

APPRECIATION AND LIFE SATISFACTION:  
DOES APPRECIATION UNIQUELY PREDICT LIFE SATISFACTION ABOVE GENDER,  
COPING SKILLS, SELF-ESTEEM, AND POSITIVE AFFECTIVITY?

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## **Abstract**

The primary purpose of this research was to examine whether appreciation explains variance in life satisfaction after controlling for gender, positive affectivity, self-esteem, and coping skills. . Two hundred ninety-eight undergraduates went to the informed consent page of the online survey composed of the Appreciation Scale, the Satisfaction With Life Scale (SWLS), the Positive and Negative Affect Scale (PANAS), The Rosenberg Self-Esteem scale (RSE), and part of the Ways of Coping Questionnaire. Of these, 267 completed the survey, which after screening yielded a usable N of 247. A number of hierarchical multiple regression analyses were conducted to assess the contributions of each variable to life satisfaction. When controlling for gender, positive affectivity, self-esteem, and coping skills, appreciation still made a significant contribution ( $p = .004$ ) to life satisfaction (i.e. over-and-above the contribution of the others). Self-esteem also made a significant contribution to life satisfaction, which remained significant, albeit smaller, even when the other variables (including appreciation) were controlled. However, coping skills failed to make a significant contribution to life satisfaction when controlling for the other variables. This was mostly due to its correlation with positive affectivity, so that when positive affectivity was partialled out, the contribution of coping was not significant. These findings highlight the importance of appreciation in understanding life satisfaction and well-being in general, and build on previous research in the area of positive psychology. The findings also highlight the importance of controlling for positive affectivity when assessing contributions of other constructs to life satisfaction. Limitations of the study, such as the nature of the sample and the correlational design, are discussed. Implications for clinical interventions (e.g. appreciation lists) and applications for schools (e.g. integrating concepts of appreciation into social-emotional curricula) are discussed. Implications for future research such as examining

the effect of appreciation interventions in the geriatric population, or the effects of parents modeling/teaching appreciativeness to their children are discussed.

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“The pursuit of happiness” is an American axiom that many try to achieve, but how to achieve it is often a conundrum for many individuals. People do many things - cognitively and behaviorally - to achieve happiness, but is there a proven way? Some might measure their level of happiness as the level of material success they achieve or the amount of pleasurable experiences they have in their life, but research suggests these things do not determine life satisfaction (Lambert, Fincham, Stillman, and Dean, 2009; Ryan & Dziurawiec, 2001; Tsang, Roberts, Frisch, and Carlisle, 2014).

### **Wellbeing – Life Satisfaction**

Researchers in the area of positive psychology have attempted to study how to improve individuals' wellbeing as a means to avoid or overcome unhappiness or ill-being (Pavot & Diener, 1993). Wellbeing has often been defined as subjective wellbeing (SWB), which consists of an affective component (divided into positive and negative affect) (Diener, Emmons, Larsen, and Griffin, 1985) and a cognitive component - referred to as life satisfaction (LS) (Andrews & Withey, 1976). In the present research, life satisfaction is used as a measure of wellbeing.

Life satisfaction is a measurable and generalizable construct and has been the subject of a number of studies (e.g. Diener, et. al, 1985; Ryan & Dziurawiec, 2001; Shin & Johnson, 1978; Tsang, et. al, 2014). Life satisfaction has been defined as a self-reflective process in which individuals assess the quality of their lives based on their own subjective criteria (Shin & Johnson, 1978) or simply as the conscious appraisal of one's life (Pavot & Diener, 1993).



## **Appreciation**

Appreciation has been 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 and Fagley, 2005, p.81). Adler and Fagley (2005) further defined and outlined eight aspects of appreciation, indicating its complexity. They can be remembered by the acronym: HARPS-GLI (see Table 1). They are: "Have" focus (focusing on what one has and valuing it), Awe (feeling awe/wonder in response to nature, beauty, or life itself), Ritual ("engaging in rituals to foster appreciation"), Present moment ("engaging in mindful awareness of the present moment"), Self/social comparison ("using self/social comparison to foster appreciation"), Gratitude (feeling gratitude to others for help or benefits), Loss/adversity ("using experiences of loss/adversity to foster appreciation"), and Interpersonal ("noticing and valuing the contribution that relationships make to one's life and wellbeing, and expressing it") (Fagley 2012, p.60).

**Table 1**

The eight aspects of appreciation

<b>Aspect</b>	<b>Brief description</b>	<b>Typical Item</b>
“Have” Focus	A focus on the positive tangible and intangible assets a person possesses	I reflect on how fortunate I am to have basic things in life like food, clothing, and shelter
Awe	A feeling of awe and connection to nature and life itself	When I see natural beauty like Niagara Falls, I feel like a child who is awestruck
Ritual	Performing regular behaviors to foster gratitude/appreciation	I use personal or religious rituals to remind myself to be thankful for things
Present Moment	Focusing on the positive aspects in a given moment	I stop and enjoy my life as it is
Self/social comparison	Positive feelings arising from appreciation that life was/could be worse	When I see someone less fortunate than myself, I realize how lucky I am
Gratitude	Performing regular behaviors to express gratitude	I say “thank you” to indicate my appreciation
Loss/Adversity Triggered	Appreciation stemming from the knowledge that nothing is permanent in life	Thinking about dying reminds me to live every day to the fullest
Interpersonal	Noticing and valuing relationships one has with others	I reflect on how important my friends are to me

Adapted from Fagley (2012).

In the past decade, a growing body of evidence has emerged suggesting that gratitude and other aspects of appreciation are strongly related to well-being (Fagley, 2012; Wood, et al., 2010). Based on this research, a number of interventions have been developed in order to improve overall functioning (e.g. Bono, Emmons, and McCullough, 2004; Wood, Maltby,

Gillett, Linley, and Joseph, 2008). However, despite the research reporting positive associations between gratitude and well-being, there has been some disagreement among researchers about the nature and definition of the construct.

Several researchers conceptualized gratitude as an emotion always directed toward other people in response to their assistance or beneficence (e.g. McCullough, Kilpatrick, Emmons, and Larson, 2001). However, this view does not address some situations in which people apply the term *gratitude* that may not necessarily involve a person or deity. For example, appreciating one's loved ones, noticing spring flowers, reflecting on the importance of one's friends, or waking up in the morning are sources of "gratitude" that may not be viewed as coming from a person to whom to be grateful. There is inconsistency between the definition and some uses of the term gratitude that needs to be addressed.

Lambert, Graham, and Fincham (2009) confirmed this observation regarding the definition of gratitude. They found that laypeople might conceptualize gratitude more broadly. Lambert et. al (2009) conducted multiple studies in which they found that individuals appeared to have two different meanings for the term *gratitude*, which they named benefit-triggered gratitude, and generalized gratitude (e.g. being grateful for having what others don't have, or having unique opportunities in their life). Lambert et. al (2009) discussed the need to accommodate both types of gratitude. However, Fagley (2012) suggested that it is desirable to preserve the term gratitude for the emotion directed towards a benefactor, and to use other terminology for other related constructs (e.g., "have" focus appreciation to indicate a focus on what one has and recognizing one's unique benefits/opportunities). That is, rather than one additional category of gratitude, Adler and Fagley (2005) argued that in addition to benefit-triggered gratitude (which they viewed as an aspect of appreciation) there were seven other types of appreciation.

In a similar vein, some researchers in the area of gratitude have posited that gratitude is part of a larger “life orientation” comprised of noticing and appreciating the positive in the world and one’s life (Wood, Froh, and Geraghty, 2010). Multiple studies utilize this conceptualization (e.g. Fagley, 2012; Wood, Maltby, Stewart, and Joseph, 2008), and it is consistent with the view of appreciation used in the present research in which the term *appreciation* includes the eight aspects discussed above.

