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HUMOR STYLES AND SELF-ESTEEM AS MEDIATORS OF THE RELATIONSHIP
BETWEEN PERSONALITY AND LIFE SATISFACTION

by

Emily Ruth Averitt

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Abstract

Life satisfaction is a key component of hedonic or subjective well-being as well as a pivotal predictor of other health-related indices. One of the strongest predictors of life satisfaction is personality, including neuroticism (a strong inverse predictor) and extraversion. The current research examined two constructs that potentially mediate the relationship between the predictor variable of personality and the outcome variable of life satisfaction: humor styles and self-esteem. Path analysis procedures were utilized to examine a primary model, in which it was hypothesized that specific humor styles would partially mediate the relationship between extraversion and neuroticism and the outcome of life satisfaction via self-esteem. Narcissism, controlled as a potential confound in initial analyses due to evidence of correlations with self-esteem and other variables examined in this study, did not predict humor styles, self-esteem, or life satisfaction, and was removed from the final model. Partially supporting hypotheses, self-enhancing humor and self-defeating humor mediated the relationship between extraversion and neuroticism and the outcome variable of life satisfaction via self-esteem. The model accounted for 28% of the variance in life satisfaction. An alternative model, in which it was hypothesized that self-esteem would serve as the proximal mediator and humor style as the distal mediator in the relationship between personality and life satisfaction was also examined but did not provide a good fit to the data. These results provide support for further research on how self-enhancing and self-defeating humor can potentially impact well-being and how these humor styles might be purposefully shaped to produce positive outcomes.

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HUMOR STYLES AND SELF-ESTEEM AS MEDIATORS OF THE RELATIONSHIP BETWEEN PERSONALITY AND LIFE SATISFACTION

Chapter 1: Introduction

At the turn of the millennium, researchers Seligman and Csikszentmihalyi published an introduction to positive psychology in a special issue of the journal, *American Psychologist*. In this introduction, these authors highlighted how psychological science and practice have historically focused primarily on areas of dysfunction, distress, and disease. These researchers stated: “Psychology has, since World War II, become a science largely about healing. It concentrates on repairing damage within a disease model of human functioning. This almost exclusive attention to pathology neglects the fulfilled individual and the thriving community” (Seligman & Csikszentmihalyi, 2000, p. 5).

The importance of understanding dysfunction is invaluable, but so too is understanding those elements of life that contribute to *being well*. Taking this a step further, it is also important to understand ways of leveraging what is going well as a method of resilience against dysfunction and to understand how to extend temporary relief of symptomology with these strategies in order to create lasting effects. Seligman and Csikszentmihalyi (2000) proposed that there is a gap in our understanding of the relationship between state-dependent experiences of happiness and the experience of enduring well-being. The paramount goal of the current study was to contribute to this body of knowledge and deepen our understanding of factors that affect individuals’ overall well-being.

Subjective Well-Being and the Component of Life-Satisfaction

Research concerning subjective well-being (SWB) seeks to understand the affective and cognitive influences on an individual's appraisal of positive experiences in his or her life. Subjective well-being is a personal, global appraisal – encompassing an individual's view of all areas of his or her life – and is indicated by both relatively high levels of positive affect and life satisfaction and relatively low levels of negative affect (Diener, 1984; 2000). Although they are important in their own right, positive and negative affect are not the focus of the current research, since life satisfaction has been found to independently predict many important outcomes (Halama, 2010; Herero & Extremera, 2010; Yalcin, 2011).

Life Satisfaction, on the other hand, represents an individual's answer to the question “What is the good life (Diener, 1984, p. 543)?” This is, in essence, “...a global assessment of a person's quality of life according to his [or her] own chosen criteria (Shin & Johnson, 1978, p. 478).” This appraisal is based upon a long-term perspective of consciously recognizing desirable elements within one's life, as well as recognizing an absence of undesirable elements. This appraisal is influenced by an individual's assessment of the differential between what *is* and his or her ideas of what *should be* (Pavot and Diener, 1993). Higher life satisfaction is typically achieved when an individual believes the answers to these two questions are comparable or when there is a perception that what *is* exceeds what *should be*.

Researchers such as Chida and Steptoe (2008) and Collins, Gleib, and Goldman (2009) proposed that low life satisfaction serves as a vulnerability factor, whereas high life satisfaction serves to create resilience against stress-related dysfunctions. Life

satisfaction has been connected in the research with many other desirable life factors and outcomes. Some of these include optimism (Yalçın, 2011), lower mortality (Herero & Extremera, 2010), hope (Halama, 2010), and higher ratings of self-esteem, extraversion, and internal locus of control, as well as lower ratings of anxiety and neuroticism (Huebner, 1991). There have also been explorations in regard to how personality might affect the stability of a life satisfaction *set point*, and factors that may enable this set point to shift in a positive direction (Fujita and Diener, 2005).

The exploration of life satisfaction, relative to other dimensions of SWB, may provide insight into understanding factors that affect an individual's long-term assessment of the positive and negative influences in his or her life. For this reason, the current research was built around the exploration of life satisfaction as an outcome variable for the proposed mediation model. A deeper understanding of factors that predict and may affect life satisfaction could lead to greater knowledge of how to create effective and lasting improvements for those who struggle in this domain.

Personality and the Impact of Extraversion and Neuroticism on Life Satisfaction

Each individual possesses a distinctive set of stable traits and qualities that are typically referred to as *personality* (McCrae & Costa, 2008). McAdams and Pals formally defined personality as, "...an individual's unique variation on the general evolutionary design for human nature, expressed as a developing pattern of dispositional traits, characteristic adaptations, and integrative life stories complexly and differentially situated in culture" (2006, p. 212). Many researchers have sought to efficiently categorize corresponding traits into a meaningful taxonomy. Through this work, five recurrent categories of personality factors emerged and came to be referred to as the Five-Factor

Model of personality, or the *Big Five* (Allport & Odbert, 1936; Cattell, 1943; Tupes & Cristal, 1962; 1992; Srivastava, 2012). These five categories include openness, conscientiousness, agreeableness, neuroticism, and extraversion.

Openness to experience refers to an individual's ability to adapt to change, a tendency to seek out variety, and a penchant for utilizing imaginative and insightful processes. *Conscientiousness* is characterized by organization and planning, and typically corresponds to a strong sense of purpose and aspiration. *Agreeableness* describes tendencies toward affection, compliance, kindness, and cooperation, but may also indicate a tendency to avoid or defer during experiences of conflict. *Neuroticism*, sometimes also referred to as *emotional stability*, signifies the presence of traits such as anxiety, dysphoria, irrationality, and low self-esteem. An individual low in neuroticism, conversely, is typically more adaptable and relaxed. Finally, *extraversion* and its counterpart *introversion* pertain to styles of social interaction. Individuals high in extraversion may be energetic and outgoing, preferring social stimulation and companionship. Individuals higher in introversion tend to be less gregarious and more reserved in social situations, and possess a lesser need for stimulation from external, social sources (John & Srivastava, 1999; McCrae & Costa, 2008; Srivastava, 2012).

Researchers such as DeNeve and Cooper (1998), Headey (2007), and Headey and Wearing (1989) have postulated interactions between personality and overall well-being. These researchers have all suggested that the stability of personality characteristics creates a baseline of functioning. As life events and circumstances affect an individual (in either a positive or negative direction), personality factors serve to return that individual's level of functioning back to the state of equilibrium typical for that individual. In a

longitudinal examination of this idea, Headey (2007) found that, of personality factors, extraversion and neuroticism were the strongest predictors of SWB, including life satisfaction. Headey's research provided support for Diener's (1996) earlier speculations that individuals who endorse more extroverted qualities may experience more positive life events and social support, which in turn predict higher SWB, including overall life satisfaction. Conversely, neuroticism may predispose an individual toward less adaptive coping strategies and more negative life experiences, which negatively predict SWB (i.e., which predict higher negative affect and lower positive affect and life satisfaction).

Other studies have also found that extraversion and neuroticism are particularly potent predictors of SWB components. For example, DeNeve and Cooper (1998) found evidence that neuroticism was the strongest predictor of life satisfaction. Higher scores on neuroticism were related to lower scores on life satisfaction, lower scores on happiness, and a greater endorsement of negative affect. Keys, Shmotkin, and Ryff (2002) observed that higher scores on extraversion and lower scores on neuroticism increased the probability of endorsements of optimal well-being. Joshanloo and Afshari (2011), in a study utilizing a sample of Muslim university students, observed that 25% of the variance in life satisfaction scores was explained by Big Five personality traits, with extraversion and neuroticism being the strongest predictors among those traits. These studies, among others, are described in greater detail in Chapter 2 of this document, along with a more detailed rationale regarding the inclusion of extraversion and neuroticism and the exclusion of openness, agreeableness, and conscientiousness in the current study. Based on this evidence, extraversion and neuroticism served as predictors, and life satisfaction served as the criterion variable for the models explored in this study.

Although support for strong relationships between extraversion and neuroticism and the outcome of life satisfaction have been evidenced in several studies, the specific mechanisms involved in these associations and other variables that may mediate this relationship are not well understood. The purpose of the current research was to examine the relationship between the personality factors of extraversion and neuroticism and the outcome of life satisfaction, via the mediating variables of humor style and self-esteem (discussed in the following sections). Based upon the research described above and in Chapter 2, it was hypothesized that extraversion would positively predict life satisfaction, and that neuroticism would negatively predict life satisfaction, through the mediators humor style and self-esteem.

Humor Styles as Mediators of the Relationship between Personality and Life

Satisfaction

Many theorists and researchers in the history of social and psychological fields of study have speculated on humor, its purposes, and its unique characteristics. Such theorists as Allport (1961), Freud (1928), Maslow (1954), and Vaillant (1977) have speculated that specific types of humor promote well-being, whereas other types diminish well-being. Martin, Puhlik-Doris, Larsen, Gray, and Weir (2003) took these ideas a step further and postulated that "...the absence of certain potentially detrimental uses of humor may be as important to psychological well-being as is the presence of more beneficial uses of humor" (p. 50). These researchers proposed that individuals display particular patterns in the ways they use humor, and that these patterns can be broken down and conceptualized as four distinct *humor styles*: self-enhancing humor, affiliative humor, self-defeating humor, and aggressive humor. Martin (2007) distinguished these

styles from the construct of *sense-of-humor* (a separate but related concept, described in greater detail in Chapter 2 of this document), and described how individuals, regardless of whether they possess a high or low overall sense-of-humor, will exhibit preferences or tendencies toward one or more of the four styles of humor.

The four humor styles defined by Martin et al. (2003) are comprised of two positive, or *adaptive*, styles (affiliative and self-enhancing) and two negative, or *maladaptive*, styles (self-defeating and aggressive). The adaptive styles are more likely to foster psychological and social well-being, whereas the maladaptive styles may lead to more negative psychological and social consequences. Two (self-enhancing and self-defeating) are directed toward the self, and two (affiliative and aggressive) are directed toward others. These four styles can also be broken down based upon their function. Self-enhancing and aggressive humor are both *intrapsychic* in nature and serve a self-protective purpose, whereas self-defeating and affiliative humor are *interpersonal* and either impair or enhance an individual's relationship with others.

Self-enhancing humor, viewed as positive and self-protective, is characterized by the extent to which an individual has a humorous outlook on life. This type of humor may help individuals to regulate emotions, cope, and shift perspectives toward the positive. *Aggressive humor*, on the other hand, is typically utilized as a mode of criticism, sarcasm, or manipulation. This is observed in the form of making fun of others or laughing at another's expense. *Affiliative humor* is used to form positive relationships with others via the utilization of wit, story-telling, and amusing others in ways that foster connections. *Self-defeating humor* is directed negatively toward the self. It is often used in attempts to facilitate relationships with others, but typically has the inverse effect of creating distance

between the self and others. This type of humor is characterized by making fun of or disparaging the self in an attempt to hide underlying negative feelings.

Several studies have examined the relationship and influence of humor styles on constructs such as personality and well-being, including life satisfaction. Some studies have even examined humor styles as a mediator in relationships among these and other variables. Kuiper and McHale (2009) explored how humor style mediates the relationship between self-evaluative standards and psychological well-being. These researchers found that those who rated self-evaluative standards more positively were also more likely to utilize affiliative humor and have a greater sense of well-being, whereas negative self-evaluation was linked to greater endorsement of self-defeating humor and a lower rating of overall well-being. Martin et al. (2003) and Vernon, Martin, Schermer, and Mackie (2008) both examined humor style as it relates to the Big Five, and both studies provided evidence that extraversion and neuroticism have the strongest relationships with humor styles. Extraversion was positively linked with affiliative and self-enhancing humor in both of these studies. Martin et al. (2003) also found that self-enhancing humor and neuroticism were negatively correlated, and that self-defeating humor was positively correlated, with neuroticism. Mendiburo-Seguel, Páez, and Martínez- Sánchez (2015), in a meta-analysis, found affiliative humor to have a strong, homogeneous relationship with both neuroticism and extraversion.

Jovanovic (2011) conducted a cross-sectional study with a Serbian sample of university students that was conceptually similar to the current study. The present study expanded upon this and extended Jovanovic's study by attempting to utilize a two-wave approach to data collection with a more diversified sample of participants in the United

States, and included the additional variable of self-esteem in the mediation models (see Chapter 2 for further elaboration). In Jovanovic's study, humor style was examined as a potential mediator between extraversion and neuroticism and components of SWB, including affective well-being and life satisfaction. The results of Jovanovic's research show positive correlations between extraversion and both adaptive humor styles (affiliative and self-enhancing) and both components of SWB. It was also observed that neuroticism and self-defeating humor exhibited a positive relationship, whereas neuroticism was negatively correlated with both adaptive humor styles and both aspects of SWB. Jovanovic determined that the relationships between both extraversion and neuroticism with the outcome variable of life satisfaction were fully mediated by self-enhancing humor, and that the relationship between neuroticism and affective well-being was partially mediated by affiliative humor.

Although Jovanovic (2011) did not find that self-defeating humor mediated the relationship between personality and life satisfaction, other researchers (Kuiper & McHale, 2009; Martin et al., 2003; Páez, Seguel, & Martinez-Sanchez, 2013) have found significant relationships between self-defeating humor and the outcomes of life satisfaction/subjective well-being. To further explore this disparity, self-defeating humor was included as a potential mediator in the current study. This is discussed further in Chapter 2 of this document.

For the current study, a model was proposed in which affiliative, self-enhancing, and self-defeating humor served as mediators, along with self-esteem (discussed in the next section), in the relationship between the personality factors of extraversion and neuroticism and the outcome of life satisfaction. Aggressive humor was excluded from

the current study due to weak, non-significant, and inconsistent evidence of relationships with the other variables of interest (discussed further in Chapter 2 of this document).

Mediating the Relationship between Personality and Life Satisfaction: Self-Esteem

Self-esteem has been defined by Morris Rosenberg as "...a favorable or unfavorable attitude that one has toward oneself" (1965, p. 15). Orth, Robins, and Widaman (2012) proposed that it is an appraisal an individual makes regarding his or her self-worth. Greenberg et al. (1992) stated that "...self-esteem is the feeling that one is an object of primary value in a meaningful universe" (p. 913). All of these definitions highlight how self-esteem is a personal, positive or negative view of the self. It is an adaptive character strength and serves to provide resilience against real or perceived threats (Greenberg et al., 1992).

Self-esteem has been linked in several studies to the other variables pertinent to or included in the current study. Self-esteem has been shown to be the strongest predictor of overall life satisfaction in studies that have examined how self-esteem predicts numerous satisfaction domains (Campbell, 1981, Diener, 1984). In a study by Gilman and Huebner (2006), adolescents who reported high scores on life satisfaction also endorsed higher levels of hope and self-esteem and lower ratings of depression and anxiety. Çivitci and Çivitci (2009) reported findings that self-esteem mediated the relationship between loneliness and global life satisfaction.

Research has provided evidence that there are strong negative relationships between self-esteem and the personality factor of neuroticism and moderate to strong positive relationships between self-esteem and extraversion (Kling, Ryff, Love, & Essex, 2003; Neustadt, Chamorro-Premuzic, & Furnham, 2006; Watson, Suls, & Haig, 2002). In

a 14-year longitudinal study, Erol and Orth (2011) found that emotional stability and extraversion were the strongest predictors of self-esteem development. Wagner, Lütke, Jonkmann, and Trautwein (2013) also found support for positive correlations between extraversion scores and self-esteem, as well as negative correlations between neuroticism and self-esteem.

Kuiper and Martin (1993) observed relationships between humor and self-esteem. These researchers utilized four distinct instruments measuring various aspects of humor and found significant positive correlations between self-esteem and all four humor measures. Self-esteem evinced strong positive correlations with the affiliative and self-enhancing humor styles and negative correlations with self-defeating humor in studies by both Martin et al. (2003) and Kuiper and McHale (2009). Stieger, Formann, and Burger (2011) observed that self-defeating humor was strongly and negatively correlated with explicit self-esteem. In a study by Yue, Liu, Jiang, and Hiranandani (2014), results showed that affiliative and self-enhancing humor significantly predicted happiness and mediated the relationship between self-esteem and subjective ratings of happiness. Also, Zhao, Wang, and Kong (2014) found that both adaptive humor styles (affiliative and self-enhancing) were positively correlated with high life satisfaction scores and that self-esteem and social support fully mediated the relationship between humor styles and life satisfaction. In the current study, self-esteem will be examined as a potential mediator, along with humor styles, in the relationship between personality and life satisfaction.

The Current Study

The purpose of the current study was to extend and enrich knowledge gained from prior well-being research by examining how the exogenous personality variables of

extraversion and neuroticism predicted overall satisfaction with life via the mediating variables of humor styles and self-esteem. For the purpose of the current study, specific personality factors (extraversion and neuroticism) and humor styles (affiliative, self-enhancing, and self-defeating) were utilized. The personality factors of openness, conscientiousness, and agreeableness, along with the aggressive humor style, have been shown to have weak, non-significant, and inconsistent relationships with the other variables of interest in the current study. For this reason, these variables are presumed to not meet the conditions for mediation proposed by Frazier, Tix, and Barron (2004), and were excluded from the current study.

A primary and an alternative model were proposed for the current research (see Figures 1 and 2, respectively). For the primary model, it was hypothesized that extraversion and neuroticism would predict the likelihood that specific humor styles would be utilized. Humor styles, in turn, were hypothesized to predict self-esteem, which would then positively predict life satisfaction. To elaborate, it was hypothesized that individuals higher in extraversion would utilize more affiliative and self-enhancing humor and less self-defeating humor, whereas persons higher in neuroticism would utilize more self-defeating humor and less self-enhancing and affiliative humor. Humor styles would then predict self-esteem such that the adaptive humor styles would be associated with higher self-esteem and self-defeating humor would be associated with lower self-esteem. It was hypothesized that higher self-esteem would positively predict life satisfaction.

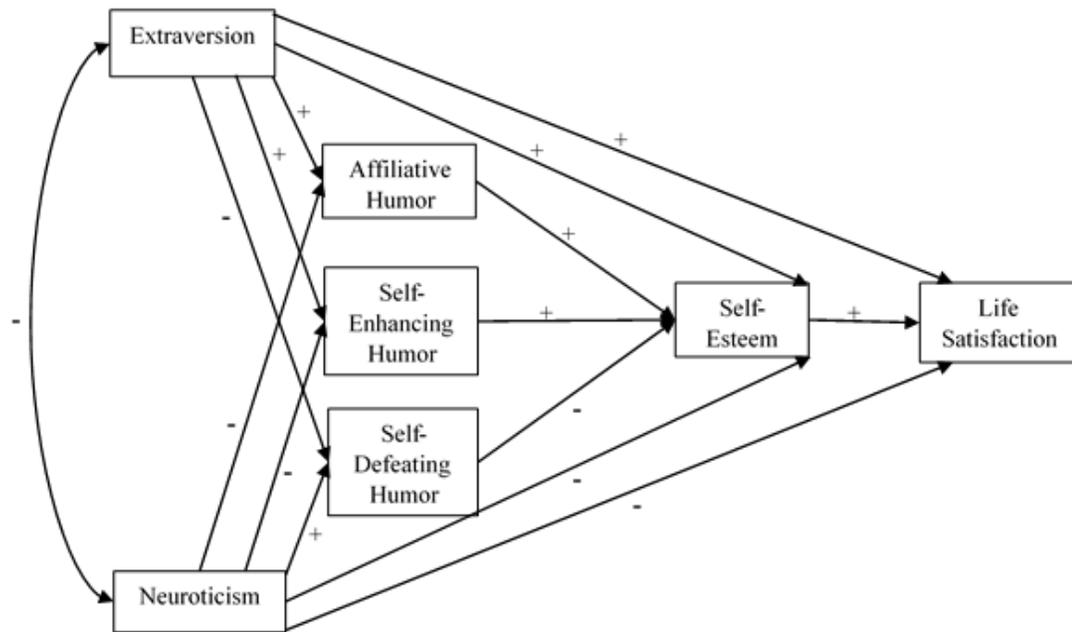


Figure 1: Hypothesized Primary Model – Humor Styles as Mediators of the Personality/Life Satisfaction Relationship via Self-Esteem

In the primary model, humor style functioned as the proximal mediator and self-esteem served as the distal mediator between personality and life satisfaction. For the alternative model, it was proposed that these two mediator variables would be reversed: self-esteem would be the proximal mediator and humor styles would be the distal mediator. Supporting this alternative model, Ozyesil (2012) found that, among Turkish university students, self-esteem predicted humor styles and affect, and Yue et al. (2014) found that affiliative and self-enhancing humor mediated the relationship between self-esteem and happiness. Similarly, consistent with many theories such as Beck’s Cognitive Theory of Depression (Beck, 1967), self-esteem or positive beliefs about the self are construed as a trait variable that predicts depression and other outcomes, and empirical evidence has confirmed this (Gilman & Huebner, 2006; Orth et al., 2012; Roberts, Gotlib, & Kassel, 1996). In the alternative model, extraversion and neuroticism were

hypothesized to predict self-esteem directly. Self-esteem would then predict humor styles, which would directly predict life satisfaction. Specifically, in the alternative model, higher extraversion would predict higher self-esteem, whereas higher neuroticism would predict lower self-esteem. Self-esteem would, in turn, predict humor styles such that higher self-esteem would predict more use of adaptive humor styles (affiliative and self-enhancing), and less use of self-defeating humor. The adaptive humor styles would then, in turn, lead to higher scores on life satisfaction, whereas self-defeating humor would predict lower life satisfaction. With regard to mediation, it was hypothesized in the alternative model that extraversion and neuroticism would indirectly predict humor styles through self-esteem, and that self-esteem would indirectly predict life satisfaction through humor styles.

