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Thoughtfulness and Psychological Well-Being

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THOUGHTFULNESS AND PSYCHOLOGICAL WELL-BEING

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APPROVAL SHEET

This thesis is submitted in partial fulfillment of

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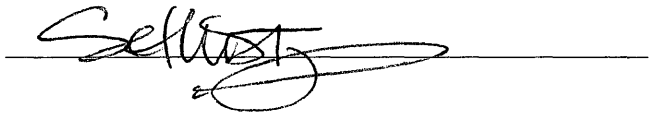

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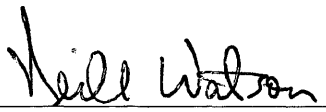
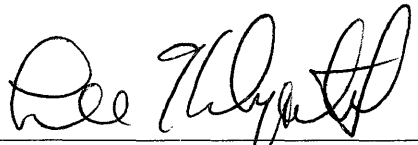


(Neill P. Watson)



(Lee A. Kirkpatrick)

(W. Larry Ventis)

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ABSTRACT

Recent research indicates that concepts related to thoughtfulness, such as mindfulness, need for cognition, and openness to experience are related to specific components of psychological well-being. However, little research has directly examined the relation between thoughtfulness and general psychological well-being. Thus, the purpose of the current study was to examine this relation. Ninety-six university students completed the Langer Mindfulness Scale, the Need for Cognition Scale, and the Openness to Experience Scale. Significant correlations emerged between each of the living thoughtfully variables (mindfulness, need for cognition, and openness to experience), and psychological well-being. Only mindfulness accounted for significant variance in psychological well-being independently of the other two variables. Also, the Langer Mindfulness Scale showed acceptable internal consistency and criterion-related validity.

THOUGHTFULNESS AND PSYCHOLOGICAL WELL-BEING

INTRODUCTION

The study of the optimally functioning individual has recently reemerged as the main focus of a new movement known as "positive psychology" (Seligman & Csikzentmihalyi, 2000). Positive psychology is a modern derivative of the humanist movement, which grew out of the works of such eminent thinkers as Rogers (1951) and Maslow (1970). The primary focus of these humanistic theorists was to discover how individuals can function at an optimum level. Recently, the study of the positive aspects of the individual has regained attention. Positive psychology has revived the humanist ideas by initiating numerous research programs to investigate the hypotheses derived from humanist theory (Seligman & Csikzentmihalyi, 2000). The main objective of this movement is to find what is right with the individual. Thus, the topics addressed in the January 2000 issue of the American Psychologist, an issue dedicated to the topics of positive psychology, include optimism, self-determination, wisdom, faith, creativity, and psychological well-being, all of which are thought to be characteristic of the optimally functioning individual.

Missing from this research, however, is a thorough account of the role played by thoughtfulness in the achievement of optimal functioning. Ever since the "gadfly" Socrates walked the streets of Athens imploring his fellow citizens to think critically about their most cherished beliefs, philosophers have often speculated that thoughtfulness is an important factor in becoming an optimally functioning individual. More recently, many of the classical theories of personality have described the optimally functioning individual as thoughtful, mindful, and reflective (Fromm, 1973; Loevinger, 1976; Rogers, 1951), but little empirical research has examined directly the association between

thoughtfulness and optimal functioning. However, some evidence seems to suggest that thoughtfulness is associated with specific components of psychological well-being (Langer, 1989; Osberg, 1987; Sanchez, 1993), which many classical personality theorists (Rogers, 1959; Maslow, 1970) believed to be an important component of optimal functioning. The purpose of the current study was to extend this research to include an account of the relation between specific aspects of thoughtfulness and psychological well-being. Specifically, the current study tested the hypothesis that individuals high in mindfulness, need for cognition, and openness to experience would score higher on a measure of psychological well-being than would individuals low on these dimensions. An additional interest of this study was to explore the relative importance of different aspects of thoughtfulness to different aspects of psychological well-being.

Thoughtfulness

Philosophers have long speculated that thoughtfulness is important to the experience of psychological well-being (Aristotle, 1953; Plato, 1968, 1974). This idea has its origin in the Greek philosophy of such eminent thinkers as Socrates, Plato, and Aristotle, each of whom believed that rational thought is the noblest of human activities. Plato (1968) offered an unusual conception of the good life, in which happiness is the goal for which all humans are ultimately striving. People do not always agree, however, about what constitutes happiness and how it is achieved. Some think that happiness is found in pleasure, others in making lots of money, and others in winning society's praise, and these things blind most people to the truth. Plato, on the other hand, believed that happiness is much more than the acquisition of material possessions and social status, for such things are only temporary means to positive feelings, rather than the permanent

change in one's soul that he believed was necessary to genuine happiness. Hence, he believed that people must utilize their capacity for rational and critical thought in order to liberate themselves from the trappings of appearances and gain access to the truth. Plato illustrated this idea in his famous "Allegory of the Cave," in which he suggested that the world of our immediate experience is only an illusion that obscures the truth behind the veil of our experience. We remain deceived by these illusions unless we invoke our capacity for rational thought to see past the veil and gain access to the truth. By doing so, we escape from the cave of ignorance and attain psychological well-being through experience of the truth.

Plato's advocacy of the importance of contemplation was cultivated during his youth, in which he studied under Socrates, who believed that one's life should be characterized by an unremitting and persistent quest for truth in the attempt to achieve a better match between his or her thinking about truth and truth itself. Without this quest for truth, one cannot escape from ignorance, or even the ignorance of one's own ignorance. No one can know how his or her fundamental beliefs were initially adopted or whether these beliefs are held for some unconscious desire, and therefore it is necessary to critically examine these beliefs in order to discover for oneself what one truly believes and disbelieves. Until one does so, one will persist in the pretence of knowledge, which is wrongheaded, self-deceiving, and ultimately self-defeating. Thus, one must engage oneself in contemplation of the truth in order to recover from the state of ignorance and attain well-being. Real thought and real personhood begin only when one begins to doubt one's fundamental beliefs, when one begins to turn the mind around on itself to examine its own contents and processes. It is this quest for and eventual experience of the truth

that makes life meaningful and worthwhile. This belief led Socrates to conclude that lives devoid of unremitting self-examination are not worth the trouble of living (Plato, 1974).

The belief that thoughtfulness plays a significant role in psychological well-being received its most extensive coverage in the work of Plato's student, Aristotle. In *Nicomachean Ethics* (1953), Aristotle addressed, among many other subjects, the question of how best to live. He argued that happiness is the goal toward which all human activity is aimed. As Plato noted, however, happiness is more than the acquisition of material possessions or social status. He defined happiness as "an activity of the soul in accordance with virtue and which follows a rational principle" (Aristotle, 1953, p. 6). The activity to which he was referring in this definition is philosophical activity directed toward discovery of the truth. Happiness is unattainable unless we contemplate what it is and how it can be achieved.

The contemplation of truth was, for Aristotle, the highest aspect of human functioning and an essential component in the attainment of *eudaimonia*, or happiness. His argument is based on his belief that happiness lies in what distinguishes man from the rest of the natural world. For Aristotle, the attribute that best defines what it means to be human is the capacity for rational thought, because no other being in the natural world possesses the ability to reflect back on prior experiences or ahead to future experiences. Hence, the exercise of this uniquely human capacity for rational thought is the highest and noblest of human activities. An individual is most human when engaged in contemplation of truth, and thus, the contemplation of truth puts us in proper relation with our essential human nature. By acting in accordance with our nature, we realize our

human potential and attain a level of optimal functioning unattainable to those who spend their time engaged in non-contemplative activities (Aristotle, 1953).

Aside from his defense of contemplation for contemplation's sake, Aristotle also noted the important role of contemplation in practical affairs. Specifically, if one's behavior is to be rational, purposive, and effective in the pursuit of happiness, one must apply the capacity for rational thought to identify what he called the middle path or "Golden Mean" (Aristotle, 1953). The key to achieving happiness, for Aristotle, was a life of moderation. Each personality characteristic exists on a continuum anchored by the two extremes of excess and deficiency. These extremes are vices to be avoided by the person, for they will lead to a life of unhappiness. In contrast, the "Golden Mean" or middle ground between these extremes is virtue. For instance, the mean between the two vices cowardice and foolhardiness is courage; the mean between humility and pride is modesty; and the mean between laziness and avarice is ambition (Aristotle, 1953). If one is to be a virtuous person, one must lead a life of moderation in accordance with the "Golden Mean," which is knowable only through reason, which must be employed in every situation in order to identify the virtuous route.

