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The influence of the character strengths of gratitude and kindness on subjective well-being

Tracy Harper Dossett

THE INFLUENCE OF THE CHARACTER

STRENGTHS OF GRATITUDE AND

KINDNESS ON SUBJECTIVE

WELL-BEING

by

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ABSTRACT

The relationship between the character strengths of gratitude, kindness and factors of subjective well-being was explored, and the influence of personality factors on this relationship was examined. In this research, participants were assigned to an experimental or control group and completed the Satisfaction with Life Scale (SLS), Subjective Happiness Scale (SHS), Positive Affectivity and Negative Affectivity Scale (PANAS), International Personality Item Pool Values in Action Gratitude and Kindness Scales (VIA-Gratitude, and VIA Kindness), Mini-International Personality Item Pool (IPIP), and Marlowe-Crowne Social Desirability Scale, Form C. For two weeks, participants in the gratitude group kept a daily gratitude list, and those in the control group kept a daily list of interesting things that happened to them. The SLS, SHS, PANAS, VIA-Gratitude, and VIA-Kindness were readministered at the end of the 2-week intervention period and at the end of a 3-week follow-up period to determine short-term and long-term changes in life satisfaction, subjective happiness, positive affect, negative affect, gratitude, and kindness for all participants. Significant differences in agreeableness and conscientiousness between final groups resulted in these factors being used as covariates. Results indicated that a gratitude intervention did not cause significant changes in elements of subjective well-being, independent of beginning levels of gratitude. However, individuals who reported higher beginning levels of gratitude had significantly greater gains in life satisfaction, positive affect, and kindness following a

gratitude intervention than those who reported lower beginning gratitude levels. Results indicated that a gratitude intervention did not significantly increase measures of happiness for those with higher levels of beginning kindness. Thus, a significant positive correlation was found between character strengths of gratitude and kindness, and factors of positive affect, subjective well-being, and life satisfaction. A significant positive correlation was found between gratitude, kindness, and the personality trait of agreeableness. Additionally, there was a significant positive correlation between kindness, conscientiousness, and social desirability.

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DEDICATION

I dedicate this dissertation to my brother, Ben, who was a prodigy of kindness and who inspired me to pursue my dream. To my parents, Jim and Debbie, and my sister, Leslie, who have supported and believed in me throughout this entire journey, and to my continually extending family who have encouraged me along the way. I would like to thank the Counseling Psychology department at Louisiana Tech University for being amazing mentors, professors, and people. I would also like to thank Adam, Dixie, Melissa, Clare, Seema, and Jen for being my friends, colleagues and sounding boards; I could not have asked for better cohorts. Finally, I dedicate this dissertation to Quinn, who has brought more love, faith, humor, and happiness into my life than I thought was possible and who continues to bless me with that every day.

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CHAPTER ONE

INTRODUCTION

Throughout history, individuals have been interested in the study of happiness, the factors that comprise it, and the ways in which it can be maintained (Duckworth, Stein, & Seligman, 2005). Overall, many ideas have been explored and proposed, but no absolute consensus has been reached. Previously proposed models included adaptation (Brickman & Campbell, 1971; Headey, 2006), personality (Veenhoven, 2003), and eudaimonic theories of happiness (Ryan & Deci, 2001). Current researchers are attempting to further develop models of happiness that can be empirically-validated (Diener, 2000). Diener suggested that happiness can be studied by examining positive affect, negative affect, and life satisfaction. Lyubomirsky, Sheldon, & Schkade (2005) proposed that happiness consists of genetic set-point, current circumstances, and intentional activities. Positive psychologists construe happiness as part of the full life, which is comprised of the pleasant life, the engaged life, and the meaningful life (Seligman, Rashid, & Parks, 2006). Newer models are supported by research and do not appear to invalidate one another. Thus, they are better described as different ways to view related concepts and are not mutually exclusive methods of conducting research.

In 1998, positive psychology emerged as a new field of psychology (Wong, 2006) devoted to the empirical study of positive experiences and traits and establishments that expand them (Duckworth et al., 2005). Research in this area has focused on such topics

as attachment, optimism, love, intrinsic motivation, human strengths, gratitude, forgiveness, hope, curiosity, and laughter (Gable & Haidt, 2005). Research has indicated that personal happiness can be more enhanced by changing intentional activities than by shifting life circumstances (Lyubomirsky, Sheldon, et al., 2005). Thus, positive psychologists have developed and empirically-validated techniques that rely on cognitive and behavioral practices to improve well-being, such as keeping a gratitude journal (Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008), counting acts of kindness, (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006) mindfulness meditation, and savoring (Gable & Haidt, 2005).

Research indicates that the character strengths of gratitude (Emmons & McCullough, 2003; Froh et al., 2008) and kindness (Peterson & Seligman, 2004) may be important components of happiness; however, the role that they play is unclear. According to positive psychologists, kindness and gratitude are character traits which can be manipulated to influence personal happiness (Emmons & McCullough, 2003; Otake et al., 2006; Peterson & Seligman, 2004). In theory, Peterson and Seligman purport that character strengths can be positively compared to four of the Big Five Personality traits: Conscientiousness, Openness, Agreeableness, and Extraversion. Specifically, kindness and gratitude are proposed to "approximately correspond" to the trait of Agreeableness, with representative examples being "good-natured, softhearted, and sympathetic" (p. 69). Although there are some expected similarities, character strengths are not equivalent to personality traits. However, more research is needed in this area to determine the practical extent of these similarities and differences.

The causal nature of the relationship between gratitude, kindness and subjective well-being has largely been unexplored, yet, recent studies have indicated that increases in gratitude can be maintained over a short time (Emmons & McCullough, 2003; Froh et al., 2003) and may prompt an individual to engage in more acts of kindness (McCullough, Kilpatrick, Emmons, & Larson, 2001). Therefore, the question of whether people are happy because they take time to be grateful and kind, or whether people take time to be grateful and kind because they are happy is largely unanswered.

Happiness

The Importance of Studying Happiness. For thousands of years, people have studied happiness, and it is consistently viewed throughout the world as having great importance (Diener, 2000). In a study of over 7000 college students in 42 countries, Suh, Diener, Oishi, and Triandis (1998) found that a majority of the students reported that subjective well-being was very important and something they thought about frequently. Over 60% of participants reported that happiness and subjective well-being were the most important things to them, and 96% rated happiness as more important than money. These results were consistent across countries and cultural divides. "As people throughout the world fulfill their most basic material needs, it is likely that subjective well-being will become an even more valued goal" (Diener, p. 34).

Research additionally indicates that happiness has significant individual and societal consequences that make it a worthwhile subject of scientific inquiry (Norrish & Vella-Brodrick, 2008). Individuals who are happier are physically healthier (Ryff & Singer, 2000; Seligman & Csikszentmihalyi, 2000), live longer (Danner, Snowden, & Friesen, 2001), and have more romantic and interpersonal relationships, financial success,

productive work lives, (Diener & Seligman, 2004; Lyubomirsky, King, & Diener, 2005) and psychological resilience (Fredrickson, 2004; Seligman & Csikszentmihalyi, 2000). Recent findings suggest that sustained increases in happiness cause improvements in these areas (Lyubomirsky, King, et al., 2005). The study of positive emotions may enhance what is known about the mind-body connection (King & Pennebaker, 1998) and has been found to undo the physical damage caused by negative emotions (Fredrickson, Mancuso, Branigan, & Tugade, 2000). Further, according to Fredrickson's broaden and build theory, positive emotions may be part of an upward spiral that triggers more positive feelings (Fredrickson & Joiner, 2002). Ryff & Singer (2000) purport that positive emotions are just as important to physical health as negative emotions; however, empirical evidence regarding the physical benefits of positive emotions is sparse.

The study of happiness, positive emotions, and well-being has historically been a philosophical and theological one (Diener, 2000). Science has typically focused on psychological (Seligman & Csikszentmihalyi, 2000) and physical illness and negative emotions (Ryder & Singer, 2000). However, research indicates that our efforts may have been misguided and left an important aspect of human functioning largely ignored. Current research suggests that the time is right for studying those aspects of humanity that allow us to flourish (Norrish & Vella-Brodrick, 2008; Ryff & Singer, 2000):

> The opportunity to push forward understanding of positive human health—how we take care of ourselves, each other, and the planet—may be a distinguishing feature of the new millennium. No longer running from predators, pestilence, and natural disasters, the contemporary challenge is to mobilize our remarkable talents as a species to make the most of our lives and our world (Ryff & Singer, pp. 40-41).

Models and Definitions of Happiness. There have been many definitions of and terms for happiness posited over the years, and some of the most common synonyms

have included the good life, the full life, well-being, and subjective well-being (Diener, 2000). Initial studies viewed happiness as a theoretical construct and a philosophical question. From a theoretical perspective, happiness can be described from a hedonic or eudaimonic point of view (Ryan & Deci, 2001). Prior theories of adaptation (Headey, 2006) and trait theories (Veenhoven, 1994) have implied that individual levels of happiness are predetermined and cannot be changed. Although some aspects of these theories have been validated, recent research has called for changes (Diener, Lucas, & Scollon, 2006) and have focused on scientific study and empirical validation of individual well-being (Diener, 2000; Lyubomirsky, Sheldon, et al., 2005).

Well-being can be studied from a hedonic or eudaimonic perspective (Ryan & Deci, 2001). Those people who adopt a hedonic view believe that well-being is based on pleasure and feeling good. On the other hand, those people who adopt a eudaimonic perspective believe that well-being comes from creating meaning and achieving self-actualization. Although these theories appear to be conflicting, research indicates that pleasure, meaning, and engagement are all significant predictors of life satisfaction (Peterson, Park, & Seligman, 2005). In fact, "[e]vidence from a number of investigators has indicated that well-being is probably best conceived as a multidimensional phenomenon that includes aspects of both the hedonic and eudaimonic conceptions of well-being" (Ryan & Deci, p. 148).

Adaptation theories have been applied to the study of well-being through the hedonic treadmill theory (Brickman & Campbell, 1971) and dynamic equilibrium theory/happiness set point theory (Headey, 2006). According to the hedonic treadmill theory, individuals are predisposed to a neutral level of well-being (Norrish & Vella-

Brodrick, 2008). Events may lead to negative or positive short-term changes in well-being; however, they return to a neutral level following adaptation to the event (Veenhoven, 2003). The dynamic equilibrium theory expands on the hedonic treadmill theory by considering the role of personality differences and life events in determining individual well-being (Headey, 2006). Some aspects of adaptation theories have been validated, but new research warrants alterations of these theories (Diener et al., 2006; Headey, 2006).

Although some research indicates a genetic predisposition for well-being, Veenhoven (1994) argued that happiness is not a personality trait. In order to be defined as a personality trait, happiness must meet three criteria: "temporal stability, cross-situational consistency, and inner causation" (p. 101). In a meta-analysis, Veenhoven concluded that happiness is not a trait because it is not stable over the long term, and genetic differences only account for part of individual variations in well-being. Consistent with personality theories, all individuals do not adapt in the same way; thus, if there are baseline levels of functioning, it is likely that they are individualized (Diener et al., 2006). Despite the role of personality, research indicates that levels of well-being are not necessarily stable and can be permanently changed, and happiness is not solely determined by changes in circumstances (Diener et al., 2006; Dulin & Hill, 2003; Headey, 2006; Li et al., 1998).

Recent research has focused on operationally defining happiness so that it can be empirically studied (Diener, 2000). The term "subjective well-being" has become the most common moniker for personal happiness because of its scientific implications (Norrish & Vella-Brodrick, 2008). Subjective well-being has been defined as "people's

cognitive and affective evaluations of their lives" (Diener, 2000, p. 34). It is not a "single event with a single set point" (Diener et al., 2006, p. 307), as suggested by adaptation theorists. Instead, subjective well-being is comprised of multiple elements, and changes in these elements may occur simultaneously while having varying effects on well-being (Veenhoven, 2003).

For empirical purposes, subjective well-being consists of three parts: positive affect, negative affect, and life satisfaction (Diener, 2000). Positive affect consists of "experiencing many pleasant emotions and moods" (Diener, 2000, p. 34). Negative affect refers to "experiencing few unpleasant emotions and moods" (Diener, 2000, p. 34). Although there is some debate (Norrish & Vella-Brodrick, 2008), research generally indicates that positive and negative affect are two separate constructs that must be measured separately, as one is not merely the absence of the other (Diener, 2000). Finally, life satisfaction can be divided into two subcategories: global life satisfaction or overall satisfaction with one's life, and domain-specific life satisfaction or satisfaction with specific areas of one's life such as relationships or work.

Lyubomirsky, Sheldon, et al. (2005) have developed a three-part model of longitudinal, or long-term, well-being that can also be empirically-validated, expands on previous explanations, and is supported by new research (Diener et al., 2006). According to Lyubomirsky, Sheldon, et al., well-being consists of 50% genetic set point, 10% current circumstances, and 40% intentional activities. Genetic set point refers to temperament and personality factors which are inborn and cannot be changed. Life circumstances refer to demographic factors, such as gender and race, socioeconomic status, marital status, geographic location, and contextual factors.

Intentional activities are behavioral, cognitive, and conative factors that are under an

individual's control. In a test of this model, researchers found that changes in intentional

activities produced changes in life satisfaction, less hedonic adaptation, and sustained

changes in positive affect (Sheldon & Lyubomirsky, 2006a). While changes in life

circumstances resulted in increased positive affect and life satisfaction, these gains were

not sustainable.

Research indicates that changes in intentional activities are more beneficial than

changes in current circumstances and are a more important factor than genetic set point

(Lyubomirsky, Sheldon, et al., 2005; Norrish & Vella-Brodrick, 2008). Influenced by

this research, positive psychologists are developing empirically-validated techniques that

enable individuals to recognize and change thoughts, behaviors, and situations that are

theorized to improve well-being. Research indicates that intentional interventions of acts

of kindness (Boehm & Lyubomirsky, 2009; Lyubomirsky, Sheldon, et al., 2005),

gratitude journals (Emmons & McCullough, 2003; Watkins, Woodward, Stone, & Kolts

2003), mindfulness meditation, and savoring (Gable & Haidt, 2005) have resulted in

increases to subjective well-being. Thus, my research is important because it contributes

to this field.

Predictors of Happiness. It has been proposed that happiness is a product of

evolution. Buss (2000) argues that competition, negative emotions, increased

psychological pain when things do not work out, and strong social bonds with friends and

family are psychological mechanisms that drive us towards survival and play a role in

personal happiness. Buss proposes that happiness can be found, in part, by managing

negative evolutionary mechanisms of competition and negative emotion and enhancing social bonds.

