thoughts, feelings, and behaviors.

Based on later research examining the parameters of her broaden-and-build model, Frederickson (2004a) concluded that positive emotions can (a) broaden people’s attention and thinking, (b) undo lingering negative emotions, (c) stimulate psychological resilience, (d) build personal resources, (e) contribute to an upward spiral toward future well-being, and (f) promote flourishing. Thus, in the absence of positive emotions, people tend to stagnate, or “lose their degrees of behavioral freedom and become painfully predictable;” on the other hand, with sufficient positive emotions, people are “generative, creative, resilient, ripe with possibility and beautifully complex” (p. 1375). Therefore, the effects of positive emotions compound and trigger new instances of appreciation, and the upward spiral continues toward enhanced emotional well-being.

Habituation and adaptation. Another factor influencing life satisfaction, which may be viewed more globally in the hedonic tradition, is habituation to the positive cognitive and affective experiences that promote a sense of well-being. The law of habituation refers to the human tendency to adapt to ongoing circumstances. Frijda (1988) applied this law to the human tendency to habituate to current positive circumstances, thus rendering humans increasingly dissatisfied. Referring to this notion of a “hedonic treadmill” (Brickman & Campbell, 1971), Kashdan and Breen (2007) pointed to two pathways by which the happiness arising from positive events erodes. This occurs through (a) diminishing positive emotions, so that the same positive stimulus produces a weaker response, and (b) increasing aspirations.

On the other hand, Frijda noted, “Adaptation to satisfaction can be counter-acted by constantly being aware of how fortunate one’s condition is” (1988, p. 354). Researchers have
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sought ways to forestall the deleterious effects of hedonic adaptation. For instance, Sheldon and Lyubomirksy (2012) provided evidence supporting the hedonic adaptation prevention (HAP) model that seeks to prevent and undo the damage from decreasing positive emotions and increasing aspirations by continuing to attend to and derive pleasure from positive experiences. They identified the two primary moderators in the HAP model to be variety and appreciation, noting, “To appreciate something is to savor it, to feel grateful for it, to recognize that one might never have gotten it, or might lose it. Appreciation is the psychological opposite of adaptation . . .” (p. 672). In a three-wave longitudinal study with college students, Sheldon and Lyubomirsky (2012) found that continued appreciation of a life event and continued variety in change-related experiences both serve to prevent hedonic adaptation. Along the same lines, Chancellor and Lyubomirsky (2011) emphasized thrift as the “forgotten virtue” (p. 133) and suggested ways to stretch happiness in new ways that do not carry the risk of hedonic adaptation. The word *thrift*, they noted, is derived from the word *thrive*, representing the optimal and efficient use of one’s resources. They asserted that “stretching positive experiences” can maximize hedonic value, with methods such as appreciation, “recycling” positive experiences (e.g., reminiscing), savoring experiences, and shifting focus from extrinsic to intrinsic goals (p. 134). In their model for sustaining levels of chronic happiness, Lyubomirsky, Sheldon, and Schkade (2005) asserted that the “most promising means” (p. 118) for altering one’s happiness level is intentional activity, including a variety of discrete actions and practices which prevent adaptation.

**Savoring.** In his four-factor model of perceived control, Bryant (1989) identified the ability to “savor” positive experiences as a “control-related phenomenon” (p. 794), where one generates, intensifies, or prolongs enjoyment of positive outcomes by one’s own volition. He wrote that one’s perceived ability to savor may originate in beliefs about cognitive or behavioral
strategies that prolong enjoyment of positive events, one's ability to anticipate future positive outcomes, one's ability to recall past positive events in ways that enrich present well-being, or the presence of friends or relatives who help one enjoy positive events. In later works, Bryant discussed the capacity for individuals to savor proactively in three distinct ways—“to consciously anticipate positive experiences, to mindfully accentuate and sustain pleasurable moments, and to deliberately remember these experiences in ways that rekindle enjoyment after they end” (2003, p. 195).

Indeed, recent studies have attempted to use savoring as an intervention to promote positive outcomes. Building on the three components of savoring identified by Bryant (2003)—savoring through anticipation, savoring through reminiscing, and savoring the moment—Hurley and Kwon (2011) further explored “savoring the moment” as a form of mindfulness in which attention is limited to positive emotions with the aim of enhancing or prolonging the experience. They found evidence among undergraduate college students supporting the utility of savoring the moment in decreasing negative emotions. This could be viewed as targeting the present moment aspect of appreciation. In what may be seen as a counter-intuitive effect, Kurtz (2008) found that perceived temporal scarcity, or focusing on the imminent end of a positive experience, leads to an increase in subjective well-being. Presumably this is due to enhancing one’s appreciation of the experience, consistent with the loss/adversity aspect of appreciation.

**Positive activity.** Lyubomirsky and Layous (2013) developed the positive-activity model, which demonstrates how positive activities, such as showing gratitude, enables people to increase their levels of happiness. Their model includes the features of the positive activities, the features of the people, and the person-activity fit in moderating the effect of the activities on well-being, as well as the four mediating variables of positive emotions, positive thoughts,
positive behaviors, and need satisfaction, which function together to produce the positive outcomes.

**Positive Psychology**

Lacking a strict or exhaustive definition, positive psychology is a burgeoning field in which scientists and practitioners seek to ameliorate psychological distress through positive activities. When positive psychology was first offered as a course in 2006 at Harvard University, more than 800 students enrolled, making it the most popular course in the school’s history (Froh & Parks, 2013). Seligman and Csikszentmihalyi (2000) referred to positive psychology as a science that encompasses both individuals and groups in seeking to enhance subjective experiences, including well-being, contentment, satisfaction, hope, optimism, flow, and happiness; traits, including the capacity for love and work, courage, interpersonal skills, perseverance, aesthetic sensibility, forgiveness, originality, group spirit, spirituality, talent, and wisdom; and group characteristics, including civic virtue, responsibility, nurturance, altruism, civility, moderation, tolerance, and work ethic. In an applied sense, positive psychology is derived from research and theorized methods of fostering positive subjective experiences, and then incorporates these approaches into preventive or treatment interventions.

Interventions that promote gratitude/appreciativeness have been essential to the success of the positive psychology movement (Wood et al., 2010; for example see Seligman, Steen, Park, & Peterson, 2005). Wood et al. (2010) grouped these interventions into three categories: gratitude lists, grateful contemplation, and behavioral expressions of gratitude. For instance, researchers found positive results for individuals attending to moments of gratitude over the course of a week, with increased well-being reported for up to six months after (e.g., Emmons & McCullough, 2003; Seligman et al., 2005). Further, Kaczmarket, Kashdan, Kleiman, and
colleagues (2013) noted that gratitude interventions are conducive to online implementation at low cost of time and money. When implemented with early adolescents, “counting blessings” was found to be an effective intervention for fostering well-being (Froh et al., 2008).

Emmons and Stern (2013) discussed the capacity for gratitude to be a “catalyzing and relational healing force” (p. 846) as a psychotherapeutic intervention. They reviewed several controlled experimental trials examining the benefits of fostering gratitude, such as through journaling exercises and writing letters of thankfulness, and as a function of other interventions, such as meditation, progressive muscle relaxation, and imagining forgiveness. Findings indicated that mental health and life satisfaction were more strongly related to gratitude than other personality traits, including optimism, hope, or compassion. Emmons and Stern (2013) proposed a conceptualization of gratitude as a “mindfulness practice that leads to a greater experience of being connected to life and awareness of all the available benefits” (p. 852). This practice necessitates shifting attention to the blessings in life that are normally taken for granted, while simultaneously blocking thoughts and perceptions that are contrary to gratitude. Overall, Emmons and Stern supported the notion that “dispositionally grateful people” reap the benefits of grateful thinking, which McCullough and colleagues (2002) have suggested include enhanced psychological, physical, spiritual, and relational well-being.

The translation of positive psychology from science to practice has taken many forms. For instance, Activities for Teaching Positive Psychology (Froh & Parks, 2013) is a guidebook for teachers who wish to introduce positive psychology lessons through their classroom curricula. In one chapter, Waterman (2013) suggested a three-faceted activity to help children learn to distinguish between hedonia and eudemonia, including a questionnaire, discussion, and written assignment in which students calculate their own hedonia and eudemonia scores. Aknin
and Dunn (2013) proposed an activity in which students describe a recent purchase and report levels of happiness; happiness ratings are then examined to illustrate that prosocial spending leads to greater happiness than spending on oneself. Ferguson and Kasser (2013) suggested an activity to help students consider the impact of exposure to commercial messages on their values and decide to limit their use of social media for a certain period of time, reorienting instead to intrinsically oriented activities. While applied in an educational format, these activities are similar to those used in clinical settings in that they seek to engender greater levels of subjective well-being in individuals.

In keeping with the theoretical underpinnings of the well-being literature, these interventions seek to infuse people with the positive emotion that will enable them to counteract habituation to the positive in their lives, integrate new perspectives, and broaden and build toward future well-being.

**Appreciation, Materialism, and Well-being**

The relations between gratitude and materialism and between materialism and well-being have been substantiated on theoretical and empirical grounds, including support for the “hedonic profiles” (Polack & McCullough, 2006) of materialistic people and grateful people. People who overemphasize materialistic pursuits tend to report dissatisfaction with their lives, high levels of negative emotion, and low levels of positive emotion, and are at risk for mental disorders. In a meta-analysis of the materialism literature, researchers found support for the self-determination theory hypothesis that a materialism-driven lifestyle may result in poor satisfaction of psychological needs like relatedness, competence, and autonomy (Dittmar et al., 2014). In short, materialistic strivings have been “implicated as a cause of unhappiness” (Polack & McCullough, 2006, p. 343). In contrast, grateful people tend to report high levels of positive emotion, low
levels of negative emotion, and general life satisfaction (Polak & McCullough, 2006). Polak and McCullough thus concluded that gratitude and materialism are negatively associated, in what is plausibly a causal connection. They suggested that the materialistic prioritization of wealth over other values is a social illness that results in negative outcomes, and that gratitude can alleviate these ills by increasing life satisfaction, increasing people’s sense of security, and giving people the sense that others care about them.

However, as previously mentioned, gratitude is only one aspect of appreciation, and other aspects of appreciation are arguably more central in a conceptual model of materialism. Thus, research is needed to examine how the specific aspects of appreciation are related to materialism and well-being and to examine possible mechanisms that serve to produce those relationships.