Wood et al. (2010) reviewed 12 studies supporting the link between gratitude, which is considered one aspect of appreciation, and well-being. A limitation of many of these studies is that they did not control for some important contributors to well-being, which means that the apparent contribution of gratitude may have been at least partly due to these other variables (as these variables also correlate with gratitude and the other aspects of appreciation). Appreciation has been demonstrated to be a unique predictor of life satisfaction, even after controlling for demographic characteristics and the Big 5 personality factors (Fagley, 2012). This is one of the main purposes of the present study: to investigate whether the eight aspects of appreciation predict life satisfaction over and above other contributors to life satisfaction.

## **Self-Esteem**

Self-esteem is known to be an important factor in human functioning. Maslow (1943) described the need for self-esteem to be the second highest category within his hierarchy of human needs. One of the foundations of Rogers's (1951) phenomenological theory is the notion that humans have a basic need to maintain and enhance the self. Being that self-esteem is so important, what is self-esteem?

Over the past 40 years, over 15,000 journal articles have been published on self-esteem (Baumeister, 2003). Despite the wealth of studies and articles on the topic, there remains a fair

amount of controversy among researchers on how to define self-esteem (Heine, Lehman, Markus, and Kitayama, 1999), therefore, the term can have various connotations in varying types of research. In general, researchers use the term self-esteem to refer to one of three things: global self-esteem, domain specific self-esteem, and state self-esteem (Kernis, 2013). A short discussion of these constructs follows.

### **Types of self-esteem.**

#### ***Global self-esteem.***

Global self-esteem is used to describe the way people *generally* feel about themselves. It is referred to as *global* or *trait* self-esteem because this self-evaluation is relatively static or enduring over time and across different situations in life. William James (1890) first talked about self-esteem and referred to it as "average tone of self-feeling that each of us carries about with him, and which is independent of the objective reasons we may have for satisfaction or discontent" (p.306). Although he was not privy to the extensive body of literature we have today on the subject, he appeared to define the term as the general perception people have of themselves.

#### ***Domain specific self-esteem.***

Self-esteem is also used by researchers to describe how people evaluate their personal abilities or attributes; this type of self-esteem is called domain specific (Kernis, 2013). For example, people who doubt their artistic abilities may be said to have low artistic self-esteem and people who think they are a star student may be said to have high academic self-esteem. From this perspective, it is possible for one person to have high self-esteem in some areas (e.g. athletics and culinary arts) and low self-esteem in others (e.g. appearance and academics).

### ***State self-esteem.***

Many researchers use *state* self-esteem to refer to feelings of self-worth. This differs from global self-esteem in that state self-esteem is relative to situations (or states) where individuals have feelings regarding their self-worth, and those feelings are temporary. On the other hand, global self-esteem is a general appraisal of oneself that persists over time. (Brown & Marshall, 2013).

In the present study, the term self-esteem is referring to global self esteem or how much value people place on themselves (Baumeister, Campbell, Krueger, and Vohs, 2003; Brown & Marshall, 2013).

### **Self-esteem and its relationship to other constructs.**

Self-esteem is a perception rather than an objective condition. It may be an accurate perception or a distorted - even pathological - view of oneself. For example, someone with high self-esteem may have a balanced awareness of his/her worth as a person and his/her accomplishments or skills - which may be justified. Another person with high self-esteem may have an inflated perception of him/herself, which is not consistent with objective assessments. But they both have high self-esteem. The same can be said for those with low self esteem; they place low value on themselves due to their perception. It may be well-founded (e.g. they recognize their shortcomings) or it may be distorted and pathological (e.g. they are overly negative about themselves or extremely insecure) (Baumeister, Campbell, Krueger, and Vohs, 2003).

Given the popularity and interest in self-esteem and its benefits over the past 40 years, people may tend to assume that self-esteem is a basis of many positive outcomes - ranging from good school performance to good relationships. However, in Baumeister et al.'s (2003) meta-

analysis of research on self-esteem, they critically evaluate many of these assumptions. In general, they found that high self-esteem does not lead to better school performance, predict better/longer relationships, or reduce risky behavior. Instead, Baumeister et al. (2003) concluded that the benefits of high-self esteem generally fall into two categories: enhanced initiative and pleasant feelings. Enhanced initiative includes qualities such as being more willing to speak up in groups and persistence after failure. Most relevant for the present study is that high self-esteem is associated with pleasant feelings - including happiness, life satisfaction, and enhanced coping with stress.

Diener and Diener (1995) conducted a large study (N=13,118) of college students in 31 nations, examining if there was a significant relationship between self-esteem and life satisfaction. They found that self-esteem was strongly correlated with life satisfaction ( $r = .47$ ) overall, with even higher correlations in countries with more individualistic cultures (i.e. more focused on the self and self-worth, as opposed to collectivist cultures, which are focused more on belonging and contributing to a group, with less focus on the self (Diener & Diener, 1995).

Furnham and Cheng (2000) studied a sample of 406 people (aged 14-28) to measure correlates of happiness, including the type of parenting they had experienced, personality style, and self-esteem. They found that self-esteem was one of the strongest correlates of happiness.

Shackelford (2001) examined newly-weds (ages 17-41) and found that for both husbands and wives, self-esteem correlated with happiness. Lyubomirsky and Lepper (as cited in Baumeister, Campbell, Krueger, and Vohs, 2003) studied over 600 older adults (ages 51-95) and found that happiness and self-esteem were highly correlated. Overall, Baumeister et al. (2003) reported that there are many studies confirming the strong and significant link between self-esteem and

happiness. However, despite the plausibility of self-esteem causing happiness, there is no research that has ruled out third-variable causes.

Another interesting correlate of self-esteem is that those with high self-esteem appear to be better equipped to cope with stress. A number of theorists have suggested that high self-esteem buffers against stress and misfortune and is a resource that enables the person to "bounce back" more quickly from setbacks (Arndt & Goldenberg, 2002; DeLongis & Folkman, 1988). However, Baumeister et al. (2003) discussed numerous studies that contradict or discount the "buffer hypothesis" and posit that although high self-esteem does not buffer against stress, individuals with low self-esteem are more prone to become depressed as a result of stress or life's setbacks.

Although research has demonstrated that self-esteem correlates with life satisfaction, it is unclear if it makes a significant contribution, when controlling for appreciation and coping skills. As mentioned earlier, appreciation and coping skills are also correlated with life satisfaction. Furthermore, self-esteem is correlated with coping skills (Wood, Joseph, and Linley, 2007), positive affect (Diener & Schimmack, 2003), and with gratitude/appreciation (Kashdan and Uswatteb, 2006, Rash, Matsuba, and Prkachin, 2011). These factors make it unclear whether appreciation, self-esteem, positive affect, or coping skills share common variance contributing to life satisfaction, or do they each make a unique contribution? Answering these questions is the purpose of this study.

## **Coping Skills**

Coping skills are defined as cognitive and behavioral efforts to manage psychological stress (Lazarus, 1993). The demonstrated benefits of having adaptive coping skills are manifold. They are often associated with satisfactory outcomes (Lazarus, 1993) and aspects of coping skills



have been found to predict increases in well-being (Davis, 1998). Fredrickson (2002) has also demonstrated that coping skills are correlated with positive affect. Linehan (1994) showed that chronically suicidal individuals with Borderline personality disorder significantly benefitted from DBT-style coping skills training in many ways, such as improving social adjustment, reducing anger, and increasing levels of life satisfaction. Wood, Joseph, and Linley (2007) studied coping skills and their relation to well-being. They found that coping strategies were significantly associated with well-being (multiple  $R$  values [for the different coping strategies] ranged from .53 to .71 (all  $p$ 's <.001).

Folkman, Lazarus, and Dunkel-Schetter (1986) defined eight types of coping: Confrontive coping (active attempts to change the situation), Distancing (efforts to detach oneself from situation), Self-control (efforts to manage one's own feelings), Seeking social support, Accepting responsibility (recognizing one's own role in problem), Escape-avoidance (wishful thinking), Planful problem-solving (problem-focused efforts to change the situation), and Positive reappraisal (attempting to generate positive meaning in the situation by focusing on personal growth). The last two are the focus for the current study because, of the eight ways of coping, Planful problem-solving and positive reappraisal are described by Lazarus (1993) as having the greatest relation to positive outcomes. That is, they seem to represent adaptive coping. Positive outcomes are defined as the situation being "unresolved but improved" or "resolved to satisfaction." Given that these two scales are found to be the most adaptive ways of coping, our hypothesis is that they will be associated with higher life satisfaction.