Virtue, however, is not something that is attained and then possessed forever after. Rather, it is something that must be maintained through a habit of employing reason to identify the virtuous path. Otherwise, one may fall out of virtue and happiness, and succumb to vice and unhappiness (Aristotle, 1953). Thus, contemplation is a lifelong activity that must be maintained if one wishes to be happy.

Before moving on, it is important to note that Aristotle's notion of happiness is not a hedonistic or affective one in which happiness means experiencing more positive

affect than negative affect. A hedonistic happiness may result from rational thought in accordance with virtue, but genuine happiness, as conceived by Aristotle, is more like psychological well-being. It is a state of excellence that is achieved through rational thought in pursuit of virtue and truth (Aristotle, 1953).

More recently, the German philosopher Kant (1785/1990) emphasized the role of thoughtfulness as a key component in the development of a good will, which he argued is necessary to the good life and psychological well-being. A life that is truly worth living is dictated by morality and lived in accordance with the moral law, which is knowable only through the uniquely human capacity to reason about and contemplate what it means to be a good person. If one does not think about the good, then one cannot possibly be good, because it would be impossible to know what it is or how it is to be achieved. Even if an unreflective person does a good deed, it is merely an accident, for he or she could not possibly have understood the moral implications of his or her actions without reflecting upon the moral law. One must intend to do good, through a conscious decision based on rational contemplation of the moral law. Thus, one must contemplate the good, what it is and how it can be achieved, before one can be a genuinely good person. And by being good, moral persons, we attain psychological well-being.

The American philosopher, Dewey (1917/1989), proposed that one must be continually engaged in a critical examination of his or her beliefs, which he believed to be predispositions to action, in order to determine which beliefs have served as effective tools in the pursuit of one's goals and which beliefs have served only to lead one into failure. Psychological well-being is thereby maintained by a process of adapting to the environment by rooting out those beliefs that have been ineffective in the process of

attaining desirable outcomes and replacing them with more effective ones. In doing so, one disposes of a problem, answers a question, and turns an area of obscurity and doubt into an area of knowledge and self-assurance (Dewey, 1960). As one better adapts to the environment, one becomes a more effective person, increases his or her chances of experiencing positive outcomes and avoiding negative outcomes, and achieves higher levels of psychological well-being.

The general theme behind the various depictions of thoughtfulness offered by these thinkers is that one must actively seek out self-relevant information and consider how that information fits into or contradicts his or her existing beliefs about the self and the world. In order to obtain this information, one ought to be open to experience in multiple domains, such as reason, feeling, intuition, and social interaction, and willing to integrate that information into an honest view of the world. Finally, one ought to reflect on these experiences and the information derived therefrom so as to allow them to influence his or her current thinking in a way that will lead to growth and personal development. Essentially, thoughtfulness is an activity of attending to one's experiences, asking questions, developing theories, formulating hypotheses, testing them, drawing conclusions, and modifying one's theories in the light of those conclusions.

The goal of this effort is to achieve a kind of rightmindedness, where one's thinking about the world corresponds to the truth, or what is the case, which is necessary to a good and virtuous personhood. Only then, can we be effective agents in the pursuit of well-being. Essentially, by living thoughtfully, one is able to cultivate and maintain a state of rightmindedness or clear thinking that accurately reflects what is actually the case (Aristotle, 1953; Plato, 1968, 1974), which allows an individual to pursue effectively the

components of psychological well-being. In contrast to the rightminded individual, one whose thinking about the world does not accurately represent what is the case is considered to be wrongheaded and thereby unable to attain psychological well-being. This idea is well represented in the literature of classical personality theorists. According to Allport (1961), psychologically healthy people possess a realistic perception of their environment. They do not exist in an illusory world, in which reality has been distorted to fit their own wishes. Rather, they allow their experiences to be what they are, even when it means that they must accept that life is often multifactorial, complex, and ambiguous. Similarly, Rogers (1959) emphasized that "fully functioning" people are open to their experiences, and willing to honestly represent them in their awareness as they are in reality. Individuals who fail to do so, according to Rogers, develop an "incongruence" between their selves and their experiences, which leads to a state of psychological stagnation, a state that prevents the individual from satisfying the basic need to grow and actualize (Rogers, 1959). Maslow (1970) observed that "self-actualized" individuals possess a more "efficient perception of reality." They are comfortable with the uncertain and often contradictory nature of reality, and even look for the philosophical problems that are inherent to the human experience. More recently, Ellis (1973) and Beck (1979) have argued that psychological problems are often the product of irrational and erroneous beliefs about the nature of reality. According to this approach, psychological well-being is maintained by a constant process of evaluating the rationality of one's beliefs. If one should find that a belief is unrealistic or irrational, one must modify that belief to better reflect what is the case in order to restore oneself to psychological well-being. Thus, these theories suggest that rightmindedness is essential to the pursuit of psychological

well-being. If one does not accurately represent his or her experiences in awareness, then it is difficult to act effectively in a way that is conducive to the satisfaction of basic needs and the attainment of personal goals.

Within the field of psychology, many classical models of personality development also describe the psychologically well individual as being thoughtful, mindful, and reflective (Fromm, 1973; Kelly, 1963; Loevinger, 1976; Rogers, 1951). Kelly (1963), in his theory of personal constructs, characterizes the person as a naive scientist who is constantly engaged in the process of construing and reconstruing the world in response to information gathered from new experiences. People, however, differ in their inclination to revise their personal constructs in response to new information. Some people are rigid and inflexible in their personal constructs, while others are flexible and willing to modify their constructions in response to new information. According to Kelly, the psychologically healthy individual is more inclined to engage in the activity of checking his or her personal constructs against his or her experiences. In contrast, psychologically unhealthy individuals are more inclined to cling to existing personal constructs and resist change. The stubborn refusal to change then leads to psychological distress because the individual's rigid personal constructions become inadequate to the task of representing the fluid nature of his or her experiences (Kelly, 1963). Similar theories of optimal functioning have been advanced by Rogers (1951) and Maslow (1970). In his description of the "fully functioning person," Rogers described the psychologically well individual as having a fluid, changing self-concept that is congruent with experience (Rogers, 1980). Similarly, Maslow (1970) described the "self-actualized" person as one who is constantly engaged in the process of realizing his or her potential

for personal growth. Thus, these theories denote the importance of thoughtfulness - asking questions, formulating hypotheses, testing them, and drawing conclusions – to personal growth and the experience of psychological well-being.

Recent theory and research appears to support the idea that thoughtfulness is an important aspect in the experience of specific components of psychological well-being. Mindfulness, for instance, is a relatively new construct that has been studied extensively in recent years as an important correlate of psychological well-being. In her research on mindfulness in mostly elderly patients, Langer (1989) has found that individuals vary in their motivation to create new cognitive categories, in their openness to new information, and in their awareness of multiple perspectives. People that are high on this dimension are flexible, open to novel distinctions, and sensitive to contextual information and multiple perspectives (Langer, 2002). In contrast, individuals that are low on this dimension are rigid, guided by routine and external control, and locked into a single perspective (Langer, 2002). Brown and Ryan (2003) have recently made a distinction between the form of mindfulness described by Langer and another form of mindfulness. In their definition of mindfulness, they emphasize the importance of enhanced attention and awareness of what is happening both internally in one's thoughts and feelings and externally in one's overt behavior and environment. The enhanced attention and awareness is believed to reduce automatic thinking and behavior and foster more informed and self-determined behavior regulation. Brown and Ryan's formulation of mindfulness is derived from the Zen Buddhist philosophy of being in the moment and attentive to one's inner and outer worlds as they are in the present. Langer (1989), on the other hand, while noting the importance of mindful attention and awareness, has

emphasized an additional aspect of mindfulness, the active search for new information from multiple sources and effort to create new cognitive categories based on the new information. Thus, in contrast to Brown and Ryan's definition of mindfulness, Langer's formulation involves more active cognitive activity on the part of the person.

Both Langer (1989) and Brown and Ryan (2003) have hypothesized that mindful processing is associated with the attainment and maintenance of components of psychological well-being. Research conducted by Brown and Ryan (2003) with both student and adult samples, has shown that the Mindful Attention Awareness Scale (MAAS) is positively associated with self-regulated behavior, self-esteem, positive affect, and life satisfaction. They also found that mindful attention and awareness is negatively associated with neuroticism, anxiety, and depression. In an additional study with cancer patients, Brown and Ryan (2003) hypothesized and found that mindfulness is associated with reductions in mood disturbances and negative affect. Langer (2002) has hypothesized that mindfulness is directly related to psychological well-being and indeed has shown that the Langer Mindfulness Scale (2002) is positively correlated with specific components of well-being, such as competence, health and longevity, positive affect, and reduced burnout (Langer, 1989, 1997).