Research indicates that demographic factors such as income (Dulin & Hill, 2003) and objective life status (OLS, Li et al., 1998) are not sole determinants of happiness. In a study of low income older adults, Dulin and Hill found that friendships and altruism, in addition to income, were significant positive predictors of positive affect. Research by Li et al. indicated that OLS, which includes physical, financial, and social factors, was not significantly predictive of subjective life satisfaction. This finding was particularly true for those at either extreme of the OLS spectrum. Results indicated that the greatest part of the discrepancy was explained by the individual's personally determined needs and a positive comparison of present to past circumstances.

Cheng and Furnham (2001, 2002, 2003) found that personality traits, attribution style, self-esteem, and loneliness were predictors of personal well-being, while friendships and academic performance were correlated with happiness. In 2001, Cheng and Furnham found that extraversion was a significant positive predictor of happiness, and the personality trait of neuroticism was a significant negative predictor of happiness. Individuals who had high levels of extraversion also reported optimistic explanatory styles for positive events while those who were high in neuroticism, reported pessimistic explanatory styles for negative events. Extraversion was a stronger predictor than lack of neuroticism for happiness. Likewise, Headey (2006) found that personality traits of Extraversion, Neuroticism, and Openness to experience were related to changes in positive and negative affect.

In a study of correlates with various levels of happiness, Diener and Seligman (2002) found that those who were very happy, the top 10% of those surveyed, also had strong interpersonal and romantic relationships, were extroverted and agreeable, were not neurotic, and had low scores on Minnesota Multiphasic Personality Inventory (MMPI) scales that measure clinical psychopathology. Being very happy was not correlated with increased exercise or religious practice, experiencing more good events, or frequent feelings of euphoria. Instead, individuals who were very happy experienced a relatively stable, pleasant overall mood and had occasional bad moods.

Research indicates that gender and mental health play a role in personal happiness (Abdel-Khalek, 2006). In a study of 2,210 Kuwaiti undergraduate students, Abdel-Khalek found that men reported significantly greater levels of happiness and mental health than women. As part of his explanation, he cited his previous research in 1994, 1997, and 2002, which indicated that women in Arab countries were more anxious, neurotic, fearful, and depressed than their male counterparts, further supporting a positive correlation between happiness and mental health.

Research also indicates that our interactions with others have a strong relationship with our personal well-being (Csikszentmihalyi & Hunter, 2003; Diener & Seligman, 2002) and physical health (Ryff & Singer, 2000). This relationship appears to be true, regardless of age (Csikszentmihalyi & Hunter, 2003) or socioeconomic status (Biswas-Diener & Diener, 2006). Having a best friend has been found to be a significant predictor of personal happiness (Demir, Ozdemir, & Weitekamp, 2007). When an individual has at least one other close friend in addition to a best friend, subjective well-being increases, and companionship has been found to be the most important element of friendship that is

a predictor of happiness. Csikszentmihalyi and Hunter found that, among teenagers, engagement in social activities was correlated with some of the highest reports of personal happiness, while feelings of loneliness were correlated with the lowest. In a study of homeless people, those who reported the greatest life satisfaction also reported the highest level of social and family satisfaction, suggesting that positive social interactions may act as a buffer against the negative psychological effects of poverty (Biswas-Diener & Diener, 2006). Additionally, individuals who provide social support to friends, neighbors, relatives, and spouses have a lower risk of mortality (Brown, Nesse, Vinokur, & Smith, 2003).

Subjective well-being is an important area of research because of its desirability throughout the world (Diener, 2000; Suh et al., 1998), as well as corresponding benefits in areas of mental (Abdel-Khalek, 2006), physical (Seligman & Csikszentmihalyi, 2000), and social well-being (Harker & Keltner, 2001). Research suggests that intentional activities (Lyubomirsky, Sheldon, et al., 2005), character strengths (Bailey, Eng, Frisch, & Snyder, 2007), and interpersonal relationships (Demir et al., 2007; Diener & Seligman, 2002) are positively related to subjective well-being. However, much of the research in the area is correlational, and more research is needed to establish the role of these factors and whether they play a causal role in determining subjective well-being.

Positive Psychology

Beginnings of Positive Psychology. Martin Seligman is considered to be the father of positive psychology although its roots, conceivably, can be traced back to Aristotle, Plato, and Socrates, and their study of the good life (Duckworth et al., 2005). Its focus on virtues reflects influence by "Thomas Aquinas, Confucius, Buddha, and Aristotle"

(Seligman, 2002, p. 130). Positive psychology has also been influenced by "all of the great psychological traditions: psychoanalysis, behaviorism, cognitive therapy, humanistic psychology, and existential psychology" (Duckworth et al., p. 632). For example, existentialists Victor Frankl and Alfred Adler, respectively, focused on finding meaning in even the worst of circumstances and striving for superiority by working for a common good (Duckworth et al., 2005). Both of these ideas have been adopted by positive psychologists. Additionally, positive psychology draws from the humanistic theorists, such as Rollo May, Carl Rogers, and Abraham Maslow, who focused on helping individuals to reach their maximum potential and psychoanalysts, such as Sigmund Freud, and his theory of the pleasure principle.

Although positive psychology shares many similarities with various religious (Watts, Dutton, & Gulliford, 2006) and psychological theories, there are significant distinctions that can be made (Peterson & Seligman, 2004). Unlike religions, humanistic, or psychodynamic theories, positive psychology focuses "on empirical research to understand people and the lives they lead . . .[Additionally] [p]ositive psychologists see both strengths and weakness as authentic and as amenable to scientific understanding" (Peterson & Seligman, 2004, p. 4).

Indeed, the roots of positive psychology can be traced to the foundation of the field of psychology, which originally had three primary goals: to improve the lives of all humans, to cure mental illness, and to maximize individual strengths and talents (Seligman & Csikszentmihalyi, 2000). However, after World War II, the goals of fostering talents and improving human lives were overshadowed by a shift in purpose to the curing of mental illness. Seligman and Csikszentmihalyi theorize that such a shift

was primarily influenced by three factors: the formation of the National Institute of Mental Health (NIMH), the foundation of Veterans' Administration (VA), and the advent of behaviorism.

According to Seligman and Csikszentmihalyi (2000), an onslaught of mentally ill soldiers returning from World War II, combined with the formation of the VA and the disease based model of the NIMH, made it feasible to make a living treating mental illness. Additionally, in the time following World War II, behaviorism, with its focus on behavior as a response to a stimulus, was becoming a major force in the field of psychology. Thus, it became increasingly desirable, both from a financial and philosophical standpoint, to focus on curing mental illness rather than on the strengths that individuals can use to improve their lives and maximize their potential. Research in the growing field of positive psychology is important because it shifts the focus of psychology back to its original purpose of enhancing mental health as well as treating mental illness.

Authentic Happiness. Positive psychologists have made significant contributions to the field of psychology (Norrish & Vella-Brodrick, 2008). One of their greater contributions is Seligman's theory of authentic happiness. According to Seligman et al. (2006), authentic happiness can be obtained by achieving the full life, which is comprised of the pleasant life, the engaged life, and the meaningful life. Those individuals who report high levels of all three aspects are said to have achieved the full life (Peterson et al., 2005). According to Peterson et al., the full life can be contrasted to the empty life, in which individuals are low scoring on all aspects.

Norrish & Vella-Brodrick (2008) proposed that Seligman's theory of authentic happiness combines elements of hedonic and eudaimonic theories, in that well-being comes from pleasure and meaning, respectively (Ryan & Deci, 2001), while adding the concept of flow or engagement as possible means of achieving happiness. Flow has been defined as "the psychological state that accompanies highly engaging activities" (Peterson et al., 2005, p. 27). During flow, "time passes quickly. Attention is focused on the activity. The sense of self is lost" (p. 27).

The pleasant life reflects elements of hedonic models (Peterson et al., 2005) and consists of positive feelings about the past, such as well-being, contentment, and pride, positive feelings about the present, such as happiness, and positive feelings about the future, such as optimism and hope (Seligman et al., 2006). On the other hand, the engaged life describes "a life that pursues engagement, involvement, absorption in work, intimate relations, and leisure" (Seligman et al., 2006) and reflects the concept of flow (Peterson et al., 2005). Finally, the meaningful life is based on using one's strengths and talents to do something for a greater good, such as with one's family, community, political, or religious institutions (Seligman et al., 2006). The meaningful life incorporates elements of eudaimonic models (Peterson et al., 2005).

In a study of 845 adults, Peterson et al. (2005) found that pleasure, engagement, and meaning are three distinct orientations for happiness. Results indicated that these orientations are "not incompatible and thus are able to be pursued simultaneously, and that each is associated with life satisfaction. As previous research has shown, either hedonism or eudemonia can accompany a satisfying life, and so too can engagement" (Peterson et al., p. 36).

Researchers have found support for the full life (Park, Peterson, & Seligman, 2004; Peterson et al., 2005; Seligman et al., 2006). In a study of over 300 adults, Seligman et al. found that clinically depressed adults had significantly fewer positive emotions, less engagement, and less meaning than non-depressed psychiatrics and non-depressed non-psychiatrics. Thus, there appears to be a link between the full life and decreased depression. Additionally, Peterson et al. found a positive correlation between life satisfaction and the full life. Specifically, individuals who report the greatest amount of life satisfaction have been found to pursue the pleasant life, the engaged life, and the meaningful life. However, they place the greatest emphasis on meaning and engagement.

The goal of positive psychology is to understand the complete human condition (Gable & Haidt, 2005). One of the primary misconceptions of positive psychology is that it ignores mental illness. This claim is unfounded. According to Gable and Haidt, positive psychologists acknowledge that it is important to study and treat psychopathology; however, they believe that there are benefits of focusing on positive functioning and human strengths that have been ignored for too long.

Positive psychology focuses on "positive subjective experiences (e.g., positive emotions such as joy and contentment), positive individual traits, that is, character strengths and virtues, and positive institutions and communities that enable the first two" (Wong, 2006, p. 133). Research indicates that human strengths, such as "courage, future mindedness, optimism, interpersonal skill, faith, work ethic, hope, honesty, perseverance, and the capacity for flow and insight" can act as buffers against mental illness (Seligman & Csikszentmihalyi, 2000, p. 7). Positive psychology promotes well-being and nurtures such strengths as a means of preventing mental illness; this nurturing is not addressed in

the commonly used disease model of psychology. According to Seligman and

Csikszentmihalyi, other possible benefits of positive psychology include better physical

health, based on mind-body connection, stronger and more productive normal

individuals, and actualization of human potential.

Character Strengths

In 2004, the American Psychological Association published *Character Strengths*

and Virtues: A Handbook and Classification (Peterson & Seligman, 2004). Written by

Christopher Peterson and Martin Seligman, in accordance with the Values in Action

(VIA) Institute and the help of many other prominent researchers, this book is a

"classification of character strengths and virtues . . .and ways of measuring them" (p. v).

It is a manual of strengths that humans possess and can use to live their best lives, and it

is designed to be positive psychology's answer to the *Diagnostic and Statistical Manual*

of Mental Disorders (DSM) or the *International Classification of Diseases (ICD)*. The

book is divided into six categories of virtues (wisdom, courage, humanity, justice,

temperance, and transcendence), which are subdivided into character strengths, or

"psychological ingredients— processes or mechanisms— that define each virtue" (p. 13).

Character strengths include: creativity, curiosity, open-mindedness, love of learning,

perspective, bravery, persistence, integrity, vitality, love, kindness, social intelligence,

citizenship, fairness, leadership, forgiveness and mercy, humility and modesty, prudence,

self-regulation, appreciation of beauty and excellence, gratitude, hope, humor, and

spirituality.

In order to be classified as an individual character strength, the majority of 10

criteria must be satisfied (Peterson & Seligman, 2004). According to these criteria, the

strength must "contribute to . . . fulfillment (of) . . . oneself and others" (Peterson &

Seligman, 2004, p. 17), and be "morally valued in its own right, even in the absence of

obvious beneficial outcomes" (Peterson & Seligman, 2004, p. 19). It should be

measurable, manifested in affects, cognitions, and behaviors, and trait-like in that it is

fairly stable and can be generalized. Character strengths are distinguishable from one

another and embodied in individuals, through paragons and prodigies of virtue, as well as

those who exude the complete lack of a strength. When displayed, strengths do not

lessen others or their accomplishments. Finally, strengths are developed and maintained

by social institutions and routines.

Character strengths become signature strengths when an individual possesses a

large amount of and often uses a strength (Seligman, 2002). According to Peterson and

Seligman (2004), signature character strengths can be compared to personality traits, as

proposed by Allport, in that they can be possessed. Peterson and Seligman proposed that

each person possesses three to seven signature strengths, similar to what Allport said of

personality traits. Their "hypothesis is that the exercise of signature strengths is

fulfilling, and these criteria convey the motivation and emotional features of fulfillment

with terms like: *excited, yearning, inevitability, discovery,* and *invigoration*" (p. 18).

Peterson and Seligman (2004) developed the Values in Action Inventory of Strengths

(VIA-IS) to examine the strengths that individuals possess.

Character Strengths and Personality Traits. The concepts of character, virtue, and

character strengths are similar to Gordon Allport's notion of personality and personality

traits (Seligman, 2002). However, Allport's theory does not reflect the moral

underpinnings of character and virtue. According to Seligman, character strengths are

choice driven values that deserve to be empirically studied because unlike personality

traits, they can be developed, nurtured, expanded upon, and used by individuals to create

more fulfilling lives and increase personal happiness. Peterson and Seligman (2003)

concluded that character strengths are not static (p. 384), as evidenced by increased

strengths of gratitude, hope, kindness, love leadership, spirituality, and citizenship in

Americans following the events of September 11, 2001. Additionally, character is

distinguished from personality, in that character is rooted in personal experience, rather

than being inherited or inborn. More specifically, Peterson and Seligman (2004) stated:

> The stance we take toward character is in the spirit of personality psychology, and specifically, that of trait theory, but not the caricature of trait theory held up as a straw man and then criticized by social learning theorists in the 1970s. We instead rely on the new psychology of traits that recognizes individual differences that are stable and general but also shaped by the individual's setting and thus capable of change (p. 10).