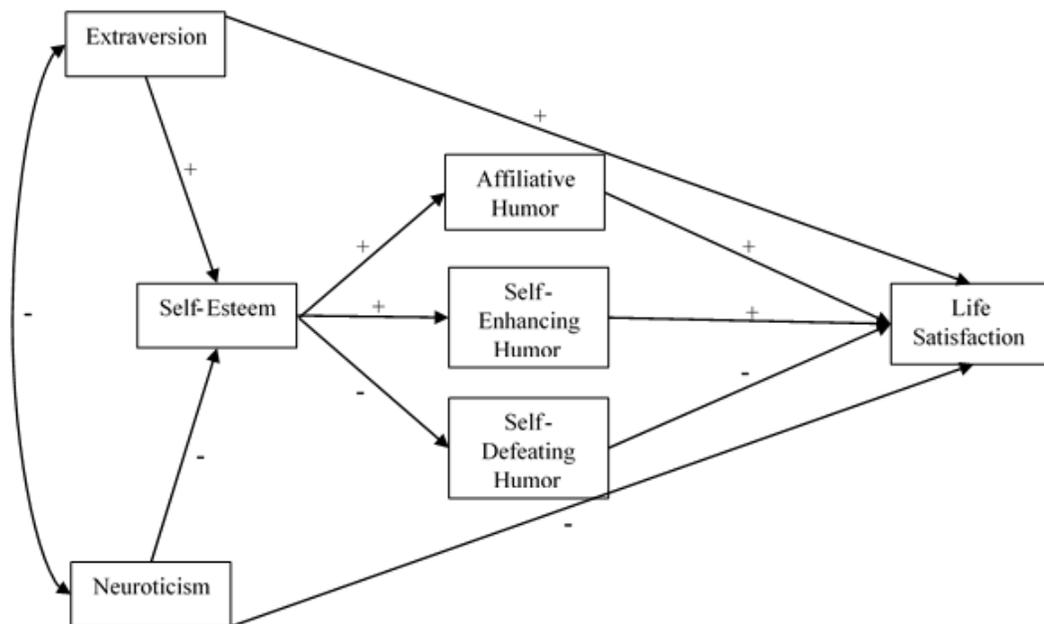


Figure 2: Hypothesized Alternative Model – Self-esteem as Mediator of the Personality/Life Satisfaction Relationship via Humor Style

Additionally, level of narcissism was measured and controlled for in this study in light of evidence that narcissism is linked to variables examined in the current research (Besser & Zeigler-Hill, 2011; Costa & McCrae, 1995; Martin, Lastuk, Jeffery, Vernon, & Veselka, 2012; Paulhus, 2001; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004; Veselka, Schermer, Martin, & Vernon, 2012; Zeigler-Hill & Besser, 2011). These studies are discussed further in Chapter 2.

This study extends the literature in two ways. First, unlike prior studies (e.g., Jovanovic, 2011), this study proposed that both humor styles and self-esteem would mediate the relationship between personality and life satisfaction. Thus, this study assists in clarifying and deepening understanding of how personality predicts and may affect life satisfaction. Secondly and also unlike prior studies, this study attempted to utilize a 2-wave design. Former tests of humor styles as mediators have used cross-sectional methodology, which is neither logically nor empirically adequate for testing mediation, which inherently concerns predictive relationships over time (Maxwell & Cole, 2007).

The ultimate goal of the current research was to gain a greater understanding of how the variables of interest relate to and influence one another. Deepening this understanding leads to a greater knowledge of how to actively and purposefully create and apply interventions that result in positive change. If the positive relationship between extraversion and life satisfaction and the negative relationship between neuroticism and life satisfaction are accounted for by humor styles and self-esteem, this could spur future research on ways to augment life satisfaction by increasing adaptive humor styles and self-esteem and reducing self-defeating humor use. In short, this knowledge might lead to

a better understanding of how mental health professionals and those in related fields can better help people to foster positive change and better life outcomes.

Chapter 2: Literature Review

Historically, psychological traditions and research have focused on the exploration and treatment of those factors in life that lead to dysfunction, unhappiness, and distress. In more recent years, however, there has been a greater push toward understanding the positive components of life experience and factors that influence and increase happiness and well-being (Csikszentmihalyi & Csikszentmihalyi, 2006; Csikszentmihalyi & Nakamura, 2011; Diener, 2000; Diener & Seligman, 2002; Pavot & Diener, 2008; Seligman & Csikszentmihalyi, 2000; Seligman, Rashid, & Parks, 2006). This shift in focus provides a unique balancing point between understanding what is *going wrong* and utilizing what is *going right*. Interestingly, however, the search for happiness and conjectures of what it means to be happy are evident throughout antiquity and form one of the most fundamental human pursuits. According to Aristotle, “...happiness is the supreme good that supplies the purpose, and measures the value, of all human activity and striving. [It is for the sake of happiness], he wrote, [that we all do everything else we do]” (Kenny & Kenny, 2006, p. 13).

The movement toward a more positive psychology was built upon these principles and asserts that psychological and emotional distress or dysfunction can be addressed not merely through the reduction of negative symptomology, but also through bolstering positive emotions, building upon character strengths, and constructively exploring meaning. All such efforts also, in theory, counteract symptomology, buffer future occurrences of such symptomology, and provide a greater base of positive coping mechanisms (Seligman et al., 2006). Within the positive psychology movement, the concept of subjective well-being (SWB) has become a central and rapidly developing

area of theory and research (Diener, 1984; Diener, 2000; Diener & Seligman, 2002). The goal of this area of study is to more fully understand individuals' personal evaluations of what evokes happiness and fulfillment in their lives and how to constructively use this information to increase human well-being. Diener (1984) further explains that "The literature on SWB is concerned with how and why people experience their lives in positive ways, including both cognitive judgments and affective reactions (p. 542)."

Components of Subjective Well-Being

Subjective well-being is characterized by three quintessential hallmarks (Diener, 1984). Firstly, SWB – as the term implies – is subjective. An individual's determining factors and appraisal of SWB reside within his or her own experiences and judgments (Campbell, 1976; Diener, 1984; Diener, 2000). Secondly, SWB is determined by the presence of positive indicators, not just the absence of negative factors. Lastly, the appraisal of SWB must be *global*. The emphasis of SWB is placed on an integrated judgment of one's life as a whole, as opposed to only evaluating singular aspects of life (Diener, 1984; Diener, 2000; Diener, Suh, Lucas, & Smith, 1999; Huebner, 1991). That being said, SWB is influenced by combinations of many distinct constructs and areas of life. Many of these are explored in depth in other bodies of literature (see Diener, 1984 and Diener et al., 1999 for more extensive coverage of this literature) and have included categories such as subjective satisfaction, income, behavior, life events and outcomes, personality, biological influences, and to a lesser extent (due to low and inconsistent correlations), demographic variables. Diener also explains, "People experience abundant SWB when they feel many pleasant and few unpleasant emotions, when they are engaged

in interesting activities, when they experience many pleasures and few pains, and when they are satisfied with their lives (Diener, 2000, p. 34).”

According to Diener (1984; 2000), the affective and cognitive aspects of SWB include affect, happiness, and life satisfaction. The component of affect not only emphasizes a high level of pleasant emotional experiences, but also a low level of negative emotional experiences. This is also known as *hedonic balance* (Diener et al., 1999; Huebner, 1991; Jovanovic, 2011; Schimmack, Schupp & Wagner, 2008). When the positive affective component of well-being is high, an individual is not only likely to experience a greater frequency (not to be confused with *intensity*) of positive emotions, but is also capable of quickly returning to a more positive affective state after a period of negative emotion. To further clarify the implications of frequency versus intensity of positive affect, Diener and Seligman (2002), in a study of individuals who exhibit a predisposition toward happiness and positive affective experiences, found that participants within the “happiest group” experienced positive feelings most of the time, but not “ecstatic” feelings. These individuals also reported experiencing occasional negative moods, but seemed to possess the ability to quickly return to a state of positive affect. Therefore, it seems that the affective component of SWB speaks toward balancing appropriate reactions to life events and natural fluctuations in mood state with the adaptability to return to a baseline mood state within the positive end of the affective spectrum.

Although the term *happiness* is often applied generically to overall well-being, positive affect, satisfaction, morale, etc., as a component of Deiner’s (1984, 2000) SWB, the term is utilized in a more specific sense. Happiness, as a component of SWB, is

synonymous with the Greek concept of *eudaemonia*, or human flourishing, and is subject to greater external influence than the other components of SWB. Diener states, “In normative definitions, happiness is not thought of as a subjective state, but rather as possessing some desirable quality (1984, p. 543).” In this sense, an individual’s appraisal of happiness is based largely on his or her value framework and relates to ideas of virtue, success, possession of desired qualities or status and so forth. In this conceptualization of happiness, there exists a dependence upon perceptions of external judgment and comparison to others or to social norms. For example, one may experience an increase in happiness upon receiving a promotion at work, receiving a good grade on an exam in school, or by being labeled as intelligent or kind by others. The component of happiness seems to filter into or become combined with the overall affective element of SWB (Diener, 2000; Jovanovic, 2011; Pavot & Diener, 1993), or to be examined in regard to cognitive satisfaction with specific domains of life (e.g. work, family, leisure, finances, etc.; Diener et al., 1999). Though this is possibly the least defined of the SWB components, both of these categorizations appear to make sense. Despite the distinction that *happiness* seems to be influenced by external factors, it is still conceptualized by individuals’ subjective emotional reactions to those factors (alluding to an affective nature). Also, given that it is characterized by said external factors, it seems appropriate to define this component in regard to satisfaction with these distinctive domains (alluding to a cognitive nature). It seems reasonable to say that definitions surrounding this component of SWB are somewhat unclear and will perhaps need to be clarified in future research. This argument, however, is beyond the scope of the current manuscript.

The third component of SWB, life satisfaction, is often defined as "...a global assessment of a person's quality of life according to his [or her] own chosen criteria (Shin & Johnson, 1978, p. 478)." Whereas the concept of happiness, as described above, seems to be shaped by more external determinants (e.g. social norms, perceptions of judgments by others, etc.), life satisfaction seems to allude to subjective, internal, and global cognitive judgments of the elements of life that provide personal meaning, fulfillment, and contentment. This concept is reliant upon an individual's standards and personal answers to the question, "What is the good life (Diener, 1984, p. 543)?" Pavot and Diener (1993) also explained that a comparison is made between one's perceptions of his or her life circumstances and a self-constructed standard of what those circumstances should be. When a person's perception of what *is* and what *should be* are comparable, or when what *is* exceeds what *should be*, then he or she is likely to report higher life satisfaction than a person who perceives a deficit between life circumstances and what he or she hopes to gain from life.

Although it is the combination of the affective and cognitive components of SWB that form a whole picture of an individual's subjective sense of his or her well-being, affect and life satisfaction form separate factors and provide independent and unique information. Both affect and life satisfaction are dependent on evaluative appraisals, but Pavot and Diener (1993) highlighted three ways in which these appraisals are very different from one another. The first distinction is a matter of recognition versus reaction. An individual is capable of cognitively recognizing undesirable components of his or her life without necessarily experiencing a negative emotional reaction to them. Therefore, a negative appraisal of life components could decrease overall life satisfaction without the

presence of a corresponding decrease in overall positive affect or an increase in overall negative affect. The second distinction noted by Pavot and Diener is one of a temporal nature. Affective reactions often occur as an immediate or short-term response to an event or stimulus and last for a brief duration. Life satisfaction, on the other hand, is an appraisal based upon a more long-term perspective and includes judgments built around past events and circumstances, present conditions, and future desires and goals. The final point made by Pavot and Diener emphasizes the conscious nature of cognition in appraisal of overall life satisfaction versus the potential for more unconscious and/or biological influences on affect. Individuals are consciously aware of their values and goals. This leads to a conscious awareness of discrepancies between those values/goals and the actual circumstances of an individual's life. Therefore, judgments regarding overall life satisfaction occur consciously and within the individual's full awareness. Affect, on the other hand, can be influenced both consciously and unconsciously and can also be influenced by bodily states or biological events. This seems to indicate that affect may be much more mutable and state-dependent than the construct of life satisfaction, and that there is much more variability in the source of the internal appraisal of affective responses.

Predicting and Influencing Life Satisfaction

As Kwan, Bond, and Singelis (1997, p. 1038) stated, "An ultimate dream for everyone in the field of psychology is to understand human behaviors so that psychology can contribute to people's well-being." Based on the three assertions above, the exploration of the life satisfaction component of SWB may provide a more stable window into understanding the overarching influences of a positive appraisal of one's

life, as well as a better understanding of factors that are detrimental to this appraisal. That is, understanding factors that affect an individual's conscious, cognitive assessment of his or her past, present, and future life satisfaction enables a deeper understanding of ways to potentially change those factors to create effective and lasting improvements. Also, a better understanding of the stability of life satisfaction has great implications for application in the practice of psychology and counseling. If life satisfaction is completely fixed and stable, then there may be little that mental health professionals can do to improve it. If, however, life satisfaction is mutable, the opportunities for helping individuals to improve or maintain their well-being greatly increase.

Diener (2000) presented the concept of the *hedonic treadmill*: Although there may be positive or negative fluctuations in SWB, individuals tend to return to a particular baseline over time. Fujita and Diener (2005) further explored this concept and examined the potential for a *set point*, or baseline, specific to life satisfaction. They discussed findings supporting the stability and heritability of the life satisfaction set point and described how temperament (personality) plays a role in influencing the initial position of this set point. They argued, however, that "Interventions to change society or to help individuals must be considered in a different light if they cannot hope to improve people's SWB (p. 158)." In other words, if this set point cannot be changed, the endeavors of psychological professionals to assist in improving individual's well-being may not be having the intended impact.

Fujita and Diener (2005) instead predicted that this set point can change over time and proposed the term *soft set point* to describe this. The findings of their study did imply that there is long-term stability of levels of life satisfaction and that genetics has a hand in

determining the initial set point. They also found, however, that life events and situational factors influence ratings of life satisfaction and that some individuals do exhibit significant change in their set point level of life satisfaction over time. One especially interesting finding was that individuals with higher life satisfaction ratings displayed greater set point stability than individuals with lower ratings of life satisfaction. This result is intriguing in that it may imply that there is a greater opportunity for psychological professionals to assist in improving the life satisfaction set point of individuals with lower ratings, as well as developing a further understanding of factors that maintain the stability of this set point for individuals with higher ratings.

The benefits of improving life satisfaction are numerous, and positive ratings of life satisfaction have been connected with many desirable health and well-being outcomes. For example, greater life satisfaction predicted lower mortality after controlling for demographic variables and health status, and also appeared to do so independently of depression (Collins, Gleib, & Goldman, 2009). Chida and Steptoe (2008) reported similar results from a meta-analysis. These researchers found that life satisfaction and other positive traits had an inverse relationship with mortality among both healthy and non-healthy individuals, and that these findings were independent of the effects of negative affect. In a study of an Israeli population of psychiatric inpatients with schizophrenia, Ponizovsky, Grinshpoon, Levav, and Ritsner (2003) found that patients with histories of multiple suicide attempts reported less satisfaction with a greater number of life domains than patients who had made a single suicide attempt or no attempt. Also, Baruffol, Gisle, and Corten (1995) investigated the possibility that life satisfaction mediates the role between distressing life events and later neurotic impairment in a

general population in Belgium and found that, two years after a distressing event, life satisfaction did mediate the event—impairment relationship. These researchers argued that low life satisfaction is a vulnerability factor, whereas high life satisfaction is a resistance factor for stress-related disorders or impairment.

It is clear that greater satisfaction with life is connected with many positive outcomes, and it seems apparent that a greater understanding of ways to influence and improve life satisfaction would be a significant benefit within the fields of psychological science and mental health practice. In research, the next steps toward understanding how to best initiate these positive changes in life satisfaction is to understand other variables that may predict and potentially shape the outcome of life satisfaction. Many studies have been conducted in light of this goal, and many variables have been linked to the outcome of life satisfaction. Yalçin (2011) found that family and faculty support, along with optimism, were predictors of life satisfaction in a Turkish college student population. Social activities were observed to mediate the relationship between self-esteem and optimism and the outcome of subjective well-being for a population of older Spanish adults (Herero & Extremera, 2010). Halama (2010) found that hope served as a partial mediator in the relationship between the personality factors of neuroticism and conscientiousness and the outcome of life satisfaction, and also noted that hope fully mediated the relationship between extraversion and life satisfaction. The relationship between loneliness and global life satisfaction was partially mediated by global self-esteem in a study of Turkish adolescents (Çivitci and Çivitci, 2009). Also, life satisfaction has been correlated with higher ratings of self-esteem and extraversion, lower

ratings of anxiety and neuroticism, and a greater sense of internal locus of control (Huebner, 1991).

As described earlier, Fujita and Diener (2005) discussed the role that temperament (personality) plays in contributing to individuals' life satisfaction *set point*, and other studies described variables that may impact or mediate the relationship between personality and life satisfaction. In regard to understanding how to augment life satisfaction, given that personality predicts life satisfaction and may help shape its initial set point, these mediating variables are important to explore and consider. It seems clear that there may be many variables and factors that potentially mediate the personality—life satisfaction relationship, and ongoing endeavors to identify these variables are important in gaining a more complete understanding of this construct and the ways this knowledge can be put into practice.

The current study was designed around this exploration. The personality factors of extraversion and neuroticism form the predictor variables of a proposed mediation model (see Figure 1), and life satisfaction is the outcome variable. The choice of extraversion and neuroticism as the predictor variables and the exclusion of other personality styles will be discussed in the following sections of this document. Humor styles and self-esteem were examined as potential mediators in the relationship between these personality styles and life satisfaction. These constructs and their relationships with personality and life satisfaction were likewise discussed at length in the following pages, and an alternative model was also explored.

The Five Factor Model of Personality: An Introduction to the “Big Five”

Personality has been defined as, “...an individual’s unique variation on the general evolutionary design for human nature, expressed as a developing pattern of dispositional traits, characteristic adaptations, and integrative life stories complexly and differentially situated in culture” (McAdams & Pals, 2006, p. 212). There are numerous theoretical perspectives on personality, personality development, and personality classification – each one contributing to a psychological breadth of knowledge regarding individual behavioral and experiential differences (John & Srivastava, 1999). Over the past several decades, however, efforts have been made to create a taxonomy of personality that bridges the differing theoretical perspectives and creates a common language for the study of personality.

Based on work by Allport and Odbert (1936) and Cattell (1943), Tupes and Christal (1961; 1992) were able to differentiate among five recurrent and strong personality categories or factors. Although not a theory of personality in and of itself, this categorization provides a coordinate map of corresponding traits that fit together in individuals’ descriptions and assessments of one another (Srivastava, 2012). This taxonomy has become known as the Five- Factor Model of personality, also referred to as the “Big Five,” and includes the traits of openness, conscientiousness, agreeableness, neuroticism, and extraversion. These labels form the broadest representation of each of these personality categories, and each of these five dimensions serve as a summary of more distinct and specific underlying characteristics (John & Srivastava, 1999).

John and Srivastava (1999), McCrae and Costa (2008), and Srivastava (2012) provide definitions of each of these broad categories. *Openness to experience*, sometimes

called *intellect* or *imagination*, refers to the degree to which an individual has a wide range of interests, employs imagination, and is insightful. Individuals who are high on ratings of openness possess a need for variety and novelty and adapt well to change. *Conscientiousness* includes being thorough, organized, and prone to planning. These individuals display a strong sense of purpose and have high aspirations in striving for achievement. *Agreeableness* is characterized by the qualities of sympathy, kindness, and affection. The agreeable individual displays compliance, cooperation, and a forgiving nature, but may defer to others during interpersonal conflicts. *Neuroticism* is typically conceptualized as emotional instability; however, the term *emotional stability* can alternatively be used to describe this personality dimension. At the high end, neuroticism includes such traits as tension, moodiness, and anxiety. Individuals with high ratings of neuroticism are prone to depression and dysphoria, low self-esteem, irrational perfectionistic tendencies, and greater overall pessimism. Conversely, the low end is characterized by the traits of being relaxed, calm, and emotionally adaptable. Finally, *extraversion*, sometimes referred to as *surgency*, encompasses qualities such as being talkative, energetic, gregarious and assertive. These individuals display a preference for social stimulation and the companionship of others. The opposite pole of this personality dimension, *introversion*, is characterized by quietness, less outgoing behavior, a tendency to engage less with others, and a lesser need for external social stimulation.

McCrae and Costa (1996; 2008) offered a theoretical interpretation of the Five-Factor Model, which they have deemed *Five-Factor Theory* (FFT). Within this theoretical framework they distinguished between *basic tendencies* and *characteristic adaptations*, describing the roles each of these plays in personality formation and

function. Basic tendencies have a genetic origin, are grounded within biological structures and processes, and possess stability across a life-span. Characteristic adaptations, on the other hand, are defined by the interactions of environmental demands with basic tendencies and are reflected in an individual's roles, relationships, attitudes and goals (John & Srivastava, 1999). McCrae and Costa (2008) explained:

Personality traits are endogenous basic tendencies that can be altered by exogenous interventions, processes, or events that affect their biological basis... Characteristic adaptations change over time in response to biological maturation, social roles and/or expectations, and changes in the environment or deliberate interventions. (p.165)

In other words, whereas basic tendencies are innately stable and based on genetic predispositions, the interaction of these basic traits with characteristic adaptations (including social and environmental factors) can alter individual thoughts, feelings and behaviors. Also, basic tendencies have the capacity to steer the development of characteristic adaptations. Often, an individual's personality plays a role in his or her interpretation and reaction to environmental and social information; likewise, individuals' reactions to environmental and social stimuli can greatly influence the environment of the individual.

The Stability of Life Satisfaction and Personality

Considering the theories of the life satisfaction set point (Fujita & Diener, 2005; discussed earlier in this document) in light of the Five-Factor Theories of basic tendencies and characteristic adaptations presented by McCrae and Costa (1996; 2008), one can begin to speculate on the interrelatedness of these concepts. Fujita and Diener

emphasized how heritability (i.e. genetics) and temperament (i.e. personality) play a role in determining the initial or baseline location of an individual's life satisfaction set point. This seems to be consistent with McCrae and Costa's idea of basic tendencies – those fundamental potentials inherent and unique to each individual that are genetically derived and stable across time. Fujita and Diener's idea of a "soft set point," then, seems to correspond to McCrae and Costa's concepts regarding the interaction of basic tendencies with characteristic adaptations. Although there is evidence of stability for the life satisfaction set point, there is also evidence that this set point can potentially be shifted due to the impact of life events and other environmental and characterological variables.

Headey and Wearing (1989) and Headey (2007) also addressed the connection between personality and a set-point of SWB and life satisfaction. They discussed the potential for shifts to occur in this set-point as well, and Headey (2007) proposed that this set-point is possibly more mutable than it was once assumed to be. Headey and Wearing (1989) introduced the term *dynamic equilibrium model* to describe their theory regarding the SWB set-point. These researchers suggested that personality characteristics, particularly extraversion and neuroticism, are predictors of an individual's initial equilibrium level. According to these authors, life events are capable of creating significant change in overall SWB levels in either a positive or a negative direction, but personality characteristics serve to return SWB to its average level of equilibrium. DeNeve and Cooper (1998) clarified: "Personality appears to color how people perceive life events as they take place and returns people to their typical levels of SWB after powerful events are experienced" (p. 219).

Headey (2007), based on data from a 20-year longitudinal German Socio-Economic Panel Study (SOEP), asserts that personality traits, particularly extraversion and neuroticism, may enable some individuals to have a greater chance of experiencing long-term changes in SWB and life satisfaction. This author explains that individuals high in extraversion may experience more positive life events than others which, in turn, may increase life satisfaction gains for these individuals. Conversely, individuals high in neuroticism may experience a greater number of negative life events and thus may experience greater losses in life satisfaction. Individuals high in both extraversion and neuroticism may be more likely to experience a change in life satisfaction in either direction. Diener (1996) had made similar statements in his earlier work and explained that extraversion may predispose an individual to experience greater social support and positive affect, whereas neuroticism may predispose some individuals to employ inefficient or negative styles of coping and increase distress and negative affect.

Big Five Personality Traits and their Link to Life Satisfaction

Given the convergence of the ideas described in the preceding paragraphs, it seems all the more important for psychologists to attempt to gain a more complete understanding of the relationship between personality and life satisfaction, as well as other variables that may play a role in creating or facilitating changes in this relationship. There is a great deal of research that promotes this goal and provides evidence of a strong relationship between personality and SWB. In fact, several studies have concluded that personality factors – particularly the Big Five personality factors of extraversion and neuroticism – are powerful predictors of SWB, including the component of life satisfaction (Costa & McCrae, 1980; DeNeve & Cooper, 1998; Joshanloo & Afshari,

2011; Keys, Shmotkin, & Ryff, 2002; Steel, Schmidt, & Schultz, 2008; Vittersø & Nilsen, 2002).