In this research, I have tried to accomplish this in two ways: first, by validating the relationships between the appreciation aspects and the outcome variables. For instance, I expected to find that the “have” focus aspect of appreciation is a key component that is positively correlated with life satisfaction, and that the loss/adversity aspect of appreciation is associated with greater life satisfaction due to perceived temporal scarcity, or focusing on the imminent end of a positive experience (Kurtz, 2008). Second, in this research I considered specific mechanisms that may mediate the relationships between appreciation and its outcomes. In the current study, the life satisfaction component of SWB was examined, given the central role of cognitive factors in activating and maintaining aspects of appreciation in one’s life. The next section of this literature review builds on extant literature and theory to present mediation hypotheses among the variables of appreciation, materialism, and life satisfaction.
Mediation Hypotheses

Life satisfaction mediates the relationship between appreciation and materialism. In this study, I proposed that life satisfaction mediates the relationship between appreciation and materialism. According to this hypothesized mediation model, an appreciative person will experience increased life satisfaction, and thus will be less inclined to engage in materialistic pursuits in order to improve his or her condition. Studies have found that appreciation is closely linked to life satisfaction (e.g., Adler & Fagley, 2005; Emmons & McCullough, 2003; Emmons & Stern, 2013; Froh et al., 2009; Froh et al., 2008; McCullough et al., 2002; McCullough et al., 2004; Rash et al., 2011; Tucker, 2007; Watkins et al., 2003; and Wood et al., 2009).

Furthermore, as mentioned earlier, previous research has shown a strong, negative correlation between life satisfaction and materialism. Researchers have supported hypotheses similar to this one, specifically examining the aspect of gratitude. For instance, Lambert et al. (2009) experimentally manipulated gratitude among undergraduate college students and found that subjects in the gratitude manipulation condition showed greater life satisfaction and lower materialism. They reported that a high gratitude condition, in which participants engaged in a specific task to elicit feelings of gratitude, resulted in higher satisfaction with life and lower materialism, compared to an envy (i.e., low gratitude) condition. Further, they found that life satisfaction mediated the relationship between gratitude and materialism. Their rationale for proposing satisfaction with life as a mediator was based on the fact that gratitude is better aligned with intrinsic pursuits than with pursuit of extrinsic goals (a characteristic of materialism), and that people with intrinsic goals have been shown to have greater life satisfaction (e.g., Kasser & Ryan, 2001). In keeping with the narrow definition of gratitude, Polak and McCullough (2006) suggested that gratitude allows people to
live with a sense of security with the feeling that they are the recipients of good will. This, in turn, fosters a completeness that may reduce materialistic striving.

According to the developers of the Gratitude, Resentment, and Appreciation Test (GRAT; Watkins et al., 2003), appreciative people experience a sense of abundance and appreciate the simple pleasures in life—both of which foster feelings of satisfaction with one’s current situation in life and, subsequently, a decreased drive to constantly acquire more.

Similarly, Chancellor and Lyubomirksy (2011) suggested that focusing positive attention toward what one has, i.e., the “have” focus aspect of appreciation, allows one to “extract the maximum possible satisfaction from positive experiences” (p. 134) and to enjoy positive circumstances for a longer period of time. They elaborated that “stretching happiness” through methods such as “recycling” positive experiences (e.g., reminiscing) and savoring experiences can lead to greater overall well-being. This hypothesis is well-founded in the literature on savoring, which has been identified as a way to generate, intensify, and prolong enjoyment of positive outcomes (Bryant, 1989; 2003). Watkins et al. (2003) referred to a “cycle” in which gratitude and happiness build on each other and feed into continued experience of gratitude and happiness (see Fredrickson, 1998). They asserted that gratitude promotes happiness by enhancing one’s experience of positive events, supporting adaptive coping to negative events, promoting encoding and retrieval of positive events, increasing social networking, and mitigating depression. This, in turn, may reduce the psychological need to engage in further materialistic pursuits and acquisition.

Additional evidence points to the association between appreciation and social support, where social support mediates the relationship between appreciation and well-being (Fagley & Langione, 2013). Adler and Fagley (2005) argued that the building and maintaining of social
bonds is a mechanism through which appreciation fosters well-being. This process is clearly seen in the aspects of appreciation that are social in nature, such as self-social comparison, gratitude, and interpersonal appreciation. Similarly, Watkins (2004) suggested that gratitude leads to happiness by redirecting attention away from upward social comparisons, thus minimizing feelings of deprivation. Along these lines, espousing a “have” focus and using self-social comparison to foster feelings of appreciation are ways to bolster one’s sense of social support, while mitigating unhealthy social comparison and perceived deprivation—thus undermining the need to engage in material pursuits in a competitive fashion.

In keeping with her broaden-and-build theory, as mentioned earlier, Fredrickson (2004b) proposed that gratitude enhances “personal and social resources” (p. 152), including “skills for loving and showing appreciation” (p. 152). Wood, Froh, and Geraghty (2010) elaborated on this theory and suggested that gratitude could lead one to build social connections, which contribute to a person’s overall repertoire. Along similar lines, Watkins et al. (2003) suggested that gratitude/appreciation may “enhance one’s social network” (p. 449) in a cyclical manner, as gratitude and happiness build on each other and feed into continued experiences of gratitude and happiness (see Fredrickson, 1998). In turn, this enhances one’s experience of positive events, supports adaptive coping to negative events, promotes encoding and retrieval of positive events, increases social networking, and mitigates depression. Polak and McCullough (2006) supported this view with their observation that gratitude makes a person aware of others’ interest in his or her well-being, subsequently motivating the individual to reciprocate in order to expand “reservoirs of social capital” (p. 356); grateful people may thus actually experience, and not simply perceive, greater social support in their lives, as noted earlier. Greater social support leads to greater psychological and physical well-being, which enhances one’s life satisfaction.
Materialism mediates the relationship between appreciation and life satisfaction.

Secondly, I proposed the variable of materialism as a mediator of the relationship between appreciation, specifically the “have” focus aspect of appreciation, and life satisfaction. This hypothesis was based on the logical relation between “have” focus and materialism, and research showing a correlation between materialism and life satisfaction.

Additionally, Norris and Larsen (2011) reported that materialistic values mediated the relationship between their construct of “wanting more” and well-being. Although “wanting more” might not be the mirror opposite of “have focus,” it is logically assumed that the two concepts go hand in hand in their incidence and degree, especially in how they are tied to materialistic values. Using their have-want discrepancy model, Norris and Larsen asserted that wanting more is associated with lower well-being, to the extent that our wants overcome our haves. For instance, Polack and McCullough (2006) noted that “a chronic tendency to savor and appreciate the positive circumstances of one’s existence (e.g., health, relationships, stable work, a privileged upbringing, etc.)—a trait that is in some ways the mirror opposite of materialism—may be a particularly important way to reduce materialistic strivings and their negative effects on subjective well-being” (p. 349).

My proposition that materialism mediates the relationship between appreciation and life satisfaction was substantiated by the nascent research indicating a negative relationship between appreciation (sometimes referred to as gratitude) and materialism (e.g., Diessner & Lewis, 2007; Kashdan & Breen, 2007; Lambert et al., 2009; McCullough et al., 2002; Polak & McCullough, 2006). For instance, McCullough and colleagues (2002) found a negative correlation between gratitude and self-report measures of materialism, with the strongest negative association ($r = -0.38$) found for the association between gratitude and the materialism subscale measuring the
belief that material possessions lead to happiness. Similarly, based on self-report questionnaires assessing momentary feelings, Polak (2005) found a small negative association between materialistic striving and gratitude. It should be noted that these studies generally used the GQ-6 to measure gratitude, and that the GQ-6 measure was formulated by McCullough et al., (2002) “from a list of 39 positively and negatively worded items that assess experiences and expressions of gratefulness and appreciation in daily life, as well as feelings about receiving from others” (p. 115). Of the six items, only two address grateful feelings toward a benefactor (also see Lambert et al., 2009, for similar discussion). Thus, it appears to constitute an imprecise measure of gratitude and may also tap other aspects of appreciation.

Various theoretical approaches may be adopted to explain this hypothesized mediating effect of materialism on the relationship between appreciation and life satisfaction. For instance, Kashdan and Breen (2007) asserted that the “toxic” process of “experiential avoidance” (p. 523), or the human tendency to avoid and repress negatively evaluated thoughts, feelings, and sensations, functions as a mechanism in the relationship between materialism and well-being. These findings are based on their assertion that a key element of materialism is an extrinsic orientation in which self-worth hinges on possessions, power, and status. People who fall short of the elusive personal and social expectations or desires may be increasingly aware of their personal deficiencies, also marked by negative self-appraisals (e.g., Richins, 1991). Motivated to escape these negative self-evaluative thoughts, they may narrow their attention to meaningful thoughts about the self and instead seek external pathways that circumvent their psychological pain. I proposed that the act of focusing one’s attention on and appreciating what one has—which is not limited to possessions, but includes relationships, opportunities, etc.—introduces greater valuation of one’s personal and social well-being that is not contingent on material
possessions, thereby forestalling the process of experiential avoidance.

Kashdan and Breen (2007) built off the notion of experiential avoidance when they considered intrinsic versus extrinsic values. They noted that excessive avoidance of internal experiences may mitigate one’s “self-regulatory resources and psychological flexibility” (p. 523) and ultimately distract one’s focus from quality of life. This is manifest in the inverse relationship between materialism-driven behaviors and pursuit of intrinsic goals, such as meaningful connections, personal growth, moral values, and work satisfaction. Materialism-driven individuals are at increased risk for psychopathology, experience diminished levels of well-being, and are less concerned with others’ welfare (Kashdan & Breen, 2007).

This inverse relationship can also be understood through the lens of habituation, as mentioned earlier, which states that humans have a tendency to find decreasing satisfaction from previously satisfying conditions (Frijda, 1988). Researchers have taken a closer look at the phenomenon of materialistic striving, breaking it down into its component parts in light of the finding that continuous innovations and the “explosion in stuff” has not increased our national levels of happiness (Norris & Larsen, 2010). As noted earlier, this phenomenon has also been called the “hedonic treadmill” (Brickman & Campbell, 1971), whereby diminishing positive emotions and increasing aspirations cause erosion to the pleasure pathways. Because our sensory systems are geared to perceive change, status quo puts our perception on standby mode. This implies that appreciation, by means of reducing involvement in materialistic pursuits, may raise the threshold for habituation to occur and lower the required threshold for enjoyment of pleasant life events. Appreciation also fights habituation by continually directing attention to present experiences (mindful awareness of present moment), feeling awe (especially in response to nature), engaging in rituals to remind one to reflect on and appreciate the positive aspects of
one’s life, and reminding oneself that our relationships enrich our lives (Fagley, 2012).