Peterson and Seligman (2004) proposed that virtues and character strengths

correlate with individual factors of the Big Five Factor Model of Personality:

Extroversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. A factor

analysis conducted by Peterson and Seligman generally supported this assertion, except

for strengths categorized under the virtue of Transcendence, which were not found to

correlate with any of the Big Five factors. However, Macdonald, Bore, and Munro

(2008) found that virtues and character strengths did not cleanly correlate with

individuals factors of personality; instead, most virtues and strengths correlated to some

extent with at least two factors.

Validation of Character Strengths and Virtues. As theoretical constructs, virtues

and individual character strengths have demonstrated consistency in all cultures (Park,

Peterson, & Seligman, 2006) and have been maintained throughout history (Peterson &

Seligman, 2004). In a study of over 7,000 individuals in 54 countries and all 50 U.S. states, Peterson and Seligman found that character strengths of kindness, fairness, honesty, gratitude, and judgment were the most commonly endorsed in all 50 states and 53 countries while prudence, modesty, and self-regulation were least commonly endorsed.

Peterson and Seligman (2004) described their classification system as an "aspirational classification" (p. 6), and an attempt to create a "thoughtful classification" rather than a "flawed taxonomy" (p. 7). They anticipated changes to the structure of their system, noting that "the overall usefulness of (the) classification does not depend on exactly under which virtue we classify each of the 24 strengths, and we would not be surprised if this final grouping is revised— collapsed or combined, expanded or contracted— in subsequent editions" (p. 519). Research in this area may serve an important goal of clarifying the relationship between character strengths, by validating or refuting the current classification system.

Indeed, empirical research regarding the classification system proposed by Peterson and Seligman is still in early stages and has not necessarily supported their proposed idea (Macdonald et al., 2008). As noted, Peterson and Seligman's (2004) model is a theoretical one although some indicators of validity were found through a factor analysis. In a similar study involving the IPIP-VIA and a smaller sample size, Macdonald et al. found mixed results. Macdonald et al. found that individual character strengths were valid constructs; however, they were unable to validate Peterson and Seligman's overarching six virtue structure. Instead, Macdonald et al. found that character strengths fell into four factors, ("Positivity, Intellect, Consciousness, and

Niceness," p. 792). Prior to centering scores, all strengths were positively correlated to

social desirability, indicating a general factor among all strengths. Centering scores

reduced, but did not completely eliminate, the influence of social desirability. This

finding is contrary to Peterson and Seligman's assertion that character strengths are free

from influence of social desirability. However, Macdonald et al. argued that this result

may not be an inherently bad thing, proposing that there results may indicate that:

> social desirability . . . is itself a character strength (rather than a response set) with
> anti-social tendencies being its antithesis. As such, it would seem inappropriate to
> remove a critical aspect of the construct the VIA sets out to measure. The most
> simple interpretation might be that this factor is representing some sort of
> 'goodness' as a whole (p. 797).

Relationship Between Character Strengths and Well-Being. Research indicates

that personal character strengths, as proposed by positive psychologists, are important

determinants of individual happiness (Bailey et al., 2007; Lounsbury, Fisher, Levy, &

Welsh, 2009; Park et al., 2004). Character strengths are positively correlated to physical

health (Celso, Ebener, & Burkhead, 2003), and may protect individuals from developing

psychological disorders (Seligman & Csikszentmihalyi, 2000). Additionally, these

character strengths have been found to be positively correlated to academic success,

school satisfaction, and grade point average among college students (Lounsbury et al.,

2009).

Generally, positive correlations have been consistently found between all

character strengths and life satisfaction among college students (Lounsbury et al., 2009)

and between most character strengths and life satisfaction among adults (Isaacowitz,

Vaillant, & Seligman, 2003; Lounsbury et al., 2009; Park et al., 2004). With regard to

specific character strengths, Peterson, Ruch, Beermann, Park, and Seligman (2007),

found that "strengths of character most associated with life satisfaction were associated to

pleasure, to engagement, and to meaning, implying that the most fulfilling character strengths are those that make possible a full life" (p. 149). Research indicates that gratitude, love, curiosity, hope (Park et al., 2004), optimism (Bailey et al., 2007), and humor (Celso et al., 2003) have all been found to be significantly positively correlated with life satisfaction. Additionally, love, hope, curiosity, and zest have been found to be significant positive predictors of well-being (Peterson et al., 2007).

Some research indicates that there may be a correlation between specific character strengths and age (Isaacowitz et al., 2003). Isaacowitz et al. found that hope, citizenship, loving relationships, wisdom, spirituality, beauty, kindness, and self-control were positively correlated with life satisfaction at various points during the life span. Specifically, hope was found to be a unique and significant predictor of happiness in young and middle age adults, while loving relationships were significant predictors among middle age adults. Among older adults, hope, citizenship, and loving relationships were found to significantly predict well-being. More research is needed in this area.

Research further indicates that the character strengths of kindness and gratitude may be particularly important in determination of subjective well-being (Norrish & Vella-Brodrick, 2008). In a study of the relationship between character strengths and personal happiness in over 12,000 people in the United States and Switzerland (Peterson et al., 2007), gratitude and kindness were significantly correlated with life satisfaction, pleasure, meaning, and engagement in both samples. Additionally, gratitude was found to be one of the strongest predictors of personal happiness among United States citizens.

Gratitude

Gratitude has been found to be a virtue (McCullough et al., 2001), a dispositional trait (Watkins et al., 2003), and a state-like emotion (Emmons & McCullough, 2003). As a virtue, gratitude has been emphasized in many major religions, including Judaism, Christianity, and Islam (Emmons & Crumpler, 2000). To the extent that it is state-like, it is malleable and can be manipulated to increase subjective well-being (Luthans, Avey, & Patera, 2008).

Recent research indicates that gratitude, regardless of its classification, is a component of happiness (Emmons & McCullough, 2003; Froh et al., 2008; Larsen & McKibban, 2008; Watkins et al., 2003). Studies indicate that an increase in gratitude is correlated with increases in life satisfaction and positive affect and decreases in negative affect (Adler & Fagley, 2005; Emmons & McCullough, 2003; Watkins et al., 2003). According to Emmons and McCullough, gratitude may function as a coping skill that slows adaptation to positive events. It is also likely to be part of an upward spiral of emotions (Watkins et al., 2003) and may serve as an antidote to materialism (Polak & McCullough, 2006). However, empirical research supporting these ideas is still in the preliminary states, and the topic of gratitude is an area of research in need of expansion (Emmons & McCullough, 2003).

According to McCullough et al. (2001), gratitude is a virtue or moral affect because it is triggered by and leads to behavior that will benefit another. As such, it is considered a moral behavior that functions in three ways. Gratitude serves as a moral barometer in that it causes a shift in affect that alerts us when someone has done something to benefit us. It also functions as a moral motivator by prompting individuals

who feel thankful to engage in altruistic behavior toward another. Finally, gratitude is a moral reinforcer in that the ones who behave in an altruistic way and are thanked for their behavior feel good about themselves and are more likely to engage in similar behavior in the future.

Dispositional (Trait) Gratitude. Watkins et al. (2003) studied gratitude as a dispositional, or personality-like, trait. In a series of four studies, Watkins et al. theorized that dispositional gratitude is related to increased positive affect and decreased negative affect and can be characterized by four primary factors: "not feel [ing] deprived in life, . . . be[ing] appreciative of the contribution of others to [the individual's] well-being, . . . [having] the tendency to appreciate simple pleasures, . . . and acknowledg[ing] the importance of experiencing and expressing gratitude" (p. 432). Results confirmed the relationship between positive affect and the factors of dispositional gratitude.

Research herein suggests that gratitude is a "socially oriented personality trait" (Wood, Joseph, & Linley, 2007, p. 1088). Individuals who were inherently grateful were more likely to use interpersonal relationships to cope with stress and are more likely to be happy, regardless of coping skills. Significant correlations have also been found between trait gratitude and positive recollections of past events (Watkins, Grimm, & Kolts, 2004). Thus, it appears that gratitude, as a trait, has cognitive and emotional benefits that contribute to individual well-being.

Watkins et al. (2003) found that dispositional gratitude is positively related to intrinsic religiosity and internal locus of control and is negatively related to extrinsic religiosity and maladaptive sense of personal control. It has a negative relationship with anger, narcissism, physical aggression, and resentment and a strong inverse relationship

with depression. However, there was no correlation between dispositional gratitude and stressful events, meaning that individuals who are inherently grateful are not necessarily experiencing less stressful events in their lives.

Wood, Joseph, and Maltby (2008) found significant positive correlations between gratitude and the NEO factor domains of Extraversion, Openness, Agreeableness, and Conscientiousness, with the strongest correlation being between gratitude and Extraversion and a significant negative correlation between gratitude and Neuroticism. Significant positive correlations were found between gratitude and NEO facets of warmth, gregariousness, positive emotion, open action, trust, altruism, and tender-mindedness. Research also indicated that gratitude explained a significant portion of satisfaction with life beyond that which could be explained by personality factors as measured by the NEO. Macdonald et al. (2008) found that gratitude significantly correlated with conscientiousness and extroversion, but did not correlate with any NEO factor when scores were centered.

State Gratitude. Gratitude has been found to be a state-like pleasant emotion that is separate from happiness (Emmons & McCullough, 2003). According to Emmons and McCullough, gratitude consists of two parts: 1) acknowledging that one has received something good and 2) that it has come from a source other than the self. As a state-like emotion, gratitude is malleable and can be manipulated (Luthans et al., 2008).

Over the course of three studies, Emmons and McCullough (2003) found that gratitude is associated with psychological and interpersonal well-being. Specifically, when participants were asked to report weekly hassles, gratitudes, or events for 10 weeks, gratitude was correlated with higher overall life satisfaction and more optimism about the

next week than the other groups. Additionally, individuals in the gratitude group reported engaging in more exercise than those in the hassles group; however, these results were not confirmed in subsequent studies.

In a second study, participants were asked to report daily gratitudes, hassles, or downward social comparisons for two weeks (Emmons & McCullough, 2003). Results indicated that gratitude is associated with increased positive affect and prosocial behavior. Indeed, gratitude was found to be a mediating factor for positive affect, and the relationship between gratitude and prosocial behavior supports the idea that gratitude is a moral motivator.

Results of a third study indicated that when participants who reported daily gratitudes for three weeks were compared to those who completed daily appraisals, gratitude was correlated with increased positive affect, life satisfaction, optimism, and interpersonal connectedness, and decreased negative affect (Emmons & McCullough, 2003). As in the second study, gratitude mediated the effect of positive affect. Results of increased positive affect and life satisfaction were confirmed by reports of significant others.

Research indicates that it may be developmentally possible to cultivate gratitude in adolescents (Froh et al., 2008). In a partial replication of McCullough and Emmons' 2003 study, Froh et al. found that counting blessings is associated with increased overall gratitude, optimism, and overall life satisfaction and decreased negative affect. Interestingly, no correlation was found between counting blessing and increased positive affect or prosocial behavior. Researchers indicated that the absence of this relationship

may be explained by the fact that it may not begin until middle adulthood, and thus, was not yet formed in this sample population.

Gratitude as a Character Strength. Gratitude has been found to be a determinant of personal happiness and has been classified as a character strength by positive psychologists (Peterson & Seligman, 2004). This finding is consistent with research suggesting that gratitude has both dispositional and state-like qualities (Adler & Fagley, 2005; Peterson & Seligman, 2004). As previously discussed, character strengths are similar to personality traits in that they can be possessed and individuals possess more of some than others; however, they are state-like in that they are malleable. This study will measure gratitude as though it is classified as a character strength.

As a character strength, gratitude has been categorized under the virtue of Transcendence, and is defined as:

> the sense of thankfulness in response to a gift . . . What marks gratitude is the
> psychological response to the gift, whatever its nature, and the experience,
> however, briefly, of the transcendent emotion of grace—the sense that we have
> benefited from the actions of another (Peterson & Selig
> man, 2004, p. 524).

Transcendent strengths are those that "forge connections to the larger universe and provide meaning" (Peterson & Seligman, 2004, p. 30), and include appreciation of beauty, hope, humor, and spirituality, in addition to gratitude. According to Peterson and Seligman (2004), gratitude satisfies all 10 of the criteria necessary to be a character strength. Being grateful is fulfilling, morally valued, and may inspire us to act in more virtuous ways. Expressing gratitude does not belittle someone else, and its opposites, such as being rude or entitled, are decidedly negative. Gratitude is distinctive from other character strengths and is exhibited through paragons of gratitude such as Lou Gehrig, and occasional child prodigies who "appreciate good times and thoughtful gifts, even

their family members," as well as in those who demonstrate the complete absence of the strength through entitlement (p. 525). Finally, gratitude is the basis for cultural and religious traditions and institutions, such as Thanksgiving celebrations, sending thank you notes, and established rituals for expressing gratitude in most families.

Positive psychology has created and is in the process of empirically-validating interventions that increase gratitude as a character strength (Luthans et al., 2008; Seligman, et al., 2006; Seligman, Steen, Park, & Peterson, 2005). These interventions have been found to increase long and short-term subjective well-being (Seligman et al., 2005) and reduce mild to moderate depressive symptoms for up to one year (Seligman et al., 2006). These results suggest a causal relationship between gratitude and subjective well-being that warrants further exploration (Emmons &McCullough, 2003; Lyubomirsky, Sheldon, et al., 2005; Polak & McCullough, 2006; Wood et al., 2007). There is also evidence that those who possess greater amount of dispositional gratitude will benefit more from gratitude interventions than other individuals (Watkins et al., 2003). Increasing gratitude is an area of research that has largely been unexplored and is ripe for development (Emmons & Crumpler, 2000).

Kindness

It has long been believed that individuals benefit by receiving love and kindness from others. This idea is the foundation for religious theories throughout history that have encouraged their followers to engage in altruistic and unselfish behavior (Post, 2005). Indeed, Christianity is based on the tenet that one should love one's neighbor as oneself, as Jesus did, and Benson (1990) proposed that the benefits of unselfish altruism extend to the helper, resulting in his own increased happiness. Additionally, in

Buddhism, real happiness can be achieved, in part, through attitudes of kindness and compassion (Dwivedi, 2006). Scientific research indicates that recipients of kindness receive benefits to their physical and mental health, including increases in subjective well-being (Post, 2005). Although research regarding the benefits of altruism is sparse, new research indicates that the benefits of helping extend to both the helper and the person being helped (Musick & Wilson, 2003).