Costa and McCrae (1980) conducted a series of studies investigating the relationships of extraversion and neuroticism with subjective well-being and happiness. These researchers not only found that there are positive correlations between happiness and the temperament qualities of sociability and activity, with negative correlations existing between happiness, emotionality and impulsivity; they also found that neuroticism and extraversion predicted negative and positive affect, respectively, and are significantly correlated with subjective well-being or happiness. These researchers included morale, life satisfaction, hopefulness, and affect balance in their conceptualization of happiness and found that extraversion predicted higher ratings of happiness, whereas neuroticism predicted lower ratings of happiness.

Several researchers have observed similar results. Keys, Shmotkin, and Ryff (2002) examined both psychological (PWB) and subjective (SWB) well-being, and found that greater endorsement of extraversion and conscientiousness, and less endorsement of neuroticism, led to a greater probability of optimal well-being. Schimmack, Radhakrishnan, Oishi, Dzokoto, and Ahadi (2002) found that affect or hedonic balance mediated the relationship between the personality factors of extraversion and neuroticism and life satisfaction, and that this result was more profound for individualistic cultures than for collectivist cultures. In a study of Muslim university students, Big Five personality traits explained approximately 25% of the variance in participants' scores on life satisfaction, with extraversion and neuroticism being the strongest predictors (Joshanloo & Afshari, 2011). Zhang and Howell (2011) examined relationships among

personality traits, perspectives of time, and life satisfaction. These researchers found that participants who endorsed high extraversion ratings, as well as past positive and present hedonistic time perspectives, also endorsed higher ratings of life satisfaction. It was also observed that participants who endorsed high neuroticism scores along with past negative time perspectives also endorsed lower overall life satisfaction scores.

Neuroticism is an especially profound inverse predictor of life satisfaction. DeNeve and Cooper (1998) found that neuroticism was the strongest predictor of life satisfaction, such that higher neuroticism predicted lower life satisfaction as well as higher negative affect and lower happiness. Vogeltanz and Hecker (1999) found that participants with higher neuroticism ratings were more physiologically and subjectively aroused by a negative experimental stimulus than participants with low ratings of neuroticism, regardless of being able to control or predict the observed aversive stimuli. These researchers concluded that neuroticism and other characterological individual differences may play a greater role in both physiological and subjective distress arousal following an aversive stimulus than the characteristics of the actual stressor. In a study of a Norwegian population, Vittersø and Nilsen (2002) found that neuroticism predicted eight times as much variance in SWB as extraversion, although both personality factors were significant predictors.

The personality dimensions of extraversion and neuroticism have strong and consistent relationships with life satisfaction across the life-span: Higher extraversion and lower neuroticism predict greater overall life satisfaction (Costa and McCrae, 1980; Huebner, 1991; Joshanloo & Afshari, 2011; Keyes, Shmotkin, & Ryff, 2002; Schimmack et al., 2002; Steel, Schmidt, & Schultz, 2008). The other personality dimensions included

in the Big Five taxonomy (openness, conscientiousness, and agreeableness), however, have exhibited weaker relationships with, and ability to predict, SWB. Indeed, researchers have observed weak, inconsistent, or nonexistent relationships between these personality factors and the outcome of life satisfaction (DeNeve & Cooper, 1998; Keyes, Shmotkin, & Ryff, 2002; Steel, Schmidt, & Schultz, 2008). According to McCrae and Costa (1991), temperamental and instrumental relationships between personality traits and SWB may account for these observed discrepancies. These authors discussed how extraversion and neuroticism represent enduring dispositions and are thus *temperamental* in nature, whereas openness, agreeableness, and conscientiousness are more *instrumental* in nature and could indirectly influence SWB.

As described in the preceding paragraphs, there are well-known connections between personality and SWB, as well as between personality and the specific SWB component of life satisfaction. The mechanisms via which personality relates to or influences life satisfaction are not well understood, however. The goal of the current study was to further examine this relationship and potential variables (humor style and self-esteem) that mediate this relationship. Given the findings that extraversion and neuroticism display consistent and strong connections with life satisfaction, whereas openness, conscientiousness, and agreeableness do not exhibit those same robust connections, extraversion and neuroticism were chosen to serve as the predictor variables in the mediation models examined in the current study.

Compared with other Big Five factors, extraversion and neuroticism also have exhibited the strongest connections to the mediator variables explored in this study (humor styles and self-esteem), providing further support for including these variables,

rather than openness, conscientiousness, and agreeableness, in the current study. These correlations are discussed further in the following sections. Consistent with the known evidence, it was hypothesized that extraversion would positively predict life satisfaction and that neuroticism would inversely predict life satisfaction.

An Introduction to the Complexity of the ‘Humor’ Umbrella

Since Plato’s assertion that laughter is, at best, synonymous with scorn, and Aristotle’s allegation that wit is merely *educated insolence* (Morreall, 1987), theories and views of humor have developed in quite a contrary direction. No longer viewed as purely a vehicle to convey superiority over others, the positive aspects of humor have gained a familiar place not only within research (Martin, 2007), but in our daily lives and interactions. From physical health (Hudak, Dale, & Hudak, 1991), to emotional well-being (Martin & Lefcourt, 1983; Nezu, Nezu, & Blissett, 1988; Vaillant, 2000) to social bonding (Juni & Katz, 2001), research has supported the importance and benefits of humor. In popular culture, humor has established a place within marketing, music, media genres, and television networks. In daily life, individuals value humor as a desirable trait and enjoy sharing humorous stories and events with one another. Cann and Calhoun (2001) found that individuals labeled as having a high sense of humor were rated highly on a number of positive constructs (e.g. as imaginative, friendly, intelligent, perceptive, etc.). Humor is, undeniably, an important (and delightful) part of life, as well as a desirable personal characteristic and character strength.

According to the *Oxford English Dictionary*, humor is “that quality of action, speech, or writing which excites amusement; oddity, jocularly, facetiousness, comicality, fun... the faculty of perceiving what is ludicrous or amusing, or of expressing it in

speech, writing, or other composition; jocose imagination or treatment of a subject” (Simpson and Weiner, 1989, p. 486). This definition covers a very wide range of humor aspects and alludes to the complexity of the construct. Martin simplified this definition in stating that, “...humor is a broad term that refers to anything that people say or do that is perceived as funny and tends to make others laugh, as well as the mental processes that go into both creating and perceiving such an amusing stimulus, and also the affective response involved in the enjoyment of it” (2007, p. 5). Martin also breaks down the essential components of the overall construct of humor and categorically distinguishes among the social context of humor, cognitive-perceptual processes involved in humor, humor as an emotional response, and the audible expression of humor through laughter. Humor, then, takes many forms and serves many functions.

In addition to popular views and beliefs about humor, humor research has shed much light on the role, usage, benefits, social implications, physical and emotional effects, and types of humor (Abel & Maxwell, 2002; Cann, Calhoun, & Nance, 2000; Kuiper & Martin, 1993; Kuiper & McHale, 2009; Martin, 2007). Humor theorists have speculated on several aspects of humor purpose and function, including incongruity (surprise) reactions (Berger & Wildavsky, 1994); hierarchy or superiority (Robinson & Smith-Lovin, 2001); semiotic (cognitive) processing (Berger & Wildavsky, 1994); cultural cohesion (Burbach & Babbitt, 1993); social function (Martineau, 1972); defense, catharsis, and desensitization (Freud, 1928; Juni & Katz, 2001); and evolution and contagion (Provine, 2000). Peterson and Seligman (2004) also asserted that humor and playfulness are *virtues of transcendence* that serve to strengthen and forge connections to the larger universe and provide meaning in an individual’s life. *Sense of humor*, a distinct

concept within the broader realm of *humor*, has been acknowledged as a relatively stable trait that is closely connected with personality (Thorson & Powell, 1993). Also, individual differences in the utilization of humor, or *humor styles*, are beginning to be explored (Kuiper & McHale, 2009; Martin, Puhlik-Doris, Larsen, Gray, & Weir; 2003). It is clear that *humor* is an extensive topic, with varied conceptualizations and hypothesized components, opening the door to many avenues for further investigation.

‘Sense of Humor’ as a Stable Trait

One can conceptualize the components of humor within a framework of their presence within each individual. This cluster of humor-related components can be identified as a group of related traits that forms a stable characteristic known as *sense of humor* (Martin et al., 2003; Ruch, 1996; Ruch, 1998; Thorson and Powell, 1993). Martin (2007) described sense of humor as follows: “...sense of humor may be viewed as a personality trait (or, more accurately, a set of loosely related traits), referring to consistent tendencies to perceive, enjoy, or create humor in one’s daily life” (p. 191). As with all personality traits, individuals can be conceptualized along a dimensional range of humor, meaning they can be placed somewhere along a continuum that ranges from very low sense of humor to very high sense of humor (Martin, 2007).

The trait of sense of humor carries with it a substantial number of positive connotations and is viewed, on the whole, as a very desirable trait to possess. Cann and Calhoun (2001) found that an individual described as having a high sense of humor was rated significantly more cooperative, imaginative, friendly, creative, pleasant, interesting, intelligent, admirable, perceptive, and clever than a counterpart with a low sense of humor. Likewise, the humorous individual was rated as significantly less passive, cold,

mean, and complaining than a counterpart with a low sense of humor. Some negative connotations were also noted by these authors in that high-humor individuals were rated as more restless, impulsive, and boastful, and less mature. It is clear that there are many components to sense of humor and many ways that sense of humor is perceived in others.

Humor Styles: Individual Variations within Sense of Humor

Martin et al. (2003) sought to further clarify and classify distinctions in sense of humor style and describe how varying styles lead to positive or negative effects. He noted that several past theorists (Allport, 1961; Freud, 1928; Maslow, 1954; Vaillant, 1977) have proposed a distinction between types of humor that serve to foster well-being and types of humor that may be detrimental to well-being. He further commented: "...the absence of certain potentially detrimental uses of humor may be as important to psychological well-being as is the presence of more beneficial uses of humor" (Martin et al., 2003, p. 50). Martin et al. (2003) proposed that individuals are likely to exhibit particular trends in their humor usage and empirically distinguished among four styles of humor utilization: self-enhancing humor, affiliative humor, self-defeating humor, and aggressive humor. Although *sense of humor* is described as a set of loosely related traits (Martin, 2007) that individuals possess to varying degrees, it is also assumed that all individuals, regardless of level of sense of humor, will display a preference for or tendency toward one of the four styles of humor defined by Martin et al. (2003).

Martin et al. (2003) defined these four distinct styles of humor and devised an instrument, the *Humor Styles Questionnaire (HSQ)*, to measure these four styles. These styles include both positive and negative aspects of humor use and distinguish between humor that is directed toward the self and humor that is directed toward others. *Self-*

enhancing and *aggressive* humor styles both serve an intrapsychic function, the purpose of which is to protect the self. Self-enhancing humor is seen as a positive protective mechanism that can be defined by the extent to which an individual maintains a humorous outlook on life and uses humor to regulate emotions and cope, and by the role humor plays in perspective-taking. On the other hand, aggressive humor serves functions not unlike the premises proposed by Plato and Aristotle—to criticize, tease, and manipulate others. This type of humor often takes the form of sarcasm, making fun of others, and laughing at the expense of others or others' misfortunes.

Affiliative and *self-defeating* humor styles are interpersonal and serve to enhance or impair one's relationships with others. Affiliative humor refers to using humor positively in relating to others and may be identified by one's tendency to use wit, to tell amusing stories, and to joke with and amuse others. Self-defeating humor, however, is directed negatively toward the self in an attempt to facilitate relationships with others. It is characterized by the use of humor to disparage the self, hide underlying negative feelings through defensive denial, and amuse others at the individual's own expense.

Self-enhancing and *affiliative* humor are both deemed positive or healthful styles of humor that serve to foster psychological and social well-being. Aggressive and self-defeating humor styles are viewed as more negative in that they may lead to negative psychological and social consequences. An individual's personal humor style is likely to reflect greater or lesser degrees of one or more of these four styles.

In the current study, humor style was investigated as a mediator in the relationship between the personality traits of extraversion and neuroticism and the outcome of life satisfaction. For this current study, humor style was of interest (as opposed to the larger

umbrella construct of humor and the trait of sense of humor) because, based upon postulations by Martin et al. (2003), the way an individual *uses* humor may have a substantial positive or negative impact on overall well-being. It may be that an individual could endorse high scores on sense of humor but utilize detrimental styles of humor (such as self-defeating humor) and thus experience more negative outcomes. Humor styles represent a more specific conceptualization of the humor construct and therefore may lead to findings that are more directly applicable to developing theory and interventions. It was for this reason that *humor styles*, rather than humor or sense of humor, were hypothesized to be more informative and pertinent mediators in the relationship between personality and life satisfaction for the current study.

For the purpose of examining linkages between humor and other well-being factors, research involving humor, sense of humor, and humor styles is described in the following sections of this document. Given that research in all areas of humor is somewhat sparse and diverse, it seems relevant to include a brief exploration of studies involving humor and sense of humor, as well as humor styles.

Humor and Sense of Humor in Well-Being Research

Humor and its sub-constructs (e.g. sense of humor and humor styles) have often been linked in research to well-being and components of well-being, such as self-esteem – which will be discussed further in the following sections – and life satisfaction. Various functions of humor are capable of restructuring negative life events or perceptions into a more adaptive and manageable framework (Vaillant, 1977; Vaillant, 2000), protecting against the depressive effects of stress (Nezu et al., 1988), and buffering the relationship between stress and other negative moods (Martin & Lefcourt, 1983). George Vaillant

(1977; 2000) described humor as a mature defense mechanism that serves to exaggerate ideas and alter affect such that some sources of conflict become minimized and easier to confront. In keeping with this idea, it seems that humor can potentially play a role in restructuring negative life events or perceptions into a more adaptive outlook on life, thus influencing the individual's level of life satisfaction.

There are numerous studies examining the relationship of sense of humor, humor observation, and humor use on both situational (Abel & Maxwell, 2002; Cann, Calhoun, & Nance, 2000; Ventis, Higbee, & Murdock, 2001) and long-term (Martin & Lefcourt, 1983; Nezu, Nezu, & Blissett, 1988) well-being. In a situational capacity, humor has been utilized to alter immediate perceptions of stressful events. Ventis, Higbee, and Murdock (2001) found that using humor as a method of systematic desensitization, by eliciting humorous responses to the feared stimulus, was as effective at reducing fear as traditional methods of desensitization. Abel and Maxwell (2002) found that participants who viewed a humorous video displayed a greater reduction in state anxiety and an increase in positive affect under situations of both low and high stress than participants in a control group who viewed a nonhumorous video. In an exploration of the preventative and curative effects of humor, Cann, Calhoun, and Nance (2000) found that the presentation of a humorous videotape had a positive effect on moods experienced as depression and anger (i.e., that humor reduced depressed and angry moods) regardless of whether the video was presented before or after the unpleasant stimulus. For moods experienced as anxiety, humor had a greater preventative effect and showed a more distinct influence when presented before the unpleasant stimulus.

With regard to longer term indices of well-being, Nezu et al. (1988) found that individuals with a high sense of humor (determined by scores on two humor measures) who experienced high levels of stress exhibited lower scores on a measure of depression, whereas individuals with a lower sense of humor and similar high levels of stress showed higher depression scores. Similarly, Martin and Lefcourt's (1983) results indicated that, for individuals who scored in the lower humor range, correlations between stress and negative moods were stronger than for those individuals with higher sense of humor scores. The results of these studies support the idea that humor may play a role in adaptively restructuring perceptions of stressful life situations, resulting in a more positive overall outlook. Kuiper and Martin (1993) also found interesting evidence that high humor individuals displayed less discrepancy between ratings of their actual and ideal characteristics. Several researchers (Kuiper & McHale, 2009; Martin et al., 2003; Martin, 2007; Robison & Smith-Lovin, 2001) have speculated, however, that the type of humor used will have a powerful effect on outcome – that positive expression and utilization of humor will lead to positive outcomes, and that negative or destructive expression and utilization of humor will result in more negative outcomes.

In the studies described above, the overall trait of sense of humor was observed in relation to depression, stress, and mood, or humor was used as a stimulus to actively influence perceptions of a stressful situation. There is also evidence, examined in the next section of this document, that particular styles of humor use may have a broad influence on overall well-being and the SWB component of life satisfaction.

Humor Styles as a Potential Mediator of the Personality/Life Satisfaction

Relationship

Kuiper and McHale (2009) utilized the four humor styles defined by Martin et al. (2003) to examine the role an individual's personal style of humor plays in mediating the relationship between self-evaluative standards and psychological well-being. These researchers indeed found that the styles of affiliative humor and self-defeating humor served as mediators. Individuals who endorsed more positive self-evaluative standards were more likely to utilize an affiliative humor style and, likewise, to have an overall greater sense of well-being as defined by higher social self-esteem and lower levels of depression. On the other hand, endorsement of more negative self-evaluative standards predicted greater use of self-defeating humor and an overall lower sense of well-being, again defined as lower social self-esteem and higher depression. These authors postulated that there is a perpetuating process that occurs among these variables and proposed that individuals with better self-evaluative standards are more likely to use affiliative humor and have a greater sense of well-being. Affiliative humor was argued to increase a sense of social acceptance and, likewise, social self-esteem. This increase in social self-esteem could then, in turn, increase an overall sense of well-being and increase the likelihood of continued use of affiliative humor via this cyclical pattern of reinforcement. Conversely, the use of self-defeating humor could decrease social acceptance and lead to lower social self-esteem, heightened levels of depression, and a decrease in overall sense of well-being.

Páez, Seguel, and Martinez-Sanchez (2013) conducted a study investigating the relationships alexithymia, emotional coping and humor style have with psychological

well-being and happiness. The results of their study indicate that affiliative humor and low self-defeating humor, along with low scores regarding the use of suppression as a coping strategy, were significantly correlated with psychological well-being. They also found correlations between self-enhancing humor and low suppression with the construct of happiness.

The research described above supports the strength of correlations between humor style and the outcome of overall well-being. There is also support for connections between humor styles and personality (the predictor variable for the current study). Cattell and Luborsky (1947) stated, “Psychologists, from smoking-room amateurs to Freud, have long been aware that some of the more profound aspects of a man’s personality may be revealed by observing the things at which he laughs most heartily” (p. 402). Since that time, personality factors within humor research have been measured and conceptualized in different ways: From the use of projective tests (Grziwok & Scodel, 1956) and observing how humor itself can be used as a projective technique (Richman, 1996) to exploration of correlations of humor dimensions with the Big-Five personality taxonomy (Martin et al., 2003; Vernon, Martin, Schermer, & Mackie, 2008).

Sense of humor has been conceptualized as a set of related traits that form a consistent component of an individual’s personality and are characterized by one’s tendency to perceive, enjoy, or create humor (Martin, 2007). As discussed earlier, sense of humor is a multifaceted construct that may be differentiated in several ways, including particular style of humor. These humor styles—affiliative, self-enhancing, aggressive, and self-defeating—have been examined in relation to the personality traits that comprise

the five-factor or Big Five model of personality: extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience.

Martin et al. (2003) explored the relationships between humor styles and the Big Five personality factors during the development of their Humor Styles Questionnaire (HSQ). Vernon et al. (2008) also explored these relationships in a behavioral genetic investigation of the correlations among humor styles and the Big Five. These researchers consistently found that the personality factors of extraversion and neuroticism showed the strongest relationships with humor styles, whereas the relationships of the other personality factors (openness, agreeableness, and conscientiousness) to humor styles were nonsignificant, weak, or inconsistent. A meta-analysis by Mendiburo-Seguel et al. (2015) showed strong support for a relationship between affiliative humor and the personality traits of extraversion and neuroticism. All of these findings suggest that extraversion and neuroticism are linked to, and may predict, humor styles.

Martin et al. (2003) and Vernon et al. (2008) both found that extraversion evidenced strong positive relationships with affiliative and self-enhancing humor styles. As defined above, affiliative humor describes an individual's likelihood of using humor in social interactions, and self-enhancing humor refers to the extent to which an individual maintains a humorous outlook on life (Martin et al., 2003). The relationship between extraversion and affiliative humor may be particularly strong due to the social nature of both of these constructs. Those who engage in affiliative humor use tend to enjoy amusing others, laughing with others, engaging in humorous storytelling, using wit, and sharing jokes. Individuals higher in extraversion may utilize this type of humor as a means of engaging with others and strengthening relationships. Although it is certainly

possible that both extraverted and introverted individuals may utilize self-enhancing humor, and correlations between extraversion and self-enhancing humor may not be as strong as those between extraversion and affiliative humor, research nonetheless also supports positive correlations between extraversion and self-enhancing humor (Martin et al., 2003; Vernon et al., 2008). Martin et al. (2003) also found a negative correlation between self-enhancing humor and neuroticism. There were significant negative relationships between aggressive humor use and agreeableness and conscientiousness, and a weak positive relationship between aggressive humor and neuroticism. Self-defeating humor was positively related to neuroticism and negatively related to both agreeableness and conscientiousness.

Jovanovic (2011) conducted a study with a premise similar to the proposed mediation model in the current study. Jovanovic, utilizing a Serbian sample of undergraduate students, examined humor styles as a potential mediator in the relationship between the Big Five personality factors of extraversion and neuroticism and the outcome of both components of SWB (affective well-being and life satisfaction). Jovanovic found that extraversion was positively correlated with both of the adaptive humor styles (affiliative and self-enhancing), as well as both of the components of overall SWB (affective well-being and life satisfaction). Neuroticism was positively associated with self-defeating humor and exhibited negative correlations with both adaptive humor styles and both indicators of SWB. Overall, Jovanovic concluded that self-enhancing humor fully mediated the relationship between both personality factors and the outcome of life satisfaction, whereas affiliative humor partially mediated the relationship between neuroticism and affective well-being. Interestingly, Jovanovic did not find significant

correlations or mediational relationships between the maladaptive styles of humor (aggressive and self-defeating) and satisfaction with life, although there was significant evidence of the negative relationship of these styles of humor with affective well-being.

Jovanovic (2011) postulated that the positive linkages between self-enhancing humor and life satisfaction may be attributable to the coping properties of this type of humor and cited evidence of coping styles' ability to mediate the relationship between personality and life satisfaction (Jovanovic, 2011; Watson & Hubbard, 1996). Jovanovic went on to further explain how humor enables an individual to apply more positive appraisals to stressful situations and how self-enhancing humor, in particular, may play a role in the maintenance of other positive personality traits and character strengths such as hope and optimism (Cann, Stilwell, & Taku, 2010; Jovanovic, 2011; Kuiper, Martin, & Olinger, 1993). Jovanovic also supported Martin et al.'s (2003) and Kuiper and McHale's (2009) claims that a reduction in usage of positive styles of humor can have detrimental outcomes. Jovanovic argued that "Decreased use of affiliative humor could diminish resources for promoting positive emotion and coping with negative affect, especially in individuals prone to experience negative emotions" (p. 506, 2011).