Further, Kasser (2002) noted that individuals who are preoccupied with materialistic pursuits tend to define their success by their physical possessions. Thus, materialistic individuals are afflicted by psychological insecurities related to the faulty belief that acquisition and consumption feed one’s self-esteem. Conversely, the “have” focus aspect of appreciation can increase life satisfaction by deconstructing the tendency to define oneself by one’s possessions.

The mediating effect of materialism can also be viewed as a function of psychological well-being. From a theoretical standpoint, material strivings may be seen as an attempt to fulfill a basic human need; however, as Kasser and Sheldon (2000) noted, materialism may exacerbate those very feelings it is intended to subdue. For instance, an excessive focus on wealth beyond the purview of necessities can detract from the individual’s search for psychological fulfillment and happiness (Kasser, 2002). Burroughs and Rindfleish (2002) referred to this as a psychological tension that results from the conflict of values experienced by a materialistic person, such as the clash between collective-oriented and self-centered values. As mentioned previously, Tsang and colleagues (2014) noted that materialistic individuals tend to have unmet psychological needs (e.g., relatedness and autonomy; Kashdan & Breen, 2007), whereas grateful individuals satisfy important psychological needs. Further, the “chronic dissatisfaction” (p. 63) that results from the failure of material acquisitions to meet expectations leads to reduced positive emotions and the drive to continually seek new materialistic pursuits. Polak and McCullough (2006) reviewed research findings and found support for the negative psychological effects of materialism; they found correlates of materialism to include both compulsive consumption and economic deprivation. On the other hand, the appreciative outlook on life may help offset the negative thoughts and feelings that undermine one’s well-being and diminish life
The relationship between adopting an appreciative outlook and decreased materialistic values may also be examined in the context of social factors. Appreciative people may actually experience greater social support in their lives; because they are relatively unaffected by the insecurity of social disconnectedness, they may spend less time on materialistic pursuits and more time on meaningful pursuits, such as cultivating interpersonal relationships (Polak & McCullough, 2006). With a “have” focus, for instance, one is freed from materialistic endeavors to instead pursue relationships, which leads to a sense of fulfillment and life satisfaction. Furthermore, the greater positive emotions they experience may make them more appealing to others as friends and companions. Conversely, researchers have found that materialistic people have less positive social relationships, as reported by themselves (Kasser & Ryan, 2001) and others (Solberg et al., 2004). Norris, Lambert, DeWall, and Fincham (2012) noted that anxiously attached individuals who fail to form satisfactory relationships with others may substitute with attachment to material possessions. Literature on consumer behavior supports this notion of people forming attachments to their possessions (Kleine & Baker, 2004). In general, research has found this pattern when examining the relationship between money and social interactions, such that money may substitute for social relationships (see Norris, et al., 2012, for review).

Indeed, other aspects of appreciation in addition to “have” focus may also serve as catalysts for increasing social support. By engaging in rituals that remind one to reflect on the positive aspects of one’s life (i.e., the ritual aspect of appreciation), reminding oneself that relationships enrich our lives (i.e., the interpersonal aspect of appreciation), and expressing appreciation to others, a person can reap the benefits of perceived social support. In keeping with her broaden-and-build theory, Fredrickson (2004a) proposed that gratitude enhances “personal satisfaction.
and social resources” (p. 152), including “skills for loving and showing appreciation” (p. 152).

Wood et al. (2010) concurred that gratitude, defined in a broad sense, could lead one to build social connections, which contribute to a person’s repertoire. Along similar lines, Watkins et al. (2003) suggested that gratitude/appreciation may enhance “one’s social network” (p. 449). Emmons and Stern (2013) captured this effect in their statement that gratitude (in the generalized sense) is the “feeling of connection with humanity emerging from a sense of wonder and joy that participating in an intricate network of existence brings” (p. 847). Thus, social support provides an important context for appreciation and materialism.

Finally, it is important to consider that materialism may lead to negative outcomes as a result of the stress and burden of never-ending materialistic pursuits at the cost of quality of life. For instance, given the expenditure of parental attention and interpersonal resources in pursuit of materialistic gains, materialism may have a negative effect on family life. This relationship is evidenced by findings that families with strong goals for financial success report less satisfaction with family life (Nickerson, Schwarz, Diener, & Kahneman, 2003). Therefore, an appreciative outlook, and specifically the “have” focus aspect, may have a protective function, in that it may reduce one’s involvement in materialistic pursuits and thus prevent the corrosive, stressful effects of a materialistic lifestyle.

Both of these proposed mediation hypotheses can be further explored as reciprocal processes, since, according to the broaden and build theory of positive emotion (Frederickson, 2004), positive emotions should broaden people’s mindset and build personal resources, which then enhance their emotional and physical well-being. The effects of positive emotions compound and trigger new instances of appreciation, and the upward spiral continues toward enhanced emotional well-being. Thus, the experience of appreciation may increase life
satisfaction, which spawns a newfound appreciation for what one has, in a cyclical fashion. Or, more specifically, the increased focus on and valuing of what one has in life, one of the aspects of appreciation, may cause greater satisfaction with life, which then results in feelings of appreciation, and thus the cycle continues.

**Appreciation mediates the relationship between materialism and life satisfaction.** As an extension of the finding from Tsang et al. (2014) that gratitude and need satisfaction mediated the relationship between materialism and life satisfaction, I also examined appreciation as a mediator of the relation between materialism and life satisfaction, such that those with greater materialistic striving exhibit less appreciation and therefore less life satisfaction. The negative relation between materialism and appreciation was described by Tsang and colleagues (2014) as a “chronic dissatisfaction” (p. 63) that impairs the ability of the materialistic individual to be grateful for what he or she has. When the acquisition of material goods does not meet expectations, this leads to reduced positive emotions and the drive to continually seek new materialistic pursuits. Further, they noted that “a materialistic outlook, which looks for satisfaction in what one does not have, would impair the ability to be grateful for what one has now” (p. 63). Similarly, Richins (2013) found that materialists experience greater expectations and anticipatory satisfaction prior to making a purchase than non-materialists. This hypothesis was also consistent with Adler and Fagley’s (2005) finding that the subscale with the greatest correlation with life satisfaction was the “have” focus aspect of appreciation ($r = .41$), as well as Fagley’s (2012) subsequent finding that was consistent ($r = .60$). These findings suggested that a focus on what one has is a key component of appreciation that contributes to life satisfaction (Fagley, 2012).
Research Hypotheses

Preliminary hypotheses.

H1: Appreciation (IV) is positively correlated with life satisfaction.

H2: Appreciation (IV) is negatively correlated with materialism.

H3: Materialism (IV) is negatively correlated with life satisfaction.

Primary research hypotheses.

H4: Life satisfaction (M) mediates the relation between appreciation and materialism, such that greater appreciation will lead to greater life satisfaction, which will lead to less materialism.

H5: Materialism (M) mediates the relation between appreciation and life satisfaction, such that those with greater appreciation will exhibit less materialism and therefore greater life satisfaction.

Secondary research hypothesis.

H6: Appreciation (M) mediates the relation between materialism and life satisfaction, such that those with greater materialism will exhibit less appreciation and therefore less life satisfaction.

Tertiary research hypotheses.

H7: Meaning in life was assessed to provide additional evidence of validity for the three main variables; higher scores on the Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006) should be positively correlated with life satisfaction and appreciation and negatively correlated with materialism.

H8: Psychological entitlement was assessed to provide additional evidence of validity for appreciation; higher scores on the Psychological Entitlement Scale (PES; Campbell, Bonacci, Shelton, Exline, & Bushman, 2004) will be associated with lower appreciation.

According to the preliminary hypotheses, I expected to demonstrate associations between
appreciation (IV) and the variables of materialism and life satisfaction (DVs) that are consistent with those previously reported in empirical literature, namely, that appreciation has a positive correlation with life satisfaction (replicating Adler & Fagley, 2005; Fagley, 2012) and a negative correlation with materialism (previously shown only with the gratitude aspect of appreciation). Furthermore, I expanded on the work of previous researchers by using an instrument that reflects the broader construct of appreciation in place of the narrower gratitude instruments. I expected to find that the eights aspects of appreciation are related to materialism and life satisfaction to varying degrees. Highlighting those aspects of appreciation with the strongest relations will lead to greater understanding of mechanisms at work.

Building on these preliminary associations, I then expected that life satisfaction mediates the relationship between appreciation and materialism, and materialism mediates the relationship between appreciation and life satisfaction. In other words, appreciation promotes increased life satisfaction and decreased materialism directly and indirectly in a self-propagating manner. Further, in addition to using the overall appreciation score in these mediation analyses, I expected that the “have” focus aspect of appreciation would be driving such relationships, and thus these mediation effects would also be found when using the “Have” Focus subscale score.

Additionally, a secondary analysis looked at appreciation as a mediator in the relationship between materialism (IV) and life satisfaction (DV), such that individuals with higher levels of materialism experience less appreciation in life, thus leading to diminished life satisfaction. Similarly, those with lower materialism will tend to experience greater appreciation, which leads to greater life satisfaction. Whereas the primary hypotheses considered appreciation as an independent variable from which materialism and life satisfaction follow, this hypothesis looked at how an individual’s level of materialism can affect one’s appreciation in life, as part of a chain
of negative outcomes or a chain of positive outcomes (depending on the initial degree of materialism).

Finally, I expected to find that the validation measures assessing meaning in life and psychological entitlement should correlate with the main variables; namely, higher scores on the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) should be positively correlated with appreciation and life satisfaction and negatively correlated with materialism, and higher scores on the Psychological Entitlement Scale (PES; Campbell et al., 2004) would be associated with lower appreciation, given that entitlement is conceptually incompatible with appreciation and has been found to have a detrimental impact on social behaviors.

Method

Participants

After incomplete and duplicate cases were removed (described in more detail in a later section on data cleaning), 70 male and 136 female undergraduate students at Rutgers University comprised the final usable sample of participants (N = 206). Participants were recruited through the Psychology Department’s research subject pool, where students in introductory psychology seek opportunities to meet research participation requirements. As expected, most participants were between the ages of 18 and 23 years old (n = 197), and the remainder between the ages of 24 and 52 (n = 9). The following race/ethnicity demographic was included: Caucasian/White (n = 78; 37.9%), Asian/Pacific Islander (n = 63; 30.6%), Hispanic/Latino (n = 30; 14.6%), Black/African American (n = 20; 9.7%), Other (n = 14; 6.8%), and Native American (n = 1; .5%). Most participants indicated they were single (n = 198; 96.1%), three (1.5%) reported they were married, and five (2.4%) chose the option not to report that information.
Procedures

Participants anonymously completed a comprehensive online survey containing all the assessment instruments. The survey was created using the Qualtrics survey software and was posted on the subject pool website, which uses Sona System software. The survey software automatically captured participants’ ID numbers (generated by and known only to the Sona System and the students themselves), and their participation was credited automatically in the Sona System after completing the survey.