Mindfulness has also been associated with two theoretically related personality constructs, need for cognition and openness to experience (Bodner, 2001). Need for cognition has been defined as the inclination to engage in and enjoy effortful cognitive activities, such as critical thinking, reading, and other forms of information seeking (Cacioppo & Petty, 1982). People high in need for cognition tend to actively seek out new experiences that stimulate thinking (Venkstraman, Martino, Kardes, & Sklar, 1990;

Venkstraman & Price, 1990), generate complex attributions for human behavior (Fletcher, Danilovics, Fernandez, Peterson, & Reeder, 1986; Petty & Jarvis, 1996), seek out and elaborate self-relevant information under problem-solving situations (Berzonsky & Sullivan, 1992), and base their judgments and beliefs on empirical information and rational considerations (Leary, Sheppard, McNeil, Jenkins, & Barnes, 1986).

Need for cognition has also been shown to be positively correlated with various measures of specific components of well-being. Osberg (1987), in a study of undergraduate students, hypothesized and found a positive correlation between need for cognition and self-esteem, a finding that has been replicated by Petty and Jarvis (1997). Osberg (1987) speculated that it may be the case that people who think more thoroughly about their world feel more mastery over it and therefore exhibit greater confidence and higher self-esteem. Need for cognition has also been shown to be negatively correlated with various measures of negative affect (Dornic, Ekehammer, & Laaksonen, 1991; Olson, Camp, & Fuller, 1984; Osberg, 1987). Osberg (1987) found a negative correlation between need for cognition and social anxiety, which indicates that people high in need for cognition experience less anxiety in social situations. Olson and colleagues (1984) administered the Need for Cognition Scale and the State-Trait Personality Inventory to undergraduates, and found moderate but significant negative correlations between need for cognition and both state and trait anxiety. Dornic and colleagues (1991), in a study of university students in Sweden, found a negative correlation between the tolerance for mental effort and neuroticism. Taken together, these findings indicate that an inclination to engage in effortful cognitive activities is associated with specific components of psychological well-being.

Research on cognitive motivation also indicates that need for cognition is positively correlated with openness to experience (Berzonsky & Sullivan, 1992), a measure that is conceptually related to the construct of thoughtfulness. Openness to experience (Costa & McCrae, 1985) has been defined as a tendency to be independent, attentive to inner and outer worlds, and intellectually curious about novel ideas and unconventional values (Costa & McCrae, 1985). People high on openness are complex, nonconforming, and have an individualized understanding of the world (McCrae & Costa, 1980). In contrast, people low on openness have been described as rigid and conventional (McCrae & Costa, 1980). The question has been raised about whether openness is distinct from general intellectual ability. However, although openness is moderately correlated with intelligence, McCrae and Costa (1985) have demonstrated that intelligence and openness represent different dimensions of human functioning.

Research on openness to experience indicates that openness to experience is positively correlated with specific components of well-being, including self-confidence, cognitive maturity, and ego-resiliency (Sanchez, 1993). Additionally, Costa and McCrae (1992) have shown that openness to experience is positively correlated with positive affect, adaptive coping defenses, and autonomy.

In summary, philosophers and classical personality theorists have often speculated that thoughtfulness is associated with positive benefits in psychological well-being. Research seems to suggest that certain aspects of thoughtfulness, such mindfulness, need for cognition, and openness to experience, are indeed correlated with specific components of psychological well-being. Now let's take a closer look at how

psychological well-being has been characterized in the literature of philosophy and classical personality theory.

Psychological Well-Being

Over 2300 years ago, Aristotle (1953) observed that psychological well-being, or *eudaimonia*, is the goal toward which all human activity is directed. There is no consensus, however, about what constitutes well-being. As the lack of consensus on the nature of well-being suggests, psychological theory and research indicates that well-being is complex, including roughly three distinct categories: positive affect, or hedonic well-being (Wilson, 1967; Bradburn, 1969; Diener & Emmons, 1984); fulfillment in relationships (Allport, 1961; Rogers, 1959; Maslow, 1970); and fulfillment of human potential in personal endeavors, or eudaimonic well-being (Allport, 1961; Rogers, 1959; Maslow, 1970).

The first major component of well-being is positive affect, which has been cited by many theorists as essential to the experience of well-being (Wilson, 1967; Bradburn, 1969; Diener & Emmons, 1984). This idea has its origin in the philosophical tradition of hedonism. Basically, hedonistic theory states that one cannot be well without feeling good, and that an individual is well only in so far as he or she experiences more positive affect than negative affect. Hedonic well-being includes the smiling, laughing, and joyful experiences that most people typically bring to mind when they think of happiness. Theory and research on hedonic well-being has focused primarily on happiness, examining the relationship between sociodemographic variables (e.g. education and socioeconomic status) and self-reported happiness or satisfaction with life (Bradburn, 1969; Diener & Emmons, 1984; Stock, Okun, & Benin, 1986). This approach to well-

being has its origin in the work of Wilson (1967) and Bradburn (1969), who argued that well-being is essentially a hedonic balance between the experience of positive affect and negative affect. Wilson (1967) reviewed all of the available literature on happiness and concluded that the happy person is a "young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence" (p. 294). Wilson's description of the happy person, however, was based on only the limited amount of empirical research available at the time of his review. In the 35 years since the appearance of Wilson's article, there has been a substantial amount of empirical research into the correlates of self-reported happiness. Recently Diener (1999) reviewed this literature and concluded that the happy person is optimistic, capable of coping effectively with life stressors, and endowed with a genetically predisposed positive temperament. He further described the happy person as someone who lives in a wealthy nation, has social support, and has the resources to pursue his or her goals. Diener (1997) has noted that happiness is only a component of the experience of general psychological well-being. In itself, it is not a sufficient definition of psychological well-being.

The second major component of well-being is fulfillment in personal relationships. Positive relations with friends and family provide one with the relatedness, support, security, and intimacy necessary to the experience of psychological well-being. Aristotle (1953) recognized this when, in the *Nicomachean Ethics*, he devoted a substantial amount of space to the importance of friendship. Allport (1961) held that the mature person is able to form intimate and compassionate relationships with others. Rogers (1959) suggested that the "fully functioning" individual feels liked by others, and

is capable of caring deeply for friends and family. This ability is necessary in order to satisfy one's basic need for positive regard. Maslow (1970) believed that the "self-actualizing" person is able to form deep and intimate relationships with friends and family. One should not, however, be indiscriminate in his or her formation of friendships. It is the quality of relationships, and not the quantity that is important, and thus, an individual should work to form a core group of a only few close, intimate friends. Otherwise, one's capacity for intimacy is spread thin across too many relations. In order to establish true intimacy, one must be able to focus his or her attention on a few people. Only then can he or she really have the time and energy to get past the superficial small talk of the initial stages of a relationship and delve into the deepest, most essential parts of one's friends that can only be known through intimate self-disclosure (Jourard, 1964). And it is only when one establishes deeper relationships that are characterized by intimate self-disclosure that relationships can provide opportunities for real personal growth, which is widely considered to be an essential component of well-being. The relationship between intimate relationships and personal growth has been discussed in the work of some neo-Piagetian theorists, such as Labouvie-Vief (1990) and Sinnott (1998), who have suggested that mature thought and authentic personhood can develop only through exposure to multiple perspectives via social interaction with people who hold viewpoints on life that differ from one's own. It is not enough, however, to be exposed to multiple perspectives. Rather, one must be able to coexist with people who hold alternative viewpoints and co-create a reality with them that is mindful and respectful of the opinions held by the various participants. This is not likely in superficial relationships where the participants often refrain from delving past the surface similarities that initially

attracted them to one another. Thus, meaningful relationships are an important component of well-being. They provide a person with warmth, support, and security, while also contributing to the person's personal growth.