For the current study, a mediation model was proposed that is similar to the model examined by Jovanovic (2011), but that sought to expand upon Jovanovic's findings and explore an additional variable (self-esteem) that may predict or affect the relationship between personality and life satisfaction. Like Jovanovic, the current author examined whether humor styles helped to account for the well-known relationship between personality and well-being. The current study expanded upon this by including the variable of self-esteem (discussed at length in the following section of this document) in

the mediation model and explored the role of this variable within the personality—humor style—life satisfaction relationship. Unlike Jovanovic’s single-wave or cross-sectional study, the current study attempted to utilize a two-wave approach to data collection to observe the stability of the relationships among these variables over time. Two-wave studies are considered appropriate for testing mediation, whereas one-wave mediational studies have serious conceptual and empirical flaws (Maxwell & Cole, 2007; Selig & Preacher, 2009). Also, Jovanovic’s study was conducted with a Serbian sample of participants. The current study utilized a sample taken from a United States population, thus increasing the generalizability of the applications of these collective findings.

Jovanovic (2011) did not find a mediational relationship between self-defeating humor and life satisfaction, although he did find that self-defeating humor had a negative mediational relationship with affective well-being. This was a surprising finding, given that Kuiper and McHale (2009), Martin et al. (2003), and Páez, Seguel, and Martinez-Sanchez (2013) found some support for negative correlations between self-defeating humor and life satisfaction/well-being. Kuiper and McHale, however, examined the relationship between self-defeating humor and *overall* well-being, and their finding may have alluded to a stronger relationship between self-defeating humor and affective well-being (as opposed to life satisfaction). In the current study, life satisfaction was utilized as the exclusive criterion variable in an effort to clarify how personality, humor style, and self-esteem relate to this construct. Contrary to Jovanovic’s finding, but consistent with the findings of Martin et al. (2003), it was hypothesized that self-defeating humor would be negatively correlated with life satisfaction and that it would negatively mediate the relationship between personality and life satisfaction. Specifically, it was hypothesized

that extraversion would inversely predict, and that neuroticism would positively predict, self-defeating humor.

Interestingly, aggressive humor has not exhibited strong correlations with the other constructs that were examined in the current study. Vernon et al. (2008) found significant negative relationships between aggressive humor use and the Big Five personality factors of agreeableness and conscientiousness, but found only a weak positive relationship between aggressive humor and neuroticism. Martin et al. (2003) found nonsignificant relationships between aggressive humor and extraversion and neuroticism. Due to evidence of weak, nonsignificant, or inconsistent correlations between aggressive humor and the other constructs being examined in this study, aggressive humor is presumed to not meet the conditions for mediation (Frazier, Tix, & Barron, 2004) and was excluded from the model proposed in this study.

Conceptualizing the Construct of Self-Esteem

Rosenberg defined self-esteem as "...a favorable or unfavorable attitude that one has toward oneself" (Rosenberg, 1965, p. 15). In a global sense, self-esteem can be described as an individual's appraisal of his or her overall self-worth (Orth et al., 2012). Although these are very broad definitions, they are profoundly face-valid and have become the standard definitions of this construct (Robinson, Shaver, & Wrightsman, 1991).

Greenberg et al. (1992) conceptualized self-esteem in a more robust sense. These researchers explained:

The theory proposes that self-esteem is the feeling that one is an object of primary value in a meaningful universe. Individuals sustain self-esteem by maintaining

faith in a culturally derived conception of reality (the cultural worldview) and living up to the standards of value that are prescribed by that worldview... People need self-esteem because it is the central psychological mechanism for protecting individuals from the anxiety that awareness of their vulnerability and mortality would otherwise create. (p. 913)

In other words, self-esteem is an adaptive mechanism that serves as a buffer against real or perceived threats to the self. When self-esteem is secure, or *high*, it functions as a powerful character strength and coping mechanism.

Greenberg et al. (1992) maintained that the development of self-esteem exists within the context of an individual's culturally derived worldview. This is similar to Beck's (1967) description of *schemas*. According to Beck, a schema is "...a structure for screening, coding, and evaluating the stimuli that impinge upon an organism..." allowing the organism to "...categorize and interpret experiences in a meaningful way" (Beck, 1967, p. 419). In essence, individuals make inferences about new information based upon the best fitting categories of previous knowledge and experiences. Creemers, Scholte, Engels, Prinstein, and Wiers (2012) explained that information processing is conducted in a way that fits within an individual's perspective of his or her world and his or her "self" within the world. These schemas can have a profound impact upon the development of self-esteem and a sense of meaning in regard to personal value. In the case of negative or *low*, self-esteem, it is likely that an individual's method of processing information is based upon dysfunctional self-schemas that result in negative beliefs about the self (Clark, Beck, & Alford, 1999; Creemers et al., 2012). In contrast, persons with high self-esteem are likely to have functional or positive self-schemas that result in positive beliefs

about the self. In short, an individual views his or her self through the lens of his or her schemas, and these schemas are constructed within a framework of personal and cultural realities that form a complete worldview.

Does this imply, then, that self-esteem is fully determined by and dependent upon the life events that shape an individual's perception of his or her world? Orth et al. (2012) focused on this question and sought to gain a better understanding of whether self-esteem is a cause, consequence, or both cause and consequence of important life outcomes. The implications of answering this question are invaluable – if self-esteem plays a causal role, then interventions aimed at improving self-esteem should, likewise, improve the likelihood of positive life outcomes as well as reducing the potential for maladaptive outcomes (Baumeister, Campbell, Krueger, & Vohs, 2003). If, however, self-esteem is a consequence, or *epiphenomenon* (Seligman, 1993) of life-outcomes, then strategies focused on improving self-esteem may very well be moot (Orth et al., 2012).

To test this, Orth et al. (2012) examined the relationships between self-esteem and several life outcome areas. These areas included relationship satisfaction, job satisfaction, satisfaction with occupational status and salary, affect, depression and health. These researchers found support in their analysis that self-esteem exhibited significant cross-lagged effects on all life outcome domains examined in their study, with the exception of occupational status and salary. Reciprocal effects of the life outcome domains on self-esteem, however, were not evidenced. The implication of their findings supports the hypothesis that self-esteem exerts some causal influence on life outcomes rather than acting as a consequence of these life outcomes (Orth et al., 2012; Swann, Chang-Schneider, & McClarty, 2007; Trzesniewski, Donnellan, Moffitt, Robins, Poulton, &

Caspi, 2006). This, in turn, supports the idea that efforts to improve self-esteem can have a positive impact on overall life outcome domains and increase overall life satisfaction.

Self-Esteem as a Potential Mediator of the Personality/Life Satisfaction Relationship

The life outcome domains described above overlap heavily with the satisfaction domains examined in the work of Diener and colleagues (Diener, 1984; Diener & Diener, 1995; Diener et al., 1999). As described briefly in the beginning of this chapter, these satisfaction domains include work/career, family, leisure, health, finances, community/social group, and the self. Of these domains, satisfaction with the self (or self-esteem) was the strongest predictor ($r = .55$) of overall life satisfaction (Campbell, 1981; Diener, 1984).

Diener and Diener (1995) stated, “Life satisfaction and self-esteem are variables that both represent global evaluations: in the former case an evaluation of a person’s entire life and in the latter case a judgment of oneself” (p. 654). These authors pointed out that, although both of these constructs represent global evaluations, the target of evaluation is different and implies that these two constructs are distinct, albeit closely intertwined. These researchers confirmed this differentiation by controlling for self-esteem and found that life satisfaction produced stronger correlations with family satisfaction, friend satisfaction, and financial satisfaction than self-esteem did with these variables.

The strong connection between self-esteem and life satisfaction has been documented in several studies and with diverse populations. In addition to Campbell’s (1981) findings with an adult population (that self-esteem was the strongest predictor of life satisfaction), Wang (2005) found comparable results with an elementary school

student sample, and Gilman and Huebner (2006) observed that adolescents who endorsed high life satisfaction also endorsed higher levels of hope and self-esteem and lower levels of anxiety and depression. Diener and Diener (1995) found similar results in a cross-cultural study: Self-esteem was correlated with life satisfaction ($r = .47$) for their entire sample, but this result was moderated by the individualism of the society. Self-esteem showed a stronger correlation with life satisfaction in more individualized nations (e.g., United States: $r = .60$ for women and $r = .56$ for men), as compared to more collectivist nations (e.g., India: $r = .08$ for women and $r = .40$ for men).

Some research has observed the role of self-esteem as a moderator and mediator of other variables' relationships with life satisfaction. Cameron (1999) found a correlation of $r = .68$ between the variables of self-esteem and life satisfaction, and found that self-esteem moderated the relationship between in-group ties of university students and life satisfaction. Çivitci and Çivitci (2009) found self-esteem to be a mediator in the relationship between loneliness and global life satisfaction, such that, as loneliness decreased, self-esteem mediated an increase in global life satisfaction. As described, it is also likely that self-esteem may mediate the relationships between both extraversion and neuroticism and humor styles with the outcome of life satisfaction.

Self-esteem has been explored in relation to the five-factor model of personality in several studies, and results consistently indicate that self-esteem has a strong negative relationship with neuroticism (with correlations ranging from $r = -.53$ to $r = -.83$) and moderate positive relationships with extraversion (with correlations ranging from $r = .32$ to $r = .48$; Kling, Ryff, Love, & Essex, 2003; Neustadt, Chamorro-Premuzic, & Furnham, 2006; Watson, Sulz, & Haig, 2002). In most of these studies, weak correlations also

existed between self-esteem and the other factors in the five-factor model: openness, agreeableness, and conscientiousness. Kling et al. (2003) did find some evidence to support a relationship between openness to experience and self-esteem during periods of significant life transitions, but an absence of this relationship in the other studies may indicate that this correlation is most germane in instances of significant transitions and not during typical periods of functioning.

In a series of studies conducted by Watson, Suls, and Haig (2002), global self-esteem was observed in relation to the Big Five model and affectivity. Correlations between self-esteem and both neuroticism and extraversion were evidenced in all three of their reported studies, such that neuroticism had strong negative correlations with self-esteem and extraversion had strong positive correlations with self-esteem. Huebner (1991), in a study of school-age children, found that children who reported greater satisfaction with their lives endorsed higher scores on measures of extraversion and self-esteem. These children also endorsed a more internal locus of control and lower scores on measures of neuroticism and anxiety.

In more recent research, Erol and Orth (2011) collected data from a 14-year longitudinal study on self-esteem development and found that emotional stability and extraversion exhibited the strongest effects in their model (.24 and .21 respectively). These results imply that individuals who scored higher in emotional stability and extraversion experienced higher self-esteem across all age categories (age 14 to 30 years). In a cross-cultural study, Joshanloo and Afshari (2011) found that the Big Five personality traits explained approximately 25% of the variance in Muslim participants' scores on life satisfaction, with extraversion and neuroticism being the strongest

predictors among the Big Five. Interestingly, self-esteem was observed to be a stronger predictor of life satisfaction than the personality traits that were examined. Also, these researchers observed that self-esteem partially mediated the relationship between the personality factors of extraversion and neuroticism and the overall outcome of life satisfaction. Wagner et al. (2013) likewise found support for the observation that individuals with lower scores on neuroticism and higher scores on extraversion and other Big Five traits showed higher self-esteem across time. In observation of the seemingly profound relationship that extraversion in particular shares with self-esteem, these researchers postulated, “Being extraverted may ease a person’s ability to settle into new social environments, find new peers, and adjust to new roles” (p. 158).

In consideration of the current study, these previous research findings support the premise that self-esteem may play a mediating role in the relationship between the personality factors of extraversion and neuroticism and the outcome of overall life-satisfaction. Humor and humor styles may also be a part of this total picture. The relationships between humor and self-esteem have been observed in several studies, and there seems to be a strong possibility that both humor styles and self-esteem may mediate the relationship between personality factors and overall life satisfaction.

Connections between Self-Esteem and Humor Styles

Kuiper and Martin (1993) examined the relationship between humor and self-esteem by comparing scores on a measure of self-esteem and various other measures of self-concept with four instruments designed to measure humor use. These researchers not only found positive correlations between self-esteem and all four humor measures, but also observed a negative correlation between three of these humor measures and the level

of discrepancy between participants' ratings of actual and ideal self-descriptive adjectives. This result indicates that there was less discrepancy between high-humor individuals' perceptions of their actual characteristics and their ideal characteristics than there was for low-humor individuals. Temporal stability was also observed for high-humor individuals' self-ratings and their scores on two of the humor tests, indicating a higher stability of self-concept across time than was observed for low-humor individuals.

In relation to the four distinct humor styles proposed by Martin et al. (2003), both Martin et al. and Kuiper and McHale (2009) found that self-esteem was strongly positively correlated with both affiliative and self-enhancing humor and negatively correlated with self-defeating humor. These findings are consistent with the thesis that sense of humor and humor styles may affect self-esteem. A humorous view of life and the use of humor to facilitate and strengthen positive relationships are likely to have positive effects on one's sense of self, whereas a self-defeating style of humor – which often reflects anxieties about the self – is likely to correspond with low self-esteem. These authors' findings are also consistent, however, with the alternative possibility that self-esteem predicts humor styles.

Connections between humor styles and self-esteem have been found in more recent research as well. In a study investigating the influence of self-esteem stability on humor styles (Vaughan, Zeigler-Hill, & Arnau, 2014), participants with high stability ratings on self-esteem endorsed the highest levels of affiliative humor. These participants also displayed the lowest levels of both maladaptive humor styles. Yue et al. (2014) found that the adaptive humor styles predicted happiness and mediated the relationship between self-esteem and subjective happiness.

Stieger, Formann, and Burger (2011) examined humor styles in the context of both explicit and implicit self-esteem. *Explicit* self-esteem refers to a conscious and deliberate sense of one's self-esteem, whereas *implicit* self-esteem is an automatic process. These researchers explained that individuals can display differing levels of each of these types of self-esteem and described these discrepancies (e.g., an individual with low implicit and high explicit self-esteem is described as having *defensive* or *fragile* self-esteem, and an individual with high implicit and low explicit self-esteem is said to have *damaged* self-esteem – see their study for a more in-depth explanation). These researchers examined implicit and explicit self-esteem profiles as they relate to particular humor styles and found that self-defeating humor, in particular, showed significant negative correlations with explicit self-esteem overall, as well as with the *damaged* self-esteem profile. Participants with *secure high* self-esteem (for whom both explicit and implicit self-esteem are high) showed the highest scores on affiliative humor, although these scores were not statistically significant. Participants with *secure low* self-esteem (both explicit and implicit self-esteem are low) did significantly endorse the lowest scores on affiliative humor, however. According to these researchers' results, the connections between low self-esteem and self-defeating humor seem particularly strong – even stronger than connections between high self-esteem and positive humor styles (affiliative and self-enhancing).

Zhao et al. (2013) conducted a study examining correlations between suicide risk, humor style, and self-esteem. Results of this study revealed negative correlations between both adaptive humor styles and suicide risk, as well as positive correlations between both adaptive humor styles and self-esteem. Also, both maladaptive humor styles were

negatively correlated with self-esteem and positively correlated with suicide risk. Zhao et al. (2014) explored self-esteem and social support as potential mediators between humor styles and life satisfaction in a Chinese college student population. These researchers found that the adaptive humor styles – affiliative and self-enhancing humor – were positively correlated with high scores on life satisfaction, and that the relationship between humor styles and life satisfaction was fully mediated by self-esteem and social support.

The Current Study

The correlations, interactions and mediations among the variables of personality, humor style, self-esteem, and life satisfaction described in the sections above provide strong support for the premise that neuroticism and extraversion predict life satisfaction via the mediating variables humor styles and self-esteem, as depicted in Figure 1. Several studies provided evidence of strong correlations among the constructs being observed in the current study (Joshani & Afshari, 2011; Martin et al., 2003; Vernon et al., 2008) and some studies highlighted meditational roles of humor styles (Jovanovic, 2011; Kuiper & McHale, 2009) and self-esteem (Çivitci & Çivitci, 2009; Joshani & Afshari, 2011) in the relationship between personality and life satisfaction.

The model examined in this dissertation has the potential to extend and integrate these findings by more precisely delineating the way in which extraversion and neuroticism, humor styles, and self-esteem predict life satisfaction in the context of a prospective design, which is rarely used in the literature cited above. Additionally, in this study, both a primary and alternative model (described in the next section) are explored

and the potentially confounding variable of narcissism (discussed in the final section of this chapter) was controlled.

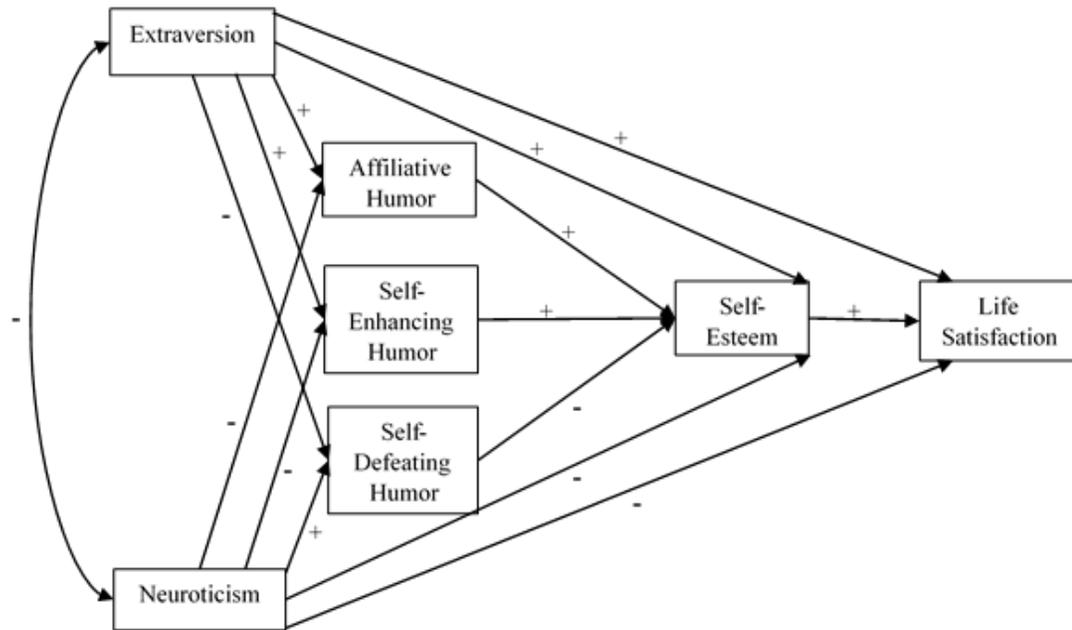


Figure 1: Hypothesized Primary Model – Humor Styles as Mediators of the Personality/Life Satisfaction Relationship via Self-Esteem

Gaining a deeper understanding of the ways in which these personality dimensions predict and may affect life satisfaction could provide important insight for future applied research and real-world practice. If humor styles and self-esteem mediate the relationship between personality and life-satisfaction, interventions can be developed to augment these mediators, with the goal of improving overall life-satisfaction.

Because of their much stronger relationship with humor styles, self-esteem, and life satisfaction, extraversion and neuroticism, rather than other Big Five personality dimensions, served as exogenous variables in the primary and alternative models. Humor styles were examined as the proximal mediator in the primary model. Of the four humor

styles described by Martin et al. (2003), the adaptive humor styles (affiliative humor and self-enhancing humor) along with self-defeating humor were examined. Aggressive humor (the second maladaptive style of humor) was not included in light of evidence of its weak or nonexistent relationships with extraversion, neuroticism, self-esteem, and life satisfaction.

It was anticipated that extraversion and neuroticism would predict the likelihood that particular styles of humor (self-enhancing, affiliative, or self-defeating humor) would be utilized. Styles of humor, in turn, were hypothesized to predict self-esteem, which would then predict life satisfaction.

More specifically, it was hypothesized that higher extraversion would predict greater use of affiliative and self-enhancing humor styles, and less use of self-defeating humor. It was expected that extraversion would show an especially strong connection with affiliative humor due to the interpersonal component of both of these variables and in light of previous evidence (Martin et al., 2003; Vernon et al., 2008). It was hypothesized that persons higher in neuroticism would be more likely to utilize self-defeating humor and would be less likely to endorse self-enhancing and affiliative humor. Humor styles were hypothesized to predict self-esteem such that greater use of the affiliative and self-enhancing humor styles would predict higher self-esteem, whereas greater use of self-defeating humor style would predict lower self-esteem. In turn, higher scores on self-esteem were hypothesized to predict higher life satisfaction (see Figure 1). Based on previous findings, extraversion and neuroticism were also hypothesized to predict life satisfaction (Headey, 2007; Joshanloo & Afshari, 2011; Keys et al., 2002), whereas humor styles were hypothesized to predict life satisfaction only indirectly,

through self-esteem (Kuiper & McHale, 2009; Stieger et al., 2011; Zhao et al., 2014). If effects of positive personality traits can be leveraged and effects of negative traits mitigated by humor style and self-esteem, then mental health professionals may gain new insights into helping individuals shape these variables to create positive change in global evaluations, such as life satisfaction.

An Alternative Model

In a study conducted with a sample of university students in Turkey, Ozyesil (2012) examined self-esteem as a predictor of humor style and affect. As expected based on previous research, Ozyesil observed positive correlations between self-esteem and adaptive humor styles (affiliative and self-enhancing), as well as negative correlations between self-esteem and the maladaptive humor styles (aggressive and self-defeating). Ozyesil also found that self-esteem was a significant predictor of all four humor styles. According to Ozyesil's study, self-esteem explained 3.1% of the variance in affiliative humor, 5.7% of the variance in self-enhancing humor, 1.1% of aggressive humor variance, and 4.1% of the variance in self-defeating humor.

Based on Ozyesil's (2012) findings, an alternative model was proposed in which self-esteem served as a proximal mediator that was predicted by extraversion and neuroticism and in turn would predict humor styles, which would then directly predict life satisfaction (see Figure 2). Specifically, in this model, it was hypothesized that greater extraversion would predict higher self-esteem, and that greater neuroticism would predict lower self-esteem. Higher self-esteem would predict greater use of affiliative humor and self-enhancing humor, and less use of self-defeating humor. Finally, it was hypothesized that higher scores on the two adaptive humor styles would predict higher

life satisfaction, and that higher self-defeating humor would predict lower life satisfaction.

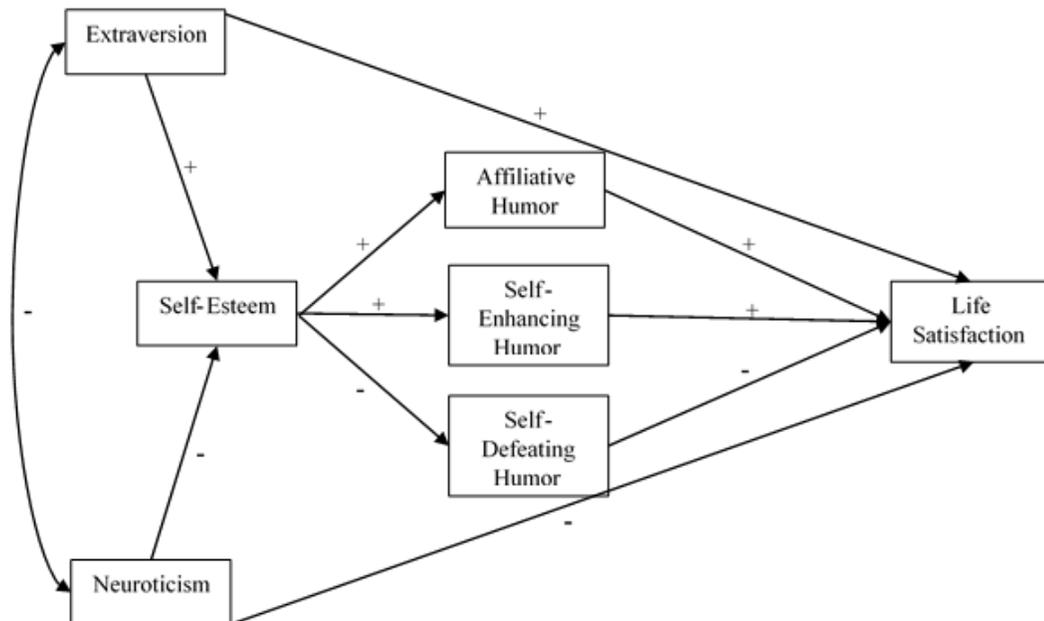


Figure 2: Hypothesized Alternative Model – Self-esteem as Mediator of the Personality/Life Satisfaction Relationship via Humor Style

If this alternative model had fit the data better than Model 1, the implications would have been very similar to the implications of Model 1. A deeper knowledge of the ways these human qualities interact and influence one another would lead to a better understanding of how to facilitate positive change for individuals struggling in their overall satisfaction with their lives.