A consent form was presented prior to the survey items, which described the nature of the study and the nature of their voluntary participation, and stating their right to withdraw from the study at any time. If subjects agreed, then they could proceed to the survey. Additionally, basic demographic information was collected. To avoid the problem of missing values, the survey was set up so that every question needed to be completed in order to move on to the next page. Based on comparison with similar surveys, it was estimated that this survey would take 30 minutes to complete (estimated 15 seconds per item), and participants were awarded .5 research participation credits. To promote objective and truthful responding, participants remained anonymous, and their participation was credited automatically based on Sona System-issued ID numbers, which cannot be linked to names by researchers. The survey was posted at the beginning of spring semester, with the intention of avoiding the last two weeks of the semester when students are more likely to be under high levels of stress.

Instruments

Appreciation Scale. The Appreciation Scale (AS; Adler & Fagley, 2005) was used to assess the eight aspects of appreciation specified by Adler and Fagley (2005). The scale is comprised of 57 items, rated 1 to 7, which result in eight subscale scores, one for each aspect of
appreciation. Adler and Fagley (2005) reported reliabilities ranging from .70 (Loss/Adversity) to .84 (Ritual), with the exception of .62 (Self/Social Comparison). In the present sample, reliabilities were somewhat higher, ranging from .68 for Self/Social Comparison to .88 for “Have” Focus. The reliability of the total score was .95 (see Table 1). Example items include “I count my blessings for what I have in this world” (“Have” Focus), “I feel a positive, emotional connection to nature” (Awe), and “I notice the sacrifices that my friends make for me” (Gratitude). The current study used the total score as a measure of overall appreciation and the “Have” Focus subscale for specific analyses.

**Material Values Scale.** The Material Values Scale (MVS; Richins & Dawson, 1992) was used to assess participants’ levels of materialism based on a 3-factor definition. The MVS is an 18-item trait measure that includes subscales for (a) Centrality, or the centrality of material possessions in a person’s life; (b) Success, or the degree to which one uses possessions to judge the success of one’s life and others’ lives; and (c) Happiness, or the degree to which possessions are viewed as key for one’s happiness and life satisfaction. The three subscales can be combined to yield a total score. Richins and Dawson (1992) reported reliabilities of .67 for Centrality, .76 for Success, .78 for Happiness, and .86 for the total score. In the present sample, reliabilities of the subscales were .71 for Centrality, .77 for Success, .64 for Happiness, and .83 for the total score (see Table 1). Examples of items include “I admire people who own expensive homes, cars, and clothes” (Success), “Buying things gives me a lot of pleasure” (Centrality), and “I’d be happier if I could afford to buy more things” (Happiness).

**Satisfaction with Life Scale.** The Satisfaction with Life Scale (SWLS; Diener et al., 1985) was used to assess participants’ satisfaction with life. The SWLS contains 5 short items such as, “In most ways my life is close to ideal,” and “If I could live my life over again, I would
change nothing.” Diener et al. (1985) reported a 2-month test-retest correlation coefficient of 0.82, and a coefficient alpha of 0.87. In the current study, reliability was .86 (see Table 1).

**Meaning in Life Questionnaire.** For additional validation information, two other instruments were administered. The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) is a 10-item measure of one’s perception of, and search for, meaning in life ($\alpha = .86$ to $.88$). In the present study, reliability of subscales was .88 for Presence, .88 for Search, and .73 for the total score (see Table 1). The MLQ was administered in an effort to obtain validation information for hypothesized mediators. It was expected that higher scores on the MLQ should be positively correlated with life satisfaction and negatively correlated with materialism.

**Psychological Entitlement Scale.** Second, the Psychological Entitlement Scale (PES; Campbell et al., 2004) was administered in an effort to obtain validation information for the appreciativeness construct. It was expected that a higher sense of entitlement would be associated with lower appreciation, given that entitlement is conceptually incompatible with appreciation and detrimental to social behaviors. Campbell et al. (2004) reported for two samples coefficient alpha of .85 and .88, followed by coefficients of .83 and .88 one month later. The reliability of this measure in the current sample was .89 (see Table 1). Example items include “I deserve more things in my life” and “I demand the best because I’m worth it.”

Scales were examined to ensure non-overlapping items. In some cases, possible overlapping items were noted and accounted for in discussion of the results. The order of instrument presentation was randomized to reduce the possibility of order effects in responding. To ensure adequate power to detect non-trivial relationships of medium size, a power analysis was conducted. Given the three variables of interest, the multiple regression power analysis requires 218 subjects to achieve 80% power to detect a medium relation at $\alpha = .05$ (Maxwell,
Data Screening

**Deleted cases.** The online survey was visited 221 times by potential respondents, which represented 210 individuals. Some respondents never completed the survey \((n = 10)\) and some completed it twice (so only the first was included in the data) \((n = 4)\). The resulting number of cases was 207, accounting for complete, non-repeated responses. Because the survey was set up in such a way that it required respondents to answer every question, no missing values occurred.

**Outliers.** Data were checked for extreme univariate outliers, defined as “cases with extreme values on a particular variable” (Meyers, Gamst, & Guarino, 2013, p. 106) based on values that exceed an interquartile range of 3. No extreme values were found. To check for multivariate outliers, a Mahalanobis test was conducted using all 18 variables for total and subtest scores. One case exceeded the critical value (Table of Chi Square critical value: 42.312) and was excluded from the sample. To ensure that no univariate outliers existed based on group, the variables’ total scores were examined separately by gender; no extreme values were found.

**Normality.** Normality and linearity was checked based on a visual inspection of scatter plots for each variable. The variables were checked for skewness and kurtosis. Two subscales had kurtosis and skewness values greater than 1 (AS-Gratitude subscale, and MLQ-Search subscale), and one instrument had a kurtosis value greater than 1 (MLQ: total score). However, a decision was made not to transform the variables, given that the kurtosis was not considered extreme and the subscales were not primary variables central to the analyses, and in order to be able to interpret all variables in the original metric.
Results

**Descriptive Statistics**

Descriptive statistics were computed for each variable, including the means and standard deviations of total scores and subscale scores of the Appreciation Scale (AS), Material Values Scale (MVS), Satisfaction with Life Scale (SWLS), Meaning in Life Questionnaire (MLQ), and Psychological Entitlement Scale (PES) (see Table 1).

**Bivariate Correlations**

To examine the relationships between variables, the Pearson $r$ was computed between all pairs of variables (see Table 2 for total score correlations). In keeping with hypothesis 1, a significant positive relationship was found between the SWLS and the total score on the AS ($r = .386, p < .001$), as well as with each subscale of the AS (see Table 3). Of the eight subscales, the “Have” Focus subscale had the largest correlation with life satisfaction ($r = .474, p < .001$), indicating that a greater focus on what one has is associated with greater life satisfaction.

Incidentally, the “Have” Focus subscale also had the largest correlation with the AS total score ($r = .916, p < .001$), suggesting that it may be a key component of overall appreciation.

Although no significant relationships were detected with the MVS total score, as initially posited in hypotheses 2 and 3, its Happiness subscale (MVS-Happiness) had a significant negative correlation with the AS ($r = -.191, p = .006$) and SWLS ($r = -.281, p < .001$). This indicates that the more one views material possessions as the key path to happiness, the lower one’s overall appreciation will tend to be and the lower one’s life satisfaction will tend to be.

Additionally, the “have” focus aspect of appreciation also was significantly related to the happiness subscale of the MVS ($r = -.245, p < .001$), indicating that the more one focuses on what one has, rather than on what one lacks, the less one tends to view possessions as a key path
to achieving happiness. See Table 4 for the subscale correlations of the MVS, as well as between the “Have” Focus appreciation subscale and the MVS. As overall materialism was not significantly correlated with either life satisfaction or appreciation, subsequent tests of mediation were examined using only the Happiness subscale of the materialism instrument (MVS-Happiness).

Consistent with the two convergent validity hypotheses (hypotheses 7 and 8), significant positive relationships were found between the MLQ and the AS ($r = .390, p < .001$) and the MLQ and SWLS ($r = .289, p < .001$), indicating that one who finds great meaning in life tends to demonstrate higher levels of appreciation, as well as greater satisfaction with life. Additionally, the PES was significantly correlated with the MVS ($r = .176, p = .011$), that is, the greater one’s level of entitlement, the more that person will tend to view material possessions as the key path to happiness. Surprisingly, no relationship was found between the PES and AS ($r = -.032, p = .649$), although the PES was significantly correlated with the gratitude aspect of appreciation ($r = -.350, p < .001$). See Tables 2 and 3.

Tests of Mediation

Using the 4-step procedure described by Baron and Kenny (1986), mediation analyses were conducted using bivariate regression analyses between the independent variables and dependent variable, and between the independent variables and the mediator, followed by a multiple regression between the independent and suspected mediator variables and the dependent variable. The Aroian test, recommended by Meyers et al. (2013) as a variant of the Sobel test, is a test of the difference between the two path coefficients (unstandardized weights). Mediation is indicated if the path from the independent variable to the dependent variable is significantly smaller when the mediator is included in the model than when it is not. This is equivalent to a
test of whether the indirect effect is significantly different from zero (Meyers et al., 2013).

Three pairs of mediation analyses were conducted. In each pair, one of the analyses used the total appreciation score, whereas the other used the “Have” Focus subscale of the AS as the measure of appreciation. The mediation models are presented in Figures 2, 3, 4, 5, 6, and 7.

**Life satisfaction as a mediator.** The first pair of mediation analyses tested whether life satisfaction mediates the relation between appreciation and the view that happiness is best achieved through acquiring material possessions (as measured by the MVS-Happiness subscale). That is, does appreciation affect the degree to which one views material possessions as the path to happiness, at least in part, by affecting one’s life satisfaction?

The first mediation model examined life satisfaction as a mediator of the relation between overall appreciation and the happiness subscale of materialism (see Figure 2). When controlling for SWLS, the new path from AS to MVS-Happiness ($b = -.008, \beta = -.097, p = .183$) was significantly reduced, based on the Aroian test ($Z = -2.892, p < .01$). This is consistent with the primary research hypothesis (H4), which stated that life satisfaction mediates the relation between appreciation and materialism, such that greater appreciation leads to greater life satisfaction, which leads to less materialism, defined as the belief that happiness is achieved through possessions.