Personal growth, along with autonomy and competence, are essential aspects of the third major component of well-being, fulfillment of human potential in personal endeavors. This component of well-being has sometimes been referred to as eudaimonic well-being (Ryan & Deci, 2001; Ryff, 1989) because it is conceptually similar to what Aristotle meant by *eudaimonia.* It is important to note here that the term *eudaimonia* has often been falsely translated as meaning happiness or hedonism (Waterman, 1984). This translation of the term does not accurately reflect what Aristotle meant to convey. In his theory of eudaimonic well-being, Aristotle was less concerned with the affective, or hedonic, components of well-being and more concerned with the successful fulfillment of human potential in personal endeavors (Ryan & Deci, 2001; Ryff, 1989). This type of well-being is distinct from hedonic well-being, or happiness, which is primarily affective (Keyes, Shmotkin, & Ryff, 2002). Thus, an individual can attain eudaimonic well-being, independently of hedonic well-being, which means that a person can attain this form of well-being even without experiencing more positive affect than negative affect. As Seligman (2002) has recently noted, prominent historical figures such as Abraham Lincoln and Winston Churchill led what many would consider to be good and meaningful lives even despite their depressive tendencies. Hence, although someone may have a limited capacity to experience the positive affect of hedonic happiness by biological or environmental circumstances, they may still be able to commit themselves to activities that provide a sense of meaning, satisfaction, and accomplishment. It is this type of well-

being that philosophers and classical personality theorists have typically emphasized as the most important component of authentic well-being.

As mentioned above, theory and research on eudaimonic well-being has focused less on the affective, or hedonic, components of well-being and more on the successful fulfillment of human potential in personal endeavors and relationships with others (Ryan & Deci, 2001; Ryff, 1989). This component of well-being is well represented in the literature of classical personality theory. Allport (1961), for instance, thought that all people are motivated by an inner need to actualize their potential. Rogers (1959) endorsed a similar idea in the two basic postulates of his client-centered theory. The first of these postulates is the formative tendency, which states that people have an innate need to advance from simpler to higher and more complex stages of being. The second postulate, the actualizing tendency, states that all people have an innate need to develop one's potential. Included in these postulates is the need to become increasingly self-determined, independent, and autonomous. If one is to achieve higher levels of well-being, one must develop the strength and ability to act on one's own personal needs, drives, and motivations, rather than the needs and mandates of external forces. Perhaps the most well-known advocate of the idea that people have an inborn drive to grow through personal endeavors is Maslow (1970), who claimed that self-actualization is the highest level of well-being. The self-actualized person works to satisfy the need to develop his or her potential talents and abilities. As one does so, one is able to become more and more self-determining, which is important to one's sense of worth and self-efficacy. These theories show how essential personal growth and autonomy are to the experience of well-being.

Eudaimonic well-being has only recently begun to receive much attention from researchers. The increased attention is due primarily to one of the major developments in the study of psychological well-being: the move toward a more theoretically grounded definition of psychological well-being. Researchers have frequently focused on the affective component of well-being (Wilson, 1967; Bradburn, 1969; Diener & Emmons, 1984), while neglecting the other components of well-being cited in the literature of classical personality theorists, who also emphasized components of well-being such as personal growth and purpose in life (Ryff, 1989). Ryff has argued that the neglect of these additional components of well-being is largely attributable to the fact that much of the research has lacked a theoretical grounding. It is now widely accepted that researchers need to formulate and test theories of psychological well-being that describe its components and explain how it is cultivated and maintained. Ryff's (1989) model of psychological well-being is one of the major perspectives that has been applied in this area. Citing the need for theoretical guidance in the study of well-being, Ryff has identified six key aspects of well-being derived from the literature on well-being and positive psychological functioning: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. It is thought that some combination of these attributes is necessary to the experience of psychological well-being. These aspects of well-being have been operationally defined and included as subscales of the Psychological Well-Being Scale.

Current Study

The previous research discussed earlier suggests that thoughtfulness is indeed associated with specific components of psychological well-being. Specifically, measures

of thoughtfulness have been associated with increased levels of positive affect (Brown & Ryan, 2003; Langer, 1989; Osberg, 1987; Sanchez, 1993) and reduced levels of negative affect (Brown & Ryan, 2003; Olson, Camp, & Fuller, 1984). However, whereas this research has examined the relation between measures of thoughtfulness and specific components of psychological well-being, no research has directly examined the relation between thoughtfulness and general psychological well-being. Thus, the purpose of this current study was to examine the relation between thoughtfulness and general psychological well-being.

Thoughtfulness was operationally defined by participants' scores on the Langer Mindfulness Scale (Langer, 2002), the Need for Cognition Scale (Cacioppo & Petty, 1982), and the Openness to Experience Scale of the Revised NEO Personality Inventory (Costa & McCrae, 1992). The use of each of these measures is justified by their conceptual affinity with the definition of thoughtfulness that has emerged in the philosophical and classical personality literature. Specifically, the Langer Mindfulness Scale taps participants' openness to new information and multiple perspectives, and their willingness to create new cognitive categories in response to new information. The Need for Cognition Scale measures participants' inclination to engage in and enjoy effortful cognitive activities, such as reading, critical thinking, and other forms of information seeking. Finally, the Openness to Experience Scale taps participants' attentiveness to inner and outer worlds, and intellectual curiosity about novel ideas and unconventional values.

Psychological well-being was operationally defined by participants' scores on the Psychological Well-Being Scale (Ryff, 1989). The use of this measure is justified by

its operational definition of psychological well-being, which includes many of the components of well-being that have been cited in preceding personality theories (Rogers, 1951; Maslow, 1970) as essential to any thorough and comprehensive definition of psychological well-being. These components are the subscales Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-Acceptance, each of which has been cited in theoretical models as an important component of psychological well-being. The Autonomy subscale measures participants' levels of self-determination, independence, and self-regulation. The Environmental Mastery subscale measures participants' ability to select or create environments that are suitable to their needs, knowledge, and abilities. The Personal Growth subscale measures the degree to which participants are able to develop and actualize their potential to grow and expand. The Positive Relations with Others subscale measures participants success at forming harmonious relationships with significant others. The Purpose in Life subscale measures the degree to which participants believe that their lives possess meaning. Finally, the Self-Acceptance subscale measures the degree to which participants hold positive attitudes toward themselves.

The first hypothesis tested in the present study was that each of the thoughtfulness variables (mindfulness, need for cognition, and openness to experience) would correlate significantly with the other two variables. This hypothesis has been supported by the research discussed earlier, which indicates that mindfulness is positively correlated with need for cognition and openness to experience (Bodner, 2001), and that need for cognition is positively correlated with openness to experience (Berzonsky & Sullivan, 1992).

The second hypothesis was that each of the thoughtfulness variables (mindfulness, need for cognition, and openness to experience) would correlate significantly with general psychological well-being. This hypothesis has been supported by the research discussed earlier, which indicates that each of these variables is associated with measures of affective components of psychological well-being (Langer, 2002; Osberg, 1987; Sanchez, 1993). It is important to note that of the two types of mindfulness discussed above (Brown & Ryan, 2003; Langer, 1989, 1997), it is the type described by Langer that is of interest in the current study. This form of mindfulness involves both the heightened attention and awareness emphasized by Brown and Ryan (2003) and the active cognitive operations performed on the contents of one's awareness emphasized by Langer (1989, 1997).

An exploratory analysis was performed to examine the question of whether each of the living thoughtfully variables accounts for significant variance in psychological well-being independently of the other variables. This analysis was performed in order to determine whether each of the different aspects of thoughtfulness contributes uniquely to the experience of psychological well-being.

Because each of the living thoughtfully variables has been shown to be related to general intellectual ability (Bodner, 2002; Cacioppo, Petty, Kao, & Rodriquez, 1986; Costa & McCrae, 1985), participants were asked to provide their scores on the SATs (Verbal and Quantitative), and those scores were used as a proxy for intellectual ability as a control variable. Participants' SAT scores were entered into each of the analyses to test the hypothesis that each of the predictor variables is related to psychological well-being independently of general intellectual ability.

An additional interest of this study was to assess the norms, internal consistency, and criterion-related validity of the Langer Mindfulness Scale (2002), which have yet to be firmly established. Recent research by Bodner (2002) suggests that the measure has an acceptable level of internal consistency and criterion-related validity.

Method

Materials

Materials included a cover sheet and five questionnaires: (1) the Langer Mindfulness Scale (Langer, 2002), (2) the Need for Cognition Scale (Cacioppo & Petty, 1982), (3) the Openness to Experience Scale (Costa & McCrae, 1992), (4) the Psychological Well-Being Scale (Ryff, 1989), and (5) the Impression Management Scale (Paulhus, 1984).

Cover Sheet. A cover sheet asked participants to provide the following information: Gender, Date of Birth, Year in School, and SAT scores (Verbal and Quantitative). The SAT scores were used as a proxy for the control variable, general intellectual ability.