Coping skills have been demonstrated to correlate with self-esteem (Scheier, Carver, and Bridges, 1994), positive affect (Wood, Joseph, and Linley, 2007), and gratitude/appreciation (Wood, et. al 2007). Wood et. al (2007) conducted a multiple regression analysis to examine

how much coping skills uniquely contributed to variance in gratitude and found that coping styles indeed contributed a substantial proportion of the variance in gratitude. Despite evidence of the relationship of coping skills, self-esteem, positive affectivity, and appreciation to life satisfaction, it remains unclear if any of them make a unique contribution over-and-above the others or whether it is merely their shared variance that correlates with life satisfaction.

### **Positive Affectivity**

Affect is defined in Webster's Dictionary as "the conscious subjective aspect of an emotion considered apart from bodily changes" (affect. 2014. In Merriam-Webster.com).

Researchers have attempted to define affect and delineate its distinction from emotion. Emotions are usually characterized as reactions to personally relevant circumstances (Russell & Feldman Barrett, 1999), they are relatively brief (Rosenberg E. , 1998; Russell & Feldman Barrett, 1999), and they are defined under a host of specific categories, such as joy, anger, or sadness (Fredrickson, 2001). In contrast, affect is considered to be an individual's typical or general mood or feeling (Russell & Feldman Barrett, 1999), is longer lasting (Rosenberg, 1998; Russell & Feldman Barrett, 1999), and characterized under two general dimensions: positive and negative affect (Watson, Clark, and Tellegen, 1988). Positive affect (PA) is defined as "a dimension reflecting one's pleasurable engagement with the environment" (Watson, Clark, and Carey, 1988, p. 346). Someone with high PA will likely be fully focused, highly energized, and pleasantly engaged, while someone with low PA will likely be sad and lethargic.

Researchers further distinguish between positive affect as a state (i.e. "a transient fluctuation in mood" (Watson, Clark, and Carey, 1998, p. 347) or as a trait (i.e. the tendency to experience positive affect) - called positive affectivity by Tellegen (as cited in Watson, Clark, and Carey, 1988). Someone higher in trait positive affect (or positive affectivity) would tend to

experience more positive emotions (Watson, 2009) and more effective social interactions (George, 1991).

Positive affect is associated with positive aspects of functioning including (but not limited to): broadened cognition (Fredrickson, 2001), better coping with stressful events (Aspinwall, 2001) and it may even promote better physical health (Ryff, Singer, Wing, and Love, 2001). Not surprisingly, positive affect is also related to greater life satisfaction, better coping skills, self-esteem, and appreciation. Pavot and Diener (1993) reported a relationship between positive affect and life satisfaction ( $r = .51$ ), as did Smead (1991), who found that positive affect correlated with greater life satisfaction ( $r = .44$ ). Positive affect also correlates with various types of coping skills. Wood, Joseph and Linley (2007) reported multiple R values for the relationship between coping skills and positive affect ranging from .52 to .71. Self-esteem is also correlated with positive affect ( $r = .45$ ) (Diener & Schimmack, 2003). Positive Affect has also been demonstrated to correlate with appreciation ( $r = .43$ ) (Adler & Fagley, 2005) and gratitude ( $r = .67$ ) (Froh, Yurkewicz, and Kashdan, 2008).

Given that one purpose of the present study was to ascertain if appreciation, coping, and self-esteem make a significant contributions to life satisfaction, the trait of positive affectivity was controlled because it correlates with the key variables of the study. This was especially important in the case of appreciation because, by definition, someone with greater positive affectivity tends to experience more positive emotion, and appreciation is one kind of positive emotion. So it is important to control for subjects' tendency to experience more positive affect in general so that any relation would clearly represent the positive emotion of appreciation specifically.

## Gender Differences

Another aspect of the present study was to examine possible gender differences in the constructs. Although some studies examined gender differences in life satisfaction, they found that there was none (e.g. Diener & Diener, 1995; Froh, Yurkewicz, & Kashdan, 2008). Previous research indicates that there are differences between men and women in their emotional awareness and emotional expression (which may influence positive affectivity), level of self-esteem, coping styles, and dispositional gratitude. Among others, Barrett, Lane, Sechrest, and Schwartz (2000) and Ciarrochi, Hynes, and Crittenden (2005) demonstrated that women are more aware of their emotions than men. Kring and Gordon (1998) and Timmers, Fischer, and Monstead (1998) showed that women tend to be more emotionally expressive than men. Kling, Hyde, Showers, and Buswell (1999) performed a meta-analysis representing over 97,000 respondents, and they found that generally men reported higher levels of self-esteem. Matud (2004) found that men tend to use problem solving coping styles, while women use more emotion-focused coping styles. Women may also tend to experience and express more appreciation than men. Indeed, Kashdan et al. (2009) reported that women had significantly higher scores than men on a measure of dispositional gratitude and also derived greater benefits from experiencing and expressing gratitude.

These findings are relevant to the current research because we asked participants to respond to measures of their positive affectivity, self-esteem, coping skills, and their levels of appreciation. Given that there appears to be differences in how men and women experience and express emotions, it is possible (if not likely) that these differences would affect the responses of participants and make it difficult to draw conclusions from the findings. For example, if women tend to be more in touch with and expressive of their emotions, they might tend to be more aware

of positive emotional experiences than men – which would affect their responses on the measure of positive affectivity. For this reason, we controlled for gender in the present study in order to ascertain the unique contributions of the variables on life satisfaction over-and-above any differences that may be attributed to gender.

### **Hypotheses and Research Questions**

Although previous research indicates that higher levels appreciation, self-esteem, and coping skills are related to greater life satisfaction when examined separately, it remains unclear how much of a unique contribution each one makes (if any) when controlling for the others. It is hypothesized that each of the IVs (appreciation, self-esteem, and coping skills) makes significant contributions to life satisfaction (hypotheses 1-3). However, positive affectivity is hypothesized to play a significant role in higher levels of appreciation, self-esteem, and coping skills which lead to increased life satisfaction. Therefore, positive affectivity is hypothesized to correlate significantly with the appreciation scales, self-esteem, and coping skills (hypotheses 4-6). Consequently, positive affectivity will be controlled statistically when testing the unique contributions in hypotheses 1-3.

Furthermore, we wish to examine which aspects of appreciation contribute unique variance to life satisfaction. Another research question is to examine possible gender differences on the different variables.

## **Method**

### **Participants**

Two hundred ninety-eight undergraduate students at Rutgers University in the Northeastern United States went to the informed consent page of the online survey. Of these, 276 answered at least one item and 267 completed the survey. After a data screening process

discussed in a later section, a usable N of 247 remained. Of the 247 respondents, 45.7% (n = 113) were men, 54.3% (n = 134) were women, and respondents were an average of 19.5 years old. In terms of ethnicity, 44.5% were White/Caucasian, 30.4% were Asian/Pacific Islander, 12.6% were Hispanic/Latino/Latina, 5.7% were African American, and 6.9% were from other ethnic backgrounds. Respondents came from various religious backgrounds (see Table 2). Almost 86% (n = 212) of respondents reported that English was their primary language. Participants were an average of 19.5 years old at the time of the survey (with almost 80% of respondents under the age of 20). Ninety seven percent of respondents were single and never married. Other demographic information about the participants is reported in Table 2.