The second mediation model tested whether life satisfaction mediates the relation between the “have” focus aspect of appreciation and the Happiness subscale of the MVS (see Figure 3). When controlling for SWLS, the new path from the AS “Have” Focus to the MVS-Happiness subscale ($b = -.052, \beta = -.144, p = .060$) was found to be significantly reduced, based on the Aroian test ($Z = -2.612, p < .01$). This is consistent with the primary research hypothesis which stated that life satisfaction mediates the relation between appreciation and materialism,
such that a greater focus on what one has, rather than on what one lacks (the “have” focus aspect of appreciation), leads to greater life satisfaction, which leads to less materialism (when defined as the belief that happiness is achieved through possessions).

**Materialism as a mediator.** The second set of mediation analyses examined materialism (Happiness subscale) as a mediator of the relation between appreciation and life satisfaction (see Figure 4). When controlling for MVS-Happiness, the new path from AS to SWLS ($b = .057, \beta = .345, p < .001$) was significantly reduced ($Z = 2.182, p < .05$). This is consistent with the research hypothesis (H5) which stated that materialism mediates the relation between appreciation and life satisfaction. Similarly, a significant mediation effect was observed for materialism (Happiness subscale) when the “Have” Focus subscale of appreciation was used instead of overall appreciation (see Figure 5). When controlling for MVS-Happiness, the new path from AS “Have” Focus” to SWLS ($b = .332, \beta = .431, p < .001$) was significantly reduced ($Z = 2.151, p < .05$).

**Appreciation as a mediator.** The third pair of mediation analyses examined appreciation as a mediator of the relation between materialism (Happiness subscale) and life satisfaction. When controlling for overall appreciation (AS), the new path from MVS-Happiness subscale to SWLS ($b = -.456, \beta = -.215, p = .001$) was significantly reduced ($Z = 2.416, p < .05$); see Figure 6. This is consistent with the secondary research hypothesis (H6) that appreciation mediates the relation between materialism and life satisfaction. Similarly, a significant mediation effect was found for the “Have” Focus subscale of appreciation (see Figure 7). The path from MVS-Happiness to SWLS ($b = -.373, \beta = -.176, p = .005$) when controlling for AS “Have” Focus was significantly smaller than when the mediator was not included ($Z = -3.176, p < .01$). That is, the
more one believes that happiness is achieved through possessions, the less appreciation one
exhibits, and the less satisfied one is with life.

Discussion

Among the key findings, the variables of appreciation, life satisfaction, and meaning in
life were positively related to each other. Although significant correlations were not found
between these variables and the MVS total score, significant negative correlations were found
between the belief that happiness is achieved through possessions (MVS-Happiness) and
appreciation and life satisfaction. Out of the eight appreciation aspects, the “have” focus aspect
had the largest correlation with life satisfaction and with MVS-Happiness. When using the MVS-
Happiness subscale as the measure of materialism, all mediation models were significant. That
is, data were consistent with life satisfaction mediating the relation between appreciation and
materialism, materialism mediating the relation between appreciation and life satisfaction, and
appreciation mediating the relation between materialism and life satisfaction, when materialism
was defined as the belief that happiness is achieved through possessions.

Bivariate Analyses

This study demonstrated the positive relationship between appreciation and life
satisfaction ($r = .386, p < .001$), a finding that is consistent with previous research that found
that appreciation (or, in some cases, generalized gratitude) is closely linked to life satisfaction
(e.g., Adler & Fagley, 2005; Diener et al., 1985; Emmons & McCullough, 2003; Emmons &
Stern, 2013; Froh et al., 2009; Froh et al., 2008; McCullough et al., 2002; McCullough et al.,
2004; Rash et al., 2011; Tucker, 2007; Watkins et al., 2003; and Wood et al., 2009; for review
see Watkins, 2004).

This study generally replicated prior research in finding significant relations between the
Appreciation Scale subscales and life satisfaction. All AS subscales showed a significant positive correlation with SWLS (“Have” Focus: \( r = .474, p < .001 \); Awe: \( r = .292, p < .001 \); Ritual: \( r = .353, p < .001 \); Present Moment: \( r = .298, p < .001 \); Self/Social Comparison: \( r = .221, p < .001 \); Loss/Adversity: \( r = .328, p < .001 \); and Interpersonal: \( r = .239, p < .001 \)), with the exception of the Gratitude subscale (\( r = .094, p = .179 \)). The “Have” Focus subscale of appreciation showed the strongest correlation with life satisfaction (\( r = .474 \)), a finding that is consistent with previous research (\( r = .41 \), Adler & Fagley, 2005; \( r = .60 \), Fagley, 2012).

It is interesting to note that the Happiness subscale of the MVS was significantly negatively correlated with overall appreciation (\( r = -.191, p = .006 \)) and life satisfaction (\( r = -.281, p < .001 \)), whereas the MVS total score was not (MVS total and AS: \( r = -.079, p = .261 \); MVS total and SWLS: \( r = -.003, p = .963 \)), despite having adequate statistical power. Similar findings were reported by McCullough and colleagues (2002), who reported a negative correlation between gratitude and measures of materialism (including one by Ger & Belk, 1990; and the MVS by Richins & Dawson, 1992, that was used here). The strongest negative correlation was between gratitude and the MVS subscale measuring the belief that material possessions lead to happiness (\( r = -.38 \)). One may speculate that the materialistic belief that possessions bring happiness (e.g., “I’d be happier if I could afford to buy more things” and “My life would be better if I owned certain things I don't have”) is highly indicative of one’s day-to-day lifestyle and degree of positive functioning, and thus may be more closely related to the variables of appreciation and life satisfaction than the other conceptual aspects of materialistic values, such as the centrality of material possessions in a person’s life and the use of possessions to judge success in life.

Furthermore, the AS “Have” Focus subscale also had a significant relationship with the
MVS subscale of Happiness ($r = -.245, p < .001$). This correlation indicates that the greater one's tendency to focus on and appreciate what one has, the less likely it is that one will believe that material possessions lead to happiness, and vice versa. These findings are consistent with recent literature indicating a negative relationship between gratitude (viewed here as an aspect of appreciation) and materialism (e.g., Diessner & Lewis, 2007; Kashdan & Breen, 2007; Lambert et al., 2009; McCullough et al., 2002; Polak & McCullough, 2006).

The strength of relationship between the MVS Happiness subscale and SWLS ($r = -.281, p < .001$) is also consistent with the finding of Roberts and Clement (2007) that the MVS Happiness subscale was negatively related to eight measures of quality of life, somewhat more than the Centrality and Success subscales which were negatively related to seven and six of the quality of life measures, respectively. However, Roberts and Clement (2007) also found that the MVS total was significantly related to quality of life, whereas, in the current study, the MVS total was correlated only with entitlement and one subscale of the Meaning in Life Questionnaire (Search subscale). Further, they also found a relation between lower income levels and higher levels of respondents’ equating happiness with material goods. Roberts and Clement explained this relationship noting the finding of Kasser et al. (1995) that adolescents from less advantageous socioeconomic backgrounds placed greater value on materialistic aspirations than on self-acceptance, community feeling, or affiliation, possibly due to a greater focus on external rewards in disadvantaged communities, where environments may be less supportive of intrinsic sources of worth and security.

The negative relationship between the MVS Happiness subscale and SWLS is consistent with previous work in this area, including findings reported by Richins and Dawson, (1992) in which materialism was negatively correlated with life satisfaction, as measured by amount of
Subsequent studies similarly reported that high levels of materialism were associated with lower levels of virtually all indicators of psychological well-being (Kasser, 2002) and “nearly every quality of life measure studied to date” (Polak & McCullough, 2006, p. 347). For instance, Kashdan and Breen (2007) found that higher levels of materialistic values were associated with more negative emotions ($r = .25$) and less relatedness ($r = .22$), autonomy ($r = .23$), competence ($r = .23$), and meaning in life ($r = .23$).

The negative relationship between materialism and appreciation has previously been demonstrated in the validation study for the Gratitude, Resentment, and Appreciation Test (GRAT; Thomas & Watkins, 2003), in which the GRAT and its subscales were negatively correlated with materialism (Diessner & Lewis, 2007). Similarly, Kashdan and Breen (2007) found that people with stronger materialistic values reported less gratitude ($r = -.23, p < .01$). Lambert et al. (2009) found that satisfaction with life mediated the relationship between naturally occurring levels of gratitude (as measured by the GQ6) and materialism; to further examine their mediation hypothesis, they also conducted an experimental manipulation of appreciation, where participants assigned to a high gratitude condition contemplated and wrote about feelings of appreciation (versus what the authors called a “low gratitude” condition, in which they contemplated and wrote about feelings of envy). Participants in the high gratitude condition reported decreased levels of materialism relative to the low gratitude (envy) condition.

Furthermore, as noted previously, McCullough and colleagues (2002) found that the MVS Happiness subscale had the strongest negative correlation with gratitude from among the MVS subscales, indicating that believing that happiness is achieved through more, and higher quality, possessions is associated with less gratitude, and vice versa.
In keeping with the convergent validity hypotheses, overall appreciation was significantly related to MLQ \((r = .390, p < .001)\), as were seven of the eight appreciation subscales, with correlations ranging from .207 to .401. Only the Gratitude subscale failed to correlate with meaning in life. Purpose or meaning in life is one of the six aspects of psychological well-being defined by Ryff (1989; Ryff & Keyes, 1995). Psychological well-being is the term used for the eudemonic view of well-being, in contrast to the hedonic view represented by subjective well-being (comprised of life satisfaction, positive affect, and negative affect). The relationship between appreciation and meaning in life replicates findings from a previous study in which appreciation significantly contributed to purpose-in-life, over and above the contributions of social desirability, sex, and the Big 5 personality factors (i.e., Fagley, Simanovskaya, Ferriola, & Langione, 2015).