Mindfulness. The 21-item Langer Mindfulness Scale (Langer, 2002) was used to measure participants' level of mindful information processing. This measure consists of four subscales: Novelty-Producing, Novelty-Seeking, Flexibility, and Engagement. This measure consists of 21 items rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Half of the items were reverse-scored. Possible scores on this measure range from 21 to 147. This measure is relatively new, and thus, the internal consistency and criterion-related validity of the measure have yet to be firmly established. Bodner (2001) has provided normative data from six studies that have used

the Langer Mindfulness Scale. In five of the six studies, the participants were undergraduate students from Harvard University. Mean Langer Mindfulness Scale scores ranged from 108.2 to 114.7 and the standard deviations ranged from 12.0 to 16.4. The sixth study was based on a community sample of 200 participants. The mean Langer Mindfulness Scale score in that study was 102.8 (*SD* = 15.5). This last set of findings best represent what one can expect to find in a non-student sample.

Need for Cognition. The 18-item Need for Cognition Scale (Cacioppo & Petty, 1982) was used to assess participants' motivation to engage in and enjoy effortful cognitive activities. This measure consists of 18 items rated on a 7-point scale ranging from -7 (*strongly disagree*) to 7 (*strongly agree*). Half of the items were reverse-scored. Possible scores on this measure range from -72 to 72. This scale has an internal consistency alpha coefficient of .90, and good convergent and discriminant validity (Cacioppo, Petty, & Kao, 1984). In a study of 1,218 college students, Sadowski (1993) reported that this measure has a normative mean of 15.28 (*SD* = 21.46).

Openness to Experience. The 48-item Openness to Experience Scale of the NEO-PI-R (Costa & McCrae, 1992) was used to measure participants' level of openness to rich, varied, and novel experiences. This measure consists of 48 items rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Half of the items were reverse-scored. Possible scores on this measure range from 48 to 240. This measure consists of six 8-item subscales: Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values. The internal consistency alpha coefficients for each of these scales are as follows: Fantasy, .76; Aesthetics, .76; Feelings, .58; Ideas, .80; and Values, .67. Research also indicates that this scale has good convergent and discriminant validity (Costa & McCrae,

1992). In a study of 1,000 college students, Costa and McCrae (1992) reported that this measure has a normative mean of 110.6 (*SD* = 17.3). The following items are examples of the types of questions that are included in the measure: "I have a very active imagination", "I enjoy solving problems or puzzles", and " I have a lot of intellectual curiosity". Permission to use this measure was obtained from the Psychological Assessment Resources.

Psychological Well-Being. The 84-item Psychological Well-Being Scale (Ryff, 1989) was used to measure participants' level of psychological well-being. This measure consists of six 14-item subscales: Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-Acceptance. This measure consists of 84 items rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Half of the items were reverse-scored. Possible scores on this measure range from 84 to 504. The internal consistency alpha coefficients for each of these scales are as follows: Autonomy, .83; Environmental Mastery, .86; Personal Growth, .85; Positive Relations with Others, .88; Purpose in Life, .88; and Self-Acceptance, .91. Research also indicates that the overall scale has good convergent and discriminant validity (Ryff, 1989). The test-retest reliability coefficients for the scales over a 6-week period on a sample of 117 participants were as follow: Autonomy, .88; Environmental Mastery, .81; Personal Growth, .81; Positive Relations with Others, .83; Purpose in Life, .82; and Self-Acceptance, .85 (Ryff, 1989). In a study of 321 young adults, middle-aged adults, and older adults, Ryff (1989) found that this measure has a normative mean of 399.63 (*SD* = 45.44).

Impression Management. The 20-item Impression Management Scale (Paulhus, 1984) was administered to each participant to control for socially desirable responding. This measure consists of 20 items rated on a 7-point scale ranging from 1 (*not true*) to 7 (*true*). Responses between 1 and 5 are coded as "0" and responses between 6 and 7 are coded as "1". Half of the items were reverse-scored. Scores on this measure range from 0 to 20. The internal consistency alpha coefficients for this scale ranges from .75 to .86, and research also indicates that the scale has good convergent and discriminant validity (Paulhus, 1991). In a study of 433 college students, Paulhus (1988) reported normative means of 4.3 (SD = 3.1) and 4.9 (SD = 3.2) for men and women.

Participants

Participants were 96 undergraduate students (48 male and 48 female) from introductory psychology courses at the College of William and Mary. Of these participants, 69% (n = 66) were in their first year of college, 23% (n = 22) were in their second year, 7% (n = 7) were in their third year, and 1% (n = 1) were in their fourth year. Participants' ages ranged from 19 to 22 (M = 19.58, SD = .78). Students were awarded credit in a psychology course of their choice for their participation in this study.

Procedure

The questionnaires were administered in groups of 24 participants in sessions that lasted approximately one hour. In order to control for researcher gender effects, half of the participants were randomly assigned to a male researcher, and half of the participants were randomly assigned to a female researcher. To control for order effects, the Langer Mindfulness Scale, the Need for Cognition Scale, the Openness to Experience Scale, and the Psychological Well-Being Scale were all counterbalanced yielding a total

of 16 possible orders of presentation. Finally, the Impression Management Scale was always administered last.

All responses were completely anonymous. The informed consent forms were removed from the questionnaire packets immediately upon receipt. From that point on, participants were identified only by the identification numbers in the upper right hand corner of their questionnaire packets. Thus, there was no way to trace the responses back to the respondent.

Participants were debriefed once they completed the study. They were also given the option of requesting a copy of the results of the study.

Results

Table 1 includes the means, standard deviations, minimum values, and maximum values for the Psychological Well-Being Scale, the Langer Mindfulness Scale, the Need for Cognition Scale, the Openness to Experience Scale, the Impression Management Scale, and SAT scores. It is important to note that the means and standard deviations for each of the measures, except SAT scores, were similar to the normative means and standard deviations reported in prior research, which indicates that the current sample is similar to the samples used in previous studies.

Preliminary Analysis

Gender Interactions. The interaction between gender and each of the independent variables was tested in simultaneous multiple regression analyses with psychological well-being as the dependent variable. Gender and the variable of interest were entered together with the interaction term. Impression management and SAT scores were also entered as independent variables to control for socially desirable responding

and general intellectual ability. The results revealed no main effects for gender or significant interactions between gender and any of the variables of interest (all *p*s > .40). Thus, analyses were done with both men and women together.

Primary Analyses

To test the hypothesis that each of the thoughtfulness variables (mindfulness, need for cognition, and openness to experience) would correlate significantly with each other, zero-order coefficients were computed between these variables. The correlation coefficients are reported in Table 2. Results supported the hypothesis.

To test the hypothesis that each of the thoughtfulness variables (mindfulness, need for cognition, and openness to experience) would correlate significantly with psychological well-being, zero-order coefficients were computed between these variables. The correlation coefficients are reported in Table 2. Results supported the hypothesis.

Exploratory Analyses

An exploratory analysis was conducted to determine whether each of the thoughtfulness variables (mindfulness, need for cognition, and openness to experience) accounts for significant variance in psychological well-being independently of the other variables. Four separate simultaneous multiple regression analyses were performed with psychological well-being as the dependent variable. Impression management, SAT scores, and gender were included as independent variables in each analysis to control for socially desirable responding, general intellectual ability, and sex differences. The results of these analyses are reported in Table 3. Only mindfulness accounted for significant variance in psychological well-being independently of the other two living thoughtfully

variables. Need for cognition accounted for significant variance independently of openness to experience. However, when mindfulness was entered into the model, need for cognition no longer accounted for significant variance in psychological well-being. Openness to experience did not account for significant variance in psychological well-being.

Given the strong correlations between the measures of thoughtfulness and psychological well-being, a second exploratory analysis was conducted to determine the correlations between the measures of thoughtfulness (mindfulness, need for cognition, and openness to experience) and the subscales of the Psychological Well-Being Scale (Self-Acceptance, Autonomy, Purpose in Life, Personal Growth, Positive Relations with Others, and Environmental Mastery). Specifically, zero-order correlation coefficients were computed between these variables. The subscales of the Langer Mindfulness Scale (Novelty-Producing, Novelty-Seeking, Flexibility, and Engagement) were also included in this analysis.

Positive correlations emerged between the Langer Mindfulness Scale (LMS) and all six subscales of the Psychological Well-Being Scale. Additionally, positive correlations emerged between the Novelty-Producing and Engagement subscales of the LMS and all six subscales of the Psychological Well-Being Scale. The Novelty-Seeking subscale of the LMS correlated significantly with the following subscales of the Psychological Well-Being Scale: Autonomy, Environmental Mastery, Personal Growth, Purpose in Life, and Self-Acceptance. The Flexibility subscale of the LMS correlated significantly with the following subscales of the Psychological Well-Being Scale: Positive Relations with Others, Autonomy, Personal Growth, and Self-Acceptance.