**Table 2**

Demographic information for sample (N = 247)

Variable	%	Variable	%
<b>Gender</b>		<b>Religion</b>	
Female	45.7	Catholic	38.9
Male	54.3	Protestant	15.4
<b>Race/ethnicity</b>		Other Christian	9.7
African American	5.7	Muslim	3.6
Asian/Pacific Islander	30.4	Jewish	6.5
Hispanic/Latino/Latina	12.6	Hindu	8.1
White/Caucasian	44.5	Buddhist	1.6
Other race/ethnicity	6.9	Sikh	1.2
<b>College Major</b>		No Religion	14.6
Business	11.3	Other	.4
Education	.8		
Engineering	9.7		
Humanities	2.0		
Sciences	37.2		
Social Sciences	13.8		
The Arts (art, music, dance)	2.8		
Undecided	22.3		

**Procedure**

Undergraduates in the introductory psychology course at Rutgers were asked to complete an online questionnaire constructed in Qualtrics containing the measures of life satisfaction, appreciation, self-esteem, positive affect, and coping skills. Their participation was anonymous, although they received research participation credits through the psychology subject pool's Sona software. The questionnaire was expected to take 30-35 minutes to complete.

The order in which the scales appeared to participants in the survey was randomized. This was done out of concern that should subjects receive a certain set of questions, it might affect their responses on subsequent sections of the survey. For example, the instructions on the section assessing subjects' coping skills read - "to respond to these statements, you must have a specific stressful situation in mind. Take a few moments and think about the most stressful

situation that you have experienced in the past week...As you respond to each of the statements, please keep this stressful situation in mind.” If the subject followed the directions correctly, the subject would probably be feeling more anxious while responding to the rest of the survey, which could influence their responses. The Qualtrics survey software randomized the order of the following scales for each subject: the PANAS, RSE/SWLS, Coping, and Appreciation scale (these measures are described in the following section). Demographic information was always collected at the end of the survey.

### **Instruments.**

#### ***Appreciation.***

The Appreciation Scale (Adler & Fagley, 2005) was used to measure appreciation. It consists of eight subscales measuring the eight aspects of appreciation delineated above (see Table 1 for sample items). Adler and Fagley (2005) reported reliabilities ranging from .84 to .62. They also reported evidence indicating that the instrument has adequate validity. Recent research (Fagley, 2012) has reported somewhat higher reliability, ranging from .89 to .69. The 57 items are rated 1-7.

#### ***Life satisfaction.***

The Satisfaction with Life Scale (SWLS) (Diener, Emmons, Largent, and Griffin, 1985) was used to measure life satisfaction. The scale's five items measure subjects' overall satisfaction with their lives. Pavot and Diener (1993) reported reliabilities from .89 to .79 and presented evidence of adequate validity. The SWLS items are rated 1-7 (with 1 = strongly disagree and 7 = strongly agree).



### *Self-esteem.*

A slightly modified version of the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1979) was used to measure self-esteem. Its ten items assess individuals' sense of self-worth and self-value/self-esteem. Rosenberg (1979) reported reliability of .85 and .88. Gray-Little, Williams, and Hancock, (1997) reported reliabilities ranging from .72 to .88 and Robins (2001) reported reliabilities from .88 to .90. The above studies also report adequate validity for the RSE.

In the original version of the scale, the items are rated 1-4, ranging from 1 = strongly disagree to 4 = strongly agree. In order to decrease the transparency of the instrument, instead of answering 10 questions on self-esteem all grouped together (which makes it very clear that one's self-esteem is being assessed), those items were mixed with items from the satisfaction with life scale for a total of 15 items. We hoped that doing this would decrease the subjects' tendency to exhibit a response set and increase the validity of subjects' responses. To facilitate this, the RSE rating scale was changed to a seven point scale (1=strongly disagree to 7 = strongly agree).

### *Coping skills.*

Two scales from the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) were used to measure coping skills: "planful problem solving" and "positive reappraisal." As indicated earlier, these two were selected because, of the eight types of coping skills described by Lazarus (1993), these skills are most associated with positive outcomes (Lazarus, 1993). Definitions of the scales and positive outcomes can be found in the coping skills section of the introduction. Folkman, Lazarus, and Dunkel-Schetter (1986) demonstrated adequate validity and reliability for the planful problem solving (.68) and positive reappraisal (.79) scales. The two

scales consist of 13 total items which are rated 0-3 (with 0 = Does not apply or not used and 3 = used a great deal).

### ***Positive affectivity.***

The Positive and Negative Affect Scale (PANAS) was used to measure individuals' tendency to experience positive affect. Participants were presented with a list of feelings of emotions and asked to indicate to what extent "you generally feel this way, that is, how you feel on the average." The measure is widely used in research and has demonstrated adequate reliability and validity. Watson, Clark, and Tellegen (1988) provide evidence of validity and reported a coefficient alpha of .88. Adler & Fagley (2005) further reported reliability of .86. Its twenty items are rated from 1-5 (with 1 = very slightly or not at all and 5 = extremely).

### ***Recent mood.***

Participants were presented with an original item intended to measure recent mood in the midst of the demographic questions section. Subjects were asked "How would you describe your mood in the past week." Subjects could indicate any number between 0-10 (0 = the worst you have ever felt in your life, 10 = the best you have ever felt in your life).

## **Preparation of the Data File**

Overall, 298 subjects (N=298) completed at least part of the survey. Before proceeding with the data analysis, the data were screened for subjects who took the survey too quickly, missing values, outliers, and statistical assumption violations. Subjects who took the survey too fast to give thoughtful answers were eliminated from the data set. To determine the amount of time needed to take the survey, a number of people who were not part of the study took the survey as a timed trial. They took between 13 and 17 minutes to complete the survey. When the survey was taken by selecting any response as fast as possible, the survey was completed in 3.5

minutes. The mean duration of survey completion was also computed for comparison. It was determined that participants who took four minutes or less could not have thoughtfully responded to the survey questions and their responses were not included in the analyses. This eliminated 29 participants.

Subjects' scores on the various measures (e.g. self-esteem, coping, "Have" focus, etc.) were assessed for univariate outliers on the key variables. Outliers were defined as responses were greater than or equal to  $\pm 3$  standard deviations from the mean (Meyers, Gamst, and Guarino, 2013). Five subjects' scores on one or more of the key variables were univariate outliers; the subjects were omitted from the data analyses. Skew and kurtosis were also assessed, and none were more than  $\pm 1$ . Multivariate outliers were screened by computing Mahalanobis distance between each case and the group multivariate mean (Meyers, et. al, 2013). Three cases were determined to be multivariate outliers based on a chi-square statistic with a conservative alpha level of .001 (Meyers, et al, 2013). There were six subjects with missing data on the variables and were omitted from subsequent analyses. (Meyers, et al, 2013). Univariate outliers by gender were examined next. Eight univariate outliers were found when men's and women's responses were examined separately, and the responses of these four men and four women were omitted from subsequent analyses. Multivariate outliers were screened again, but no cases had a significant Mahalanobis distance. After screening the data, 247 subjects remained and their data were used in the analyses.

## **Results**

### **Descriptive Statistics**

Means, standard deviations, and minimum/maximum scores for all the variables are presented in Table 3. Additionally, the mean duration for subjects to complete the survey was

computed. Seven subjects took over 60 minutes to complete the instrument, which influenced the mean duration, therefore the mean was computed with and without subjects whose duration exceeded 60 minutes. However, subjects whose duration exceeded 60 minutes were included in the analyses because subjects may have been interrupted in the middle of taking the survey (e.g. with a phone call or TV show) and their scores are assumed to be valid despite the duration it took them to conclude the survey. Reliabilities of the scales are also provided in Table 3. Reliabilities ranged from .88 to .62. Alpha was set at .01 to control for Type I error. Descriptive statistics for males and females are reported separately in Tables 4 and 5.