Contrary to the second convergent validity hypotheses, however, no relationship was found between overall appreciation and entitlement \((r = -.032, p = .649)\). However, the Gratitude subscale of the AS did have a significant negative correlation with PES, as expected \((r = -.350, p < .001)\). A closer reading of the Gratitude scale items suggests that the scale is closely aligned with the thematic concept of non-entitlement, and in one case employs the word “entitled” (e.g., “When a friend gives me a ride somewhere when he or she doesn’t have to, I really appreciate it,” “Food, clothing, and shelter are basic needs that I do not need to be grateful for because I am entitled to them” (reverse scored), and “I notice the sacrifices that my friends make for me”). Further, the significant relationship between the PES and MVS total \((r = .176, p = .011)\) may be due, in part, to overlapping items that attribute materialistic striving to those who are characterized by a sense of entitlement, such as the following PES item: “I deserve more things in my life.”
Mediation Analyses

Mediator: Life satisfaction. Findings from this study were consistent with all the proposed mediation models, both when using the AS total score and the AS “Have” Focus subscale. The first pair of mediation analyses showed that the new path from AS to the MVS-Happiness subscale when controlling for SWLS was significantly reduced ($Z = -2.892, p < .01$), as was the path from AS “Have” Focus to MVS-Happiness ($Z = -2.612, p < .01$; see Figures 2 & 3). In other words, the more one exhibits appreciation, the greater one’s life satisfaction tends to be, which leads one to be less likely to view the acquisition of more possessions as the key path to happiness.

A similar hypothesis focusing on gratitude, one of the aspects of appreciation, was supported by Lambert et al. (2009). Lambert and colleagues found that satisfaction with life mediated the relationship between naturally occurring levels of gratitude (as measured by the GQ6) and materialism. To further examine their mediation hypothesis, they also conducted an experimental manipulation of appreciation among undergraduate college students, and reported that a high gratitude condition, in which participants engaged in a task to elicit feelings of gratitude, resulted in higher satisfaction with life and lower materialism, compared to an envy (i.e., low gratitude) condition. Their rationale was that gratitude is better aligned with intrinsic pursuits than with pursuit of extrinsic goals (which is characteristic of materialism), and that people with intrinsic goals have been shown to have greater life satisfaction (e.g., Kasser & Ryan, 2001).

This mediation model is also consistent with Polak and McCullough’s (2006) suggestion that gratitude allows people to live with a sense of security with the feeling that they are the recipients of good will, which, in turn, fosters a completeness that may reduce materialistic
striving. According to the definition of gratitude specified by Watkins et al. (2003), grateful people experience a sense of abundance and appreciate the simple pleasures in life—both of which foster feelings of satisfaction with one’s current situation in life and, subsequently, decrease one’s drive to constantly acquire more.

Similarly, Chancellor and Lyubomirksy (2011) suggested that focusing positive attention toward what one has, i.e., the “have” focus aspect of appreciation, allows one to “extract the maximum possible satisfaction from positive experiences” (p. 134) and to enjoy positive circumstances for a longer period of time. This is consistent with the large body of literature in which savoring has been identified as a way to generate, intensify, and prolong enjoyment of positive outcomes (Bryant, 1989; 2003); thus, savoring and “recycling” (Chancellor & Lyubomirksy, 2011, p. 134) positive experiences (e.g., reminiscing) can lead to greater overall well-being.

As mentioned previously, Fredrickson (2004b) proposed that gratitude enhances “personal and social resources” (p. 152), including “skills for loving and showing appreciation” (p. 152). Watkins et al. (2003) referred to a “cycle” in which gratitude and happiness feed into continued experiences of gratitude and happiness (see Fredrickson, 1998). They asserted that gratitude promotes happiness by enhancing one’s experience of positive events, supporting adaptive coping to negative events, promoting encoding and retrieval of positive events, increasing social networking, and mitigating depression. This, in turn, may reduce the psychological need to engage in further materialistic pursuits.

Further, Tsang and colleagues (2014) noted that grateful individuals satisfy important psychological needs (e.g., relatedness and autonomy; Kashdan & Breen, 2007), whereas materialistic individuals tend to have unmet psychological needs. For instance, gratitude is a
social emotion (Tsang et al., 2014; Algoe, Fredrickson, & Gable, 2013) that may lead to connectedness with others, enhance autonomy, and increase competency through perceived support from others. Algoe et al. (2013) suggested that being the target of gratitude predicts one’s relational growth with the person who expresses gratitude, based on their finding that partner perceptions in an expressed gratitude experiment among couples predicted improved relationship quality. Similarly, Lambert and Fincham (2011) found that expressing gratitude increased one’s positive perception of one’s relationship partner, subsequently increasing comfort in expressing relationship concerns, which is a component of relationship maintenance. Additionally, Adler and Fagley (2005; Fagley, 2012) argued that other aspects of appreciation also foster social relationships. Thus, the ability of appreciation to fill psychological voids may subvert the need to look to material goods and acquisition for satisfaction. Appreciation may foster life satisfaction through several channels, and increased life satisfaction reduces the belief that material possessions lead to happiness.

Although life satisfaction is the mediating variable in this model, other variables that contribute to life satisfaction might be partially responsible for the effect. For instance, social support has been found to mediate the relationship between appreciation and well-being (Fagley & Langione, 2013). Adler and Fagley (2005) argued that the building and maintaining of social bonds is a mechanism through which appreciation fosters well-being. This process is clearly seen in the aspects of appreciation that are social in nature, such as gratitude and interpersonal appreciation, and sometimes ritual, as when rituals are shared. Taken further, Fredrickson (2004b) proposed as part of the broaden-and-build cycle of positive emotion that gratitude enhances “personal and social resources” (p. 152). Similarly, Wood et al. (2010) argued that gratitude (although they defined it to include the aspects of appreciation) could lead one to build
social connections, which contribute to a person’s overall resources. Along similar lines, Watkins et al. (2003) suggested that gratitude/appreciation may enhance “one’s social network” (p. 449). Polak and McCullough (2006) supported this view with their observation that appreciative people evoke greater social support in their lives by noticing and reciprocating the beneficence of others.

Watkins (2004) suggested that gratitude leads to happiness by redirecting attention away from upward social comparisons, thus minimizing feelings of deprivation. Along these lines, two aspects of appreciation—exhibiting a “have” focus and using self or social comparison to foster feelings of appreciation—are ways to bolster one’s sense of social support, while mitigating unhealthy social comparison and perceived deprivation, thus undermining the need to engage in competition for material goods. In keeping with the MVS Happiness subscale, perhaps appreciation fosters a healthy sense of social support, thus filling the void caused by feelings of deprivation.

**Mediator: Materialism.** In the second pair of mediation analyses, the path between AS and SWLS was significantly reduced when controlling for MVS-Happiness, when overall appreciation was used ($Z = 2.182, p < .05$) and when the AS “Have” Focus subscale was used ($Z = 2.151, p < .05$). Findings were consistent with the second mediation hypothesis (H5) that materialism mediates the relation between appreciation and life satisfaction, such that those with greater appreciation exhibit less belief in material possessions as the path to happiness, and, therefore, report greater life satisfaction. This hypothesis was based in part on research showing that the AS subscale with the greatest correlation with life satisfaction was “Have” Focus ($r = .41$, Adler & Fagley, 2005; $r = .60$, Fagley, 2012), and the logical relation between “have” focus and materialism suggests that a focus on what one has might minimize one’s materialistic
striving. For instance, Norris and Larsen (2011) reported that materialistic values mediated the relationship between their construct of “wanting more” and well-being; wanting more was associated with lower well-being, to the extent that our “wants” overcome our “haves.” Taken differently, Polack and McCullough (2006) noted that “a chronic tendency to savor and appreciate the positive circumstances of one’s existence (e.g., health, relationships, stable work, a privileged upbringing, etc.)—a trait that is in some ways the mirror opposite of materialism—may be a particularly important way to reduce materialistic strivings and their negative effects on subjective well-being” (p. 349). In other words, they argued that greater levels of appreciation can reduce materialism and thereby increase well-being.

Findings from these mediation models were consistent with research showing a negative relationship between appreciation (sometimes referred to as gratitude and sometimes only representing the gratitude aspect of appreciation) and materialism (e.g., Diessner & Lewis, 2007; Kashdan & Breen, 2007; Lambert et al., 2009; McCullough et al., 2002; Polak & McCullough, 2006). For instance, McCullough et al. (2002) found a negative correlation between gratitude and self-report measures of materialism, with the strongest negative association \( r = -0.38 \) found for the association between gratitude and the materialism subscale measuring the belief that material possessions lead to happiness. Similarly, based on self-report questionnaires assessing momentary feelings, Polak (2005) found a small negative association between materialistic striving and gratitude.

From a theoretical perspective, materialism is an extrinsic orientation in which self-worth hinges on possessions, power, and status. People who fall short of the elusive personal and social expectations or desires may be increasingly aware of their personal deficiencies, also marked by negative self-appraisals (e.g., Richins, 1991). Kashdan and Breen (2007) referred to this as
“experiential avoidance” (p. 523), in which individuals avoid and repress negatively evaluated thoughts and feelings. Thus, the belief that material acquisition leads to happiness may be caused by one’s attempt to escape negative self-evaluations. Alternatively, appreciating what one has—which is not limited to possessions, but includes relationships, opportunities, etc.—forestalls the process of experiential avoidance.

Similarly, appreciation counteracts the deleterious effects of habituation, a condition in which humans have a tendency to derive decreasing satisfaction from previously satisfying conditions (Frijda, 1988). Also known as the “hedonic treadmill” (Brickman & Campbell, 1971), this phenomenon describes how diminishing positive emotions and increasing aspirations cause erosion to the pleasure pathways. Appreciation, by means of reducing involvement in materialistic pursuits, may raise the threshold for habituation to occur and lower the required threshold for enjoyment of pleasant life events. Appreciation also fights habituation by continually directing attentional focus onto present experiences (mindful awareness of present moment), feeling awe (especially in response to nature), engaging in rituals to remind one to reflect on and appreciate the positive aspects of one’s life, and reminding oneself that our relationships enrich our lives (Fagley, 2012).