Positive correlations emerged between the Need for Cognition Scale and the following subscales of the Psychological Well-Being Scale: Autonomy, Environmental Mastery, Personal Growth, Purpose in Life, and Self-Acceptance. Positive correlations emerged between the Openness to Experience Scale and the following subscales of the Psychological Well-Being Scale: Autonomy, Environmental Mastery, Personal Growth, Purpose in Life, and Self-Acceptance. The correlation coefficients are reported in Table 4.

In order to further examine the relationship between mindfulness and psychological well-being, a third exploratory analysis was conducted to determine whether each of the subscales of the Langer Mindfulness Scale (Novelty-Producing, Novelty-Seeking, Flexibility, and Engagement) accounts for significant variance in the total scale and in the subscales of the Psychological Well-Being Scale (self-acceptance, autonomy, purpose in life, personal growth, positive relations with others, and environmental mastery). Seven separate simultaneous regression analyses were conducted, one for the total scale and every subscale of the Psychological Well-Being Scale. In each analysis, all four subscales of the Langer Mindfulness Scale were entered as independent variables with one of the subscales from the Psychological Well-Being Scale as the dependent variable. Gender, SAT scores, and Impression Management were included in each of the analyses as control variables. The results showed that only the Engagement subscale of the Langer Mindfulness Scale (LMS) accounted for significant variance in psychological well-being independently of the other three subscales.

Further analyses examined whether each of the four subscales of the LMS accounted for significant unique variance in each of the six subscales of the

Psychological Well-Being Scale. The findings indicated that only the Engagement subscale of the Langer Mindfulness Scale (LMS) accounted for significant unique variance in the following subscales of the Psychological Well-Being Scale: Self-Acceptance, Purpose in Life, Positive Relations with Others, and Environmental Mastery. The Novelty-Producing, Novelty-Seeking, and Engagement subscales of the LMS accounted for significant variance in the Personal Growth subscale of the Psychological Well-Being. Finally, the Novelty-Producing and the Novelty-Seeking subscales of the LMS accounted for significant variance in the Psychological Well-Being Scale. These findings suggest that different aspects of mindfulness are important to different aspects of psychological well-being. The results of these analyses are reported in Tables 5-11.

Given the substantial intercorrelations among the three living thoughtfully variables, it is possible that finding independent relations between the thoughtfulness variables and positive well-being was hindered by the problem of multicollinearity, since each of the variables should account for largely the same portion of the variance in psychological well-being. In order to determine whether multicollinearity was a problem, Variance Inflation Factors (VIF) were obtained for each variable in each analysis. The VIF provides an estimate of the extent to which multicollinearity has increased the variance of the estimated regression coefficient. Researchers have yet to settle on a general rule by which to determine whether a given VIF value is large enough to implicate multicollinearity as a serious problem. However, Montgomery and Peck (1982) have suggested that VIF values between 4 and 10 indicate that multicollinearity is a severe problem. All of the obtained VIF values were less than 4, which suggests that multicollinearity was not a severe problem in this study.

The Langer Mindfulness Scale (2002) was found to have a Cronbach's alpha of .90. Results also indicate that the scale is not significantly correlated with impression management (see Table 2).

Discussion

The aim of the current study was to examine the role of thoughtfulness in psychological well-being. Philosophers and classical personality theorists have long believed that thoughtfulness is conducive to psychological well-being, but there has been little research on this proposed relation. The purpose of the current study was to examine the relation between measures of thoughtfulness and psychological well-being. The results of the study, in general, support the hypothesis that thoughtfulness is associated with higher levels of psychological well-being.

The present findings showed that each of the measures of thoughtfulness – Langer Mindfulness Scale, Need for Cognition Scale, and Openness to Experience Scale – correlated positively with psychological well-being. These findings corroborate prior research, which also found that each measure of thoughtfulness was associated with measures of specific components of psychological well-being (Langer, 2002; Osberg, 1987; Sanchez, 1993).

The first exploratory analysis indicated that only mindfulness accounted for significant variance in psychological well-being independently of the other measures. These results suggest that the mindfulness scale explains the variance in psychological well-being explained by need for cognition and openness to experience plus significant additional variance. Thus, it would appear from the findings of this study that mindfulness – the inclination to seek new information, be aware of multiple perspectives,

and create new cognitive categories – is the most important aspect of thoughtfulness as a factor in the development and maintenance of psychological well-being. Need for cognition accounted for significant unique variance in psychological well-being independently of openness to experience, but only when mindfulness was left out of the model.

Additional exploratory analyses were conducted to examine the relationships between the different thoughtfulness variables and the six subscales of the Psychological Well-Being Scale (Self-Acceptance, Autonomy, Environmental Mastery, Purpose in Life, Personal Growth, and Positive Relations with Others). The results indicated that mindfulness correlated strongly with all six subscales. Need for cognition correlated with autonomy, environmental mastery, personal growth, purpose in life, and self-acceptance. Openness to experience correlated with autonomy, personal growth, purpose in life, and self-acceptance. These results suggest that thoughtfulness is most important to the autonomy, personal growth, purpose in life, and self-acceptance components of psychological well-being. The findings also suggest that, while need for cognition and openness to experience are important to some aspects of the psychological well-being, mindfulness is the most important aspect of thoughtfulness in the development and maintenance of psychological well-being.

Follow-up analyses suggest that different aspects of mindfulness are important to different aspects of psychological well-being. Specifically, the results showed that only the Engagement subscale of the Langer Mindfulness Scale accounted for significant variance in psychological well-being independently of the other three subscales. Further analyses indicated that only the Engagement subscale of the Langer Mindfulness Scale

(LMS) accounted for significant unique variance in the following subscales of the Psychological Well-Being Scale: Self-Acceptance, Purpose in Life, Positive Relations with Others, and Environmental Mastery. The Novelty-Producing, Novelty-Seeking, and Engagement subscales of the LMS accounted for significant variance in the Personal Growth subscale of the Psychological Well-Being. Finally, the Novelty-Producing and the Novelty-Seeking subscales of the LMS accounted for significant variance in the Autonomy subscale of the Psychological Well-Being Scale. Of the different aspects of mindfulness, Engagement seems to be the most important aspect in the development and maintenance of psychological well-being.

These findings have important implications for theory and research on psychological well-being. Little research has explicitly examined the role of thoughtfulness in the development and maintenance of psychological well-being, despite the fact that several classical personality theorists have included thoughtfulness as an important determining factor in their models of psychological well-being (Fromm, 1973; Loevinger, 1976; Rogers, 1951). The results of the current study provide evidence for the models of these personality theorists that include thoughtfulness as a factor that is conducive to the development and maintenance of well-being. In particular, strong positive correlations emerged between each of the measures of thoughtfulness (mindfulness, need for cognition, and openness to experience) and psychological well-being.

There is a substantial body of theory and empirical research available to help interpret this association. Langer (1989, 1997) has posited that increased mindfulness is essential to disengaging individuals from irrational thinking and unhealthy behaviors that

have negative consequences for their psychological well-being. Focusing one's awareness on such aspects of one's personality are important in making behavioral changes that enhance one's health and ability to effect desired outcomes. Furthermore, increased mindfulness is thought to lead to greater consistency between one's behavior and the values to which he or she adheres. In any given situation, a person who is more mindful of how his or her values apply to the current situation will be more likely to act in a way that reflects those values. And finally, mindful individuals may have more choices, and thereby, more autonomy. As Langer (1989) notes, "mindless" people are locked within a narrow mindset that prevents them from seeing the many different choices available to them. They have their way of going about things and avoid any effort to evaluate other options that may lead to more satisfying outcomes. Mindful individuals, on the other hand, are more likely to seek out the different options available to them and evaluate how those different options might better serve their quest for well-being. Thus, whereas mindless individuals are limited in the choices available to them as a result of their own efforts to avoid choices, mindful individuals have more choices as a result of their increased efforts to seek out choices.