**Table 3**

Descriptive Statistics and reliability of instruments for study sample (N=247), combined gender

Variable	<i>Number of Items</i>	<i>M</i>	<i>Theoretical Range</i>	<i>Min-Max</i>	<i>SD</i>	<i>Coefficient Alpha</i>
Life Satisfaction	5	23.23	5-35	7-35	5.63	.78
Self-Esteem	10	48.70	7-70	21-69	10.56	.88
Positive Affectivity	10	34.61	10-50	16-50	6.74	.86
Coping						
Planful Problem Solving	6	16.43	6-24	7-24	3.26	.62
Positive Reappraisal	7	16.12	7-28	7-28	4.73	.77
Appreciation						
“Have” Focus	10	55.41	10-70	33-70	8.15	.86
Awe	6	30.53	6-42	13-42	5.83	.73
Ritual	6	27.61	6-42	7-42	7.49	.83
Present Moment	7	37.42	7-49	17-49	5.96	.78
Self/Social Comparison	5	25.80	5-35	10-35	4.90	.70
Gratitude	10	61.78	10-70	40-70	6.39	.77
Loss/Adversity Triggered	8	43.20	8-56	21-56	7.04	.79
Interpersonal	5	26.15	5-35	12-35	4.57	.79
Duration <sup>1</sup>		18.29		4.32- 283.67	26.51	
Duration <sup>2</sup>		14.55		4.32- 48.30	7.17	

<sup>1</sup> Duration of all subjects (N=247)<sup>2</sup> Duration of subjects whose duration was less than 60 minutes (N=240)

**Table 4**

Descriptive Statistics for study sample, Men (N=113)

Variable	<i>M</i>	<i>Min-Max</i>	<i>SD</i>
Life Satisfaction	22.17	7-35	5.38
Self-Esteem	48.52	21-69	10.70
Positive Affectivity	34.32	16-50	6.62
Coping			
Planful Problem Solving	16.25	9-23	2.81
Positive Reappraisal	15.45	7-25	3.95
Appreciation			
“Have” Focus	53.14	34-69	7.88
Awe	29.27	13-41	6.00
Ritual	25.71	7-42	7.16
Present Moment	35.98	17-48	6.02
Self/Social Comparison	24.63	10-35	5.10
Gratitude	60.44	40-70	6.72
Loss/Adversity Triggered	41.49	21-56	6.69
Interpersonal	25.15	12-35	4.47
Duration <sup>1</sup>	19.40	4.32-283.67	34.30
Duration <sup>2</sup>	13.92	4.32-40.08	6.80

<sup>1</sup> All men (N=113)<sup>2</sup> Men whose duration was less than 60 minutes (N=109)

**Table 5**

Descriptive Statistics for study sample, Women (N=134)

Variable	<i>M</i>	<i>Min-Max</i>	<i>SD</i>
Life Satisfaction	24.12	10-35	5.70
Self-Esteem	48.84	25-69	10.47
Positive Affectivity	34.85	17-49	6.85
Coping			
Planful Problem Solving	16.58	7-24	3.59
Positive Reappraisal	16.67	7-28	5.24
Appreciation			
“Have” Focus	57.32	33-70	7.90
Awe	31.58	19-42	5.49
Ritual	29.20	9-42	7.42
Present Moment	38.64	23-49	5.64
Self/Social Comparison	26.79	13-35	4.52
Gratitude	62.91	45-70	5.89
Loss/Adversity Triggered	44.64	25-56	7.03
Interpersonal	27.00	15-35	4.49
Duration <sup>1</sup>	17.54	5.20-164.93	17.54
Duration <sup>2</sup>	15.08	5.20-48.30	7.44

<sup>1</sup> All women (N=134)<sup>2</sup> Women whose duration was less than 60 minutes (N=131)**Gender Differences**

Independent *t* tests indicated that there were several significant differences between men and women (see Table 6). Interestingly, women reported significantly greater satisfaction with their lives than men;  $t(245) = -2.74, p = .006, d = .35$ . Women also had significantly higher levels of each aspect of appreciation than men.

**Table 6**

Independent Samples T Tests Comparing Men and Women

Variable	Men	Women	<i>t</i> (245)	Cohen's <i>d</i>
Life Satisfaction	22.17	24.12	-2.74**	.35
Self-Esteem	48.52	48.84	-.238	.03
Positive Affectivity	34.32	34.85	-.615	.07
<b>Coping</b>				
Planful Problem Solving	16.25	16.58	-.820	.10
Positive Reappraisal	15.45	16.67	-2.04	.26
<b>Appreciation</b>				
"Have" Focus	53.14	57.32	-4.15***	.53
Awe	29.27	31.58	-3.16**	.40
Ritual	25.71	29.20	-3.74***	.47
Present Moment	35.98	38.64	-3.58***	.45
Self/Social Comparison	24.63	26.79	-3.52***	.44
Gratitude	60.44	62.91	-3.08**	.39
Loss/Adversity Triggered	41.49	44.64	-3.58***	.45
Interpersonal	25.15	27.00	-3.21***	.41

*Note.* *N* = 247. Cell entries for men and women are means.

\*\*  $p < .01$ . \*\*\*  $p < .001$

### Bivariate Relationships

Bivariate correlations are presented in Table 7. They ranged in size from .010 between gratitude and coping via positive reappraisal to .738 between the awe and present moment aspects of appreciation. As expected, most of the variables correlated with each other at statistically significant levels. Correlations with life satisfaction ranged from .616 (with self-esteem) to .162 (with gratitude). All were significant at the alpha .01 level, with the exception of gratitude;  $r(245) = .162, p = .011$ .



**Table 7**

## Correlation Matrix

		2	3	4	5	6	7	8	9	10	11	12	13	14
1	Gender	.173**	.015	.256**	.198**	.232**	.223**	.220**	.193**	.223**	.201**	.039	.052	.130
2	Life Satisfaction		.616**	.456**	.283**	.218**	.431**	.259**	.162	.320**	.247**	.501**	.235**	.212**
3	Self-Esteem			.338**	.083	.074	.250**	.192**	.225**	.214**	.139	.512**	.150	.034
	<b><u>Appreciation</u></b>													
4	“Have” Focus				.659**	.607**	.722**	.690**	.473**	.670**	.617**	.514**	.274**	.359**
5	Awe					.456**	.738**	.513**	.238**	.528**	.499**	.332**	.287**	.344**
6	Ritual						.408**	.542**	.229**	.526**	.394**	.259**	.320**	.434**
7	Present Moment							.528**	.354**	.560**	.511**	.418**	.250**	.274**
8	Self/Social Comp.								.363**	.682**	.479**	.356**	.269**	.248**
9	Gratitude									.362**	.275**	.183**	.216**	.010
10	Loss/Adv. Triggered										.411**	.391**	.241**	.314**
11	Interpersonal											.394**	.240**	.304**
12	Positive Affectivity												.300**	.343**
	<b><u>Coping</u></b>													
13	Problem Solving													.410**
14	Pos. Reappraisal													

\*\*  $p < .01$

## **Hierarchical Multiple Regression Analysis**

A hierarchical multiple regression analysis was computed to determine the contribution of the eight aspects of appreciation, as a set, to life satisfaction while controlling for the other predictors. For the analysis, the independent variables were entered based on their assumed level of permanence within the subjects. For example, gender was entered first because it is least likely to change over time, positive affectivity was entered next followed by self-esteem, and so on. Thus, block 1 was gender, block 2 was positive affectivity - that is, their general tendency to experience positive affect, block 3 was self-esteem, block 4 was the two ways of coping, and block 5 consisted of the eight aspects of appreciation. Another reason appreciation was placed in block 5 was that we wanted to assess the contribution of the set of the eight appreciation scales to the variability in life satisfaction when controlling for the other independent variables (see Table 8), in addition to assessing the unique contribution of each appreciation scale.

**Table 8**

Results of Hierarchical Multiple Regression Analysis of Life Satisfaction

Independent Variable	$R^2$	$\Delta R^2$	$F$ Change	$p$	$\beta$	$p$
Block 1						
Gender	.030	.030	7.53**	.006	.173**	.006
Block 2						
Positive Affectivity	.275	.245	82.48***	< .001	.495***	< .001
Block 3						
Self-Esteem	.450	.175	77.52***	< .001	.488***	< .001
Block 4 - <b>Coping</b>	.463	.013	2.84	.060		
Coping-Plan Prob Solv					.060	.260
Coping-Pos. Reappraisal					.087	.115
Block 5 - <b>Appreciation</b>	.512	.049	2.90**	.004		
“Have” Focus					.189	.058
Awe					-.036	.632
Ritual					-.014	.828
Present Moment					.206**	.009
Self/Soc. Compar					-.096	.177
Gratitude					-.119	.033
Loss/Adv Triggered					.032	.647
Interpersonal					-.049	.420

\*\*  $p < .01$ . \*\*\*  $p < .001$ 

Note: Beta weights are standardized coefficients. Beta weights reported are those computed for the block when the variable was first entered (Petrocelli, 2003).