The mediating effect of materialism can also be viewed in a social context, where appreciative people may actually experience, and not simply perceive, greater social support in their lives; they may spend less time on materialistic pursuits and more time on meaningful pursuits, such as cultivating interpersonal relationships (Polak & McCullough, 2006). With a greater “have” focus, for instance, one is freed up from materialistic endeavors to instead pursue relationships, which leads to a sense of fulfillment and life satisfaction. Furthermore, the greater positive emotions they experience may make them more appealing to others as friends and
companions. Indeed, other aspects of appreciation in addition to “have” focus may also serve as catalysts for increasing social support and thereby decrease materialism, which leads to greater life satisfaction. By engaging in rituals that remind one to reflect on the positive aspects of one’s life (i.e., the ritual aspect of appreciation), reminding oneself that relationships enrich our lives (i.e., the interpersonal aspect of appreciation), and expressing appreciation to others, a person can reap the benefits of perceived social support and is more likely to conclude that there are paths to happiness other than through acquiring possessions (such as through relationships). As noted earlier, in keeping with her broaden-and-build theory of positive emotion, Fredrickson (2004a) proposed that gratitude enhances one’s inner resources, including “skills for loving and showing appreciation” (p. 152). Wood et al. (2010) echoed this by suggesting that appreciation (although they referred to it as “gratitude,” they explicitly included the aspects of appreciation) could lead one to build social connections, which contributes to a person’s repertoire of resources. Emmons and Stern (2013) captured this effect in their statement that gratitude (in the generalized sense, which is viewed here as appreciation) is the “feeling of connection with humanity emerging from a sense of wonder and joy that participating in an intricate network of existence brings” (p. 847). Thus, social support provides an important context for appreciation, materialism, and life satisfaction.

Finally, this mediation model highlights the protective quality of appreciation, in which an appreciative outlook may reduce one’s involvement in materialistic pursuits and thus prevent the corrosive effects of a material-driven lifestyle. Rooted in the belief that happiness is a result of acquisition, a lifestyle of never-ending acquisition detracts from the quality of life and the endeavors that give life its intrinsic meaning. For instance, families with strong goals for financial success reported less satisfaction with family life (Nickerson et al., 2003). The
significance of happiness through possessions as a mediator suggests that interventions targeting the belief that possessions lead to happiness may yield greater increases in life satisfaction, than focusing on other aspects of materialism.

**Mediator: Appreciation.** In the third set of mediation models, the new path from the MVS-Happiness subscale to SWLS was significantly reduced when controlling for the AS, when the AS total score was used ($Z = 2.416, p < .05$), as well as when the “Have” Focus subscale was used ($Z = -3.176, p < .01$). When materialism is defined as the belief that happiness is achieved through possessions, findings were consistent with the research hypothesis (H6) that appreciation mediates the relation between materialism and life satisfaction.

This mediation model was consistent with the finding of Tsang and colleagues (2014) that gratitude mediated the relationship between materialism and life satisfaction based on their hypothesis that “a materialistic outlook, which looks for satisfaction in what one does not have, would impair the ability to be grateful for what one has now” (p. 63). When the acquisition of material goods does not meet expectations, this leads to reduced positive emotions and the drive to continually seek new materialistic pursuits. Similarly, Richins (2013) found that materialists experience greater expectations and anticipatory satisfaction prior to making a purchase than non-materialists. Thus positioned for disappointment, one with a materialistic outlook will not fully and unconditionally appreciate life’s bounty and blessings, and will therefore not reap the benefits of well-being that appreciation can offer. The model examining the “have” focus aspect of appreciation as a mediator exhibited the largest effect of any of the models tested. This suggests that interventions targeting the “have” focus aspect of appreciation may yield greater effects on life satisfaction.
Limitations

The order of instrument presentation was randomized to reduce the possibility of order effects in responding. However, failure to randomize questions within several scales may have made the subscales more identifiable to the subjects. Additionally, possible order effects were noted due to the greater frequency with which the MVS was computer-randomized as the last instrument \((n = 139)\). An analysis was conducted to see if order affected people’s responses on the MVS. Using the dichotomized variables of MVS first (versus not first) and MVS last (versus not last), no significant differences were found on respondents’ MVS total or subscale scores, AS, or SWLS, which suggests that order effects may not have been a big factor in responses on these variables.

An additional limitation is that the data were cross-sectional rather than longitudinal. Whereas longitudinal data are necessary to truly demonstrate mediation by constraining the direction of possible influence, cross-sectional data can only show whether results are consistent with a variable being a mediator based on the sample at hand.

Another potential concern is that the overall appreciation score was obtained by adding together the subscale totals. Although this is the approach described in the original paper by Adler and Fagley (2005), it means that the eight subscales were not equally weighted, as they have different numbers of items. An alternate approach would have been to compute an average rating for each subscale, and then either totaling or averaging those eight average ratings. This procedure would equally weight the eight subscales. If overall appreciation scores were obtained in this way, a somewhat different picture of the relationships might have been obtained. It should be noted that this issue applies only to the analyses involving overall appreciation and not to the analyses of the “have” focus subscale. The same issue applies to the materialism total score, as
its three subscales also have different numbers of items. Consequently, a simple total does not equally weight the three subscales.

Due to the study’s use of an undergraduate college student population, response patterns reflected values and lifestyles common among 18 to 23 year-old college students. Consequently, they might lack generalizability to a broader adult population. For instance, the competitive nature of an undergraduate college environment, in which students are constantly engaged in social and academic pursuits, may lend itself to high levels of peer comparison. Typically, a college student’s exposure to media, lack of complete financial independence, and aspirations for future success may result in a greater emphasis on materialistic pursuits, as noted in the research showing the susceptibility of youth to extrinsic goals and aspirations (e.g., Kasser, 2004). Furthermore, personality development may still be occurring in young adults, with final adult levels reached at about age 30 (McCrae & Costa, 1994).

Another limitation includes the self-report nature of the measures, and possible social desirability in responding, despite the anonymity. The validity of the measures depends on respondents being both willing and able to provide candid answers about materialistic values, appreciation, and life satisfaction.

**Implications**

Results from this study point to the potential positive effects of appreciation overall, as well as of the “have” focus aspect of appreciation, on improving people’s quality of life. Utilizing the various aspects of appreciation to foster greater appreciative feelings, thoughts, and behaviors may help individuals reap greater satisfaction from their lives. For instance, psychologists in a clinical treatment setting might incorporate activities to help individuals increase their attention to positive aspects of their lives (“have” focus), improvements in their
condition (self/social comparison), their transcendent connection to the natural world (awe), or their mindful engagement in being alive (present moment), as methods of increasing their satisfaction with life and general well-being. Educational settings may consider proactive methods of inculcating these values in youth so that they may develop a disposition toward appreciation and carry these behaviors and patterns into adulthood (see, for instance, projects promoted by the Jubilee Centre for Character and Virtues, http://www.jubileecentre.ac.uk/).

Further, the negative correlation between appreciation and materialism, and specifically the belief that material possessions lead to happiness, suggests that increasing one’s appreciation may help minimize the materialistic emphasis on happiness through acquisition. Appreciation may thus protect against the psychological insecurities that result from feelings of deprivation.

The negative relationship demonstrated in this study between materialism and life satisfaction, and indeed a variety of indicators of positive well-being assessed in other studies (e.g., Belk, 1985; Kashdan & Breen, 2007; Kasser, 2002; Kasser & Ryan, 2001; Richins & Dawson, 1992; Solberg et al., 2004), suggests that activities designed to minimize materialistic values might improve people’s well-being across a variety of areas (e.g., psychological functioning, social relationships, happiness, competence, etc.). Interventions have been suggested to stem the materialistic tide of commercial marketing and advertising, such as media literacy campaigns that help inform the public about marketing tactics and purposes and regulation of commercial messages targeting children (Kasser, 2004). Kasser suggested parenting strategies that model intrinsic values and minimize extrinsic values, such as muting the television during commercial advertisements. He also suggested a lifestyle of “voluntary simplicity,” in which one “rejects consumerism” in favor of an “inwardly rich life focused on personal growth, family, and volunteerism” (p. 61). Further, psychologists could support the
development of intrinsic values as a treatment approach to enhance well-being, such as by encouraging generosity and community connections that oppose extrinsic values (Kasser, 2004). For instance, in a project entitled “Character, Service, and Gratitude,” the Jubilee Centre for Character and Virtues seeks to promote the formation of social-action “habits” through a program in which young adults participate regularly in service activities, thus building character virtues while positively affecting the lives of others (Jubilee Centre for Character and Virtues, n.d.).

Finally, noting the cultural emphasis on extrinsic values and increasing commercialization of media, government, and educational systems, Kasser (2004) advocated for psychologist involvement with public policy to work for structural changes. The scope of these efforts ranges from the individual, family, and community to the macrosystemic and political arenas.

**Directions for Future Research**

Areas for future research include exploring the various aspects of appreciation and the positive correlates of each aspect on other areas of living. Future research might search for additional mediators in the path from appreciation to positive outcomes, as well as the path from materialism to negative outcomes. The discrepancy between the MVS total score and the Happiness subscale score also reinforces the idea advanced by Richins and Dawson (1992) that materialism is best viewed as a multidimensional construct, and further exploration of the various aspects of materialism and method of measurement could benefit the field of materialism research. Other methods of labeling the dimensions might also help clarify the construct, such as labeling the scale “happiness through goods or possessions,” or another more specific label.

Though the results from this study demonstrate correlations among appreciation,
materialism, and life satisfaction, the single time-point correlational design does not provide information about causal relationships. Other researchers have experimentally manipulated gratitude (e.g., Lambert et al., 2009), but more work is needed to validate these findings and test reciprocal relationships which may exist among these variables. Given that this study was limited to a college student sample, further inquiry would be helpful to see whether similar patterns emerge in samples that represent the community at large. Further, with the increasing popularity of positive psychology and interventions intended to increase satisfaction with life (Tsang et al., 2014), much of the intervention research utilizes data from wealthier nations where materialistic values are widespread (Kasser, 2004). These results may not generalize to other populations. It seems especially likely that religion and other aspects of culture influence the relationships among appreciation, life satisfaction, and the view that happiness is best achieved through possessions, and countries with other predominant religions may show different patterns of relations among the variables.