Research on need for cognition (Cacioppo et al., 1982; 1984; 1986) has shown that individuals high in need for cognition are intrinsically motivated to expend the needed effort to acquire, think about, and reflect back on information in the effort to make sense of their experiences and manage a variety of predicaments. Individuals high in need for cognition even view cognitive effort as an enjoyable part of life, rather than a stressful annoyance that one must actively avoid (Cacioppo, Petty, Feinstein, and Jarvis, 1996). Thus, it would appear that individuals high in need for cognition are equipped

with both the ability and the motivation to face life's obstacles and overcome them. Individuals low in need for cognition, on the other hand, have been shown to be more likely to rely on others, cognitive shortcuts, or social comparison processes to help make sense of their experiences. In studies with undergraduate students, for instance, people low in need for cognition have been found to be more likely to ignore, distort, or avoid problems and self-relevant information in order to achieve cognitive structure (Berzonsky & Sullivan, 1992; Venkstraman, Martino, Kardes, & Sklar, 1990). These findings indicate that individuals low in need for cognition tend to suppress the problems that they encounter rather than work through them, try to figure out why they occurred, and seek potential resolutions, a tendency that may lead to uncertainty about the causes of their problems. Research by Weary and Edwards (1994) supports this claim. They found that individuals low in need for cognition were more likely to exhibit uncertainty regarding cause and effect relationships in their interactions with others. Cacioppo and colleagues (1996) have interpreted this finding to mean that individuals low in need for cognition are less likely to have worked through or formulated causal attributions about their experiences. These tendencies may have significant implications for one's psychological well-being, and indeed, individuals low in need for cognition have been found to score higher on measures of anxiety (Osberg, 1987) and neuroticism (Dornic, Ekehammar, & Laaksonen, 1991), and lower on measures of self-esteem (Osberg, 1987). Thus, the finding that thoughtfulness is associated with higher levels of psychological well-being may be attributable to the different ways in which individuals approach, address, and cope with life's challenges.

As in prior research, the present results also revealed significant positive relationships among each of the three measures of thoughtfulness used in the study. Specifically, positive correlations emerged between mindfulness and need for cognition, and mindfulness and openness to experience. These results corroborate prior research by Bodner (2001), who reported similar results in his study of individual differences in mindful information processing. A positive relationship also emerged between need for cognition and openness to experience. This finding corroborates prior research by Berzonsky and Sullivan (1992), who also found a significant relationship between need for cognition and openness to experience. These findings support the idea that each of these measures is tapping a similar construct that might be referred to as "thoughtfulness."

An additional interest of this study was to examine the psychometric properties of the Langer Mindfulness Scale (2002), which have yet to be firmly established. The results of the current study suggest that the Langer Mindfulness Scale possesses an acceptable level of internal consistency. The results also showed that the scale is not significantly correlated with impression management. Additionally, the study found significant relationships between the Langer Mindfulness Scale and two other theoretically related personality measures, need for cognition and openness to experience, which indicates that this measure has good criterion-related validity. These findings corroborate prior research by Bodner (2001), which also supported the internal consistency and criterion-related validity of the measure.

Limitations

The limitations of this study deserve attention. First, direction of causality cannot be determined from these results. The present author's hypothesis is that thoughtfulness contributes to the development and maintenance of psychological well-being. However, it may be the case that the attainment of psychological well-being initiates thoughtfulness. For example, the relation between thoughtfulness and psychological well-being may indicate that the attainment of well-being frees up cognitive resources that allow for a person to engage in thoughtful activities. It may also be the case that psychologically well individuals are more motivated to think about their experiences than are individuals who are not psychologically well because of the affect associated with these experiences. Specifically, thinking about their experiences may be more rewarding for psychologically well individuals because those experiences have been more positive. Similarly, it is possible that individuals who are not psychologically well have had more experiences that elicit negative affect when thought about, which then discourages thoughtfulness in the future. These questions still remain unanswered. Hence, future research should employ experimental designs to address these questions. For instance, a researcher could manipulate thoughtfulness by randomly assigning participants to two conditions; one in which participants would be required to engage in a daily self-examination activity, and one in which the participants would be required to engage in a less thoughtful activity (e.g. watching television). The autonomy subscale of the Psychological Well-Being Scale would be administered at the beginning and end of the study. The researcher could then test to see if the manipulation of thoughtfulness

leads to significant differences in participants' feelings of autonomy after a specified period of time.

Second, it is important to note that thoughtfulness is considered to be only one of several factors (e.g. sociodemographic factors) involved in the development of psychological well-being. Thus, further research is necessary to assess the relative importance of thoughtfulness in the development of psychological well-being.

Third, the results of this study require extension to a more diverse population before generalizations can be made. The participants in this study were college students from an elite university where thoughtfulness might contribute to higher grade point averages, which may be important to the psychological well-being experienced by students motivated to do well in school. Specifically, the association between thoughtfulness and psychological well-being may be limited to college students who receive rewards for exercising their capacity for thought. Students who have a more positive attitude toward tasks that require effortful cognitive activity are more likely to perform well in school, and thereby more likely to receive better grades and more praise from their parents and teachers for their good performance. This concern is supported by prior research that indicates that there is a modest but significant positive correlation between need for cognition and grade point average (Cacioppo & Petty, 1984; Petty & Jarvis, 1996). Therefore, future researchers should consider controlling for grade point average in order to determine whether thoughtfulness accounts for significant variance in the psychological well-being of college students independently of academic performance. Additionally, one would expect that students' scores on measures of thoughtfulness would be higher than scores of non-students, because students have made the decision to

pursue further education, an effortful cognitive activity. This concern is supported by prior research that indicates that there is a positive correlation between need for cognition and education level (Spotts, 1994). Hence, it will be important to include more people from the lower end of the thoughtfulness scale in future research.

Conclusion

Over 2300 years ago, Aristotle (1953) stated that well-being is the goal toward which all human activities are directed and emphasized the important role of thought in that quest. The findings of this study, in general, support his claim. Significant relations emerged between each of the living thoughtfully variables – mindfulness, need for cognition, and openness to experience – and psychological well-being. Only mindfulness accounted for significant variance in psychological well-being independently of the other two predictor variables. This finding suggests that mindfulness is the most important aspect of thoughtfulness as a factor in the development and maintenance of psychological well-being. Also, the Langer Mindfulness Scale showed acceptable internal consistency and criterion-related validity.

Appendix A

PERSONAL OUTLOOK SCALE

Instructions: Below are a number of statements that refer to your personal outlook. Please rate the extent to which you agree with each of these statements. If you are confused by the wording of an item, have no opinion, or neither agree nor disagree, use the "4" or "NEUTRAL" rating. Thank you for your assistance.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

	Disagree						Agree
Novelty-Producing Subscale							
2. I generate few novel ideas.	1	2	3	4	5	6	7
6. I make many novel contributions.	1	2	3	4	5	6	7
10. I am very creative.	1	2	3	4	5	6	7
14. I try to think of new ways of doing things.	1	2	3	4	5	6	7
18. I find it easy to create new and effective ideas.	1	2	3	4	5	6	7
21. I am not an original thinker.	1	2	3	4	5	6	7
Novelty-Seeking Subscale							
1. I like to investigate things.	1	2	3	4	5	6	7
5. I do not actively seek to learn new things.	1	2	3	4	5	6	7
9. I avoid thought provoking conversations.	1	2	3	4	5	6	7
13. I am very curious.	1	2	3	4	5	6	7
17. I like being challenged intellectually.	1	2	3	4	5	6	7
20. I like to figure out how things work.	1	2	3	4	5	6	7
Flexibility Subscale							
3. I am always open to new ways of doing things.	1	2	3	4	5	6	7
7. I stay with the old tried and true ways of doing things.	1	2	3	4	5	6	7
11. I can behave in many different ways for a given situation.	1	2	3	4	5	6	7
16. I have an open-mind about everything, even things that challenge my core beliefs.	1	2	3	4	5	6	7

Engagement Subscale

4. I "get involved" in almost everything I do.	1	2	3	4	5	6	7
8. I seldom notice what other people are up to.	1	2	3	4	5	6	7
12. I attend to the "big picture."	1	2	3	4	5	6	7
15. I am rarely aware of changes.	1	2	3	4	5	6	7
19. I am rarely alert to new developments.	1	2	3	4	5	6	7

Appendix B

NEED FOR COGNITION SCALE

Indicate your degree of agreement or disagreement with each of the statements listed below using the following scale:

-4 = VERY STRONG DISAGREEMENT
-3 = STRONG DISAGREEMENT
-2 = MODERATE DISAGREEMENT
-1 = SLIGHT DISAGREEMENT
4 = VERY STRONG AGREEMENT
3 = STRONG AGREEMENT
2 = MODERATE AGREEMENT
1 = SLIGHT AGREEMENT
0 = NEITHER AGREEMENT OR DISAGREEMENT

1. I would prefer complex to simple tasks.

-4 -3 -2 -1 0 1 2 3 4

2. I like to have the responsibility of handling a task that requires a lot of thinking.

-4 -3 -2 -1 0 1 2 3 4

3. Thinking is not my idea of fun.

-4 -3 -2 -1 0 1 2 3 4

4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

-4 -3 -2 -1 0 1 2 3 4

5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.