Narcissism as a Potential Confound

According to the DSM-5 (American Psychiatric Association, 2013), “The essential feature of narcissistic personality disorder is a pervasive pattern of grandiosity, need for admiration, and lack of empathy that begins by early adulthood and is present in a variety of contexts” (p. 670). In addition to this clinical classification as a *personality*

disorder, narcissism is associated with social-personality traits and characteristics such as self-love, an inflated view of the self, a sense of entitlement, upholding a self-serving bias (Rohmann, Neumann, Herner, & Bierhoff, 2012), self-aggrandizing beliefs and behaviors, and dominating and manipulative interpersonal interactions (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004).

Despite the negative connotations of these clinical definitions, there is also a significant body of research that associates some aspects of narcissism with positive characteristics and psychological health – especially in regard to self-esteem (Baumeister & Vohs, 2001; Sedikides et al., 2004; Rohmann, et al., 2012) and personality traits such as extraversion (Costa & McCrae, 1991; Paulhus, 2001). Sedikides et al. (2004) also found that self-esteem was a consistent mediator between narcissism and variables associated with psychological health (e.g. depression, loneliness, subjective well-being, and neuroticism).

Narcissism has even been observed in relation to humor styles. Zeigler-Hill and Besser (2011) observed that *grandiose narcissism* was positively correlated with utilization of the adaptive humor styles and *vulnerable narcissism* was positively correlated with the use of maladaptive humor styles and negatively correlated with the use of adaptive humor styles. These researchers also found that humor styles mediated the relationship between narcissism and self-esteem. Besser and Zeigler-Hill (2011) replicated the results of the previously described study – confirming correlations between grandiose narcissism and adaptive humor styles, as well as between vulnerable narcissism and increased use of maladaptive humor styles/decreased use of adaptive humor styles – and observed that humor styles mediated the relationship between pathological

narcissism and perceived stress. Veselka, Schermer, Martin, and Vernon (2010) examined humor styles as they relate to the *Dark Triad* (narcissism, psychopathy, and Machiavellianism) and observed that narcissism was associated with higher endorsement of affiliative humor. Martin, Lastuk, Jeffery, Vernon, and Veselka (2012) replicated this Dark Triad study and expanded it to include an observation of sub-factors of narcissism. According to their results, affiliative humor was significantly positively correlated with the leadership/authority, superiority/arrogance, and self-absorption/self-admiration sub-factors of narcissism. Self-enhancing humor was significantly negatively correlated with the exploitativeness/entitlement sub-factor, and aggressive humor was positively correlated with the exploitativeness/entitlement and superiority/arrogance sub-factors.

Given the observed relationship between narcissism and nearly all of the variables that were examined in the current study, narcissism was measured and controlled in both the primary and alternative models. The Narcissistic Personality Inventory-16 (NPI-16; Ames, Rose, & Anderson, 2006) was utilized to measure this potentially confounding variable in order to control against any unwanted influence.

Chapter 3: Methodology

Participants

The instruments utilized in this study were presented via Qualtrics digital survey software, and the link to the surveys was distributed to participants via e-mail, professional and academic list-serves, and social media. Many participants were recruited from classes at a medium-sized, Southern university. Others were recruited through personal and professional contacts who were asked to distribute the survey link. All participants and contacts were invited to pass the survey link on to others through e-mail, list-serves, and social media, thus diversifying the sample pool outside the university setting. With the exception that no participant be under 18 years of age, there were no restrictions on who could participate in this study. Six to eight weeks after the initial round of data collection, the survey was redistributed to participants who completed the first set of surveys, to attempt to gather quasi-longitudinal data.

According to Kline (2005), a ratio of 10:1 participants for each free parameter in the models will yield a medium sample size and a ratio of 20:1 participants is recommended in order to yield a large sample size. Kline described a subject pool of between 100 to 200 participants to be a *medium* subject pool, and greater than 200 participants to be a *large* subject pool for this type of study. Additionally, Hoe (2008) described a sample of at least 200 subjects as adequate for achieving appropriate statistical power for data analysis. However, as described by Weston and Gore (2004) in the context of structural equation modeling, the number of participants needed to obtain an adequate level of power also depends on model complexity. With two exogenous

variables, four total mediators at two levels, and one outcome, both the primary model and alternative model may be considered relatively complex.

In the current study, an initial sample of 238 volunteers participated in this study. Three cases were removed due to missing data, leaving a final sample size of 235 participants for the first wave of data collection. Only 94 participants completed the second wave of surveys. This attrition may increase the likelihood of committing a Type II Error, due to loss of power as sample size decreases, as well as a reduction of internal and external validity (Deeg, 2002; Young, Powers, & Bell, 2006). Due to this insufficient participant retention for the second wave of data collection, this current study will focus only on data collected during the first wave.

The minimum age for participants in this study was 18 and the maximum age was 80, with a mean age of 29.53 (SD = 13.248). There were 198 (84%) female participants and 37 (16%) male participants. Participants were predominantly White, non-Hispanic (155, 66%), with 55 (23%) participants indicating Black/African American, and 25 participants indicating other categories as such: Latino(a)/Hispanic (5, 2%), East Asian/Asian American (2, < 1%), South Asian/Indian (3, 1.3%), Middle Eastern/Arab American (0, 0%), Native American/Alaskan Native (2, , 1%), Multi-Racial (10, 4.3%), and Other (3, 1.3%). These individuals were predominantly from the South-Eastern United States (213, 91%), with 19 (8%) indicating they were from the Midwest, 2 (< 1%) from the South-West, and one person wrote in that they live in Italy.

In regard to student status, 63 (27%) participants reported that they are non-students. Of university students, respondents identified as such: freshmen (29, 12%), sophomore (57, 24%), junior (39, 17%), senior (14, 6%), graduate student (5, 2%), and

graduated but working on another degree (6, 3%). Twenty-two participants (9%) did not respond to this demographic question. For highest level of education, 56 (24%) respondents reported having a high school diploma, 99 (42%) reported having some college education, 20 (9%) reported having an Associate's degree, 26 (11%) reported having a Bachelor's degree, 8 (3%) reported having some graduate school education, and 26 (11%) reported completing a Master's or Doctoral degree.

Instruments

The Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985) was utilized to measure the outcome variable of life satisfaction. This is a 5-item measure that asks participants to rate each item using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate a greater endorsement of overall life satisfaction. Examples of items include, "In most ways my life is close to my ideal" and "So far I have gotten the important things I want in life." The coefficient alpha for this instrument was .87, with a 2-month test-retest coefficient of .82. This instrument also displayed moderately strong correlations with other measures of subjective well-being (Diener et al., 1985). Convergent validity has been supported with several other measures of subjective well-being and life satisfaction (Diener et al., 1985; Pavot & Diener, 1993), and discriminant validity has been supported by negative correlations with several measures of distress and affectivity (Diener et al., 1985; Larsen, Diener, & Emmons, 1985; Pavot & Diener, 1993). Normative data for this instrument include college student and community samples, similar to the samples that were gathered for the current study. Pavot and Diener (1993) provided a list of studies in which

this normative data was obtained. Among studies conducted specifically with college students, means ranged from 16.1 ($s = 4.4$) to 25.2 ($s = 5.8$).

The Big Five Inventory (BFI: John, Donahue & Kentle, 1991) was utilized to measure the personality dimensions of extraversion and neuroticism. This is a 44-item instrument developed to measure the Big Five personality dimensions of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Participants are asked to rate each item on a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Higher scores on items associated with a particular personality dimension denote higher levels of that dimension. Cronbach alphas ranged from .75 to .90, and 3-month test-retest reliabilities ranged from .80 to .90. Tests of validity reveal significant expected relationships with other instruments designed to measure the Big Five personality dimensions, as well as relationships with peer ratings (John, Donahue & Kentle, 1991; John & Srivastava, 1999). Extraversion exhibited a coefficient alpha reliability of .88 and a standardized validity coefficient of .94. Neuroticism evidenced a reliability rating of .84, with a standardized validity coefficient of .90 (John & Srivastava, 1999). Srivastava, John, Gosling, and Potter (2003) provide normative data for this instrument, collected from an American adult sample, with an age range of 20 to 60. In their study, which had a total N of 132,515, they explored the stability of the Big Five personality traits across age groups. Age groups were broken down into an age 21-30 category and an age 31-60 category. They also observed gender differences. For the trait of Neuroticism, women in the age 21-30 group had a raw slope of $B = -.25$ and men had a slope of $B = -.06$. Women in the age 31-60 group had a raw slope of $B = -.25$ and men had a slope of $B = -.03$. For the trait of Extraversion, women in the age 21-30 group had a

raw slope of $B = .09$ and men had a slope of $B = .14$. Women in the age 31-60 group had a raw slope of $B = -.07$ and men had a slope of $B = .05$.

The Humor Styles Questionnaire (HSQ: Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003) is a 32-item instrument designed to measure four distinct styles of humor: affiliative, self-enhancing, self-defeating, and aggressive. Participants rate themselves using a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*) on each of the items. Higher scores on items associated with each of the four humor styles indicate greater endorsement of (i.e., greater use of) that style. Examples of items include: “I laugh and joke a lot with my closest friends” (affiliative humor); “Even when I’m by myself, I’m often amused by the absurdities of life” (self-enhancing humor); “I let people laugh at me or make fun at my expense more than I should” (self-defeating humor); and “If someone makes a mistake, I will often tease them about it” (aggressive humor). Cronbach alphas ranged from .77 to .81 for all four scales. The four-factor structure corresponding to the four humor styles is consistently present in factor-analytic calculations (Chen & Martin, 2007), and low intercorrelations among scale values indicate that each of the four scales measures dimensions that are distinct from one another (Martin et al, 2003). Martin et al. (2003) reported test-retest reliability coefficients from .80 to .85. Convergent validity has been supported by illustrating that the humor styles can be reliably coded by peers (Martin et al., 2003) and behavioral observers (Campbell, Martin, & Ward, 2008), and also that the HSQ scales, particularly the affiliative and self-enhancing humor scales, strongly relate to four other humor scales that are widely used in humor and well-being research (Martin et al., 2003). Discriminant validity is evidenced in that the four styles of humor show expected differential

associations with personality constructs, including the Big Five (Martin et al., 2003; Vernon et al., 2008), as well as other measures of mood, well-being, and social relationships (Martin et al., 2003). Martin et al. (2003) also provided normative data based on college student samples similar to the sample that was collected for the current study. For their total sample, they report a mean of 46.4 ($s = 7.17$) for affiliative humor, a mean of 37.3 ($s = 8.33$) for self-enhancing humor, and a mean of 25.9 ($s = 9.22$) for self-defeating humor.

The Rosenberg Self-Esteem Scale (RSE: Rosenberg, 1989), a 10-item self-report measure, was used to measure self-esteem. Although originally designed for use with adolescents, the RSE has been utilized with a wide age range of participants, including adults and college students (Rosenberg, 1965; Rosenberg, 1979; Rosenberg, 1989). Each of the ten items are rated using a 4-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Higher scores indicate greater endorsement of self-esteem. Examples of items include: “On the whole, I am satisfied with myself” and “I wish I could have more respect for myself.” Cronbach alphas for this instrument ranged from .74 to .92, with 2-week test-retest reliability ranging from .85 to .88 (Rosenberg, 1989). This instrument has demonstrated concurrent, predictive and construct validity and correlates significantly with similar measures (Rosenberg, 1989). Normative data for this instrument have been collected using diverse samples, including adult samples similar to those desired for the current research. Sinclair et al. (2010) reported means for ages ranging from 18 to 66+. The overall mean for their sample was 22.62 ($s = 5.80$). For the 18-25 age range, these researchers report a mean of 19.67 ($s = 6.63$). For the 26-35 age range, the mean was 22.28 ($s = 5.66$).

The Narcissistic Personality Inventory – 16 (NPI-16: Ames, Rose, & Anderson, 2006) is an abbreviated version of the Narcissistic Personality Inventory originally developed by Raskin and Hall (1979) and the NPI-40, developed by Raskin and Terry (1988). This instrument was utilized to measure general narcissism so that it could be controlled in the current study. The NPI-16 consists of 16 pairs of forced-choice statements, such as “I like having authority over people” and “I don’t mind following orders.” Responses consistent with the question in each set that corresponds to narcissism will be tallied. Higher scores indicate a greater degree of narcissism. Cronbach Alphas ranged from .65 to .78 in the original development of the NPI-16. The NPI-16 and the NPI-40 were correlated at $r = .90$ ($p < .001$). Scores on the NPI-16 also showed test-retest reliability across a time span of 5 weeks ($r = .85$, $p < .01$). Ames, Rose, and Anderson (2006) concluded that the NPI-16 shows appropriate face, internal, predictive, and discriminant validity. These researchers also provided normative data obtained with college student samples similar to the sample that was obtained in the current study. These researchers reported overall sample means ranging from .31 ($s = .19$) to .40 ($s = .19$) (all instruments can be found in *Appendix B: Instruments*, at the end of this document).

Procedures

All instruments and instructions were uploaded to a secure web-based site (Qualtrics) designed for survey administration. A brief participation request letter describing the study in general terms was included, along with a link to the survey, in an e-mail that was distributed to a random sample of approximately 3000 individuals. The request letter containing the link to the study was also distributed to relevant listservs,

colleagues, mentors, and other appropriate individuals, who were asked to forward it to others, thus resulting in *snowball sampling*. Approximately 4 to 6 weeks after the conclusion of the first round of data collection, the survey link was redistributed to the same set of participants for the second wave of data collection. Data from this second wave was not utilized in analyses due to low participant retention and an insufficient sample size.

Participants were asked to read an informed consent document during each wave of the study and to verify that they were at least 18 years of age before proceeding with a demographics form and all instruments. The demographic questionnaire included items pertaining to gender, age, race/ethnicity, and academic classification (e.g. freshman, sophomore, junior, senior, graduate student, and graduated and working in their field). Questionnaires at each wave took approximately 20 to 30 minutes to complete. See *Appendix B: Instruments* and *Appendix C: Participant Documents* at the end of this document for all instruments used in this study, as well as all invitation letters, instructions, informed consent documents, and debriefing statements received by participants.

Participant e-mail addresses were collected in order to allow reminder contacts prior to the second wave of data collection. This identifying information was kept confidential during the duration of the data collection portion of this study. When all data had been collected, this identifying information was removed from the dataset, making the data anonymous, and all identifying information was deleted/destroyed.

Upon completion of the second wave of the study, participants were given the option to voluntarily submit their names and contact information in a raffle to win one of

ten \$20 gift cards to the Amazon shopping website (amazon.com). This personal information was not associated with any of the data collected, was kept confidential throughout this process, and was deleted/destroyed after all prizes were distributed.

Data

Data analysis began with an examination of demographic information to define the specific characteristics of this study's sample set. Zero order correlations, means, standard deviations, and coefficient alphas were determined for overall scale scores, and preliminary analyses were examined to determine any significant differences among demographic groups. Data for this study were then analyzed using path analysis procedures to determine how well the proposed meditational models fit the data.

A primary model and an alternative model were proposed (see Figure 1 and Figure 2) as a means of helping to ascertain possible differences in causal direction among variables. In the primary model, it was hypothesized that humor style will serve as a proximal mediator and self-esteem will function as a distal mediator in the relationship between the exogenous predictor of personality and the outcome of life satisfaction. In the alternative model, personality remains the exogenous predictor and life satisfaction remains the criterion variable; however, self-esteem will be the proximal mediator and humor style will be the distal mediator.

Bias-corrected bootstrapping (see Preacher & Hayes, 2008), which has been recommended for tests of mediation with small and medium sample sizes (Shrout & Bolger, 2002), and which has greater statistical power and produces more accurate confidence intervals than other methods (see Mallinckrodt, Abraham, Wei, & Russell, 2006) was utilized to determine the significance of the indirect relationships. For

determining goodness of fit of each model, in addition to the chi-square statistic, the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and its 90% upper and lower confidence interval (CI), and the standardized root mean square residual (SRMR) were utilized. Values of RMSEA and SRMR less than .10, and values of CFI greater than or equal to .95, indicate an acceptable fit for less complex models and sample sizes smaller than 500 (Weston & Gore, 2006). As recommended by Arbuckle (2006), fit of the primary model versus the alternative model were compared using Akaike Information Criterion (AIC), an appropriate test for comparison of non-nested models. Lower AIC values indicate better fit.

Chapter 4: Results

Data were collected across two waves of survey distribution, with 6-8 weeks elapsing between wave 1 and wave 2. However, only 94 (40%) of the original 235 participants completed wave 2 questionnaires. Ninety-four participants are fewer than the number Kline (2005) recommends for a medium sample size, and the attrition may increase the likelihood of a Type II Error. Deeg (2002) and Young, Powers, and Bell (2006) described how this is due to loss of power as sample size decreases, as well as a reduction of internal and external validity. This reduction in validity may be caused by selection bias – the remaining participants may not be representative of the wave 1 sample and may not generalize well to larger populations. The sample size at wave 1 appears sufficient for detecting effects both because of its size and because we used bias-corrected bootstrapping for tests of mediation. As described in Chapter 3, bias-corrected bootstrapping has been recommended for tests of mediation with small and medium sample sizes (Shrout & Bolger, 2002) due to its greater statistical power and other positive attributes (see Mallinckrodt et al., 2006).

With regard to representativeness across waves, dropouts were younger than those who completed both waves (completers) [$M = 25.50$ ($SD = 11.47$) vs. $M = 35.85$ ($SD = 13.44$), $F(1, 232) = 39.49$, $p < .001$] and had lower scores on affiliative humor style, [$M = 43.15$ ($SD = 7.95$) vs. $M = 47.00$ ($SD = 6.84$), $F(1, 233) = 14.57$, $p < .001$]. Completers were more likely to be men [62.2% versus 34.3% of women, $\chi^2 = 10.17$, $p = .001$; $\Phi = .208$, $p = .001$], White as opposed to Black (with other races dropped due to the small n), [51% versus 10.9%, $\chi^2 = 27.04$, $p = .001$; $\Phi = .395$, $p < .001$], more highly educated [e.g., 73.1% of participants with a master's or doctoral degree and 65.4% of persons with a

bachelor's degree completed both waves versus 21.4% of persons with a high school diploma and 29.3% of persons with some college, $\chi^2 = 35.94, p < .001, \Phi = .39, p < .001$].

Although previous research provided rules of thumb for excessive amounts of missing data that ranged from 5% to 20% (see Schlomer, Bauman, & Card, 2010 for a discussion), more recent scholars suggest instead making the determination of whether to utilize or impute missing data based on two criteria: whether the final data have sufficient statistical power to detect effects and the pattern of missingness—whether the data are missing completely at random (MCAR), missing at random (MAR), or not missing at random (NMAR) (Schlomer et al.). These patterns pertain to the bias in the missing data.

Little's MCAR test, conducted on age and instrument scores at wave 1 and wave 2, revealed that scores were not MCAR, $\chi^2 = 89.66, df = 32, p < .001$. Additionally, even the best methods of imputation—multiple imputation and full information maximum likelihood—introduce serious bias when 50% of data are missing (Schlomer et al.). Furthermore, it is of course conceptually problematic to impute missing wave 2 data from wave 1 data when the purpose of the 2-wave analysis is to test mediation by determining change in variables across waves. Because sample characteristics and affiliative humor style differed among dropouts versus completers of both waves; because of the excessive rate of attrition; and because Little's test indicated that the pattern of missingness was not MCAR, I utilized wave 1 data for all analyses.

Preliminary Analysis

Table 1 presents instrument correlation coefficients, means, standard deviations, coefficient alphas, and ranges for all instrument scores in the current study. These

descriptive statistics were comparable to those observed in previous research (Ames, Rose, & Anderson, 2006; Diener et al., 1985; John, Donahue, & Kentle, 1991; Martin et al., 2003; Rosenberg, 1989). Three multivariate analyses of variance (MANOVAs) revealed differences across all instruments with regard to gender [Pillai's Trace = .12, $F(8, 226) = 3.89, p < .001$], race (White persons and Black persons only, with other races removed due to the small n of each subgroup) [Pillai's Trace = .18, $F(8, 201) = 5.37, p < .001$], and instrument order [Pillai's Trace = .07, $F(8, 226) = 2.15, p = .032$] (because it is a conservative test, a p value of .001 should be used with Box's M test; additionally, Pillai's Trace test was used due to its greater robustness; see Tabachnick & Fidell, 2019). Univariate tests revealed gender differences in neuroticism, self-enhancing humor, and narcissism, with women having higher neuroticism, lower self-enhancing humor, and lower narcissism. With regard to race, univariate tests revealed differences in neuroticism, affiliative humor, self-defeating humor, self-esteem, and narcissism, with White persons having higher neuroticism, affiliative humor, and self-defeating humor, and lower self-esteem and narcissism. Univariate tests revealed differences across instrument order only in affiliative humor, $F(1, 233) = 16.32, p < .001, (\eta^2 = .065$, with persons who received order 2 having considerably higher affiliative humor than persons who received order 1 ($M = 47.02, SD = 7.50$ versus $M = 42.99, SD = 7.53$, respectively).

The majority of the Pearson correlations between the constructs examined in this study were consistent with those in the literature discussed in Chapter 2. For example, as anticipated, self-defeating humor was negatively correlated with life satisfaction ($r = -.14, p = .014$), and extraversion evinced a moderate (albeit not "especially strong") relationship with affiliative humor ($r = .31, p < .001$), although it exhibited a similar

correlation with self-enhancing humor ($r = .31, p < .001$). There was one notable exception, however: Although previous studies found correlations between affiliative humor and life satisfaction (Zhao et al., 2014), and affiliative humor and other aspects of well-being closely tied to life satisfaction (Jovanovic, 2011; Kuiper & McHale, 2009; Páez, Seguel, & Martinez-Sanchez, 2013), no correlation was observed between affiliative humor and life satisfaction in this study.

Table 1 Pearson product moment correlation coefficients, means, and coefficient alphas

Variable	1	2	3	4	5	6	7	8	M	SD	Alpha	Range
1. BFI-Ext	—	-.38**	.31**	.31**	-.13	.42**	.32**	.43**	26.32	6.522	.83	12-40
2. BFI-Neu		—	-.03	-.33**	.35**	-.64**	-.44**	-.39**	24.97	6.822	.84	10-40
3. HSQ-Aff			—	.39**	.00	.17*	.01	.14*	44.64	7.757	.70	19-56
4. HSQ-SE				—	.04	.35**	.20**	.18**	38.38	8.100	.80	14-56
5. HSQ-SD					—	-.44**	-.14*	-.15*	28.28	9.498	.81	8-55
6. RSE						—	.50**	.35**	21.21	5.699	.88	6-30
7. SWLS							—	.17**	23.27	6.699	.87	5-35
8. NPI-16 ^a								—	4.54	3.139		0-15

$N = 235$

* $p < .05$; ** $p < .01$ (one-tailed)

^a The format of the NPI-16 does not permit accurate calculation of coefficient alpha

Tests of Primary and Alternative Models

The primary model included two exogenous variables (extraversion and neuroticism), and five endogenous variables (affiliative humor, self-enhancing humor, self-defeating humor, self-esteem, and life satisfaction). The highest skewness and kurtosis values were $-.671$ and $-.771$ respectively, and meet the univariate normality guidelines described by Weston and Gore (2006). No Mahalanobis distance values were significant at the $p < .001$ level; therefore, no cases were removed from the analysis (Tabachnick & Fidell, 2019).