Several psychological theories indicate a positive relationship between altruistic behavior and subjective well-being (Post, 2005). Evolutionary biology, physiological theories, and positive psychology all suggest a link between kindness to others and physical and mental well-being. Based on a comprehensive review of literature regarding the physical and mental benefits of altruism, Post suggests that there is reason to believe that there is also a causal relationship between altruism and happiness. This idea is supported by positive psychologists, who have used interventions that draw on character strengths, including kindness, to increase subjective well-being (Seligman et al., 2005).

Acts of Kindness. Research indicates that there is a reciprocal relationship between kindness or altruism, in the form of volunteering, and individual well-being (Thoits & Hewitt, 2001). Individuals who engaged in volunteer work over the past year subsequently reported significantly higher levels of current happiness, life satisfaction, mastery, and physical health. Individuals also reported higher levels of self-esteem and sense of control and lower levels of depression. Additionally, individuals who were happier went on to perform more volunteer work. Membership in a religious or formal organization that coordinated volunteer efforts also resulted in improved life satisfaction

and happiness; however, results indicated that engaging in actual volunteer work resulted in such benefits, independent of membership in a social organization.

Research indicates that behaving kindly is associated with greater happiness and less depression among elderly volunteers (Hunter & Linn, 1980; Musick & Wilson, 2003). Hunter and Linn found that elderly volunteers reported significantly higher levels of life satisfaction and will to survive and significantly less anxiety, depression, and somatic symptoms than non-volunteers who shared similar age, gender, socioeconomic status, education, marital status, and religiously-held beliefs. Similarly, Musick and Wilson (2003) found that volunteering may act to reduce levels of depression among the elderly by increasing access to social and psychological resources.

Additionally, Borgonovi (2008) found that formal volunteering, or hours donated through a "cultural, artistic, health, neighborhood and civil, needy, religious or youth-school organization" (p. 2322) had a causal role in increased happiness. Individuals who volunteered more frequently reported higher levels of subjective well-being. This study also indicated that the benefits of volunteering extend to those of high and low socioeconomic status.

Borgonovi (2008) hypothesized about the possible causal relationship between volunteering and happiness. He argued that the interpersonal and personally rewarding benefits of volunteering may improve individual well-being. Specifically, volunteering may serve to decrease preoccupation with monetary value, facilitate the development of empathy, and reinforce satisfaction with one's own circumstances.

Kindness as a Character Strength. According to positive psychologists, kindness is a character strength that may play a role in subjective well-being. (Peterson &

Seligman, 2004). It is classified under the virtue of humanity, along with the strengths of love and social intelligence. Humanity is defined as "interpersonal strengths that involve tending and befriending others," and kindness is defined as "doing favors and good deeds for others; helping them; taking care of them" (p. 29). Kindness includes "generosity, nurturance, care, compassion, and altruistic love . . . a network of closely related terms indicating a common orientation of the self toward the other" (p. 327). These characteristics share a common belief in the intrinsic value of human life, which in turn, is believed to facilitate helping behaviors without selfish or reciprocal motivation.

Kindness strongly satisfies nine of the requisite 10 criteria needed to be considered a character strength, and somewhat satisfies the criteria of distinctiveness (Peterson & Seligman, 2004). Engaging in acts of kindness is fulfilling and morally valued. Individuals who are kind do not diminish others through their actions, and indeed, may inspire others to engage in more prosocial acts. Examples of kindness personified are easily found in paragons and prodigies such as Roman Catholic saints, good Samaritans, mission workers, and those who donate to charity. Likewise, words used to describe the opposite of kindness, such as selfishness and mean-spiritedness are decidedly negative and can also be personified in individuals. Finally, many societal institutions, such as various charities and rituals such as teaching children to share, are devoted to facilitating kindness.

Research indicates that kindness is one of the most prevalent character strengths (Shimai, Otake, Park, Peterson, & Seligman, 2006) and is subject to influence by the individual's environment, experiences (Peterson & Seligman, 2004), and gender (Shimai et al., 2006). In a study of Japanese and American youth, kindness was ranked as one of

the most prevalent character strengths, but was ranked more highly by females than males (Shimai et al., 2006). Additionally, research indicates that young women have ranked helping others as a factor that makes them happy significantly more than men (Crossley & Langdridge, 2005).

According to Peterson, Park, and Seligman (2006), kindness plays a role in recovery from physical and psychological illness. Results indicated that individuals who recovered from physical illness had higher levels of kindness than those who did not recover from physical illness. Based on these results, it is possible that the character strength of kindness is enhanced through recovery from physical illness. However, it is also possible that kindness, and other character strengths, act as mediating factors that facilitate a more successful recovery.

According to Peterson and Seligman (2004), the character strength of kindness is correlated, to some extent, with personality aspects of "empathy/sympathy, moral reasoning, and social responsibility" (p. 330). This assertion is supported by research indicating that kindness is also correlated with a risk-taking personality (Fagin-Jones & Midlarsky, 2007). With regard to the Big Five Factors of personality, kindness is among the character strengths that are expected to correspond to the Big Five factors conscientiousness, openness, and agreeableness, although it is expected that it will most likely correlated to agreeableness (Seligman and Peterson, 2004). Macdonald et al. (2008) found that kindness was significantly correlated to agreeableness and extroversion, and was significantly correlated to agreeableness and neuroticism when scores were centered. More research is needed in this area.

Kindness and Happiness. Otake et al. (2006) found that kindness can be divided into three factors, and that there is a strong relationship between kindness and happiness. Kind people can be distinguished from others in that they (1) want to be kind (2) notice when others are kind to them and (3) are likely to do kind things. Happy people reported higher scores on all three aspects of kindness. Conversely, kind people reported greater levels of happiness and more happy memories. A close relationship was also found between kindness, gratitude, and happiness.

Some research supports a causal relationship between kindness and happiness (Borgonovi, 2008; Schwartz, Meisenhelder, Ma, & Reed, 2003). Schwartz et al. (2003) found that giving and receiving help were significant predictors of positive mental health when other factors such as stress, income, and coping skills were controlled. However, giving help was a much more important predictor of subjective well-being than receiving help. Borgonovi (2008) also found that "volunteering was significantly associated with happiness and health, even when controlling for perceived self-control, social participation, and support" (p. 2327). These benefits of helping have been found to continue as long as the helper did not feel too stressed by his generous acts (Schwartz et al., 2003).

Kurtz and Lyubomirsky (2008) explain how researchers think that being kind to others improves subjective well-being. Engaging in acts of kindness directed to others may improve an individual's perception of himself, thus leading to greater self satisfaction and resulting happiness. Furthermore, helpfulness may increase an individual's happiness if kindness is one of his signature character strengths, thus

providing him or her enhanced pleasure in using this strength. Finally, engaging in kind acts may increase social bonds with others, thus increasing individual happiness.

Musick and Wilson (2003) found that the motivation that one has for helping impacts the mental health benefits that he will gain. Individuals who have an intrinsic motivation to volunteer benefit more from doing so than those with extrinsic motivations. Thus, individuals who volunteer because they are "driven by values and conscience" receive greater mental health benefits than those who are motivated by the "demands of the social position one occupies" (p. 262).

Kindness has been found to be a predictor of life satisfaction (Peterson & Seligman, 2004) and positive affect (Dulin & Hill, 2003), two important elements of personal happiness (Peterson & Seligman, 2004). Peterson and Seligman found that kindness predicted increased life satisfaction for individuals recovering from a physical illness. Having a physical illness may increase individual levels of empathy, resulting in increased kindness to others, which may add meaning to an individual's life, and subsequently, increase life satisfaction. Dulin and Hill (2003) found that kindness predicted positive affect, but not negative affect, in a study of low income participants. These results are consistent with the notion of positive and negative affect as separate constructs.

Kindness and Gratitude. The relationship between character strengths of gratitude and kindness is an area of study that is largely unexplored and ripe for development (Emmons & Crumpler, 2000). Research suggests that gratitude and kindness have a distinct and reciprocal relationship (Peterson & Seligman, 2004) based on the concept of reciprocal altruism (McCullough, Kimeldorf, & Cohen, 2008). Additionally, Peterson

and Seligman proposed that both kindness and gratitude are expected to correspond to the Big Five factor of Agreeableness. According to Emmons and Crumpler, "(b)oth giving and receiving of the (altruistic) gift involve empathy, because one must sense the donor's positive intention and the donor must sense the need of the recipient" (p. 63).

> Humans experience gratitude because this emotion helps us to know to whom we should turn in future times of need and because it motivates us to treat our benefactors with kindness in the future. In other words, gratitude alerts us that there are people out there with our well-being in mind and it motivates us to deepen our own reservoirs of social capital through reciprocation (Polak & McCullough, 2006, p. 356).

According to Peterson and Seligman (2004), the relationship between gratitude and kindness can be expressed through the metaphor of dance: "kindness leads and gratitude follows" (p. 524). Research supports this idea (Otake et al., 2006). Otake et al. found that kindness, happiness, and gratitude can best be viewed as a cycle. Happy people tend to be kinder than those who are unhappy. However, they can become even happier, kinder, and more grateful by counting acts of kindness. Participants were asked to be cognizant of kind acts that they completed throughout a one-week period. Results indicated that there were individual gains as well as between group benefits. Those who counted acts of kindness for one week were happier one month after completing the assignment than they were one month prior to the assignment. Additionally, one month after completing the assignment, those who counted acts of kindness reported higher levels of subjective well-being than those in a control group. Further, as the number of kind acts completed increased, gains in happiness, kindness, and gratitude increased as well. However, one wonders if the relationship between these two strengths is more circular. Thus, is it possible that, sometimes, gratitude leads and kindness follows?

Indeed, research suggests that feelings of gratitude can induce acts of kindness (Bartlett & DeSteno, 2006; Emmons & McCullough, 2003; Tsang, 2006; Tsang, 2007).

Despite the relationship between kindness and gratitude, Peterson and Seligman classify these strengths under different categories of virtues (Peterson & Seligman, 2004). Empirical research has not found support for Peterson and Seligman's system of virtues (Macdonald et al., 2008). According to Macdonald et al.'s factor analysis, gratitude and kindness are not examples of separate virtues. Instead, they are better combined with strengths of modesty/humility, equity/fairness, forgiveness/mercy, and spirituality/religiousness and classified under the common construct of Niceness. This study attempts to add to this body of research.

Positive Psychology Interventions

Positive psychologists have created interventions that increase subjective well-being by enhancing character strengths (Seligman et al., 2006). These interventions have been shown to be effective in increasing overall levels of happiness (Seligman et al., 2005) and decreasing depressive symptoms (Seligman et al., 2006). Both long and short-term resultant gains have been found.

Although interventions can target any character strength, research indicates that the greatest gains are made when an individual uses one of his or her signature strengths (Seligman et al., 2006). In a study of over 400 participants, Seligman et al. (2005) found that interventions in which participants were asked to use their signature strengths in a new way for one week or list three good things that happened to them and the cause of those events daily had increased overall happiness and decreased symptoms of depression for six months. Seligman et al. (2005) noted that some participants chose to continue the

intervention, even after the one-week period, and this choice may have led to reported long-term gains.

In 2006, Seligman et al. created and compared the effects of structured group and individual positive psychotherapy for the treatment of mild to moderate depression. Group therapy consisted of two-hour weekly sessions for six weeks, with a group size of 8 to 11 people. Treatment was not individualized, and interventions were delivered as part of a package of interventions in which participants were instructed to complete them all as part of treatment. Interventions that were used included using strengths in daily life, counting daily blessings, writing a positive obituary in which the participant had led a satisfying life, responding enthusiastically to good news daily, and savoring experiences daily through which one had previously rushed. Results indicated that group members reported significantly deceased mild-to-moderate depression and increases in life satisfaction up to one year following treatment.

Seligman et al. (2006) also used individual positive psychotherapy to treat participants with Major Depressive Disorder, with encouraging results. Treatment consisted of up to 14 individual therapy sessions over a 12-week period. Generally, treatment sessions and homework assignments followed a manualized approach; however, individual needs were addressed as needed. Interventions used included writing a story illustrating character strengths, using signature strengths, keeping a blessings journal, writing about bad memories and the ways in which they maintained depression, writing a letter of forgiveness that was not delivered, presenting a gratitude letter, and writing about doors that have opened and closed in the individual's life. Results indicated that individual positive psychotherapy relieved symptoms of severe

depression "more than treatment as usual and treatment as usual plus medication. It also enhanced happiness" (p. 781).

Interventions to Increase Gratitude and Kindness. Research regarding interventions that enhance the individual character strengths of gratitude and kindness to improve subjective well-being are lacking (Peterson & Seligman, 2004). However, available research indicates that interventions targeting these strengths can be used to produce lasting changes in subjective well-being (Lyubomirsky, Sheldon, et al., 2005; Watkins et al., 2003).

In a series of three studies discussed earlier, Emmons and McCullough (2003) found that keeping a gratitude journal resulted in increased life satisfaction, positive affect, exercise, and prosocial behavior. The most positive results were found by those who kept a daily journal for three weeks, and subsequently reported increased positive affect, life satisfaction, optimism, and interpersonal connectedness, and decreased negative affect.

Watkins et al. (2003) performed an intervention in which participants were asked to write about the layout of their living room, think about something for which they were grateful, write about someone for whom they were grateful, or write a letter to someone for whom they were grateful. Results indicated that grateful thinking was associated with the highest increases in positive affect, although all gratitude interventions resulted in some increase in positive affect. Significantly, individuals who were found to be high in dispositional gratitude had the greatest increases in positive affect. The researchers theorized that this result may be because such individuals are more primed to be receptive to the positive effects of gratitude interventions than other individuals.

Boehm and Lyubomirsky (2009) found that individuals who were asked to provide a variety of random acts of kindness reported greater gains in subjective well-being than those who were asked to provide repetitive act of kindness or no act of kindness at all. Additionally, individuals who were asked to provide several acts of kindness in a single day reported more gains in subjective well-being than those who provided the same kind act spread out over one week or not at all (Lyubomirsky, Sheldon, et al., 2005).

Research suggests that character strengths can be enhanced to increase personal happiness (Seligman et al., 2006), and the character strengths of kindness and gratitude are directly related (McCullough, 2001). Although research regarding ways to increase kindness is sparse (Peterson & Seligman, 2004), there is increasing evidence that gratitude can be cultivated through a gratitude journal (Emmons & McCullough, 2003; Froh et al., 2008). Additionally, there is evidence that interventions designed to increase gratitude subsequently increase kindness and subjective well-being (Emmons & McCullough, 2003). Thus, it is possible that interventions designed to increase gratitude may indirectly increase kindness as well and result in increased happiness for those who have these character strengths. Further research is needed in this area.