All tolerance values were above .10 (and VIFs < 10) indicating no problems with multicollinearity (Meyers, Gamst, and Guarino, 2013). Also, the strongest correlation between predictors was .74 which is below the .80 figure that may suggest multicollinearity (Meyers, et al., 2013). Casewise diagnostics indicated no cases with standardized residuals greater than 3 (Meyers, et al., 2013).

The regression results indicated that, in block 1, gender accounted for 3% of variability in life satisfaction ( $p = .006$ ). In block 2, positive affectivity added another 24.5% of the

variance in life satisfaction ( $p < .001$ ). In block 3, self-esteem contributed an additional 17.5% of the variance in life satisfaction ( $p < .001$ ). In block 4, coping skills failed to add significant variance in life satisfaction when controlling for the variables entered in earlier blocks (gender, positive affectivity, and self-esteem). This is interesting, given that both types of coping were significant correlates of life satisfaction in terms of Pearson  $r$  (both  $p$ 's  $< .01$ ). Nevertheless, despite the statistically significant bivariate correlations, they did not add significant variance to the model over-and-above gender, positive affectivity, and self-esteem. However, in block 5, appreciation did make a significant, unique contribution to variability in life satisfaction over and above the other independent variables. Appreciation uniquely accounted for 4.9% of the variance in life satisfaction,  $\Delta R^2 = .049$ ,  $F(8, 233) = 2.90$ ,  $p = .004$ . This is approximately a medium effect according to Cohen (1988) and is noteworthy in light of controlling for gender, positive affectivity, self-esteem, and coping strategies, which had already accounted for 46.3% of the variance in life satisfaction.

## **Discussion**

### **Appreciation**

#### **Its relationship to other constructs**

Of the eight aspects of appreciation, the “have” focus aspect of appreciation had the strongest correlation with life satisfaction ( $r = .456$ ,  $p < .001$ ). It is only logical that individuals who make conscious efforts to appreciate what they have are bound to be more satisfied with life. They are likely to be consciously aware of more of the positive aspects in their lives with which to be satisfied. The present moment aspect had the next strongest correlation with life satisfaction ( $r = .431$ ,  $p < .001$ ). This is consistent with the view that those who focus on the present and attempt to appreciate the positive aspects of their present experience are more

inclined to be satisfied with their lives. The present findings are consistent with Adler and Fagley's (2005) findings in which they reported similar significant correlations between life satisfaction and "have" focus, awe, gratitude, loss/adversity, and interpersonal.

These findings are consistent with the worldview approach of appreciation as opposed to viewing appreciation as just another term for gratitude. In the present study, the gratitude aspect of appreciation had a weak, nonsignificant correlation with life satisfaction ( $r=.162$ ), whereas "have" focus ( $r=.456$ ) and present moment ( $r=.431$ ) had stronger relationships with life satisfaction. These findings suggest that other aspects of appreciation besides gratitude play an important role in our satisfaction with life.

At the outset of the study, we expected that people who tend to experience more positive emotion will also tend to experience more appreciation (because it is a positive emotion). That is, those higher in positive affectivity will, by definition, tend to experience more appreciation, as it is conceptualized as a positive emotion. The present findings are consistent with this view, as all eight aspects of appreciation were significantly related to positive affectivity. The correlations ranged from  $r = .51$  to  $r = .18$ . The strongest relations were with "have" focus ( $r = .514$ ,  $p < .001$ ) and present moment ( $r = .418$ ,  $p < .001$ ). These findings underscore the necessity of controlling for positive affectivity when examining the effects of appreciation.

Five of the eight aspects of appreciation had a significant correlation with self-esteem. The correlations ranged from  $r = .34$  to  $r = .14$ . The strongest relationship was "Have" focus, which had a moderate relationship with self-esteem ( $r = .338$ ,  $p < .001$ ), which suggests that those who appreciate what they have are more likely to have higher self-esteem and/or vice versa.

These results indicate that there are other aspects of appreciation that are related to self-esteem besides gratitude and in the case of "have" focus – that have an even stronger relationship

with self-esteem than gratitude alone. The findings are consistent with the worldview approach of appreciation—highlighting the importance of studying all aspects of appreciation – as opposed to gratitude alone, which had the third largest correlation of the aspects of appreciation with self-esteem.

Various aspects of appreciation were also significantly related to coping skills. The correlations ranged from  $r = .434$  to  $r = .216$ . “Have” focus ( $r = .359, p < .001$ ), awe ( $r = .344, p < .001$ ), ritual ( $r = .434, p < .001$ ), and interpersonal ( $r = .314, p < .001$ ) were all significantly related with positive reappraisal. This indicates that individuals who focus on what they have (“have” focus), perform acts that promote appreciation (ritual), experience awe, and acknowledge the value of their positive social relationships are more likely to utilize the adaptive coping skill of positive reappraisal. These findings make sense considering that positive reappraisal means looking at a stressful or challenging situation in a new light. For example, instead of focusing on the negative aspects of a situation (e.g. getting stuck in traffic), individuals who focus on what they have may experience positive thoughts such as “at least my family and I are healthy” and the positive emotions that come along with those thoughts. Ritual also had a moderate significant relationship with planful problem solving ( $r = .320, p < .001$ ). This indicates that those who perform rituals to remind themselves to pause and reflect on positive things around them are more likely to engage in planful problem solving when faced with a stressful or challenging situation. These findings are consistent with the findings of Wood, et al. (2007), who found that grateful people approach and actively deal with a problem through planning and reinterpreting the situation in a positive light.

Gratitude had small significant relationship with planful problem solving ( $r = .216, p = .001$ ), but did not have a significant relationship with positive reappraisal. Here again, the

findings about the relationship between appreciation and coping skills are consistent with viewing appreciation as a larger construct as opposed to simply being a synonym of gratitude. The present findings indicate that numerous aspects of appreciation are more strongly related to adaptive coping skills than gratitude alone – highlighting the importance to look at all aspects of appreciation – and not limit research to gratitude in isolation.

### **Appreciation as a unique predictor of life satisfaction**

Results from the current study support the importance of positive affectivity, self-esteem, and appreciation in predicting life satisfaction. The tendency to experience more positive affect accounted for 24.5% of the variance in life satisfaction, over-and-above gender. Self-esteem accounted for another 17.5% of the variance, while both types of coping failed to make a significant contribution ( $p = .060$ ). Appreciation accounted for 4.9% of the variance in life satisfaction, even after controlling for gender, positive affectivity, self-esteem, and coping skills ( $p = .004$ ).

The present research is important because it is the first study to demonstrate the unique contribution of appreciation to life satisfaction when controlling for gender, positive affectivity, self-esteem, and coping skills. Research has demonstrated the connection between the gratitude aspect of appreciation and positive affect (Froh, et al., 2009), and the elements of subjective well-being individually (positive/negative affect and life satisfaction) (Froh, et al., 2008; McCullough, Emmons, and Tsang, 2002). Previous studies have also demonstrated the contribution of appreciation to life satisfaction over-and-above demographics, the Big 5 personality traits, and gratitude (Fagley, 2012), self-awareness, spirituality, and optimism (Adler & Fagley, 2005). However, given the strong relationship between positive affectivity and life satisfaction (which was further confirmed by the present findings) and positive affectivity and appreciation, it was

important to control for positive affectivity when assessing the contribution of appreciation to life satisfaction.

Within appreciation, the only aspect making a significant unique contribution in the model was present moment ( $p = .009$ ). This is an important finding because it demonstrates that individuals who focus on the present – having higher levels of appreciation for the positive things in their present experiences – have higher levels of life satisfaction, even when individual differences in positive affectivity, coping, self-esteem, and the other aspects of appreciation (including gratitude) are controlled statistically. This has possible implications for application to clinical practice and potential interventions.