The initial primary model did not fit the data well, $\chi^2(6, N = 235) = 47.175, p < .001$; CFI = .899; SRMR = .071; RMSEA = .044, 90% CI: .128, .218. Therefore, modification indices were utilized to modify the models. Specifically, in the primary

model, covariances were added between error terms of self-enhancing humor style and both affiliative and self-defeating humor styles.

The modified primary model provided a good fit to the data: $\chi^2(4, N = 235) = 5.828, p = .212$; CFI = .996; SRMR = .023; RMSEA = .044, 90% CI: .000, .116. As seen in Table 2, all direct paths were significant except paths from extraversion to self-defeating humor ($\beta = .01, B = .01, 90\% \text{ CI: } -.156, .176, p = .899$), from extraversion to life satisfaction, ($\beta = .11, B = .12, 90\% \text{ CI: } .006, .228, p = .088$), from neuroticism to affiliative humor ($\beta = .10, B = .11, 90\% \text{ CI: } .006, .225, p = .083$), and from affiliative humor to self-esteem, ($\beta = .04, B = .03, 90\% \text{ CI: } -.032, .096, p = .424$).

With regard to the overall hypothesis that affiliative, self-enhancing, and self-defeating humor styles would partially mediate the relationship between extraversion and neuroticism and life satisfaction through self-esteem, only self-enhancing humor mediated the relationship between both extraversion [$B = .011, 90\% \text{ CI: } .004, .026, p = .003$] and neuroticism [$B = -.012, 90\% \text{ CI: } -.028, -.004, p = .003$] and life satisfaction through self-esteem. Additionally, self-defeating humor mediated the relationship between neuroticism and life satisfaction through self-esteem [$B = -.032, 90\% \text{ CI: } -.057, -.018, p < .001$].

With regard to hypotheses concerning particular paths and circumscribed mediational pathways (see Table 2), extraversion indeed positively predicted self-enhancing and affiliative humor but did not inversely predict self-defeating humor, whereas neuroticism positively predicted self-defeating humor and inversely predicted self-enhancing humor. Additionally, self-enhancing humor positively predicted—and self-defeating humor inversely predicted—self-esteem, and self-esteem positively

predicted life satisfaction. The indirect relationships of extraversion and neuroticism with life satisfaction through self-esteem also were supported [$B = .058$, 90% CI: .026, .106, $p = .002$ and $B = -.144$, 90% CI: -.219, -.088, $p < .001$, respectively]. This model accounted for 28% of the variance in life satisfaction.

In light of prior findings (e.g., Zeigler-Hill & Besser, 2011) and significant relationships between narcissism and humor styles, self-esteem, and life satisfaction in the present study, an additional model was tested in which narcissism served as an additional exogenous variable that predicted each humor style, self-esteem, and life satisfaction. Covariances also were added between narcissism and both extraversion and neuroticism. As in the modified primary model, error terms between this model provided a good fit to the data, $\chi^2(4, N = 235) = 5.773$, $p = .217$; CFI = .996; SRMR = .020; RMSEA = .044, 90% CI: .000, .115. However, no paths from narcissism to any endogenous variables were significant. Additionally, consistent with hypotheses, indirect paths from extraversion to life satisfaction through self-enhancing humor and from neuroticism to life satisfaction through self-enhancing humor and self-defeating humor remained significant. Furthermore, the AIC of 69.773 in the model with narcissism included was somewhat larger than the AIC of the modified primary model (53.828), which indicated a somewhat worse-fitting model. Finally, the primary model is simpler, with fewer paths and variables, and thus more parsimonious. Therefore, the primary model is preferred, and narcissism was not included in the final version of this model.

Table 2 illustrates the bootstrap procedures for the Primary model and Figure 3 represents the Primary path model.

Table 2 Bootstrap Analysis of the Magnitude and Statistical Significance of the Direct and Indirect Effects (Primary Model)

Independent Variable	Proximal Mediator	Distal Mediator	Dependent Variable	β Standardized Direct/Indirect Effect	B Mean Direct/Indirect Effect ^a	SE of mean ^a	90% CI ^a (lower, upper)
Ext →			Affil	.35***	.415	.076	.242, .447
Ext →			S-Enh	.22***	.272	.075	.110, .309
Ext →			S-Def	.01	.009	.101	-.107, .122
Ext →			RSE	.17**	.143	.047	.075, .254
Ext →			SWLS	.11	.117	.068	.005, .222
Neur →			Affil	.10	.114	.066	.005, .193
Neur →			S-Enh	-.25***	-.293	.080	-.354, -.135
Neur →			S-Def	.36***	.494	.096	.250, .463
Neur →			RSE	-.43***	-.362	.048	-.520, -.343
Neur →			SWLS	-.17*	-.172	.075	-.295, -.044
Affil →			RSE	.04	.034	.039	-.044, .133
S-Enh →			RSE	.15**	.102	.039	.058, .243
S-Def →			RSE	-.27***	-.161	.031	-.351, -.186
RSE →			SWLS	.34***	.398	.090	.224, .471
Ext →	Affil →		RSE	(.35) x (.04) = .014	.014	.017	-.013, .042
Ext →	S-Enh →		RSE	(.22) x (.15) = .033**	.028	.014	.010, .057
Ext →	S-Def →		RSE	(.01) x (-.27) = -.002	-.002	.017	-.030, .025
Ext →	RSE →		SWLS	(.17) x (.34) = .058**	.057	.024	.026, .106
Neur →	Affil →		RSE	(.1) x (.04) = .004	.004	.005	-.002, .017
Neur →	S-Enh →		RSE	(-.25) x (.15) = -.038**	-.030	.015	-.062, -.011
Neur →	S-Def →		RSE	(.36) x (-.27) = -.097***	-.080	.022	-.123, -.049
Neur →	RSE →		SWLS	(-.43) x (.34) = -.146***	-.144	.040	-.219, -.088
Affil →	RSE →		SWLS	(.04) x (.34) = .014	.013	.016	-.011, .042
S-Enh →	RSE →		SWLS	(.15) x (.34) = .051**	.041	.019	.016, .081
S-Def →	RSE →		SWLS	(-.27) x (.34) = -.092***	-.064	.019	-.101, -.038
Ext →	Affil →	RSE →	SWLS	(.35) x (.04) x (.34) = .005	.006	.007	-.004, .018
Ext →	S-Enh →	RSE →	SWLS	(.22) x (.15) x (.34) = .011**	.011	.006	.004, .026
Ext →	S-Def →	RSE →	SWLS	(.01) x (-.27) x (.34) = -.001	-.001	.007	-.013, .010
Neur →	Affil →	RSE →	SWLS	(.1) x (.04) x (.34) = .001	.001	.002	-.001, .008
Neur →	S-Enh →	RSE →	SWLS	(-.25) x (.15) x (.34) = -.013**	-.012	.006	-.028, -.004
Neur →	S-Def →	RSE →	SWLS	(.36) x (-.27) x (.34) = -.033***	-.032	.011	-.057, -.018

^a These values based on unstandardized regression coefficients. CI = Confidence Interval.

* $p < .05$. ** $p < .01$. *** $p < .001$. Ext = Extraversion; Neur = Neuroticism; Affil = Affiliative Humor; S-Enh = Self-Enhancing Humor; S-Def = Self-Defeating Humor; RSE = Rosenberg Self-Esteem; SWLS = Satisfaction with Life Scale

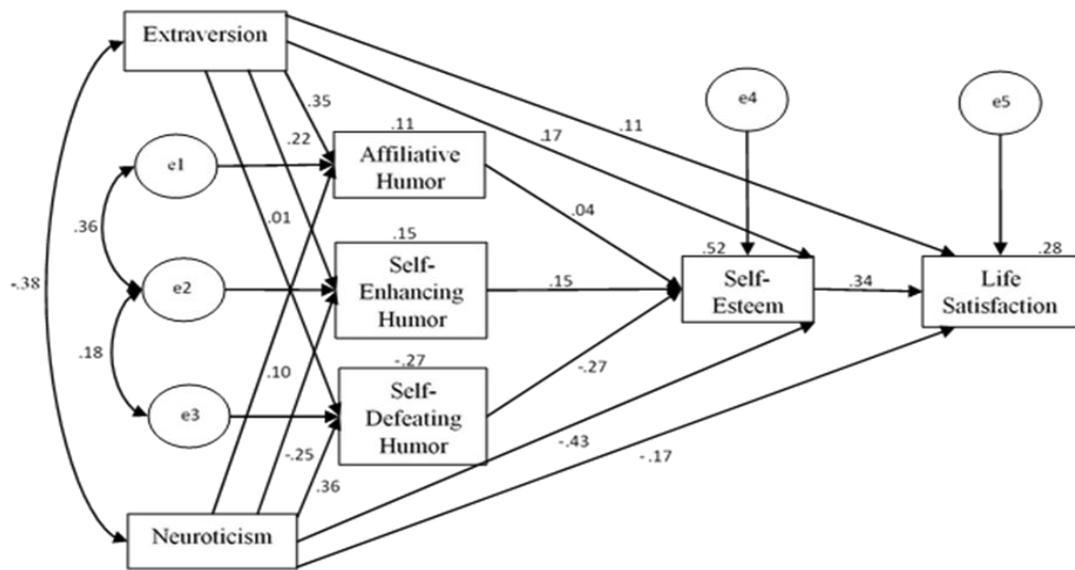


Figure 3: Primary Model– Humor Styles as Mediators of the Personality/Life Satisfaction Relationship via Self-Esteem

The alternative model (see Figure 4) also included two exogenous variables (extraversion and neuroticism), and the same five endogenous variables as the primary model (self-esteem, affiliative humor, self-enhancing humor, self-defeating humor, and life satisfaction). The highest skewness and kurtosis values were $-.671$ and $-.771$ respectively, which meet the univariate normality guidelines described by Weston and Gore (2006). No Mahalanobis distance values were significant at the $p < .001$ level; therefore, no cases were removed from the analysis (Tabachnick & Fidell, 2019).

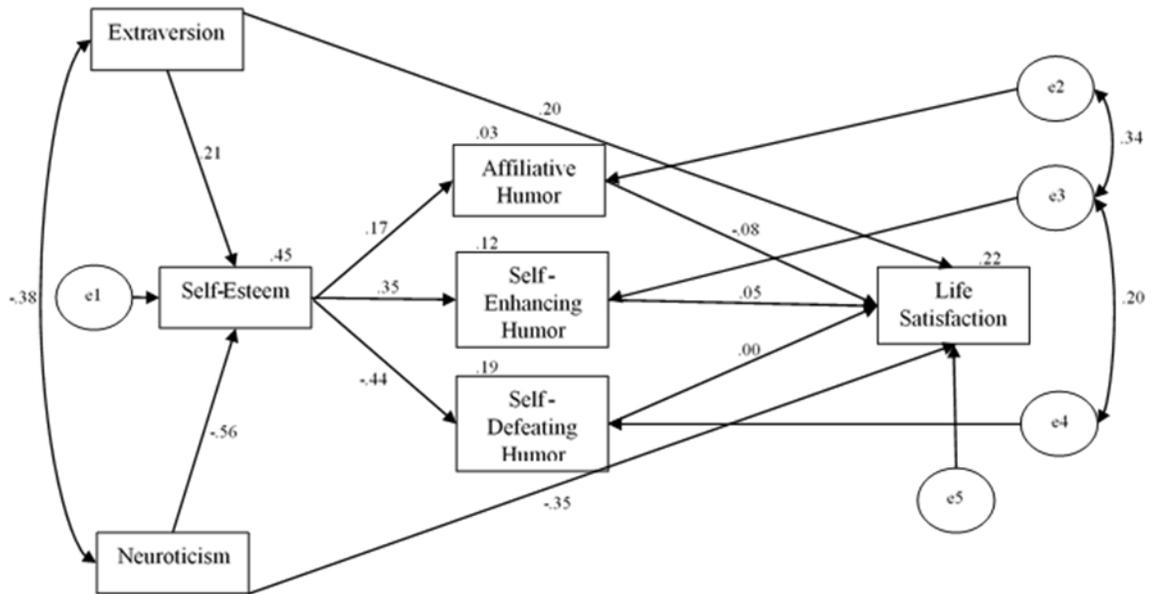


Figure 4: Alternative Model – Self-esteem as Mediator of the Personality/Life Satisfaction Relationship via Humor Style

However, the alternative model provided a poor fit to the data, $\chi^2(10, N = 235) = 108.85, p < .001$; CFI = .757; SRMR = .104; RMSEA = .206, 90% CI [.172, .241].

Modification indices were therefore utilized to modify the model by adding covariances between error terms for self-enhancing humor and both affiliative humor and self-

defeating humor. This improved the model fit, $\chi^2(8, N = 235) = 65.44, p < .001$; CFI = .859; SRMR = .076; RMSEA = .175, 90% CI [.137, .216]; however, these fit indices

remained poor. Additionally, the AIC of this model was 119.444, much larger than the AIC of the modified primary model, 53.828. As described in Chapter 3, AIC is often used

to compare non-nested models, with lower values of AIC indicating the better-fitting model; see Arbuckle, 2017; Kline, 2011). Due to the poor model fit, no further

presentation of results of this model (i.e., particular paths) is warranted.

Chapter 5: Discussion

The purpose of the current study was to extend and enrich the body of well-being research by exploring how humor style and self-esteem may mediate the relationship between the personality factors of extraversion and neuroticism and the outcome of life satisfaction. This study sought to extend previous research in several ways. First, two potential mediators were examined (humor styles and self-esteem) in the relationship between personality and life satisfaction. The purpose of including both proximal and distal mediators in the models employed in the current study was to gain a deeper understanding of how these variables complexly influence one another. Second, two potential models, a primary model (see Figures 1 and 3) and an alternative model (see Figures 2 and 4), were examined to better understand the relationships and mediational influences among the variables of interest. Third, a quasi-longitudinal design was attempted by collecting data across two administrations, approximately 6-8 weeks apart. Finally, the potentially confounding variable of narcissism was controlled, as it has shown strong correlations with many of the variables in the current study (Besser & Zeigler-Hill, 2011; Costa & McCrae, 1995; Martin, Lastuk, Jeffery, Vernon, & Veselka, 2012; Paulhus, 2001; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004; Veselka, Schermer, Martin, & Vernon, 2012; Zeigler-Hill & Besser, 2011).

Unfortunately, participant attrition was high enough for the second wave of data collection that it greatly impacted the potential validity of second-wave results and increased the risk of committing a Type II error (Deeg, 2002; Kline, 2005; Young, Powers & Bell, 2006). It was determined that wave 2 data would not be included and that analyses would focus on data collected during wave 1.

Findings of the Current Study

In preliminary analyses, some surprising demographic differences were observed in regard to gender and race across all instruments. Women exhibited higher neuroticism, lower use of self-enhancing humor, and lower narcissism than men. With regard to race, White persons reported higher neuroticism, greater use of both affiliative and self-defeating humor, lower self-esteem, and lower narcissism. It is worth noting that female participants greatly outnumbered male participants and White participants greatly outnumbered participants from other racial backgrounds. It is well-known that women across many cultures (e.g., in all 37 cultures studied by Lynn & Martin, 1997) exhibit higher neuroticism than men, whereas men typically exhibit higher levels of narcissism than women across different age groups (see Grijalva et al., 2015, for a meta-analytic review)—a difference that is primarily driven by differences in the exploitative/entitlement facet and the leadership/authority facet rather than the grandiose/exhibitionism facet of narcissism. Reasons for these differences are complex, and conjecturing about these and other gender and racial differences in mean scores is beyond the scope of the current study. Additionally, the subsample sizes of men and Black persons did not permit analyzing the models separately for these subgroups, which should precede analysis of particular model differences across subgroups. For these reasons, observed differences in mean scores and potential differences in the models across gender and race should be explored further in future research to better understand these discrepancies and how they may impact relationships among the constructs examined in the current study.

Another surprising finding observed during preliminary analysis was a lack of correlation between affiliative humor and life satisfaction. Previous research has observed correlations between these variables (Zhao et al., 2014), and between affiliative humor and other aspects of well-being closely tied to life satisfaction (Jovanovic, 2011; Kuiper & McHale, 2009; Páez, Seguel & Martinez-Sanchez, 2013). It is possible, given that affiliative humor is a socially-driven form of humor (Martin et al., 2003), and life satisfaction is a more internal cognitive process (Diener, 1984; Diener, 2000; Shin & Johnson, 1978), that affiliative humor may exhibit a closer link with aspects of subjective well-being (SWB) that are more influenced by external determinants, such as happiness and affective well-being (see discussion of SWB in Chapter 2 of this document). Jovanovic (2011) did observe that affiliative humor mediated the relationship between neuroticism and affective well-being. Future research may shed more light on the distinct connections between affiliative humor and these other components of SWB.

For the primary model, it was hypothesized that specific humor styles would partially mediate the relationship between the personality factors of extraversion and neuroticism and the outcome of life satisfaction via self-esteem. The initial model did not fit the data well and modification indices were employed to help correct for this. This modified model, which fit the data well, is represented in Figure 3.

It was observed that most direct paths between variables were significant, with the exceptions of the paths between extraversion and self-defeating humor, between neuroticism and affiliative humor, between affiliative humor and self-esteem, and between extraversion and life satisfaction. The lack of significance for the path between extraversion and self-defeating humor is not surprising, given that extraversion has, in

previous research, shown stronger connections with both of the adaptive humor styles (Jovanovic, 2011; Martin et al., 2003; Vernon et al., 2008), and self-defeating humor has shown stronger positive correlations with neuroticism than extraversion (Martin et al., 2003). Negative correlations between neuroticism and affiliative humor have been observed in previous research, however (Jovanovic, 2011; Mendiburo-Seguel, 2015), and it is somewhat surprising to not see that connection supported in the current model. More surprising is the lack of significant paths between affiliative humor and self-esteem, and between extraversion and life satisfaction. Given the small but significant Pearson correlation between affiliative humor and self-esteem, the non-significance of this path in the primary model combined with the significance of paths between both self-enhancing humor and self-defeating humor (as well as extraversion and neuroticism) and self-esteem may indicate that these are the stronger or truer predictors of self-esteem. Similarly, given the moderate and significant Pearson correlation between extraversion and life satisfaction, the lack of a direct path between these variables may be attributable to the significant indirect paths between extraversion and life satisfaction through self-esteem, and through self-enhancing humor and self-esteem, as well as the significance of indirect paths involving neuroticism and the direct path from neuroticism to life satisfaction.

In regard to affiliative humor and self-esteem, Martin et al. (2003) and Kuiper and McHale (2009) both found strong positive correlations between self-esteem and both of the adaptive humor styles. Vaughan, Zeigler-Hill and Arnau (2014) also found that participants with high stability ratings on self-esteem endorsed the highest levels of affiliative humor. Stieger, Formann, and Burger (2011) did posit that the connections

between low self-esteem and self-defeating humor are stronger than connections between high self-esteem and either of the adaptive humor styles. This pattern was observed in the current data: Compared to affiliative and self-enhancing humor styles, self-defeating humor style had the highest correlation with self-esteem. Therefore, the lack of a significant path between affiliative humor and self-esteem in the current study may be more reflective of the pattern noted by Stieger et al.

As noted, the non-significant direct path between extraversion and life satisfaction—although seemingly inconsistent with previous research (Costa & McCrae, 1980; Diener, 1996; Headey, 2007; Joshanloo & Afshari, 2011; Keys, Shmotkin & Ryff, 2002)—could be plausibly accounted for by other indirect effects. DeNeve and Cooper (1998) found that, among variables in their study, neuroticism was a stronger correlate of life satisfaction than their other variables, including extraversion. In the results of the current study, it also appears that neuroticism may be the stronger predictor both directly and indirectly. Also, similar to previous comments in this chapter regarding the preliminary finding that there was a non-significant relationship between affiliative humor and life satisfaction, and the proposition that life satisfaction may be a more internal process, there may be a similar effect between extraversion and life satisfaction in the path model. That is, extraversion may be more closely connected with external determinants and behaviors, whereas life satisfaction may be more closely tied to internal, cognitive processes. Further research may shed light on these discrepancies. It is also possible that these are unique features of the set of individuals who participated in the current study. It is important to stress, however, that the indirect relationship between

extraversion (as well as neuroticism) and life satisfaction via self-esteem was supported in the primary model.

Indeed, several hypotheses were supported in the primary path model. Overall, extraversion did serve as a positive predictor of self-enhancing and affiliative humor, although, it did not inversely predict self-defeating humor. Neuroticism positively predicted self-defeating humor and inversely predicted self-enhancing humor. Self-enhancing humor positively predicted, and self-defeating humor inversely predicted, self-esteem, and self-esteem positively predicted life satisfaction. Furthermore, it was observed that self-enhancing humor mediated the relationship between both extraversion and neuroticism and life satisfaction through self-esteem, and self-defeating humor mediated the relationship between neuroticism and life satisfaction through self-esteem. These results support the main hypothesis for the primary model and provide support for further research on how self-enhancing and self-defeating humor, especially, can mediate the relationship between personality and life satisfaction via self-esteem.

For the alternative model, it was hypothesized that self-esteem would partially mediate the relationship between extraversion and neuroticism and the outcome of life satisfaction via humor styles. This model provided a poor fit to the data, and although utilizing modification indices improved the fit of the model to the data, fit indices remained poor. It was determined that this model was not appropriate for representing mediational relationships among the variables of interest in this study.

In regard to narcissism as a potential confound, an additional model was examined in which narcissism was included as another exogenous variable. In this model, no paths from narcissism to any endogenous variables were significant and the model

provided a poor fit to the data—considerably worse than the fit of the primary model. It was determined that narcissism, although strongly correlated with many of the variables examined in this study, did not serve as a confound.

In addition to the findings discussed above, there were other interesting observations of note. In Jovanovic's (2011) prior study, a negative correlation between self-defeating humor and life satisfaction was not observed, whereas this correlation was observed in Martin et al.'s (2003) findings. It was hypothesized for the current study that this correlation would be observed, and in fact, this hypothesis was confirmed ($r = -.14, p < .05$), providing support for Martin et al.'s (2003) findings. However, as the primary model indicates, the relationship between self-defeating humor and life satisfaction actually is indirect and mediated by self-esteem. It was also hypothesized in the current study that extraversion would show an especially strong connection with affiliative humor due to the interpersonal component of both of these variables (Martin et al., 2003; Vernon et al., 2008)—stronger than the correlation between extraversion and self-enhancing humor. Although a modest correlation was observed in the current study between extraversion and affiliative humor ($r = .31, p < .001$), an equally strong correlation was also observed between extraversion and self-enhancing humor ($r = .31, p < .001$); therefore, Pearson correlations did not provide evidence that extraversion evinced a more robust correlation with affiliative humor over self-enhancing humor. However, in the primary path model, the path coefficient from extraversion to affiliative humor style was indeed larger than path coefficients from extraversion to self-enhancing humor and self-defeating humor styles, supporting this hypothesis.