This Study

This study examined the relationship between happiness and the character strengths of gratitude and kindness. It also examined the relationship between kindness, gratitude, and personality factors.

Hypothesis 1: It was hypothesized that a gratitude intervention would increase overall subjective well-being, positive affect, and life satisfaction, and decrease negative affect and that these gains would be maintained over a 3-week period.

Hypothesis 2: It was hypothesized that a gratitude intervention would be more effective for individuals who received high scores for the character strength of gratitude than those who received low scores, and that these gains would maintained over a 3-week period. Effectiveness of the gratitude intervention were measured by high scores on subjective well-being, life satisfaction, and positive affect, and low scores on negative affect.

Hypothesis 3: It was hypothesized that a gratitude intervention would be more effective for individuals who received high scores for the character strength of kindness than those who received low scores, and that these gains would be maintained over a 3-week period.

Hypothesis 4: It was hypothesized that the character strengths of gratitude and kindness, as measured by the IPIP-Values in Action, would positively correlate with the Big Five personality trait of Agreeableness, as measured by the Mini-IPIP.

CHAPTER TWO

METHODS

Participants

Participants included students enrolled in undergraduate psychology classes at

Louisiana Tech University. There were 95 participants who began the study; 64

completed pre, post, and follow-up surveys and were included in final data analysis, with

43 participants in the experimental group and 21 in the control group.

Instruments

Positive Affectivity and Negative Affectivity Scale. Participants completed the

Positive Affectivity and Negative Affectivity Scale (PANAS; Watson, Clark, & Tellegen,

1988). The PANAS was designed to measure experiences of positive and negative

feelings. It consists of 20 emotions that participants were asked to evaluate the extent to

which they are experiencing them. Each emotion was rated on a 5-point Likert scale

ranging from 1 (*very slightly or not at all*) to 5 *(extremely)*. Internal consistency for the

PANAS was high, as demonstrated by Cronbach's alpha scores ranging from .86 to .90

for positive affect and .84 to .87 for negative affect. The PANAS was normed for present

moment, present day, past few weeks, current week, past few weeks, past year, and in

general (Watson et al.,1988). For the purposes of this study, participants were asked to

evaluate emotions based on their daily feelings.

Satisfaction with Life Scale. Participants completed the Satisfaction with Life Scale (SLS; Diener, Emmons, Larsen, & Griffin, 1985). The SLS measures individual satisfaction with life, as a component of subjective well-being. It consists of five items that participants were asked to rate their agreement or disagreement with each statement according to a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). High interrater reliability was demonstrated with a reviewer correlation of .73. The five items that were included in the final SLS showed good internal consistency with item-total correlations ranging from .81 to .66.

Subjective Happiness Scale. Participants completed the Subjective Happiness Scale (SHS; Lyubomirsky, & Lepper, 1999). The SHS is a measure of overall subjective well-being. It consists of four statements. Participants were asked to rate the extent to which they agree or disagree with each statement, based on a 7-point Likert scale, ranging from 1 to 7. The four items included in the final SHS demonstrated good to excellent internal consistency, with alphas ranging from .79 to .94. Test-retest reliability ranged from .55 to .90.

Values in Action Gratitude and Kindness Scales. Participants completed the International Personality Item Pool Values in Action (IPIP-VIA) gratitude and kindness scales. The IPIP-VIA is a measure of character strengths, with content similar to the VIA-IS (http://ipip.ori.org/newVIAKey.htm). The IPIP-VIA gratitude scale consists of eight items and has an alpha of .76 (Macdonald et al., 2008). The IPIP-VIA kindness/generosity scale consists of 10 items and has an alpha of .75. For both scales, participants rated their answers according to a 5-point Likert scale, ranging from 1 = *very inaccurate* to 5 = *very accurate*. The content of the IPIP-VIA scales is similar to the

Values in Action-Inventory of Strengths (VIA-IS) developed by Peterson and Seligman (2004). Participants rated their agreement with each statement according to a 5-point Likert scale, ranging from 1= *very much unlike me* to 5 = *very much like me*. All strengths have demonstrated reliabilities with alphas greater than .70 (Park et al., 2006a; Peterson & Seligman, 2003, 2004). Park et al. (2006) found that good internal consistency and interrater reliability has also been demonstrated for most strengths. Participants in this study rated only those statements that measure the character strength of gratitude and kindness. Research also indicated that the VIA-IS demonstrates good reliability and validity with college students (Lounsbury et al., 2009).

Mini-International Personality Item Pool. Participants completed the Mini-International Personality Item Pool (Mini-IPIP; Donnellan, Oswald, Baird, & Lucas, 2006). The Mini-IPIP consists of 20 items, four items to measure each of the Big Five personality scales: Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness. Participants rated their agreement with each statement according to a 5-point Likert scale, ranging from 1 = *very inaccurate* to 5 = *very accurate*. Internal consistency has been demonstrated across five studies, with alphas for each scale greater than .60. Convergent, discriminant and criterion related validity with other measures of Big Five traits was demonstrated in four of the five studies.

Marlowe-Crowne Social Desirability Scale, Form C. Participants completed the Marlowe-Crowne Social Desirability Scale, Form C (Marlowe-Crowne; Reynolds, 1982). The Marlowe-Crowne consists of 13 statements to which participants responded *True/False* based on their agreement or disagreement with each item. An acceptable level of reliability of .76 was demonstrated. Convergent validity was found between the

Marlowe-Crowne and the full version, with correlation coefficients = .93, coefficient of determination = .86.

Procedures

Basic Procedure. Participants were informed that the surveys and interventions were studying the relationship between happiness, gratitude, and kindness. Informed consent was obtained before participants completed the questionnaires. Participants from six classes participated with volunteers from three classes assigned as the experimental (gratitude group) and the other three classes as the control group (control group). All participants completed the SHS, SLS, PANAS, and parts of the IPIP-VIA to establish baseline levels of general subjective well-being, life satisfaction, positive affect, negative affect, and the character strengths of gratitude and kindness. Participants also completed the Mini-IPIP to determine the correlation of Big Five traits and the character strengths of kindness and gratitude, and the Marlowe Crowne Social Desirability Scale.

Consistent with previous studies, participants in the gratitude group were asked to keep a daily list of up to five things for which they are grateful over a period of two weeks. (Emmons & McCullough, 2003; Froh et al., 2008; Sheldon & Lyubomirsky, 2006a). A second group served as a control group and its participants were asked to list up to five interesting things that happened to them each day for a period of two weeks. At the end of the two-week intervention period, the SHS, SLS, PANAS, and IPIP VIA were administered again to determine short-term changes for all participants. These surveys were readministered to all participants at the end of a   three- week follow-up period to determine long-term changes.

All surveys and journal entries were completed online. Mass email reminders were sent to participants with electronic links and instructions for completing each part of the study. Additionally, verbal announcements were made to participating classes.

Before the start of the experiment, participants were assigned a random Activity ID number that they were asked to provide at the top of each journal entry and survey page. Journal entries and survey results were anonymous and tracked only by Activity ID number. Participants received extra credit for their participation as determined by their instructor. An alternative opportunity was offered for those students who wanted to receive extra credit but do not choose to participate in this study.

Statistical Design

A one-way multivariate analysis of variance (MANOVA) was performed to determine pretest differences in personality traits, selected character strengths, and measures of subjective well-being between the gratitude group and the control group. A MANOVA was also used to determine group differences in pretest personality factors of agreeableness, conscientiousness, extroversion, introversion, and neuroticism, as well as social desirability, based on completion of the study. A MANOVA was conducted to determine differences between pretest outcome factors of life satisfaction, positive affect, negative affect, subjective happiness, kindness, and gratitude in gratitude and control groups. A multivariate analysis of covariance (MANCOVA) was performed to determine differences between pretest gratitude and control groups in measures of subjective well-being and selected character strengths. Agreeableness and conscientiousness were used as covariates. A repeated measures mixed MANCOVA design was used to test the effectiveness of a gratitude journal intervention between and within experimental and

control groups at pre, post, and follow-up times. MANCOVAs were also used to determine whether effectiveness of a gratitude journal differed for high and low levels of gratitude and kindness. A bivariate correlation analysis was used to examine correlations between pretest measures of gratitude and kindness, with personality factors of agreeableness, conscientiousness, extraversion, introversion, neuroticism, and social desirability.

CHAPTER THREE

RESULTS

Participants

Participants who completed the study included 30 males and 34 females, ranging in age from 18 to 36 with a mean age of 20.70 years and standard deviation of 3.42. Participants included 54 Caucasian, four African American, four Asian, one Native American, and one multiracial individual. Classifications of participants included 33 freshman, 16 sophomores, four juniors, seven seniors, three graduate students, and one student with no classification. Participant GPAs ranged from below 2.0 to 4.0, with 43 having GPAs above 3.0. Of the final participants, 78% indentified as Christian, 5% were Agnostic or Atheist, and 17% belonged to a non-Christian religion; 38% attended church at least weekly. Forty-three participants assigned to the gratitude group completed the study, including 18 males and 25 females. Twenty-one participants who were assigned to the control group completed the study, including 12 males and nine females.

Thirty-one participants began but did not complete the study; 19 were male and 12 were female. Of these participants, 12 were assigned to the experimental group and 19 were assigned to the control group. They ranged in age from 18 to 23, with an average age of 19.8 years. College classifications include 39% freshmen, and 52% had a college GPA of 3.0 or above. With regard to church attendance, 22% reported that they went to church at least once a week, 29% attended only on special occasions, and 29%

rarely or never attended church services; 13% identified themselves as Agnostic or Atheist. Of participants, 94% were married and all had at least one best friend. Regarding exercise, 66% reported that they exercise at least once a week; while 44% reported that they rarely or never exercise.

Distribution of Form. Prior to analysis, missing variables were replaced with means, and variables were transformed to eliminate moderate negative skew in life satisfaction, positive affect, and subjective happiness. Variables were also transformed to eliminate severe positive skew in negative affect and moderate negative skew in agreeableness. As suggested by Field (2005), the variables with moderate negative skew were transformed using a reflection and square root transformation, and the variables with severe positive skew were transformed using an inverse transformation. Future references to these variables will refer to the transformed variables unless otherwise specified.

Pretest Differences Between Beginning Groups. A MANOVA was used to analyze pretest differences between beginning gratitude and control groups for personality factors of extroversion, agreeableness, neuroticism, introversion, and conscientiousness. MANOVA results indicated no significant differences in personality factors between those who completed and those who withdrew from the study, *Wilks' Lambda* = .936, F (5, 86) = 1.18, p = .324, *partial eta squared* = .064. MANOVA results also indicated no significant pretest differences in personality factors between those in the beginning gratitude group and those in the beginning control group, *Wilks' Lambda* = .898, F (5, 86) = 1.94, p = .095, *partial eta squared* = .102. Further, MANOVA results

indicated no significant interaction between participant completion of the study and group, *Wilks' Lambda* = .898, *F* (5, 86) = 1.95, *p* = .095, *partial eta squared* = .102.

A MANOVA was also used to analyze pretest differences between beginning gratitude and control groups in measures of social desirability, subjective well-being, and selected character strengths: life satisfaction, positive affect, negative affect, subjective happiness, gratitude, and kindness. MANOVA results indicated no significant differences in social desirability, subjective well-being, or character traits between those who completed and those who withdrew from the study, *Wilks' Lambda* = .970, *F* (7, 84) = .38, *p* =.914, *partial eta squared* = .030. MANOVA results also indicated no significant pretest differences between those in the beginning gratitude group and those in the beginning control group, with regard to social desirability, subjective well-being, and selected character strengths, *Wilks' Lambda* = .858, *F* (7, 84) = .1.99, *p* = .066, *partial eta squared*= .142. Further, MANOVA results indicated no significant pretest interaction between participant completion of the study and group with regard to these factors, *Wilks' Lambda* = .968, *F* (7, 84) = .397, *p* = .902, *partial eta squared* = .032.

Comparison Between Final Gratitude and Control Groups. Final gratitude and control groups included participants who completed pretest, posttest, and follow-up measures. A MANOVA was used to analyze differences between final gratitude and control groups in personality factors of extroversion, agreeableness, neuroticism, introversion, and conscientiousness. MANOVA results revealed significant differences in personality factors between final groups, *Wilks' Lambda* = .803, *F* (5, 58) = 2.84, *p* = .023, *partial eta squared* = .197. A one-way ANOVA was conducted on each dependent variable as a follow-up test to MANOVA. Significant group differences were found for

agreeableness, F (1, 62) = 7.21, p = .009, *partial eta squared* = .104, and

conscientiousness, F (1, 62) = 4.66, p = .035, *partial eta squared* = .070. Differences

between other personality factors were not significant (see Table 1). Thus, agreeableness

and conscientiousness were used as covariates for further analysis. No significant

difference for social desirability between final groups was found when controlling for

agreeableness and conscientiousness, F (1, 60) = 1.24, p = .269, partial eta squared =

.020. Thus, social desirability was not used as a covariate in further analysis.

Table 1

Means, Standard Deviation and Significance for Pretest Differences in Personality

Factors Between Final Groups

Factor	Gratitude Group		Control Group		
	M	SD	M	SD	p-value
Agreeableness	16.19	2.85	13.86	4.02	
	(-2.09)	(0.66)	(-2.58)	(0.72)	(.009)**
Conscientiousness	15.23	3.60	13.29	2.85	.035*
Extroversion	13.00	4.04	13.33	3.18	.745
Introversion	15.49	3.15	15.95	3.06	.585
Neuroticism	10.29	3.35	10.98	3.66	.457

Note. Values enclosed in parentheses represent transformed variables.

*$p < .05$, **$p < .01$.

A MANCOVA was used to analyze pretest differences between final gratitude and control groups in life satisfaction (LS), positive affect (PA), negative affect (NA), subjective happiness (SH), gratitude, and kindness while controlling for agreeableness and conscientiousness. MANCOVA results revealed no significant pretest differences between final groups on the combined dependent variable when covariates of agreeableness and conscientiousness were controlled, *Wilks' Lambda* = .931, F (6, 55) = .68, p = .666, *partial eta squared* = .069. Covariates of agreeableness, *Wilks' Lambda* = .554, F (6, 55) = 7.39, p = .000, *partial eta squared* = .446, and conscientiousness, *Wilks' Lambda* = .692, F (6, 55) = 4.08, p = .002, *partial eta squared* = .308, significantly influenced the combined dependent variable (see Table 2).