In a similar vein, the connection between religion and appreciation is an area that should be further explored. Adler and Fagley (2005) found that people with religious affiliation were significantly more appreciative than those with no religious affiliation. Taken further, Rosmarin, Pirutinsky, Cohen, Galler, and Krumrei (2011) found that the interaction of religious commitment and religious gratitude predicted well-being, over and above gratitude alone. With the increasing research activity documenting the connection between appreciation and positive outcomes, the eight-aspect view of appreciation may be used as a helpful framework within the field of positive psychology. The current study demonstrates that aspects of appreciation other than gratitude may be useful in understanding factors affecting well-being.
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Appendix A

Table 1

*Descriptive Statistics (N = 206)*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>Mean</th>
<th>SD</th>
<th># items</th>
<th>Reliability</th>
<th>Range of Scores</th>
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<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Theoretical</td>
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<tr>
<td>Appreciation Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Items rated 1-7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Have” Focus</td>
<td></td>
<td>55.61</td>
<td>8.47</td>
<td>10</td>
<td>.875</td>
<td>10-70</td>
</tr>
<tr>
<td>Awe</td>
<td></td>
<td>30.00</td>
<td>5.81</td>
<td>6</td>
<td>.737</td>
<td>6-42</td>
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<tr>
<td>Ritual</td>
<td></td>
<td>28.02</td>
<td>6.86</td>
<td>6</td>
<td>.794</td>
<td>6-42</td>
</tr>
<tr>
<td>Present Moment</td>
<td></td>
<td>37.53</td>
<td>6.22</td>
<td>7</td>
<td>.807</td>
<td>7-49</td>
</tr>
<tr>
<td>Self/Social</td>
<td></td>
<td>26.47</td>
<td>4.60</td>
<td>5</td>
<td>.675</td>
<td>5-35</td>
</tr>
<tr>
<td>Comparison</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td>61.97</td>
<td>6.44</td>
<td>10</td>
<td>.761</td>
<td>10-70</td>
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<td>Loss/Adversity</td>
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<td>43.72</td>
<td>7.59</td>
<td>8</td>
<td>.828</td>
<td>8-56</td>
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<tr>
<td>Interpersonal</td>
<td></td>
<td>25.97</td>
<td>4.96</td>
<td>5</td>
<td>.835</td>
<td>7-35</td>
</tr>
<tr>
<td>Material Values Scale</td>
<td></td>
<td>54.74</td>
<td>9.13</td>
<td>18</td>
<td>.826</td>
<td>18-90</td>
</tr>
<tr>
<td>(Items rated 1-5)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
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<td>17.55</td>
<td>4.33</td>
<td>6</td>
<td>.772</td>
<td>6-30</td>
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<td>Centrality</td>
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<td>21.53</td>
<td>4.23</td>
<td>7</td>
<td>.706</td>
<td>7-35</td>
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<tr>
<td>Happiness</td>
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<td>15.65</td>
<td>3.08</td>
<td>5</td>
<td>.641</td>
<td>5-25</td>
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<tr>
<td>Life Satisfaction</td>
<td></td>
<td>21.63</td>
<td>6.54</td>
<td>5</td>
<td>.858</td>
<td>5-35</td>
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<td>(Items rated 1-7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning in Life Question.</td>
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<td>48.62</td>
<td>8.35</td>
<td>10</td>
<td>.732</td>
<td>10-70</td>
</tr>
<tr>
<td>(Items rated 1-7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence</td>
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<td>22.28</td>
<td>6.73</td>
<td>5</td>
<td>.880</td>
<td>5-35</td>
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<tr>
<td>Search</td>
<td></td>
<td>26.35</td>
<td>5.92</td>
<td>5</td>
<td>.882</td>
<td>5-35</td>
</tr>
<tr>
<td>Psych Entitlement Scale</td>
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<td>31.00</td>
<td>10.92</td>
<td>9</td>
<td>.887</td>
<td>9-63</td>
</tr>
<tr>
<td>(Items rated 1-7)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  **p < .001*
Table 2

*Correlation Matrix for Total Scores (N = 206)*

<table>
<thead>
<tr>
<th>Scales</th>
<th>AS</th>
<th>MVS</th>
<th>SWLS</th>
<th>MLQ</th>
<th>PES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciation Scale (AS)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Values Scale (MVS)</td>
<td>-0.079</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Satisfaction (SWLS)</td>
<td>0.386**</td>
<td>-0.003</td>
<td>1.000</td>
<td></td>
<td></td>
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<tr>
<td>Meaning in Life (MLQ)</td>
<td>0.390**</td>
<td>0.018</td>
<td>0.289**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Psychological Entitlement (PES)</td>
<td>-0.032</td>
<td>0.176*</td>
<td>0.056</td>
<td>0.130</td>
<td>1.000</td>
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</table>

* *p < .05 **p < .001
Table 3

Correlation Matrix for Appreciation Subscales (N = 206)

<table>
<thead>
<tr>
<th>Scales</th>
<th>H</th>
<th>A</th>
<th>R</th>
<th>P</th>
<th>S</th>
<th>G</th>
<th>L</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>(H)“Have” focus</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Awe</td>
<td>.665**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R) Ritual</td>
<td>.629**</td>
<td>.499**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(P) Present Moment</td>
<td>.731**</td>
<td>.784**</td>
<td>.508**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(S) Self/Social Com.</td>
<td>.648**</td>
<td>.539**</td>
<td>.424**</td>
<td>.552**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(G) Gratitude</td>
<td>.499**</td>
<td>.328**</td>
<td>.321**</td>
<td>.390**</td>
<td>.331**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L) Loss/Adversity</td>
<td>.753**</td>
<td>.640**</td>
<td>.521**</td>
<td>.657*</td>
<td>.654**</td>
<td>.388**</td>
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<tr>
<td>(I) Inter-personal</td>
<td>.626**</td>
<td>.527**</td>
<td>.445**</td>
<td>.534**</td>
<td>.509**</td>
<td>.302**</td>
<td>.435**</td>
<td>1.000</td>
</tr>
<tr>
<td>(AS) Appreciation</td>
<td>.916**</td>
<td>.805**</td>
<td>.719**</td>
<td>.838**</td>
<td>.738**</td>
<td>.586**</td>
<td>.835**</td>
<td>.690**</td>
</tr>
<tr>
<td>(MVS) Material Values</td>
<td>-.091</td>
<td>-.067</td>
<td>-.098</td>
<td>-.094</td>
<td>.098</td>
<td>-.094</td>
<td>-.091</td>
<td>.031</td>
</tr>
<tr>
<td>(SWLS) Life Satisfaction</td>
<td>.474**</td>
<td>.292**</td>
<td>.298**</td>
<td>.353**</td>
<td>.221**</td>
<td>.094</td>
<td>.328**</td>
<td>.239**</td>
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<tr>
<td>(MLQ) Meaning in Life</td>
<td>.401**</td>
<td>.335**</td>
<td>.325**</td>
<td>.315**</td>
<td>.321**</td>
<td>.080</td>
<td>.368**</td>
<td>.217**</td>
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<tr>
<td>(PES) Psych Entitlement</td>
<td>-.010</td>
<td>.049</td>
<td>.019</td>
<td>-.013</td>
<td>.091</td>
<td>-.350**</td>
<td>.027</td>
<td>.024</td>
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</table>

*p < .05  **p < .001
Table 4

Correlation Matrix for Material Values Subscales and Total Scores (N = 206)

<table>
<thead>
<tr>
<th>Scales</th>
<th>MVS Search</th>
<th>MVS Centrality</th>
<th>MVS Happiness</th>
<th>MVS Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVS – Search</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVS – Centrality</td>
<td>.459**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVS – Happiness</td>
<td>.471**</td>
<td>.302**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>MVS – Total</td>
<td>.846**</td>
<td>.783**</td>
<td>.700**</td>
<td>1.000</td>
</tr>
<tr>
<td>Appreciation Scale</td>
<td>-.053</td>
<td>.024</td>
<td>-.191**</td>
<td>-.100</td>
</tr>
<tr>
<td>Satisfaction With Life Scale</td>
<td>.093</td>
<td>.102</td>
<td>-.281**</td>
<td>-.003</td>
</tr>
<tr>
<td>Meaning in Life Questionnaire</td>
<td>.098</td>
<td>-.040</td>
<td>-.028</td>
<td>.018</td>
</tr>
<tr>
<td>Psychological Entitlement Scale</td>
<td>.143*</td>
<td>.018</td>
<td>.296**</td>
<td>.176*</td>
</tr>
<tr>
<td>Appreciation Scale: “Have” Focus</td>
<td>-.041</td>
<td>.024</td>
<td>-.245**</td>
<td>-.091</td>
</tr>
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</table>

*p < .05  **p < .001
Appendix B

Figure 1. Correlation Coefficients. This figure shows a visual diagram of the Pearson $r$ values between key variables in the analysis. *$p < .05$ **$p < .001$
Figure 2. Mediation model: Life satisfaction mediates the relation between appreciation and viewing material possessions as the path to happiness (MVS-Happiness). Unstandardized B weights and their standard errors are provided for each path. The “uncontrolled” bivariate regression coefficient (i.e., when the mediator is not included in the model) between appreciation and happiness-through-possessions (MVS-Happiness) is in parentheses. The Aroian Test yielded a z-statistic assessing the indirect effect. Z statistic = -2.89, p < .01.

Figure 3. Mediation model: Life satisfaction mediates the relation between the “have” focus aspect of appreciation and viewing material possessions as the path to happiness (MVS-Happiness). Unstandardized B weights and their standard errors are provided for each path. The unstandardized bivariate B weight and standard error, when the mediator is not included in the model, are included in parentheses. The Aroian Test Z statistic = -2.61, p < .01.
Figure 4. Mediation model: Viewing material possessions as the path to happiness (MVS-Happiness) mediates the relation between overall appreciation and life satisfaction. Unstandardized B weights and their standard errors are provided for each path. The unstandardized bivariate B weight and standard error, when the mediator is not included in the model, are included in parentheses. The Aroian Test Z statistic = 2.18, p < .05.

Figure 5. Mediation model: Viewing material possessions as the path to happiness (MVS-Happiness) mediates the relation between appreciation (“have” focus) and life satisfaction. Unstandardized B weights and their standard errors are provided for each path. The unstandardized bivariate B weight and standard error, when the mediator is not included in the model, are included in parentheses. The Aroian Test Z statistic = 2.151, p < .05.
Figure 6. Mediation model: Appreciation mediates the relation between viewing material possessions as the path to happiness (MVS-Happiness) and life satisfaction. Unstandardized B weights and their standard errors are provided for each path. The unstandardized bivariate B weight and standard error, when the mediator is not included in the model, are included in parentheses. The Aroian Test Z statistic = -2.416, p < .05.

Aroian Test: $Z = \frac{-2.45 - .057}{\sqrt{(0.057)^2 + (-2.45)^2 + (0.881)^2 + (0.011)^2 + (0.881)^2 + (0.011)^2}} = -2.416^*$

Figure 7. Mediation model: Appreciation (“have” focus) mediates the relation between viewing material possessions as the path to happiness (MVS-Happiness) and life satisfaction. Unstandardized B weights and their standard errors are provided for each path. The unstandardized bivariate B weight and standard error, when the mediator is not included in the model, are included in parentheses. The Aroian Test Z statistic = -3.176, p < .01.

Aroian Test: $Z = \frac{-0.672 - 0.048}{\sqrt{(0.332)^2 + (-0.672)^2 + (0.048)^2 + (0.186)^2 + (0.048)^2 + (0.186)^2}} = -3.176^{**}$