Overall, self-enhancing humor and self-defeating humor served as the strongest mediators of the relationship between personality and life satisfaction via self-esteem, such that self-enhancing humor mediated the paths from both extraversion and neuroticism and self-defeating humor mediated the path from neuroticism. According to Martin et al. (2003), the developers of the *Humor Styles Questionnaire* used in this study, self-enhancing humor serves an intrapsychic function, the purpose of which is to protect the self. They defined this humor style as a positive protective mechanism whereby an individual uses humor to regulate emotions and cope with adversity. Self-defeating humor serves an interpersonal function, with the goal of enhancing relationships, albeit in maladaptive ways. Martin et al. defined self-defeating humor as humor that is directed negatively toward the self and that is used to disparage the self, hide underlying negative feelings via defensive denial, and amuse others at one's own expense. In the current study, observations of these significant paths support the roles that Martin et al. described for these humor styles and illustrate the interrelatedness of how these constructs predict and can potentially influence an individual's overall life satisfaction.

Clinical Implications

In an introduction to a collection of research on the psychology of humor, Ford, Platt, Richardson, and Tucker (2016) stated, "The centrality of humor to the human experience makes psychological research on humor naturally translational, applicable for practical interventions, and collective action for social change" (p. 1). As described in previous chapters of this document, the positive impacts of humor on well-being are numerous, and recent research has focused on how these positive impacts can be leveraged therapeutically (Auerbach, Ruch, & Fehling, 2016; Consoli, Blears, Bunge,

Mandil, Sharma, & Whaling, 2018; Maiolino & Kuiper, 2016; McGhee 2010; Ruch & Hofmann, 2017; Ruch, Hofmann, Rusch, Stolz, 2018; Ruch & McGhee, 2014).

From the benefits of hospital clowns (Auerbach, Ruch, & Fehling, 2016) to the integration of humor into cognitive-behavioral therapy (CBT) techniques to treat anxiety and depression in children and adolescents (Consoli et al., 2018), to the increase in positive cognitive appraisals observed in individuals after completing a brief humorous exercise (Maiolino & Kuiper, 2016), humor shows much promise as a viable therapeutic technique. Ruch and McGhee (2014) asserted that "...humor is trainable and that training humor in turn leads to other desirable outcomes" (p. 179). Research and practice in this field of interest is showing much promise.

Ruch and Hofmann (2017) pointed out that a large proportion of humor interventions were designed for delivery to groups and vary widely in regard to delivery method (standardized versus ad hoc or spontaneous). There are some programs, such as *The 7 Humor Habits Program* (McGhee, 2010), that have been developed to help individuals build skills in utilizing their own humorous capabilities, but the field would benefit from more such programs. Building a larger technique base that centers on teaching individuals to engage in techniques that promote insight and build humor skills could be a profound (and delightful) addition to the therapeutic toolbox.

Including cross-cultural explorations of humor and humor style in future research would greatly inform clinical practice with diverse groups. Some notable humor studies have been conducted with homogenous samples around the world (Jovanovic, 2011; Zhao et al., 2013; Zhao, Wang, & Kong, 2014), but there are only a small handful of studies that explore multiple cultural groups within the same study (Jiang, Li, & Hou,

2019, Martin & Sullivan, 2013; Yue, Jiang, Lu, & Hiranandani, 2016). Knowledge gained from such studies will aid in building cultural competencies in the utilization of therapeutic humor, developing diverse techniques, and developing techniques that can generalize to diverse groups.

The findings of the current study have intriguing clinical and practical implications. Given that self-enhancing and self-defeating humor mediate the relationship between personality and life satisfaction via self-esteem, these humor styles in particular may be a doorway into helping individuals foster positive change and increase overall self-esteem and life satisfaction. By narrowing the focus of the humor construct onto specific humor styles and exploring ways of shaping those styles, therapeutic practitioners may be able to maximize the benefits of therapeutic humor in more precise and measurable ways. Future research may provide further insight into how these particular humor styles can be purposefully explored and manipulated to create change. For example, if techniques are developed to help individuals recognize their use of self-defeating humor and replace it with self-enhancing humor, notable positive change in self-esteem and life satisfaction could occur.

Limitations of the Current Study

The current study had notable limitations that should be corrected in future research. Firstly, the attrition of participants for the second wave of data collection prevented the use of a quasi-longitudinal design to explore any changes that could have occurred in these variables over a brief time span. This would have been very valuable information and certainly could have added to the knowledge base of how to leverage these constructs to create positive change. Two or three-wave studies are necessary to

satisfactorily test mediation, which is inherently a longitudinal phenomenon, and cross-sectional mediation studies have additional statistical and methodological disadvantages (see Cole & Maxwell, 2003; Maxwell & Cole, 2007; Selig & Preacher, 2009). A larger overall sample size would have benefited this study, even for wave 1 of data collection, but the high rate of attrition for the second wave should certainly be addressed in future quasi-longitudinal or longitudinal studies related to these constructs.

The sample for this study was also comprised of a disproportionate number of female participants as compared to male participants, as well as White participants as compared to participants from other racial groups. Although a strength of the current study was that it included both undergraduate student participants and non-student participants, other areas of diversity were not as well represented. Diversifying the participant pool by including more men and persons of color would increase the generalizability of these results and strengthen the implications of how these results can inform clinical practice.

Also, as described in Chapter 4 of this document, there were notable gender and racial (scores of White persons compared to scores of Black persons) differences between some instrument scores. The higher scores on affiliative humor for participants who received order 2 may have occurred because these participants completed the HSQ first among instruments (after the demographics form), whereas participants who received order 1 completed the HSQ second to the last among instruments, after the RSE, NPI-16, SWLS, and BFI; that is, experiencing a degree of test fatigue could have temporarily reduced their tendency to use humor for affiliative purposes. Alternatively, differences in some instrument scores across gender, race, and instrument order may have been a

product of this particular subject pool, but future research could certainly shed some light on the validity and generalizability of these findings.

Conclusions

Despite these limitations, the findings of the current study build upon and enrich the body of literature pertaining to the constructs of personality, humor styles, self-esteem and life satisfaction. Understanding more about how humor styles and self-esteem mediate the relationship between personality and life satisfaction leads to a deeper understanding of how these constructs potentially influence one another and how this influence may be purposefully orchestrated to create positive change for individuals. Self-enhancing and self-defeating humor are of particular interest after observing their impact within the primary model presented in the current study. Future research will continue to shed light on these intriguing relationships.

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Appendix A: Figures and Tables

Figure 1: Hypothesized Primary Model

Figure 2: Hypothesized Alternative Model

Figure 3: Final Primary Model

Figure 4: Final Alternative Model

Table 1: Pearson Correlation Coefficients, Means, and Coefficient Alphas

Table 2: Bootstrap Analysis of the Direct and Indirect Effects (Primary Model)

Figure 1: Hypothesized Primary Model and Figure 2: Hypothesized Alternative Model

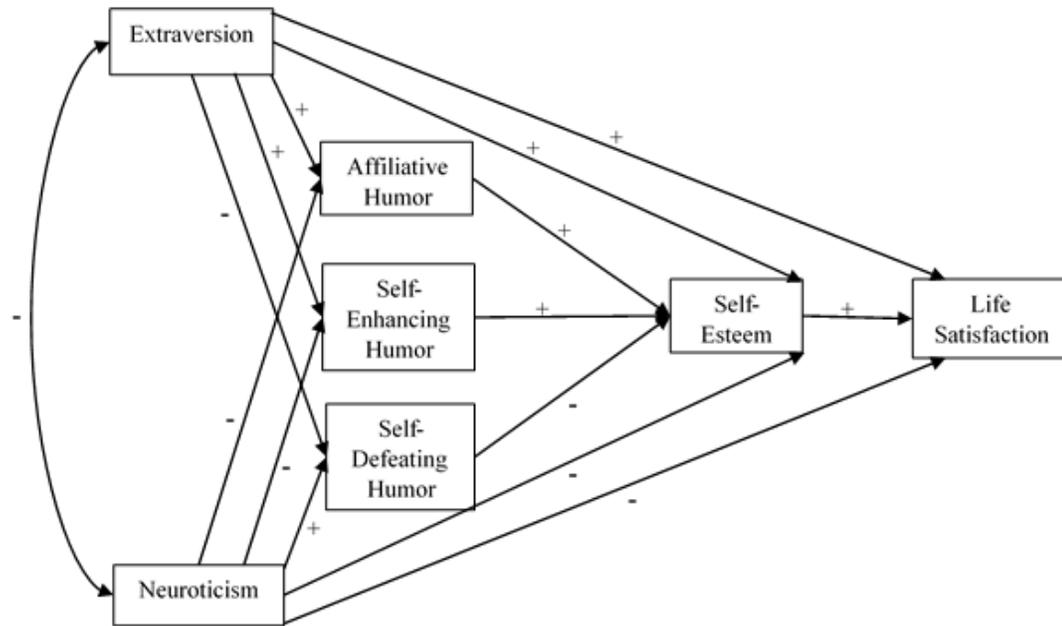


Figure 1: Hypothesized Primary Model – Humor Styles as Mediators of the Personality/Life Satisfaction Relationship via Self-Esteem

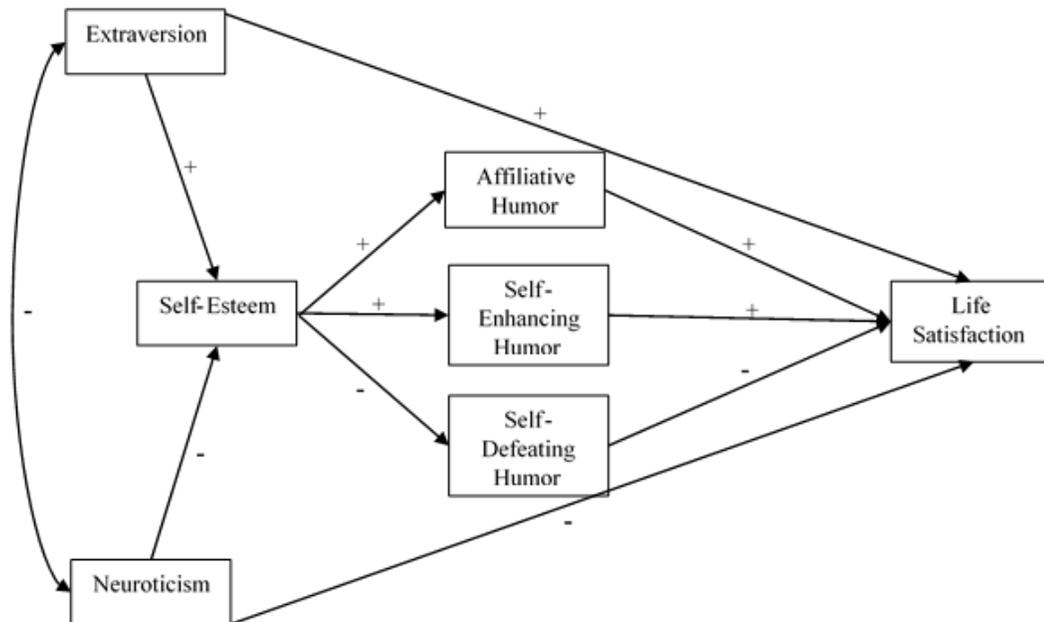


Figure 2: Hypothesized Alternative Model – Self-esteem as Mediator of the Personality/Life Satisfaction Relationship via Humor Style

Figure 3: Final Primary Model and Figure 4: Final Alternative Model

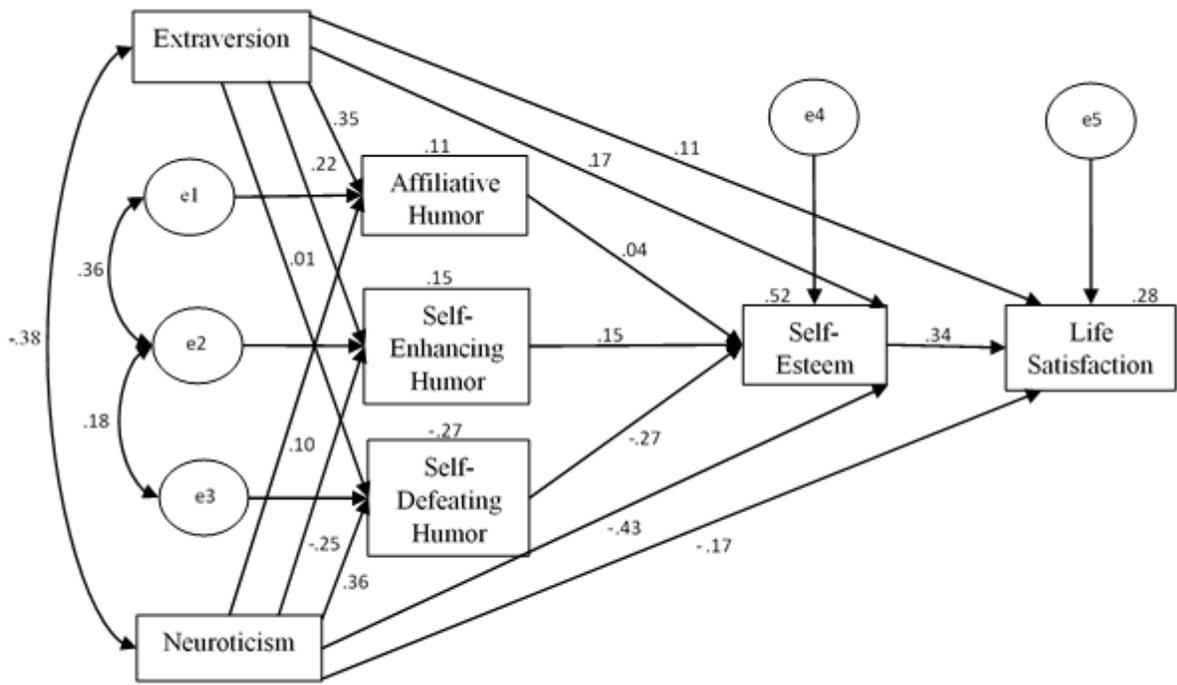


Figure 3: Primary Model – Humor Styles as Mediators of the Personality/Life Satisfaction Relationship via Self-Esteem

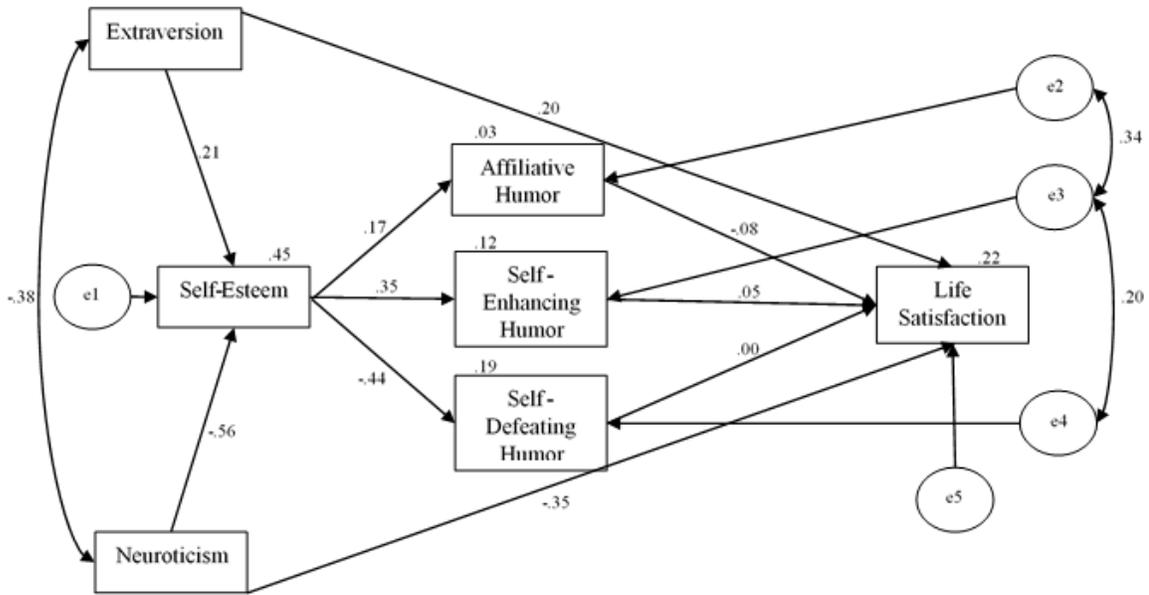


Figure 4: Alternative Model – Self-esteem as Mediator of the Personality/Life Satisfaction Relationship via Humor Style

Table 1: Pearson Correlation Coefficients, Means, and Coefficient Alphas

Table 1 Pearson product moment correlation coefficients, means, and coefficient alphas

Variable	1	2	3	4	5	6	7	8	M	SD	Alpha	Range
1. BFI-Ext	–	-.38**	.31**	.31**	-.13	.42**	.32**	.43**	26.32	6.522	.83	12-40
2. BFI-Neu		–	-.03	-.33**	.35**	-.64**	-.44**	-.39**	24.97	6.822	.84	10-40
3. HSQ-Aff			–	.39**	.00	.17*	.01	.14*	44.64	7.757	.70	19-56
4. HSQ-SE				–	.04	.35**	.20**	.18**	38.38	8.100	.80	14-56
5. HSQ-SD					–	-.44**	-.14*	-.15*	28.28	9.498	.81	8-55
6. RSE						–	.50**	.35**	21.21	5.699	.88	6-30
7. SWLS							–	.17**	23.27	6.699	.87	5-35
8. NPI-16 ^a								–	4.54	3.139		0-15

$N = 235$

* $p < .05$; ** $p < .01$ (one-tailed)

^a The format of the NPI-16 does not permit accurate calculation of coefficient alpha

Table 2: Bootstrap Analysis of the Direct and Indirect Effects (Primary Model)

Independent Variable	Proximal Mediator	Distal Mediator	Dependent Variable	β Standardized Direct/Indirect Effect	B Mean Direct/Indirect Effect ^a	SE of mean ^a	90% CI ^a (lower, upper)
Ext →			Affil	.35***	.415	.076	.242, .447
Ext →			S-Enh	.22***	.272	.075	.110, .309
Ext →			S-Def	.01	.009	.101	-.107, .122
Ext →			RSE	.17**	.143	.047	.075, .254
Ext →			SWLS	.11	.117	.068	.005, .222
Neur →			Affil	.10	.114	.066	.005, .193
Neur →			S-Enh	-.25***	-.293	.080	-.354, -.135
Neur →			S-Def	.36***	.494	.096	.250, .463
Neur →			RSE	-.43***	-.362	.048	-.520, -.343
Neur →			SWLS	-.17*	-.172	.075	-.295, -.044
Affil →			RSE	.04	.034	.039	-.044, .133
S-Enh →			RSE	.15**	.102	.039	.058, .243
S-Def →			RSE	-.27***	-.161	.031	-.351, -.186
RSE →			SWLS	.34***	.398	.090	.224, .471
Ext →	Affil →		RSE	(.35) x (.04) = .014	.014	.017	-.013, .042
Ext →	S-Enh →		RSE	(.22) x (.15) = .033**	.028	.014	.010, .057
Ext →	S-Def →		RSE	(.01) x (-.27) = -.002	-.002	.017	-.030, .025
Ext →	RSE →		SWLS	(.17) x (.34) = .058**	.057	.024	.026, .106
Neur →	Affil →		RSE	(.1) x (.04) = .004	.004	.005	-.002, .017
Neur →	S-Enh →		RSE	(-.25) x (.15) = -.038**	-.030	.015	-.062, -.011
Neur →	S-Def →		RSE	(.36) x (-.27) = -.097***	-.080	.022	-.123, -.049
Neur →	RSE →		SWLS	(-.43) x (.34) = -.146***	-.144	.040	-.219, -.088
Affil →	RSE →		SWLS	(.04) x (.34) = .014	.013	.016	-.011, .042
S-Enh →	RSE →		SWLS	(.15) x (.34) = .051**	.041	.019	.016, .081
S-Def →	RSE →		SWLS	(-.27) x (.34) = -.092***	-.064	.019	-.101, -.038
Ext →	Affil →	RSE →	SWLS	(.35) x (.04) x (.34) = .005	.006	.007	-.004, .018
Ext →	S-Enh →	RSE →	SWLS	(.22) x (.15) x (.34) = .011**	.011	.006	.004, .026
Ext →	S-Def →	RSE →	SWLS	(.01) x (-.27) x (.34) = -.001	-.001	.007	-.013, .010
Neur →	Affil →	RSE →	SWLS	(.1) x (.04) x (.34) = .001	.001	.002	-.001, .008
Neur →	S-Enh →	RSE →	SWLS	(-.25) x (.15) x (.34) = -.013**	-.012	.006	-.028, -.004
Neur →	S-Def →	RSE →	SWLS	(.36) x (-.27) x (.34) = -.033***	-.032	.011	-.057, -.018

^a These values based on unstandardized regression coefficients. CI = Confidence Interval.

* $p < .05$. ** $p < .01$. *** $p < .001$. Ext = Extraversion; Neur = Neuroticism; Affil = Affiliative Humor; S-Enh = Self-Enhancing Humor; S-Def = Self-Defeating Humor; RSE = Rosenberg Self-Esteem; SWLS = Satisfaction with Life Scale

Appendix B: Instruments

Demographic Data Form

The Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985)

The Big Five Inventory (BFI: John, Donahue, & Kentle, 1991)

Humor Styles Questionnaire (HSQ: Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003)

The Rosenberg Self-Esteem Scale (RSE: Rosenberg, 1989)

The Narcissistic Personality Inventory – 16 (NPI-16: Ames, Rose, & Anderson, 2006)

Demographic Data Form

Age: _____

What is your gender?

- Male
- Female
- Non-Binary/Other

Which of the following best represents your racial or ethnic heritage?

- Non-Hispanic White, Euro-American, or European
- Black, African American, African, or Afro-Caribbean
- Latino/a or Hispanic
- East Asian or Asian American
- South Asian or Indian American
- Middle Eastern or Arab American
- Native American or Alaskan Native
- Multi-Racial
- Other

Do you currently live in the United States?

- Yes
- No

In which region of the United States do you live?

- Midwest – (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)
- Northeast – (CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT)
- Southeast – (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)
- Southwest – (AZ, NM, OK, TX)
- West – (CA, CO, ID, MT, NV, OR, UT, WA, WY)
- Alaska
- Hawaii
- Other U.S. Territory (Puerto Rico, Guam, N. Mariana Is., Virgin Is., Samoa)
- I do not live in the United States

If you do not live in the U.S., in what Country do you live?

What is your relationship status?

- Single
- Married
- Cohabiting with Romantic Partner
- Committed long-term relationship (greater than one year) but not living together
- Other

What is your highest level of education completed?

- Did not graduate from high school or earn GED
- GED
- High School Diploma
- Some College
- Associate's Degree
- Bachelor's Degree
- Some Graduate School
- Master's or Doctoral Degree
- Other

If currently a student, please indicate your current status:

- High School
- Freshman (undergraduate)
- Sophomore (undergraduate)
- Junior (undergraduate)
- Senior (undergraduate)
- Graduate Student
- Graduated and working in field, but also working on an additional degree
- I am not currently a student

What is your employment status?

- Employed Full-Time
- Employed Part-Time
- Self-Employed
- Military
- Homemaker
- Retired
- Unemployed – Looking for work
- Unemployed – Not looking for work
- Unable to Work

The Satisfaction with Life Scale (SWLS)
(Diener, Emmons, Larsen, & Griffin, 1985)

DIRECTIONS: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree

2 = Disagree

3 = Slightly Disagree

4 = Neither Agree or Disagree

5 = Slightly Agree

6 = Agree

7 = Strongly Agree

_____ 1. In most ways my life is close to my ideal.

_____ 2. The conditions of my life are excellent.

_____ 3. I am satisfied with life.

_____ 4. So far I have gotten the important things I want in life.

_____ 5. If I could live my life over, I would change almost nothing.

The Big Five Inventory (BFI)
(John, Donahue & Kentle, 1991)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree strongly 1	Disagree a little 2	Neither agree nor disagree 3	Agree a little 4	Agree Strongly 5
---------------------------	---------------------------	------------------------------------	------------------------	------------------------

I see Myself as Someone Who...