Table 2

Means and Standard Errors for Pretest Differences Between Groups Adjusted for

Covariates, Agreeableness and Conscientiousness

| | Gratitude Group | | Control Group | | |
	M	SE	M	SE	*p*-value
LS	24.58	.74	22.37	1.09	
	(-3.31)	(0.11)	(-3.61)	(0.15)	.120
PA	33.82	1.24	31.34	1.83	
	(-4.03)	(0.14)	(-4.32)	(0.21)	.275
NA	17.21	.94	17.89	1.39	
	(-0.06)	(0.003)	(-0.06)	(0.004)	.540
SH	20.89	.71	19.71	1.04	
	(-2.72)	(0.12)	(-2.96)	(0.77)	.305
Gratitude	32.02	.68	31.10	1.00	.464
Kindness	39.77	.67	38.56	.98	.328
Social Desirability	6.46	.42	5.60	.62	.269

Note. Values enclosed in parentheses represent transformed variables. LS = life
satisfaction; PA = positive affect; NA = negative affect; SH = subjective happiness.

*$p < .05$, **$p < .01$.

Hypothesis 1

The first hypothesis stated that a gratitude intervention would significantly

increase overall subjective well-being, positive affect, and life satisfaction, and decrease

negative affect and that these gains would be maintained over a three-week period.

Results indicated that this hypothesis was not supported.

A repeated measures MANCOVA was performed to determine differences

between groups on the six dependent variables associated with subjective well-being and

selected character strengths: life satisfaction, positive affect, negative affect, subjective

happiness, gratitude, and kindness. Adjustment was made for two covariates:

agreeableness and conscientiousness. After adjusting for covariates, no differences were

observed between groups on dependent measures, *Wilks' Lambda* = .902, *F* (12, 230) =

1.02, *p* = .432, *partial eta squared* = .05. Additionally, when covariates were controlled,

no difference was found within groups on dependent measures, *Wilks' Lambda* = .866, *F*

(12, 230) = 1.43, *p* =.154, *partial eta squared* = .069. Table 3 provides pre, post, and

follow-up measures of means and standard deviations for the gratitude group. Table 4

provides pretest, posttest, and follow-up means and standard deviation for the control

group. Figures 1-6 provide pretest, posttest, and follow-up comparison of marginal

means factor scores between gratitude and control groups.

Table 3

Means and Standard Deviations Within Group Comparison for Control Group

	Pretest		Posttest		Follow-up	
	M	SD	M	SD	M	SD
LS	25.04	4.53	26.26	5.20	26.63	4.92
	(-3.24)	(0.67)	(-2.99)	(0.90)	(-2.95)	(0.81)
PA	34.62	8.32	34.06	7.10	33.56	8.43
	(-3.93)	(0.97)	(-4.02)	(0.90)	(-4.04)	(1.06)
NA	16.69	6.37	17.57	6.31	19.09	7.12
	(-0.07)	(0.02)	(-0.06)	(0.02)	(-0.06)	(0.02)
SH	21.26	4.63	21.72	4.32	21.43	4.87
	(-2.66)	(0.83)	(-2.58)	(0.79)	(-2.60)	(0.91)
Gratitude	32.60	4.73	32.97	4.69	32.90	4.56
Kindness	40.77	5.64	40.77	5.64	40.74	4.50

Note. Values enclosed in parentheses represent transformed variables. LS = life satisfaction; PA = positive affect; NA = negative affect; SH = subjective happiness.

Table 4

Means and Standard Deviations Within Group Comparison for Control Group

	Pretest		Posttest		Follow-up	
	M	SD	M	SD	M	SD
LS	21.43	5.57	23.19	5.48	22.71	6.21
	(-3.75)	(0.75)	(-3.50)	(0.75)	(-3.55)	(0.86)
PA	29.81	8.13	31.95	9.64	30.24	9.20
	(-4.51)	(0.92)	(-4.23)	(1.10)	(-4.42)	(1.15)
NA	18.95	6.82	17.76	6.77	19.14	9.12
	(-0.06)	(0.02)	(-0.06)	(0.02)	(0.06)	(0.02)
SH	18.95	4.78	19.71	4.45	19.05	5.06
	(-3.08)	(0.77)	(-2.94)	(0.82)	(-3.04)	(0.87)
Gratitude	29.90	5.02	29.52	4.74	29.47	5.79
Kindness	36.52	5.11	36.52	5.11	36.20	6.73

Note. Values enclosed in parentheses represent transformed variables. LS = life satisfaction; PA = positive affect; NA = negative affect; SH = subjective happiness.

Estimated Marginal Means of LS

Figure 1. Estimated Marginal Means of Life Satisfaction. Mean values representing transformed scores on life satisfaction for gratitude and interest groups. No within-group or between-group differences were found in life satisfaction.

Estimated Marginal Means of Positive Affect

Figure 2. Estimated Marginal Means of Positive Affect. Mean values representing transformed scores on positive affect for gratitude and interest groups. No within-group or between-group differences were found in positive affect.
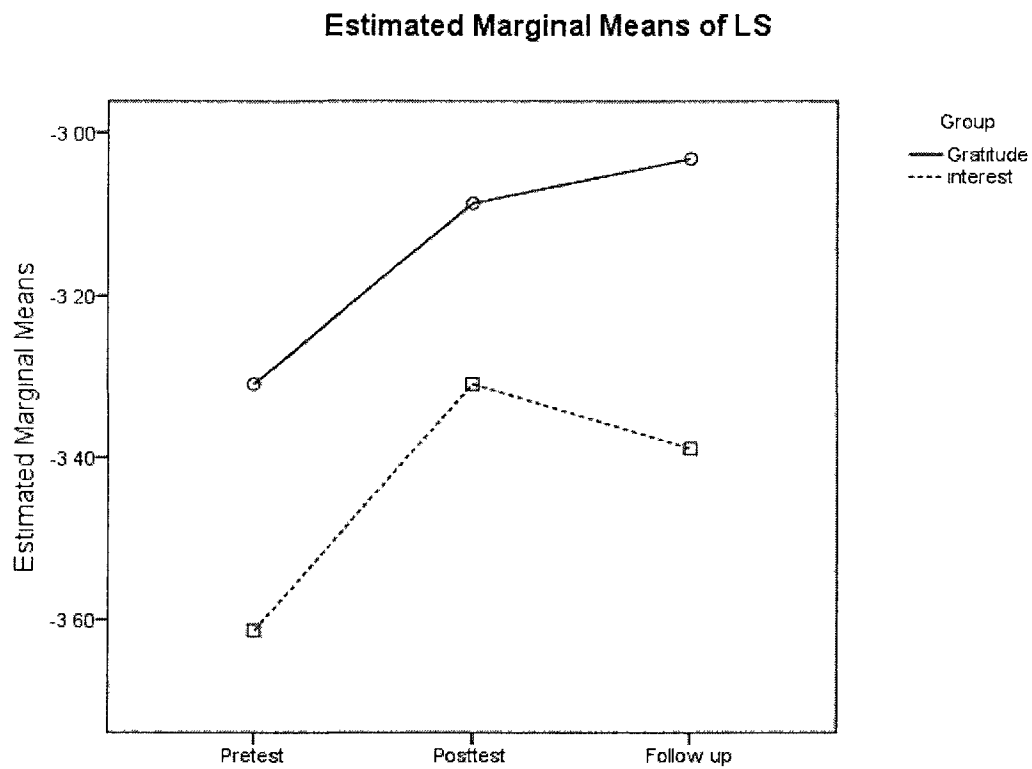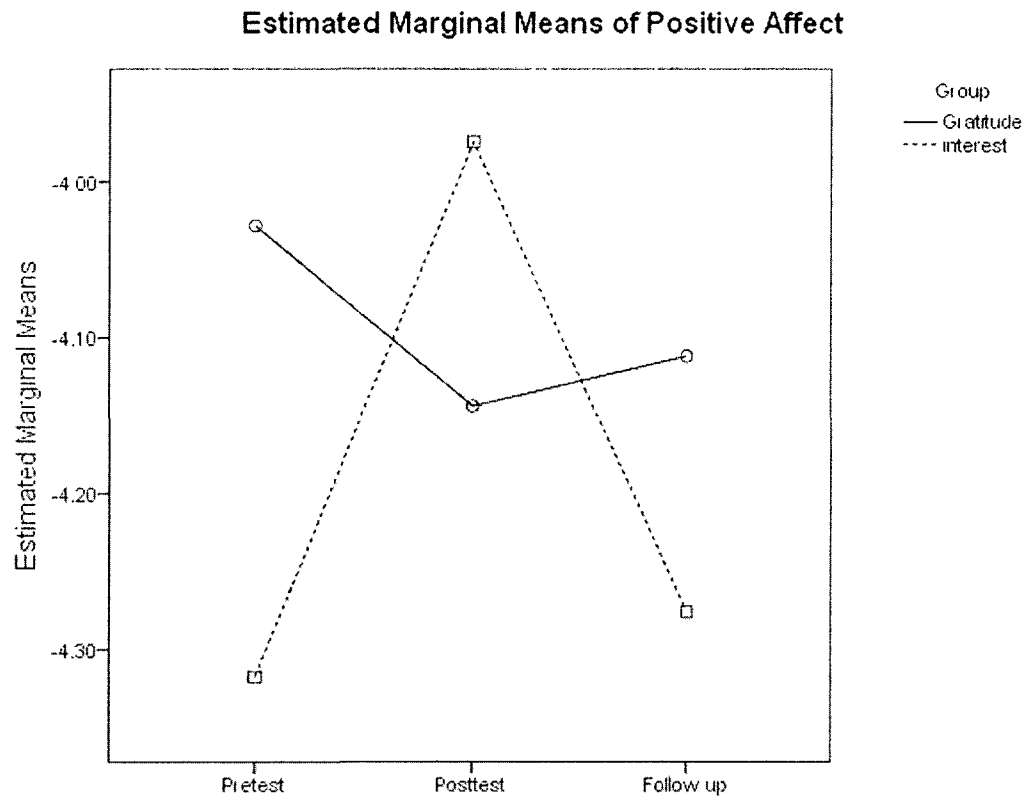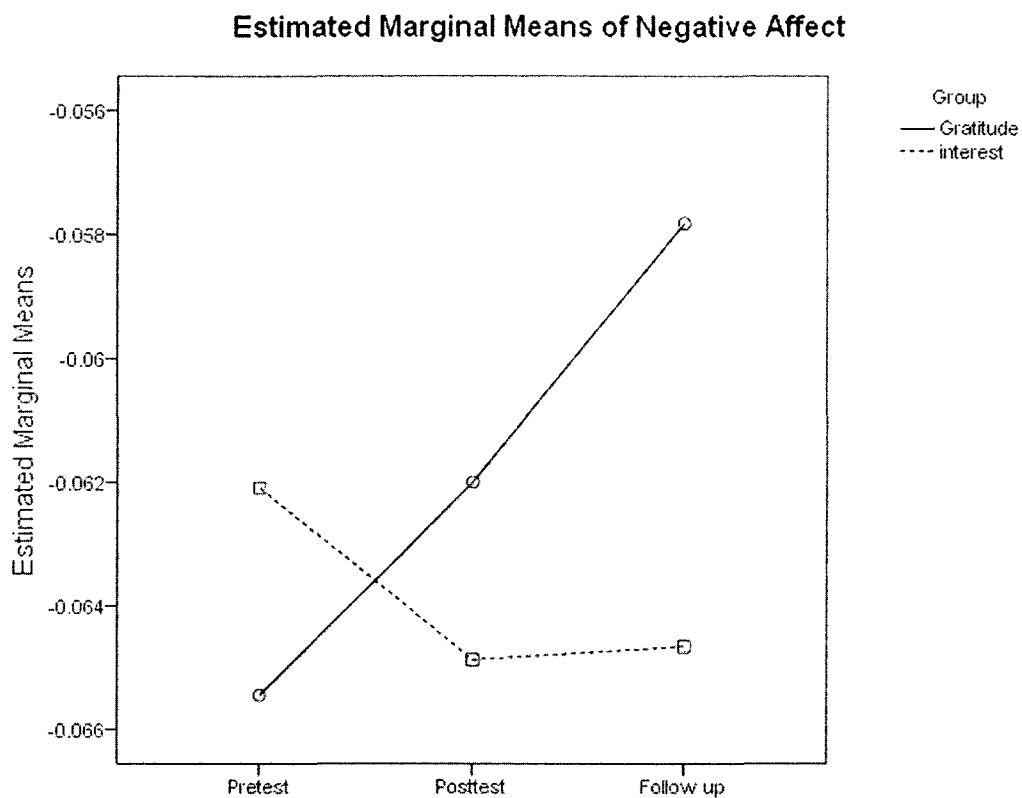
Figure 3. Estimated Marginal Means of Negative Affect. Mean values representing transformed scores on negative affect for gratitude and interest groups. No within-group or between-group differences were found in negative affect.

Estimated Marginal Means of Subjective Happiness

Figure 4. Estimated Marginal Means of Subjective Happiness. Mean values representing transformed scores on subjective happiness for gratitude and interest groups. No within-group or between-group differences were found in subjective happiness.