Interestingly, gratitude did not make a significant contribution to the model ( $p = .034$ ), once the other aspects of appreciation are partialled out. Again, these findings are consistent with viewing appreciation as a larger construct as opposed to simply being a synonym of gratitude.

An alternate hierarchical regression analysis was performed regressing life satisfaction on all the primary IVs (positive affectivity, self-esteem, coping skills, and appreciation), but with an additional block after positive affectivity – where participants reported their general mood in the past week on a scale of 1-10 (1 being the worst they felt in their lives and 10 being the best they felt in their lives). Results showed that general mood accounted for 4.7% of the variance beyond gender and positive affectivity ( $p < .001$ ) and self-esteem accounted for an additional 14.4% ( $p < .001$ ) of the variance in life satisfaction, when gender, positive affectivity, coping skills, and recent mood were controlled. Appreciation, which was entered in the last block still explained 4.3% of the variance in life satisfaction beyond gender, positive affectivity, recent mood, self-esteem, and coping skills ( $p = .01$ ).



## Self-Esteem and Coping Skills

### Self Esteem.

Interestingly, self-esteem had the strongest relationship with life satisfaction of all the IV's, when considered in isolation, ( $r = .616, p < .01$ ). This is consistent with the relationship previously reported by Diener and Diener (1995), who reported a Pearson  $r$  of .60. It was also similar to the relationship reported by Lyubomirsky and Lepper (2002) between self-esteem and happiness ( $r = .58$ ). However, it also had the second strongest relationship with positive affectivity ( $r = .512, p < .01$ ). Self-esteem contributed 17.5% of the variance in life satisfaction, when controlling for gender and positive affectivity – down from 38% of the variance when considered in isolation – yet still significant. Therefore, although much of the relation between self-esteem and life satisfaction reported in prior research appears to be an artifact of its contamination with positive affectivity, the present data show that self-esteem offers some unique contribution to life satisfaction over-and-above positive affectivity. This finding indicates that those with higher self-esteem are more likely to have higher life satisfaction even if they don't have the tendency to experience positive affect.

In order to compare the current findings to other studies that do not control for positive affectivity, an alternate hierarchical regression analysis was conducted excluding positive affectivity from the model. Gender was entered in block 1, self-esteem in block 2, coping in block 3, and appreciation in block 4. The contributions of self-esteem, coping, and appreciation to life satisfaction all increased, as would be expected given the correlation between positive affectivity and the remaining IVs. In this alternate analysis, self-esteem accounted for 37% of the variance in life satisfaction, when gender alone was partialled out ( $p < .001$ ), and coping skills became a significant predictor of life satisfaction over-and-above gender and self-esteem, accounting for an additional 3.5% of the variance in life satisfaction ( $p = .001$ ). Appreciation

also increased its unique contribution somewhat to 6.4% of the variance in life satisfaction, over-and-above gender, self-esteem, and coping ( $p < .001$ ).

Another hierarchical regression analysis was conducted to determine the variance in life satisfaction contributed by self-esteem over-and-above all the other IVs. Gender, positive affectivity, coping skills, and appreciation were entered in block 1, and self-esteem entered in block 2. In this model, self-esteem uniquely contributed 14.8% of the variance in life satisfaction ( $p < .001$ ) over-and-above gender, positive affectivity, coping skills, and appreciation. It is noteworthy that self-esteem makes a unique contribution even when it enters last in the model, although its contribution is diminished.

### **Coping Skills.**

Planful problem solving and positive reappraisal had small significant relationships with life satisfaction ( $r = .235$  and  $r = .212$  respectively,  $p < .01$ ), when considered in isolation. These results indicate a weaker relationship between coping skills and life satisfaction than previously found by Wood, et al. (2007). They examined fifteen types of coping, including the two examined in the present study – planful problem solving and positive reappraisal. They reported multiple  $R$ s ranging from .53 to .71 (all  $p < .001$ ) for the 15 types of coping as a set. Unexpectedly, in the current study, coping skills did not make a statistically significant contribution to variance in life satisfaction when gender, positive affectivity, and self-esteem were controlled statistically in the hierarchical multiple regression analysis.

An alternate hierarchical multiple regression analysis was conducted in which life satisfaction was regressed onto gender, positive affectivity, self-esteem, and appreciation in block 1, and the two coping styles subscales were entered into the model in block 2. In this analysis as well, coping skills failed to contribute significant variance to life satisfaction,

contributing 0.7% of the variance to life satisfaction ( $p = .201$ ). These findings provide no support for hypothesis 1 – that coping skills would make a significant contribution to life satisfaction, beyond gender, positive affectivity, and self-esteem.

As reported earlier, in the alternate hierarchical regression analysis in which positive affectivity was excluded from the model, coping skills did make a significant contribution to life satisfaction, over and above gender and self-esteem, accounting for 3.5% of the variance in life satisfaction ( $p = .001$ ). These results are consistent with Wood, et al. (2007) who reported that coping skills have a strong relationship with life satisfaction – though they did not control for other variables in their analyses.

However, in light of the present findings, which indicate that coping skills do not make a contribution to life satisfaction when controlling for positive affectivity – prior research reporting a significant contribution of coping skills to well-being (without controlling for positive affectivity) may be misleading. It may be that individuals' tendencies to experience more positive emotions are more of a contributor to increased well-being than coping skills alone. This was confirmed by an alternate hierarchical regression in which life satisfaction was regressed on coping skills in block 1, and positive affectivity entered the regression in block 2. Coping skills contributed 7.1% of significant variance in life satisfaction ( $p < .001$ ), while positive affectivity contributed 18.8% of significant variance in life satisfaction ( $p < .001$ ), over and above coping skills. This shows that when coping skills are controlled for, positive affectivity still makes more of a contribution to variance in life satisfaction than coping skills alone.

## Gender Differences

Previous research indicates that women tend to be more grateful than men (e.g., Karris & Craighead, 2012; Kashdan, Mishra, Breen, and Froh, 2009), however the present study is the first to examine gender differences in appreciation, rather than just gratitude. As shown in Table 6, independent t-tests indicate that women scored significantly higher than men in every aspect of appreciation, with Cohen's  $d$  values ranging from .53 to .39. The greatest differences were in "have" focus ( $t = -4.15, p < .001, d = .53$ ), ritual ( $t = -3.49, p < .001, d = .47$ ), loss/adversity triggered appreciation ( $t = -3.15, p < .001, d = .45$ ), and present moment ( $t = -3.58, p < .001, d = .45$ ). These Cohen's  $d$  values were approximately medium-sized (Cohen, 1992). Kashdan et al. (2009) found that since women experience and express more gratitude than men, they also reap the benefits of appreciation – including increased levels of well-being. Therefore, the higher levels of appreciation among women might explain some of the difference between men and the women's average levels of life satisfaction ( $t = -2.74, p < .01, \text{Cohen's } d = .35$ ). An alternate hierarchical multiple regression was calculated to test this statistically. In block 1 the eight aspects of appreciation were entered and in block 2, gender was added to the model. In this regression model, without controlling for anything else, appreciation contributed 26% of the variance to life satisfaction. However, gender failed to contribute any significant variance to life satisfaction beyond appreciation. These results are consistent with the speculation that the higher levels of appreciation among women may explain some of the gender differences in life satisfaction. It should be noted that the current findings differ from those of Fagley (2012) in that there were no gender differences in life satisfaction observed in that study. The current findings also differ from earlier studies (e.g. Diener and Diener, 1995; Froh, Yurkewicz, & Kashdan, 2008) in which no significant gender differences were found for life satisfaction.