- | | |
|---|---|
| <p>_____ 1. Is talkative</p> <p>_____ 2. Tends to find fault with others</p> <p>_____ 3. Does a thorough job</p> <p>_____ 4. Is depressed, blue</p> <p>_____ 5. Is original, comes up with new ideas</p> <p>_____ 6. Is reserved</p> <p>_____ 7. Is helpful and unselfish with others</p> <p>_____ 8. Can be somewhat careless</p> <p>_____ 9. Is relaxed, handles stress well</p> <p>_____ 10. Is curious about many different things</p> <p>_____ 11. Is full of energy</p> <p>_____ 12. Starts quarrels with others</p> <p>_____ 13. Is a reliable worker</p> <p>_____ 14. Can be tense</p> <p>_____ 15. Is ingenious, a deep thinker</p> <p>_____ 16. Generates a lot of enthusiasm</p> | <p>_____ 17. Has a forgiving nature</p> <p>_____ 18. Tends to be disorganized</p> <p>_____ 19. Worries a lot</p> <p>_____ 20. Has an active imagination</p> <p>_____ 21. Tends to be quiet</p> <p>_____ 22. Is generally trusting</p> <p>_____ 23. Tends to be lazy</p> <p>_____ 24. Is emotionally stable, not easily upset</p> <p>_____ 25. Is inventive</p> <p>_____ 26. Has an assertive personality</p> <p>_____ 27. Can be cold and aloof</p> <p>_____ 28. Perseveres until the task is finished</p> <p>_____ 29. Can be moody</p> <p>_____ 30. Values artistic, aesthetic experiences</p> <p>_____ 31. Is sometimes shy, inhibited</p> |
|---|---|

- _____ 32. Is considerate and kind to almost everyone
- _____ 33. Does things efficiently
- _____ 34. Remains calm in tense situations
- _____ 35. Prefers work that is routine
- _____ 36. Is outgoing, sociable
- _____ 37. Is sometimes rude to others
- _____ 38. Makes plans and follows through with them

- _____ 39. Gets nervous easily
- _____ 40. Likes to reflect, play with ideas
- _____ 41. Has few artistic interests
- _____ 42. Likes to cooperate with others
- _____ 43. Is easily distracted
- _____ 44. Is sophisticated in art, music, or literature

BFI Scale Scoring (“R” denotes reverse-scored items):

Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36

Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39

Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

Humor Styles Questionnaire (HSQ)
(Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003)

People experience and express humor in many different ways. Below is a list of statements describing different ways in which humor might be experienced. Please read each statement carefully, and indicate the degree to which you agree or disagree with it. Please respond as honestly and objectively as you can. Use the following scale:

Totally Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Totally Agree
1	2	3	4	5	6	7

1. I usually don't laugh or joke around much with other people.
2. If I am feeling depressed, I can usually cheer myself up with humor.
3. If someone makes a mistake, I will often tease them about it.
4. I let people laugh at me or make fun at my expense more than I should.
5. I don't have to work very hard at making other people laugh – I seem to be a naturally humorous person.
6. Even when I'm by myself, I'm often amused by the absurdities of life.
7. People are never offended or hurt by my sense of humor.
8. I will often get carried away in putting myself down if it makes my family or friends laugh.
9. I rarely make other people laugh by telling funny stories about myself.
10. If I am feeling upset or unhappy I usually try to think of something funny about the situation to make myself feel better.
11. When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it.

12. I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.
13. I laugh and joke a lot with my friends.
14. My humorous outlook on life keeps me from getting overly upset or depressed about things.
15. I do not like it when people use humor as a way of criticizing or putting someone down.
16. I don't often say funny things to put myself down.
17. I usually don't like to tell jokes or amuse people.
18. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.
19. Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation.
20. I often go overboard in putting myself down when I am making jokes or trying to be funny.
21. I enjoy making people laugh.
22. If I am feeling sad or upset, I usually lose my sense of humor.
23. I never participate in laughing at others even if all my friends are doing it.
24. When I am with friends or family, I often seem to be the one that other people make fun of or joke about.
25. I don't often joke around with my friends.
26. It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems.

27. If I don't like someone, I often use humor or teasing to put them down.
28. If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel.
29. I usually can't think of witty things to say when I'm with other people.
30. I don't need to be with other people to feel amused – I can usually find things to laugh about even when I'm by myself.
31. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.
32. Letting others laugh at me is my way of keeping my friends and family in good spirits.

Scoring

Affiliative Humor: 1*, 5, 9*, 13, 17*, 21, 25*, 29*

Self-Enhancing Humor: 2, 6, 10, 14, 18, 22*, 26, 30

Aggressive Humor: 3, 7*, 11, 15*, 19, 23*, 27, 31*

Self-Defeating Humor: 4, 8, 12, 16*, 20, 24, 28, 32

*Note: Items marked with * are reverse keyed; i.e., 1=7, 2=6, 3=5, 4=4, 5=3, 6=2, 7=1.

After reversing these items, sum across all 8 items in each scale to obtain scale totals.

Interpretation

Affiliative Humor: tendency to share humor with others, tell jokes and funny stories, amuse others, make others laugh, enjoy laughing along with others.

Self-Enhancing Humor: tendency to maintain a humorous outlook on life even when not with others, use humor in coping with stress, and cheer oneself up with humor.

Aggressive Humor: tendency to use humor to disparage, put down, or manipulate others; use of ridicule, offensive humor; compulsive expression of humor even when inappropriate.

Self-Defeating Humor: tendency to amuse others at one's own expense, self-disparaging humor; laughing along with others when being ridiculed or put down; using humor to hide one's true feelings from self and others.

The Rosenberg Self-Esteem Scale (RSE)
(Rosenberg, 1989)

Below is a list of statements dealing with your general feelings about yourself. Use the following scale to indicate whether you *Strongly Agree (1)*, *Agree (2)*, *Disagree (3)*, or *Strongly Disagree (4)*.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

1. I feel that I'm a person of worth, at least on an equal plane with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Scoring

To score the items, assign a value to each of the 10 items as follows:

- For items 1, 2, 4, 6, 7: Strongly Agree = 3, Agree = 2, Disagree = 1, and Strongly Disagree = 0.
- For items 3, 5, 8, 9, 10: (Reverse Scoring) Strongly Agree = 0, Agree = 1, Disagree = 2, and Strongly Disagree = 3.

The Narcissistic Personality Inventory – 16 (NPI-16)
(Ames, Rose, & Anderson, 2006)

Read each pair of statements below and place an “X” by the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes closest. **Please complete all pairs.**

1. **I really like to be the center of attention.**
 It makes me uncomfortable to be the center of attention.

2. I am no better or no worse than most people.
 I think I am a special person.

3. **Everybody likes to hear my stories.**
 Sometimes I tell good stories.

4. I usually get the respect that I deserve.
 I insist upon getting the respect that is due me.

5. I don't mind following orders.
 I like having authority over people.

6. **I am going to be a great person.**
 I hope I am going to be successful.

7. People sometimes believe what I tell them.
 I can make anybody believe anything I want them to.

8. **I expect a great deal from other people.**
 I like to do things for other people.

9. _____ **I like to be the center of attention.**
_____ I prefer to blend in with the crowd.
10. _____ I am much like everybody else.
_____ **I am an extraordinary person.**
11. _____ **I always know what I am doing.**
_____ Sometimes I am not sure of what I am doing.
12. _____ I don't like it when I find myself manipulating people.
_____ **I find it easy to manipulate people.**
13. _____ Being an authority doesn't mean that much to me.
_____ **People always seem to recognize my authority.**
14. _____ **I know that I am good because everybody keeps telling me so.**
_____ When people compliment me I sometimes get embarrassed.
15. _____ I try not to be a show off.
_____ **I am apt to show off if I get the chance.**
16. _____ **I am more capable than other people.**
_____ There is a lot that I can learn from other people.

Scoring

Responses consistent with narcissism are shown in **bold**. Compute proportion of responses consistent with narcissism. [Note: These items are not bold when presented to participants].

Appendix C: Participant Documents

Invitation E-mails to Participate in Research

Informed Consent Document

Debriefing Statements

Letter to Raffle Winners

E-mail Invitations to Participate in Research

Invitation for 1st Round of Data Collection:

Dear Research Participant,

You are invited to participate in a dissertation research study being conducted through the University of Memphis. The purpose of this study is to explore the relationships among particular individual traits/qualities and the impact these may have on life satisfaction. Every participant gives us valuable insight and your participation is greatly appreciated.

If you choose to participate, you will be asked to complete some simple surveys about yourself. The survey link below will be open until [Date]. Approximately 4-6 weeks from that date, you will be sent a second link and asked to complete the surveys again. Please do so. This allows us to gain more insight into the stability of these factors over a brief period of time. **Also, those who complete both rounds of the study will have the option to enter to win a \$20 Amazon gift card. There will be ten winners!**

These surveys should take approximately 20 to 30 minutes to complete, depending on your personal pace. Your information will be kept confidential at all times and any identifying information will be kept separate from your survey responses. **You must be at least 18 years old to participate.**

Please follow this link to participate: [Survey URL]

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

Emily R. Averitt, M.A.
Doctoral Candidate in Counseling Psychology
University of Memphis
eaveritt@memphis.edu

O. Richard Lightsey, Ph.D.
Dissertation Chair
Counseling, Educational Psychology, and Research Department
University of Memphis
olightsy@memphis.edu

Reminder Invitation for 1st Round of Data Collection:

Dear Research Participant,

We wanted to remind you of an opportunity to participate in a dissertation research study being conducted through the University of Memphis. The purpose of this study is to explore the relationships among particular individual traits/qualities and the impact these may have on life satisfaction. Every participant gives us valuable insight and your participation is greatly appreciated.

If you choose to participate, you will be asked to complete some simple surveys about yourself. The survey link below will be open until [Date]. Approximately 4-6 weeks from that date, you will be sent a second link and asked to complete the surveys again. Please do so. This allows us to gain more insight into the stability of these factors over a brief period of time. **Also, those who complete both rounds of the study will have the option to enter to win a \$20 Amazon gift card. There will be ten winners!**

These surveys should take approximately 20 to 30 minutes to complete, depending on your personal pace. Your information will be kept confidential at all times and any identifying information will be kept separate from your survey responses. **You must be at least 18 years old to participate.**

Please follow this link to participate: [Survey URL]

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

Emily R. Averitt, M.A.
Doctoral Candidate in Counseling Psychology
University of Memphis
eaveritt@memphis.edu

O. Richard Lightsey, Ph.D.
Dissertation Chair
Counseling, Educational Psychology, and Research Department
University of Memphis
olightsy@memphis.edu

Invitation for 2nd Round of Data Collection:

Dear Research Participant,

Approximately 4-6 weeks ago you completed the first round of a dissertation research study being conducted through the University of Memphis. Thank you! Your responses are valuable and we truly appreciate your participation.

We hope that you will complete this second round of the survey, which is essential for the study. The purpose of this study is to explore the relationships among particular individual traits/qualities at time 1 and observe their stability at time 2.

These surveys will be just like the first round of the survey and should take approximately 20 to 30 minutes to complete, depending on your personal pace. **You must be at least 18 years old to participate.**

Completion of this second round will make you eligible to enter into a drawing for a \$20 Amazon gift cards. There are ten chances to win. After completion of the surveys, you will be redirected to a different page where you may enter your contact information to participate in the drawing. This is completely optional and you may still complete the surveys without entering. All survey responses and personal information will be kept confidential, and your personal information will be kept separate from your survey responses.

Please follow this link to participate in round 2 of this study: [Survey URL]

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

Emily R. Averitt, M.A.
Doctoral Candidate in Counseling Psychology
University of Memphis
eaveritt@memphis.edu

O. Richard Lightsey, Ph.D.
Dissertation Chair
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Reminder Invitation for 2nd Round of Data Collection:

Dear Research Participant,

We wanted to remind you of an opportunity to participate in a dissertation research study being conducted through the University of Memphis. Approximately 4-6 weeks ago you completed the first round of this research study. Thank you! Your responses are valuable and we truly appreciate your participation.

We hope that you will complete this second round of the survey. The purpose of this study is to explore the relationships among particular individual traits/qualities and their ability to predict future well-being.

These surveys will be just like the questionnaires in the first round and should take approximately 20 to 30 minutes to complete, depending on your personal pace.

You must be at least 18 years old to participate.

Completion of this second round will make you eligible to enter into a drawing for a \$20 Amazon gift card. There are ten chances to win. After completion of the surveys, you will be redirected to a different page where you may enter your contact information to participate in the drawing. This is completely optional and you may still complete the surveys without entering the raffle. All survey responses and personal information will be kept confidential and your personal information will be kept separate from your survey responses.

Please follow this link to participate in round 2 of this study: [Survey URL]

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

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O. Richard Lightsey, Ph.D.
Dissertation Chair
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olightsy@memphis.edu

Consent to Participate in Research

You are being asked to participate in a research study conducted through the University of Memphis. This study will be conducted in two parts – the survey you will complete today and a repeated survey that will be sent to you via email in approximately 4-6 weeks. The University requires that you give your signed agreement to participate in this project. This form is intended to provide you with information about this study. You may contact the researchers listed below regarding any questions you have about this study. If you agree to participate, please click the appropriate responses below to indicate your consent and verify that you are over 18 years of age.

Primary Researcher: Emily R. Averitt, M.A.
Doctoral Candidate in Counseling Psychology
University of Memphis
eaveritt@memphis.edu

Dissertation Chair: O. Richard Lightsey, Ph. D.
Counseling, Educational Psychology, and Research Department
University of Memphis
olightsy@memphis.edu

1. Nature and Purpose of this Study:

The current research is being completed to fulfill the dissertation requirement for the primary researcher's Doctoral degree. The purpose of this study is to explore the relationships among particular individual traits/qualities and whether these constructs predict future well-being.

2. Explanation of Procedures:

You must be at least 18 years of age to participate in this study. You are being asked to complete this survey at two different times. If you volunteer for this study, you will be asked to provide a valid e-mail address at the time of completing the first set of questionnaires. Approximately 4-6 weeks after completion of all time 1 questionnaires, a link to the second set of questionnaires will be sent to you. Please complete all questionnaires again at that time. This second set of responses will allow researchers to observe how the elements of the study relate to each other over time. Participants who complete both rounds of this study will be eligible to enter a raffle for a chance to win one of ten, \$20 Amazon gift certificates. Because we anticipate that up to 200 persons

will complete questionnaires at both time periods, your chance of winning the raffle will be approximately 5% (5 out of 200).

After reading this document and indicating your consent to participate, you will be presented with a few sets of questions regarding some demographic information about you, as well as your personal experiences of the constructs being examined in this study. Please follow the instructions within the survey. Completing this survey will take approximately 20 to 30 minutes, depending on your personal pace. While completing the first round of the study, you will be asked to provide your email address so that we may send you a link to the second round of the study questionnaires in approximately 4-6 weeks. Questionnaires at time 2 will also take 20 to 30 minutes. After completing the second round of the study, you will have the opportunity to provide your name and e-mail address to be entered for a chance to win a \$20 Amazon.com gift certificate. There will be ten gift certificates awarded. Participating in the raffle is optional.

3. Discomfort and Risks:

To the best of our knowledge, there are no anticipated risks involved in completing this survey. It is possible that some people may find some questions mildly stressful, but it is not anticipated that this will cause more stress than may be encountered in other similar exploratory surveys. Please do not continue the study if you feel uncomfortable about participating. You may discontinue this survey at any time by closing the survey page in your browser. Please contact the researchers listed above if you have any questions or feedback regarding concerns. Note that The University of Memphis does not have any funds budgeted for compensation for injury, damages, or other expenses.

4. Benefits of Participation:

In addition to a chance to win a \$20 Amazon gift certificate, participants will also be contributing to our knowledge and understanding of some important human qualities and how those qualities predict and may influence well-being. Helping contribute to this area of knowledge gives us opportunities to better know how to help people improve their well-being. Some instructors may provide course credit or extra credit for participation, consistent with their course policies, but neither Emily Averitt nor Dr. Lightsey will provide course/extra credit.

5. Confidentiality

The e-mail address you provide after completing the first set of questionnaires will be used to match your second set of responses to your first set. Your e-mail will be kept confidential within limits of law. After both sets of questionnaires are complete, your email address will be deleted and will no longer be associated with any of our data. All data will then be anonymous. While data collection is occurring, email addresses, data, and raffle entry information will be saved on a password protected, removable storage device (e.g. external hard drive), and locked in secure filing cabinet in the lead researcher's office. Your email address and any contact information you provide for the

chance to win a gift certificate will be kept separate from your survey responses and will be kept confidential. This information will only be used for the purposes described in number 2 above, and will be deleted once all raffle prizes have been distributed. Your email address will not be shared and will only be accessible by Emily Averitt and Dr. Lightsey for the duration of data collection.

We will keep private all research records that identify you to the extent allowed by law. However, there are some circumstances in which we may have to show your information to other people. For example, data may be shared upon request in the future with other researchers who request the data for verification, reanalysis, or other purposes, consistent with the Ethical Principles and Code of Conduct of the American Psychological Association. Data collected for these studies may be subjected in the future to additional analyses by Dr. Lightsey or others to address questions that arise in the literature, and additional presentations and publications may arise from this secondary use of the data. Additionally, the law may require us to show your information to a court. Also, we may be required to show information which identifies you to people who need to be sure we have done the research correctly; these would be people from such organizations as the University of Memphis.

6. Refusal/Withdrawal:

This study is completely voluntary. You may choose to stop participating at any time. You are encouraged to stop participating if you feel any discomfort regarding answering any of the survey questions. If you discontinue your participation, your survey responses will not be included in the data collected for this study. Only those who complete both rounds of the survey will be eligible to enter the raffle, but this is in no way intended as a coercion to participate. The raffle is also optional, and you can still participate in the research without entering the raffle.

7. Contact Information

If you have any questions or concerns regarding this study, please contact the lead researcher, Emily R. Averitt, or her dissertation advisor, Dr. Richard Lightsey:

Emily R. Averitt, M.A.
Doctoral Candidate in Counseling
Psychology
University of Memphis
eaveritt@memphis.edu

O. Richard Lightsey, Ph. D.
Counseling, Educational Psychology,
and Research Department
University of Memphis
olightsy@memphis.edu

If you have any questions regarding participants' rights, please direct your inquiries to:

Chris Whitehead
Administrator
Institutional Review Board for the Protection of Human Subjects
irb@memphis.edu
(901) 678-2705

8. Informed Consent Statement:

I have read the statements above and consent to participate in this research. I verify that I am at least 18 years old. I am aware that I will be sent another link to this survey in approximately 4-6 weeks. I understand that I can withdraw from participation at any time and am aware that I cannot participate in the prize drawing unless I complete both rounds of the study.

_____ **I am 18+ years old.**

_____ **I consent to participate in this study.**

PLEASE PRINT OR SAVE THIS PAGE FOR YOUR RECORDS. You may also contact the lead researcher (eaveritt@memphis.edu) to request a copy of this document.

Debriefing Statements

Debriefing Statement for 1st Round of Data Collection

Thank you for your participation in the first round of this study! This set of surveys is complete.

In approximately 4-6 weeks, you will receive an email invitation to participate in the second round of data collection for this study. Your participation at round 2 will allow us to measure the stability of the variables we are observing and better understand any changes that occur over time.

Students eligible for extra credit or course credit: Please print this page as your confirmation of participation. If you are unable to print, you may also request an email confirmation by contacting the lead investigator (eaveritt@memphis.edu).

Thank you again for your time and participation. If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

Emily R. Averitt, M.A.
Doctoral Candidate in Counseling Psychology
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eaveritt@memphis.edu

O. Richard Lightsey, Ph.D.
Dissertation Chair
Counseling, Educational Psychology, and Research Department
University of Memphis
olightsy@memphis.edu

Debriefing Statement for 2nd Round of Data Collection

Thank you for your participation in this study!

You have just completed your participation in a study titled *Humor Styles and Self-Esteem as Mediators of the Relationship between Personality and Life Satisfaction*. This study is being conducted to fulfill the dissertation requirement for the primary researcher's doctoral degree in Counseling Psychology from the University of Memphis.

The purpose of this study is to examine how humor styles and self-esteem predict and could affect or account for the relationship between two major personality factors (extraversion and neuroticism) and the outcome of life satisfaction. We predict that humor styles and self-esteem play a role in protecting against some personality characteristics that could potentially lower life satisfaction. More specifically, we expect that those individuals higher in extraversion will be more likely to utilize adaptive humor styles, experience positive self-esteem, and report higher life satisfaction. We anticipate that those higher in neuroticism will use more maladaptive humor styles, experience lower self-esteem, and report lower life satisfaction. We also anticipate that, the use of adaptive humor styles will increase the likelihood of more positive self-esteem and better ratings of life satisfaction for those with higher neuroticism, and that the use of maladaptive humor styles may decrease this for those who report higher extraversion. We plan to explore two different paths in which these variables may impact one another: one in which humor style mediates the relationship between personality and self-esteem, and one in which self-esteem mediates the relationship between personality and humor style, with life satisfaction as the outcome of both paths. This will allow us to observe which variables may be the most impactful in creating positive changes in overall life satisfaction. This research will add to our knowledge of these characteristics and could allow future research to examine how we might help people to improve their satisfaction with life.

Students eligible for extra credit or course credit: Please print this page as your confirmation of participation. If you are unable to print, you may also request an email confirmation by contacting the lead investigator (eaveritt@memphis.edu).

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

Emily R. Averitt, M.A.
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O. Richard Lightsey, Ph.D.
Dissertation Chair
Counseling, Educational Psychology,
and Research Department
University of Memphis
olightsy@memphis.edu

Letter to Raffle Winners

Dear Research Participant,

Thank you for your recent participation in an online survey study titled *Humor Styles and Self-Esteem as Mediators of the Relationship between Personality and Life Satisfaction*.

I am pleased to inform you that you are a recipient of one of the ten awarded raffle prizes!

Please follow this link to redeem your \$20 gift certificate to Amazon.com: [link]

If you have any questions, please do not hesitate to contact me at eaveritt@memphis.edu, or contact my Dissertation Chair at olightsy@memphis.edu.

Many Thanks,

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University of Memphis
olightsy@memphis.edu

Appendix D: Copy of IRB Approval Email

From: irb@memphis.edu <irb@memphis.edu>
Sent: Monday, December 19, 2016 4:41 PM
To: Owen R Lightsey (olightsy); Emily R Averitt (eaveritt)
Subject: PRO-FY2017-39 - Initial: Approval - Expedited



Institutional Review Board
Office of Sponsored Programs
University of Memphis
315 Admin Bldg
Memphis, TN 38152-3370

Dec 19, 2016

PI Name: Emily Averitt
Co-Investigators:
Advisor: Owen Lightsey
Submission Type: Initial
Title: Humor Styles and Self-Esteem as Mediators of the Relationship between
Personality and Life Satisfaction

Expedited Approval: Dec 16, 2016
Expiration: Dec 16, 2017

Approval of this project is given with the following obligations:

1. This IRB approval has an expiration date, an approved renewal must be in effect to continue the project prior to that date. If approval is not obtained, the human consent form(s) and recruiting material(s) are no longer valid and any research activities involving human subjects must stop.
2. When the project is finished or terminated, a completion form must be submitted.
3. No change may be made in the approved protocol without prior board approval.

Thank you,
James P. Whelan, Ph.D.
Institutional Review Board Chair
The University of Memphis