Estimated Marginal Means of Gratitude
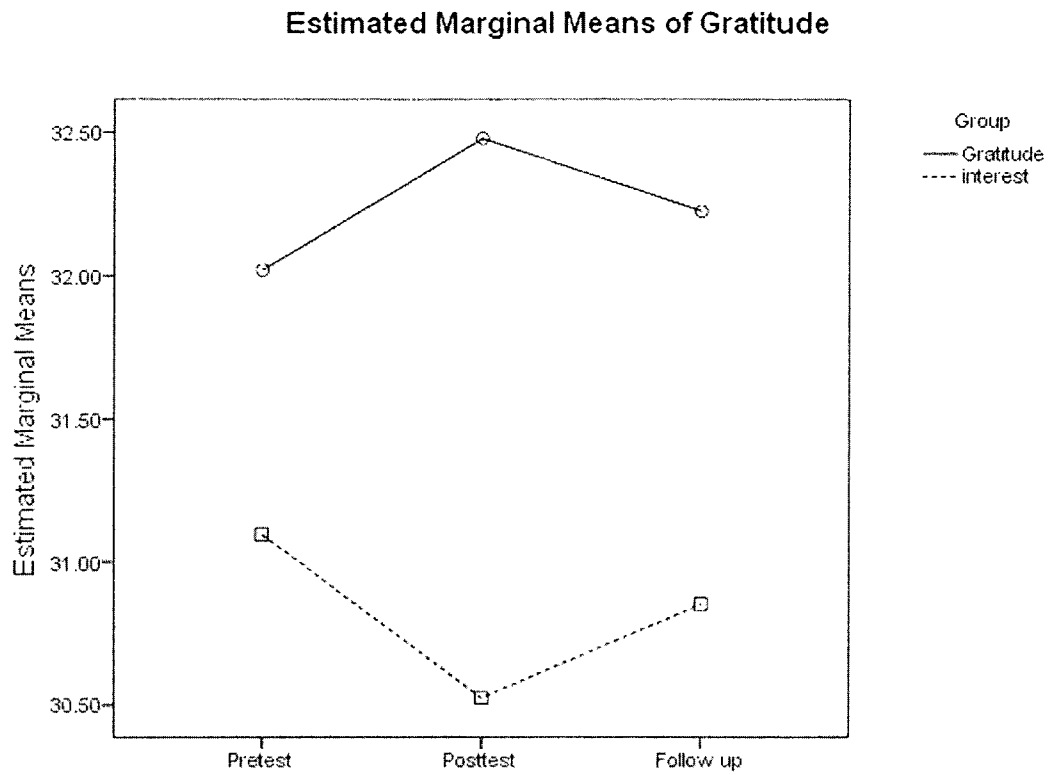
Figure 5. Estimated Marginal Means of Gratitude. Mean values representing scores on gratitude for gratitude and interest groups. No within-group or between-group differences were found in gratitude.

Estimated Marginal Means of Kindness
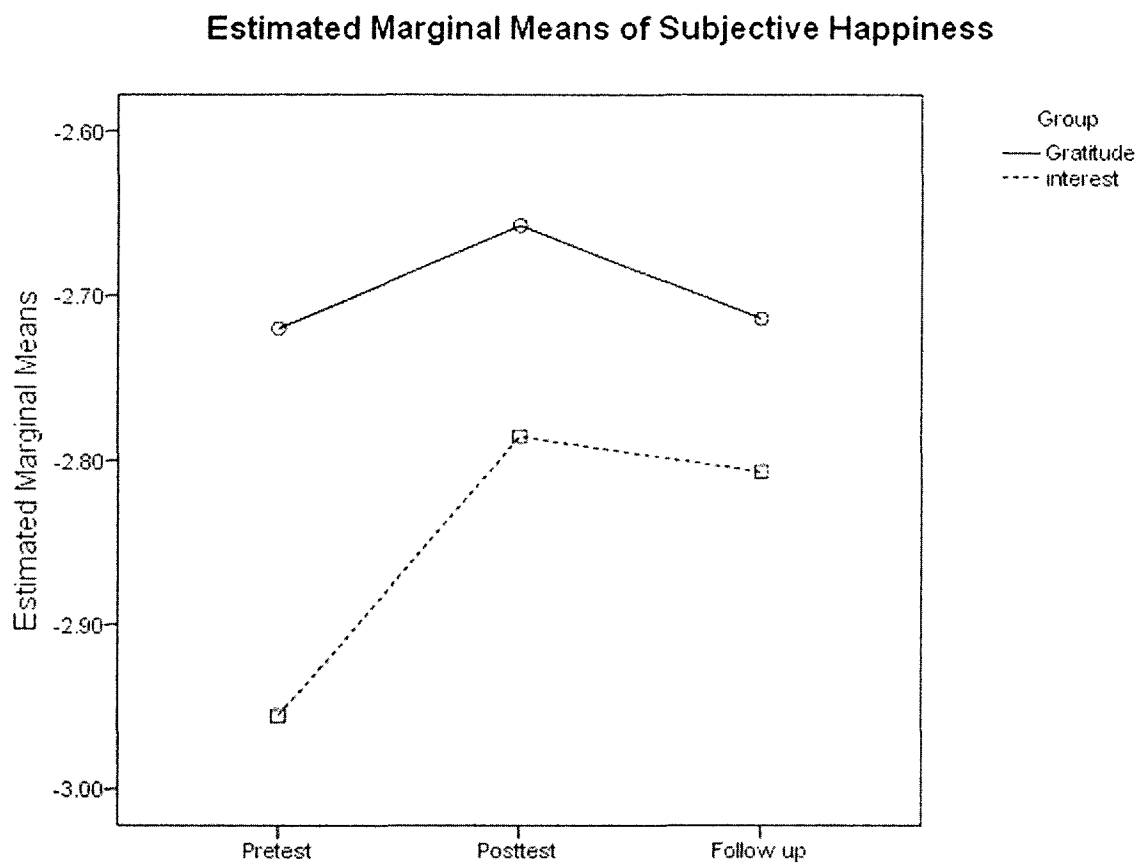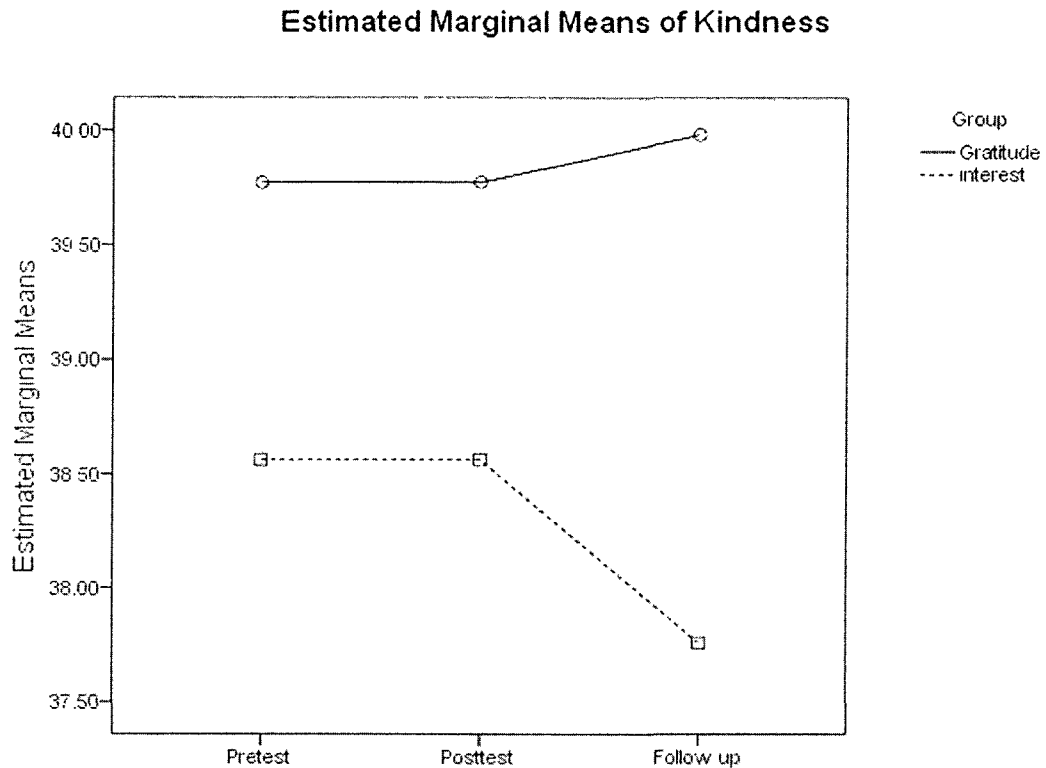

Figure 6. Estimated Marginal Means of Kindness. Mean values representing scores on kindness for gratitude and interest groups. No within-group or between-group differences were found in kindness.

Hypothesis 2

The second hypothesis stated that a gratitude intervention would be more effective for individuals who received high scores for the character strength of gratitude than those who received low scores and that these gains would be maintained over a three-week period. This hypothesis was supported.

Individuals in the gratitude group were assigned to one of two subgroups, based on pretest scores on the IPIP VIA gratitude scale. Possible scores ranged from five to 40, with actual scores ranging from 20 to 40. Higher scores indicated higher levels of gratitude. A median score of 33 was used as a cut point to divide groups. Participants

with scores of 33 and above were assigned to the first group and considered to have high levels of initial gratitude. Individuals with scores of below 33 were assigned to the second group and considered to have low initial levels of gratitude.

A repeated measures MANCOVA was performed to determine subgroup differences on the dependent variables associated with subjective well-being and selected character strengths: life satisfaction, positive affect, negative affect, subjective happiness, and kindness. After adjusting for covariates, significant differences were observed between groups on the dependent variable, *Wilks' Lambda* = .749, F (12, 146) = 1.89, p = .040, *partial eta squared* = .134. An ANCOVA was conducted on each dependent variable as a follow-up test to MANCOVA. Subgroup differences were significant for life satisfaction, F (1, 39) = 11.79, p = .001, *partial eta squared* = .232, positive affect, F (1, 39) = 7.77, p = .008, *partial eta squared* = .166 and kindness, F (1, 39) = 4.41, p = .042, *partial eta squared* = .102. Subgroup differences were not significant for negative affect, F (1, 39) = .001, p = .970, *partial eta squared* = .000, or subjective happiness F (1, 39) = 2.76, p = .105, *partial eta squared* = .066. No difference was found within groups on dependent measures, *Wilks' Lambda* = .883, F (12, 146) = .780, p = .670, *partial eta squared* = .060.

Hypothesis 3

The third hypothesis stated that a gratitude intervention would be more effective for individuals who received high scores for the character strength of kindness than those who received low scores, and that these gains would be maintained over a three-week period. This hypothesis was not supported.

Individuals in the gratitude group were also assigned to one of two subgroups, based on pretest scores on the IPIP VIA kindness scale. Possible scores ranged from five to 50, with actual scores ranging from 23 to 50. Higher scores indicated higher levels of kindness. A median score of 42 was used as a cut point to divide groups. Individuals' scores 42 and above were assigned to the first group and considered to have high levels of initial kindness. Individuals with scores of below 42 were assigned to the second group and considered to have low initial levels of kindness.

A repeated measures MANCOVA was performed to determine group differences on the six dependent variables associated with subjective well-being and selected character strengths: life satisfaction, positive affect, negative affect, subjective happiness, and gratitude. After adjusting for covariates of conscientiousness and agreeableness, no difference was observed between groups on dependent measures, *Wilks' Lambda* = .815, $F(5, 35) = 1.59$, $p = .188$, *partial eta squared* = .185. Additionally, when covariates were controlled, no difference was found within groups on dependent measures, *Wilks' Lambda* = .733, $F(10, 30) = 1.09$, $p = .398$, *partial eta squared* = 267.

Hypothesis 4

The fourth hypothesis stated that the character strengths of gratitude and kindness, as measured by the IPIP-Values in Action would positively correlate with the Big Five personality trait of Agreeableness, as measured by the Mini-IPIP. This hypothesis was supported.

A correlation analysis between personality factors of extroversion, introversion, agreeableness, conscientiousness, and neuroticism, social desirability, and character strengths of gratitude and kindness was performed (see Table 1). Results indicated a

significant positive correlation between gratitude and kindness, $r = .481, p < .01$. There was also a significant relationship between gratitude and agreeableness, $r = .544, p < .01$. Additionally, kindness was positively correlated to conscientiousness, $r = .358$, agreeableness, $r = .647$, and social desirability, $r = .526$ (all $ps < .01$).

A correlation analysis between character strengths and measures of subjective well-being was performed (see Table 5). Results indicated that subjective happiness was significantly correlated with gratitude, $r = .276, p < .05$, kindness, $r = .354, p < .01$, satisfaction with life, $r = .474, p < .01$, positive affect, $r = .414, p < .01$, and negative affect, $r = -.288, p < .05$. There was a positive relationship between gratitude and kindness, $r = .481$, satisfaction with life, $r = .423$, and positive affect, $r = .416$ (all $ps < .01$). Kindness was also positively related to satisfaction with life, $r = .283, p < .05$ and positive affect, $r = .541, p < .01$. Further, a significant relationship between satisfaction with life and positive affect was found, $r = .360, p < .01$. Interestingly, no significant correlation was found between negative and positive affect, supporting the conclusion that these are separate factors rather than opposite ends of a continuum.

Table 5

Correlations Between Pretest Measures of Character Strengths, Personality Factors and Social Desirability

	G	K	E	I	N	C	A	SD
G	____	.481**	.058	.187	.039	.177	.554**	.187
K	.481**	____	.237	.154	-.032	.358**	.647**	.526**
E	.058	.237	____	.041	-.269*	.207	-.006	.056
I	.187	.154	.041	____	.107	.199	.105	.075
N	.039	-.032	-.269*	.107	____	-.119	.175	-.176
C	.177	.358**	.207	.199	-.119	____	.132	.291*
A	.554**	.647**	-.006	.105	.175	.132	____	.311*
SD	.187	.526**	.056	.075	-.176	.291*	.311*	____

Note. G = gratitude; K = kindness; E = extroversion; I = introversion; N = neuroticism; C = conscientiousness; A = agreeableness; SD = social desirability

$*p < .05. **p < .01$

Table 6

Correlations Between Measures of Character Strengths and Subjective Well-Being

	1	2	3	4	5	6
1. Gratitude	____	.481**	.423**	.416**	-.018	.276*
2. Kindness	.481**	____	.283*	.541**	-.009	.354**
3. Life Satisfaction	.423**	.283*	____	.360**	-.210	.474**
4. Positive Affect	.416**	.541**	.360**	____	.070	.414**
5. Negative Affect	-.018	-.009	-.210	.070	____	-.288*
6. Subjective Happiness	.276*	.354**	.474**	.414**	-.288*	____

$*p < .05. **p < .01$

Additional Analyses

A MANCOVA was performed to determine differences in the number of journaling days completed and the total number of items listed in journal activities between the gratitude and control group. Significant differences were found after adjusting for covariates of agreeableness and conscientiousness, *Wilks' Lambda* = .732, *F* (3, 58) = 7.09, *p* = .000, *partial eta squared* =.268. An ANCOVA was conducted on each dependent variable as a follow-up test to MANCOVA. There was a significant effect for total number of items listed, *F* (1, 60) = 15.98, *p* = .000, *partial eta squared* = .158, but not for number of journaling days, *F* (1, 60) = 1.59, *p* = .212, *partial eta squared* = .026. Results indicated that individuals in the gratitude group listed significantly more items in a gratitude journal than the control group listed in interest journals. No significant differences regarding the number of days that participants completed the journals were found.