## **Limitations**

There are several limitations of the current study that need to be taken into account. The sample was taken from a university undergraduate population, and although there was a reasonable amount of diversity in the sample (see Table 2), the results may not be generalizable to the public at large in the United States or in other countries. Certainly the sample reflects a higher level of education. In addition, there was a relatively large percentage of Asians (30% of the sample) who responded to the survey, when according to 2010 U.S. census data, Asians represent only 5.6% of the total U.S. population (Hoeffel, Rastogi, Kim, and Shahid, 2010). However, 22% of undergraduates at Rutgers are Asian (The College Board, 2014) which is more comparable to the proportion of participants in the study. Although there were many different college majors represented in the sample, the distribution of majors may not reflect the university at large. For example, over 37% majored in one of the sciences. Therefore, the results may not generalize to people with other levels of educational attainment or interests. Also, there were a majority of Catholic, Protestant, and other Christian subjects (64% of total respondents) which may also limit the generalization of the findings to other populations, given that religion may have an impact on appreciation. Another limitation is the restricted age range among respondents. Although ages ranged from 18 to 48, the average age was 19.5 years, and since appreciation may be influenced by age, this must be taken into consideration. Another limitation of the study was its correlational design. Although relationships between the variables was discussed, it is not possible to draw conclusions regarding causal relationship between variables and it is possible that there could be other variables mediating the relationship between the constructs.

In terms of the validity of the gathered responses, this study had the possibility of biases associated with self-report measures. Subjects may not have provided truthful responses to items due to a self-serving bias or social desirability. However, the fact that subjects remained anonymous should have lessened the effects of social desirability concerns. Subjects may not have been motivated to give wholly accurate responses due to lack of motivation to attend adequately to the task and take it seriously. Lastly, even if respondents were truthful in responding, it is unclear if they are able to accurately report the frequency of their behaviors, cognitions, or states of appreciation.

In terms of construct validity, a limitation across the survey was that there was only one measure used to measure each construct. Using more measures of each construct would increase the construct validity of the survey instrument and would also assist in comparing results with other studies using other measures (e.g. not everyone measures appreciation with the Appreciation Scale [Adler & Fagley, 2005] used in the present study – they may use the General Appreciation Scale [Tucker, 2007] to measure appreciation). Lastly, only two domains of coping were assessed (albeit the most adaptive ones [Lazarus, 1993]), whereas it might have increased our understanding of coping if more types of coping were assessed via a more comprehensive measure, such as the COPE (Carver, 1997).

### **Directions for Future Research and Implications for Practice**

Given the self-report limitations of the present study, future research might utilize appreciation ratings from co-workers, peers, or partners/spouses to compare to self-report ratings. Having an alternate form for a subjects' peer to fill out would allow for convergent data and increased validity.

It is theorized (e.g. Adler & Fagley, 2005; Fagley, 2012) that levels of appreciation and the ways it is expressed/manifested differ across cultures. It would be interesting to run similar studies examining the contribution of appreciation to life satisfaction in other countries with diverse cultures to compare similarities and differences. Future research might also study how appreciation is taught and manifested in different cultures.

Many of the studies on appreciation and gratitude are with college-age students. It would be helpful to know how levels of appreciation differ among people of different ages and whether its relation to life satisfaction differs depending on age. There is some information about this from research focusing on gratitude. Alleman and Hill (2014) examined gratitude in 1,736 adults ranging in ages from 19 to 94 years-old. They found that gratitude levels did not vary with respect to chronological age. Interestingly, they found that the individuals' perceptions of their remaining time in this world ("subjective age") affected their levels of gratitude – but not their actual age. Given the numerous benefits to well-being offered by appreciation, having similar information regarding the developmental course of the other aspects of appreciation would be quite helpful in the development of interventions promoting increased levels of appreciation in different age groups. More research is needed with individuals from varying levels of socio-economic status (SES). It is unknown how SES relates to appreciation and the levels of appreciativeness in higher versus lower SES. Another potential research area in appreciation is the relationship between parenting styles and levels of appreciation (among parents and children from parents with varying parenting styles).

Public school districts and private schools in the United States are increasingly introducing and integrating Social-Emotional Learning (SEL) into their curricula at all ages – from preschool through high school (Vincent, 2012). The current educational climate in the

United States is fertile to explore another important research question: can appreciation be taught? And if it can be taught effectively, how should it be taught? A number of current SEL curriculums have lessons about gratitude. For example, the 4R's program is an empirically-supported curriculum integrating SEL learning into Language Arts lessons and has units about gratitude (Morningside, 2014). Positive Action (Flay & Allred, 2003) is another SEL curriculum widely used in many states around the U.S that has units about gratitude and aspects of appreciation. It has been the subject of many empirical studies and has demonstrated positive academic and social results (Li & Washburn, 2011). Both of these SEL programs utilize various educational methodologies and mediums to enhance social and emotional learning – e.g. direct instruction, discussions, modeling, and role-plays to impart lessons. It would be interesting to use these curricula as a springboard to learn how positive traits can be taught in a classroom and see if the same strategies could be used effectively to teach and model the different aspects of appreciation. Once implemented one could assess if students have increased levels of appreciation to test the curriculum's effectiveness. This would require assessing the reading level of the Appreciation Scale and potentially modifying it to age-appropriate reading levels and ensuring its reliability and validity.

As part of a dynamic curriculum, it might be helpful to have students engage in life-experiences with guidance from the instructor and/or discussions on how to increase one's appreciativeness from that experience -- for example, visiting sick people in the hospital, an oncology ward (to appreciate one's general health), a dialysis clinic (to appreciate your kidneys), a school for kids with autism or developmentally disabled children (to appreciate one's mental faculties). There are even museum exhibits dedicated to teaching people to appreciate their ability to see and understand the difficulty of life as a blind person. There are exhibits in



museums around the world called “Dialogue in the dark.” These exhibits simulate what it would be like in daily activities without the ability to see. These types of experiences would likely increase students’ level of appreciation – especially in the “have” focus, self/social comparison, and loss/adversity triggered aspects of appreciation. As many of the current studies on the positive outcomes of SEL curriculums are longitudinal, it would be interesting to see how levels of appreciation change over time from younger ages through adolescence.

One recent study (Froh, Bono, Fan, Emmons, Leggio, and Wood, 2014) examined the effects of a gratitude intervention on 122 students (ages 8-10) in six classes over time in a quasi-experimental design. They found that students in the gratitude intervention condition had increased positive affect over time when compared to the control group. However, this study focused solely on gratitude (recognizing and appreciating benefits from a specific benefactor) and not the broader “life-orientation” construct suggested by Adler and Fagley (2005), Fagley (2012), and Wood et al. (2010). It is highly likely that if gratitude-alone interventions have positive outcomes, focusing on other aspects of general appreciation will have a greater impact on life satisfaction. An example would be to teach mindfulness techniques to children and adolescents to help them appreciate the positive aspects of the present moment. There are many components of well-being that are increased by using mindfulness techniques on a regular basis (Kabat-Zinn & Hanh, 2009).

Adler (2002) suggested that a potentially viable intervention to increase levels of appreciativeness would be to develop a parent training program to educate parents about the benefits of appreciation and how to teach appreciativeness to their children. This program would include subjects such as teaching children to think about where their food comes from (i.e. the rain cycle, photo-synthesis, the agricultural process, and delivery) and how it came to their plate

(e.g. parents had to work hard to make money to pay for food). It would be fascinating (though challenging) to implement this program and measure its effectiveness in increasing levels of appreciativeness over time.

Another area of potential study is the effect of gratitude interventions on the geriatric population. There are a few studies indicating that gratitude is associated with less depression (e.g. Fredrickson, Tugade, Waugh, and Larkin, 2003; Wood, Maltby, Gillett, Linley, and Joseph, 2008) and decreased psychopathology in general (Kendler, Liu, Gardner, McCullough, Larson, and Prescott, 2003). However, there is no research on the relationship between gratitude and depression/psychopathology in older adults. It is likely that elderly clients would benefit from interventions promoting increased appreciativeness (in all eight aspects), fostering their ability to look at the positive in the present moment, focusing on the positive tangible and intangible resources they have, etc. Some recent research has focused on the use of appreciation interventions in clinical psychotherapy. Geraghty, Wood, and Hyland (2010a, 2010b) have suggested in two recent studies that gratitude lists may be as effective as some commonly used techniques in clinical psychotherapy. It would be an interesting avenue of research to examine if these interventions are successful with the geriatric population as well.

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