CHAPTER FOUR

DISCUSSION

Findings and Implications

Hypothesis 1. The first hypothesis stated that a gratitude intervention would significantly increase overall subjective well-being, positive affect, and life satisfaction, and decrease negative affect and that these gains would be maintained over a 3-week period. Results of this study were consistent with research suggesting that gratitude has a significant positive correlation with positive affect, subjective well-being, and life satisfaction (Emmons and McCullough, 2003; Watkins et al., 2003). However, results did not support the conclusion that a gratitude intervention causes significant changes in elements of subjective well-being, independent of beginning levels of gratitude.

This study was guided, in part, by Emmons and McCullough's 2003 research regarding gratitude interventions, in which they conducted three studies (Study 1, Study 2, and Study 3), and which has been partially replicated by Watkins et al. (2003). Participants in my gratitude group were given the same instructions and five-item format as used by Emmons and McCullough in all three of their studies. Thus, it is unlikely that these factors contributed to differences in findings. It is also unlikely that the sample size and use of one control factor explain my results, as these factors are similar to Emmons and McCullough's third study in which significant results were found despite these factors.

One possible explanation for my findings is that the use of an interest group for a control measure was not different enough from the experimental gratitude group to lend significant results. An interest group has not been used as a control group in previous research. However, it was arguably similar to Emmons and McCullough's (2003) use of an events group in their first study in which individuals who were asked to asked to list "events that had an impact on them" each week were compared to those who listed weekly hassles or gratitudes. Emmons and McCullough found stronger increases in life satisfaction when gratitudes were compared to hassles rather than events, possibly because gratitudes and events were more similar. Thus, in Study 2, they replaced the events group with a downward social comparison group and changed from a weekly to a daily report. My study combined Emmons and McCullough's daily writing format of Study 2 with a control group similar to the more ambiguous events group of their first study. The findings of my study indicated that a daily gratitude intervention was less effective when a gratitude group was compared to a more ambiguous control group, such as interest group.

Hypothesis 2. The second hypothesis stated that a gratitude intervention would be more effective for individuals who received high scores for the character strength of gratitude than those who received low scores and that these gains would be maintained over a three-week period. This hypothesis was supported and was consistent with Peterson and Seligman's hypothesis about signature strengths (Peterson & Seligman, 2004; Seligman, 2002) and the ability to nurture gratitude in those who already demonstrate a high propensity for the strength (Watkins et al., 2003).

Results indicated that individuals who reported higher beginning levels of gratitude had significantly greater gains in life satisfaction, positive affect, and kindness following a gratitude intervention than those who reported lower beginning gratitude levels. Such findings lend credence to the theory of the engaged life or the use of one's strengths and talents to achieve happiness (Duckworth et al., 2005). These findings also supported Peterson and Seligman's (2004) basic theory regarding signature strengths; individuals who report a greater amount of a particular strength benefit more from exercises that utilize that strength than individuals who report lower amounts of a given strength, and were consistent with research supporting this theory (Seligman et al., 2005). Further, results of my study were consistent with Watkins et al.'s (2003) more specific conclusion that individuals with greater amounts of dispositional gratitude would benefit more from gratitude interventions than other individuals. These results were also consistent with research suggesting a relationship between kindness and gratitude (McCullough et al., 2008; Otake et al., 2006; Peterson & Seligman, 2004). Findings of my study also supported research by Emmons and McCullough (2003) who found an increase in reported prosocial acts following a gratitude intervention. My study also expanded on Emmons and McCullough's research by measuring gratitude as a character strength and examining its role in the effectiveness of a gratitude intervention. My findings supported the conclusion that gratitude is indeed an important and useful area of potential research (Emmons & Crumpler, 2000).

Hypothesis 3. It was hypothesized that a gratitude intervention would be more effective for individuals who received high scores for the character strength of kindness

than those who received low scores and that these gains would be maintained over a three-week period. Results did not support this hypothesis.

Results indicated that the character strength of kindness is significantly and positively correlated with life satisfaction, positive affect, and overall subjective well-being, but is not correlated with negative affect. These findings were consistent with previous research suggesting a positive relationship between kindness and happiness (Otake et al., 2006), specifically life satisfaction (Peterson & Seligman, 2004) and positive affect, and no significant relationship between kindness and negative affect (Dulin & Hill, 2003). According to Dulin and Hill, such results are expected because positive and negative affect are separate constructs; thus, it "makes sense that different variables would be predictive of [each]" (p. 298). It is likely that such rationale applies in this study as well in which results indicated no significant relationship between positive and negative affect.

The third hypothesis was also intended to expand on research regarding the relationship between kindness and gratitude (McCullough et al., 2008; Otake et al., 2006; Peterson & Seligman, 2004). Results indeed indicated a significant positive correlation between kindness and gratitude. Previously discussed results suggested that a gratitude intervention could be used to significantly increase kindness for those who have high levels of beginning gratitude. However, results of hypothesis three indicated that a gratitude intervention does not significantly increase measures of happiness for those with higher levels of beginning kindness.

Hypothesis 4. It was hypothesized that the character strengths of gratitude and kindness, as measured by the IPIP-Values in Action would positively correlate with the

Big Five personality trait of Agreeableness, as measured by the Mini-IPIP. Results supported this hypothesis.

As predicted by Peterson and Seligman (2004), there was a significant positive correlation between gratitude and agreeableness. Contrary to previous research by Macdonald et al. (2008), gratitude was not significantly positively correlated to social desirability. However, it should be noted that social desirability was significantly correlated with the personality trait of agreeableness. Thus, the relationship between these factors is complex. It is possible that gratitude indicates a more genuine form of agreeableness, reflecting positive self-concept or personal growth, rather than a motivation to please others or monitor social impressions. Additional research in this area may provide a greater understanding of the complicated relationship between these factors.

Additionally, gratitude was not significantly related to extroversion, introversion, neuroticism, or conscientiousness. This finding was also contrary to Macdonald et al.'s (2008) suggestion that gratitude was correlated with conscientiousness and extroversion (before scores were centered) or no personality factors (after centering of scores), and Wood et al. (2008) who found that gratitude was correlated with extroversion, openness, agreeableness, and conscientiousness, with the strongest relationship found between gratitude and extroversion. The reasons for such conflicting findings are unclear and indicate an area that is ripe for additional research.

Results indicated that a significant positive relationship between kindness, agreeableness, and conscientiousness. These results were generally consistent with Seligman and Peterson's (2004) proposed theory that kindness would be positively

correlated with agreeableness, consciousness, and openness, but most strongly related to agreeableness. Findings also supported Macdonald et al.'s (2008) findings that kindness is significantly positively related to agreeableness and social desirability. However, contrary to Macdonald et al., kindness was not positively related to extroversion or neuroticism.

Limitations

One possible limitation of this study was the size of the final sample. Beginning participants included 95 individuals. Sixty-four participants were included in the final sample. Only those who completed at least two journal entries, as well as pre, post, and follow-up measures were included. Thirty-one participants began but did not complete the entire study. It is possible that such a large number of dropouts was attributed to the length of the study (seven weeks) and/or the amount of participant time required (daily journal, as well as three surveys, taking 10 to 15 minutes each). Although the sample size was small, it should be noted that it is comparable to Emmons and McCullough's Study 3, in which 65 participants were included in final analysis.

Another possible limitation of this study was the unequal sample size between gratitude and control groups, with 43 and 21 participants, respectively. The reason for this difference is unclear. It is notable that more individuals withdrew from the control (19) than gratitude group (12). Statistical analysis indicated no differences in any personality factors, social desirability, character strengths, or well-being between those who completed and those who withdrew from the study. It is possible more individuals withdrew from the control group because they received less benefit from keeping an interest journal than a gratitude journal. It should also be noted that pretest analysis

revealed significant final group differences in agreeableness and conscientiousness that may have contributed to differences in retention rates between groups. However, results indicated that, even when these factors were controlled, individuals in the gratitude group listed significantly more items in a gratitude journal than the control group listed in interest journals. This result may support the idea of greater intrinsic benefit received by participants in the gratitude group than the control group.

Future Research

This study has added to the growing body of research regarding the effectiveness of positive psychology interventions. This study built on previous research by using the character strengths of gratitude and kindness, as defined by Peterson and Seligman (2004), to determine the effectiveness of an intervention that targeted one of these strengths to increase subjective well-being. In this way, this study was different from and enhanced previous research. Findings supported the conclusion that positive psychology interventions are more successful when utilizing a character strength of which an individual possesses a great amount. More research regarding the use of other character strengths to increase subjective well-being are warranted.

Results of this study supported the conclusion that although there is a relationship between gratitude and kindness, these character strengths are separate constructs. Such findings were consistent with Peterson and Seligman's (2004) conclusion that character strengths can be measured independently of each other. However, the relationship between these factors is complicated, and more research in this area is needed. Additional research is also warranted regarding the relationship between these character strengths, personality traits, and social desirability. Specifically, results indicated a

strong relationship between gratitude, kindness, and agreeableness, and suggested that social desirability and conscientiousness may be closely related as well. However, the details of this relationship are complex, and indicate the need for additional research.

APPENDIX A

DAILY GRATITUDE JOURNAL INSTRUCTIONS

Thank you for choosing to participate in the following study. Below is an explanation of important parts of the study, as well as instructions to complete each part.

GENERAL INSTRUCTIONS

You will be asked to provide your Activity ID number for each survey and journal entry in this study. Your Activity ID has been anonymously provided by your teacher for the purpose of this study. It can be found through blackboard gradebook. It is in the first column of your grades. Please follow the instructions below to locate your Activity ID.

Log in to http://blackboard.latech.edu/

Click the link for this course

Under Tools, select Course Tools

Select My Grades

Your Activity ID is listed as Activity ID

You can find these instructions and survey/journal links under Daily Journal (just below Tools) on Blackboard.

Each day, you will receive an email from alice@latech.edu, providing you with a link to the day's activity. This email will be sent to your email address on file with blackboard. The words "Daily Journal" will be part of every email connected with this study. You will be asked to follow a link each day to complete an online survey or brief journal entry. **If you choose to participate in this study, please respond to each link on the day that it is emailed. Survey and journal sites will only be available for a limited amount of time. It is important that you respond in a timely manner.** Below are detailed instructions for each day of the study.

DAILY INSTRUCTIONS

Day 1 (March 30): Complete online survey sent via email. You have until April 6 to complete this survey.

Follow this link to the survey for Day 1:

http://www.surveymonkey.com/s/8K2LHCR

It should take about 10 to 15 minutes to complete it.

Day 2 (April 7) through Day 15 (April 20): Complete daily online journal sent via email. To participate in this study, you must complete each journal on the day that it is sent via email. (Example. Day 2 Journal will be sent on April 7. It must be completed by 11:59 pm on April 7.)

Follow this link to the journal for Day 2 –

15:http://www.surveymonkey.com/s/7XJ9RN7

It should take less than 5 minutes

Day 16 (April 21): Complete online survey sent via email. You have until April 23 to complete this survey.

Follow this link to the survey for Day 16:

http://www.surveymonkey.com/s/8KFVWLX

It should take about 10 minutes to complete it.

Day 39 (May 12): Complete online survey sent via email. You have until May 14 to complete this survey.Follow this link to the survey for Day 39:

http://www.surveymonkey.com/s/QBRVYH6

It should take about 10 minutes to complete it.

APPENDIX B

DAILY INTEREST JOURNAL INSTRUCTIONS

Thank you for choosing to participate in the following study. Below is an explanation of important parts of the study, as well as instructions to complete each part.

GENERAL INSTRUCTIONS

You will be asked to provide your Activity ID number for each survey and journal entry in this study. Your Activity ID has been anonymously provided by your teacher for the purpose of this study. It can be found through blackboard gradebook. It is in the first column of your grades. Please follow the instructions below to locate your Activity ID.

Log in to http://blackboard.latech.edu/

Click the link for this course

Under Tools, select Course Tools

Select My Grades

Your Activity ID is listed as Activity ID

You can find these instructions and survey/journal links under Daily Journal (just below Tools) on Blackboard.

Each day, you will receive an email from alice@latech.edu, providing you with a link to the day's activity. It will be sent to your email address on file with blackboard. The words "Daily Journal" will be part of every email connected with this study. You will be asked to follow a link each day to complete an online survey or brief journal entry. **If you choose to participate in this study, please respond to each link on the day that it is emailed. Survey and journal sites will only be available for a limited amount of time. It is important that you respond in a timely manner.** Below are detailed instructions for each day of the study.

DAILY INSTRUCTIONS

Day 1 (March 30): Complete online survey sent via email. You have until April 6 to complete this survey.

Follow this link to the survey for Day 1:

http://www.surveymonkey.com/s/8K2LHCR

It should take about 10 to 15 minutes to complete it.

Day 2 (April 7) through Day 15 (April 20): Complete daily online journal sent via email. To participate in this study, you must complete each journal on the day that it is sent via email. (Example. Day 2 Journal will be sent on April 7. It must be completed by 11:59 pm on April 7.)

Follow this link to the survey for Day 2 – 15:

http://www.surveymonkey.com/s/7M7KQBL

It should take less than 5 minutes to complete.

Day 16 (April 21): Complete online survey sent via email. You have until April 23 to complete this survey.

Follow this link to the survey for Day 16:

http://www.surveymonkey.com/s/8KFVWLX

It should take about 10 minutes to complete it.

Day 39 (May 12): Complete online survey sent via email. You have until May 14 to complete this survey.

Follow this link to the survey for Day 39:

http://www.surveymonkey.com/s/QBRVYH6

It should take about 10 minutes to complete it.

APPENDIX C

DAILY EXPERIENCE RATING FORM (GRATITUDE)

There are many things in our lives, both large and small, that we might be grateful about. Think back over the past day, and on the lines below, write at least two and up to five things in your life that you are thankful or grateful for.

1._____

2._____

3._____

4._____

5._____

APPENDIX D

DAILY EXPERIENCE RATING FORM (INTEREST)

There are many things in our lives, both large and small, that are interesting. Think back over the past day, and on the lines below, write at least two and up to five things interesting things that happened to you today.

1._____

2._____

3._____

4._____

5._____

APPENDIX E

HUMAN USE APPROVAL LETTER

LOUISIANA TECH
U N I V E R S I T Y

MEMORANDUM

TO: Ms. Tracy Harper and Dr. Alice Carter

FROM: Barbara Talbot, University Research

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: March 4, 2010

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

**"The Influence of the Character Strengths of Gratitude and Kindness
On Subjective Well-being"**

 # HUC-748

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. *This approval was finalized on March 4, 2010 and this project will need to receive a continuation review by the IRB if the project, including data analysis, continues beyond March 4, 2011.* Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Mary Livingston at 257-4315.

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