-4 -3 -2 -1 0 1 2 3 4

6. I find satisfaction in deliberating hard and for long hours.

-4 -3 -2 -1 0 1 2 3 4

7. I only think as hard as I have to.

-4 -3 -2 -1 0 1 2 3 4

8. I prefer to think about small, daily projects to long-term ones.

-4 -3 -2 -1 0 1 2 3 4

9. I like tasks that require little thought once I've learned them.

-4 -3 -2 -1 0 1 2 3 4

10. The idea of relying on thought to make my way to the top appeals to me.

-4 -3 -2 -1 0 1 2 3 4

11. I really enjoy a task that involves coming up with new solutions to problems.

-4 -3 -2 -1 0 1 2 3 4

12. Learning new ways to think doesn't excite me much.

-4 -3 -2 -1 0 1 2 3 4

13. I prefer my life to be filled with puzzles I must solve.

-4 -3 -2 -1 0 1 2 3 4

14. The notion of thinking abstractly is appealing to me.

-4 -3 -2 -1 0 1 2 3 4

15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

-4 -3 -2 -1 0 1 2 3 4

16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

-4 -3 -2 -1 0 1 2 3 4

17. It's enough for me that something gets the job done; I don't care how or why it works.

-4 -3 -2 -1 0 1 2 3 4

18. I usually end up deliberating about issues even when they do not affect me personally.

-4 -3 -2 -1 0 1 2 3 4

Appendix C

THE PSYCHOLOGICAL WELL-BEING SCALE

The following set of questions deals with how you feel about yourself and your life. Please remember that there are no right or wrong answers.

1	2	3	4	5	6
Strongly Disagree	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Strongly Agree

Circle the number that best describes your present agreement or disagreement with each statement	Disagree					Agree
Positive Relations with Others Subscale						
1. Most people see me as loving and affectionate.	1	2	3	4	5	6
7. Maintaining close relationships has been difficult and frustrating for me.	1	2	3	4	5	6
13. I often feel lonely because I have few close friends with whom to share my concerns.	1	2	3	4	5	6
19. I enjoy personal and mutual conversations with family members and friends.	1	2	3	4	5	6
25. It is important to me to be a good listener when close friends talk to me about their problems.	1	2	3	4	5	6
31. I don't have many people who want to listen when I need to talk.	1	2	3	4	5	6
37. I feel like I get a lot out of my friendships.	1	2	3	4	5	6
43. It seems to me that most other people have more friends that I do.	1	2	3	4	5	6
49. People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6
55. I have not experienced many warm and trusting relationships with others.	1	2	3	4	5	6
61. I often feel as if I'm on the outside looking in when it comes to friendships.	1	2	3	4	5	6
67. I know that I can trust my friends, and they know that they can trust me.	1	2	3	4	5	6
73. I find it difficult to really open up when I talk with others.	1	2	3	4	5	6
79. My friends and I sympathize with each other's problems.	1	2	3	4	5	6

Autonomy Subscale

2. Sometimes I change the way I act or think to be more like those around me.	1	2	3	4	5	6
8. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.	1	2	3	4	5	6
14. My decisions are not usually influenced by what everyone else is doing.	1	2	3	4	5	6
20. I tend to worry about what other people think of me.	1	2	3	4	5	6
26. Being happy with myself is more important to me than having others approve of me.	1	2	3	4	5	6
32. I tend to be influenced by people with strong opinions.	1	2	3	4	5	6
38. People rarely talk me into doing things I don't want to do.	1	2	3	4	5	6
44. It is more important to me to "fit in" with others than to stand alone on my principles.	1	2	3	4	5	6
50. I have confidence in my opinions, even if they are contrary to the general consensus.	1	2	3	4	5	6
56. It's difficult for me to voice my own opinions on controversial matters.	1	2	3	4	5	6
62. I often change my mind about decisions if my friends or family disagree.	1	2	3	4	5	6
68. I am not the kind of person who gives in to social pressures to think or act in certain ways.	1	2	3	4	5	6
74. I am concerned about how other people evaluate the choices I have made in life.	1	2	3	4	5	6
80. I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6

Environmental Mastery Subscale

3. In general, I feel I am in charge of the situation in which I live.	1	2	3	4	5	6
9. The demands of everyday life often get me down.	1	2	3	4	5	6
15. I do not fit very well with the people and the community around me.	1	2	3	4	5	6
21. I am quite good at managing the many responsibilities of my daily life.	1	2	3	4	5	6
27. I often feel overwhelmed by my responsibilities.	1	2	3	4	5	6
33. If I were unhappy with my living situation, I would take effective steps to change it.	1	2	3	4	5	6
39. I generally do a good job of taking care of my personal finances and affairs.	1	2	3	4	5	6
	1	2	3	4	5	6

45. I find it stressful that I can't keep up with all of the things I have to do each day.						
51. I am good at juggling my time so that I can fit everything in that needs to be done.	1	2	3	4	5	6
57. My daily life is busy, but I derive a sense of satisfaction from keeping up with everything.	1	2	3	4	5	6
63. I get frustrated when trying to plan my daily activities because I never accomplish the things I set out to do.	1	2	3	4	5	6
69. My efforts to find the kinds of activities and relationships that I need have been quite successful.	1	2	3	4	5	6
75. I have difficulty arranging my life in a way that is satisfying to me.	1	2	3	4	5	6
81. I have been able to build a home and a lifestyle for myself that is much to my liking.	1	2	3	4	5	6

Personal Growth Subscale

4. I am not interested in activities that will expand my horizons.	1	2	3	4	5	6
10. In general, I feel that I continue to learn more about myself as time goes by.	1	2	3	4	5	6
16. I am the kind of person who likes to give new things a try.	1	2	3	4	5	6
22. I don't want to try new ways of doing things – my life is fine the way it is.	1	2	3	4	5	6
28. I think it is important to have new experiences that challenge how you think about yourself and the world.	1	2	3	4	5	6
34. When I think about it, I haven't really improved much as a person over the years.	1	2	3	4	5	6
40. In my view, people of every age are able to continue growing and developing.	1	2	3	4	5	6
46. With time, I have gained a lot of insight about life that has made me a stronger, more capable person.	1	2	3	4	5	6
52. I have a sense that I have developed a lot as a person over time.	1	2	3	4	5	6
58. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	1	2	3	4	5	6
64. For me, life has been a continuous process of learning, changing, and growth.	1	2	3	4	5	6
70. I enjoy seeing how my views have changed and matured over the years.	1	2	3	4	5	6

76. I gave up trying to make big improvements or changes in my life a long time ago.	1	2	3	4	5	6
82. There is truth to the saying that you can't teach an old dog new tricks.	1	2	3	4	5	6

Purpose in Life Subscale

5. I feel good when I think of what I've done in the past and what I hope to do in the future.	1	2	3	4	5	6
11. I live life one day at a time and don't really think about the future.	1	2	3	4	5	6
17. I tend to focus on the present, because the future nearly always brings me down.	1	2	3	4	5	6
23. I have a sense of direction and purpose in life.	1	2	3	4	5	6
29. My daily activities often seem trivial and unimportant to me.	1	2	3	4	5	6
35. I don't have a good sense of what it is I'm trying to accomplish in life.	1	2	3	4	5	6
41. I used to set goals for myself, but that now seems like a waste of time.	1	2	3	4	5	6
47. I enjoy making plans for the future and working to make them a reality.	1	2	3	4	5	6
53. I am an active person in carrying out the plans I set for myself.	1	2	3	4	5	6
59. Some people wander aimlessly through life, but I am not one of them.	1	2	3	4	5	6
65. I sometimes feel as if I've done all there is to do in life.	1	2	3	4	5	6
71. My aims in life have been more a source of satisfaction than frustration to me.	1	2	3	4	5	6
77. I find it satisfying to think about what I have accomplished in life.	1	2	3	4	5	6
83. In the final analysis, I'm not so sure that my life adds up to much.	1	2	3	4	5	6

Self-Acceptance Subscale

6. When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6
12. In general, I feel confident and positive about myself.	1	2	3	4	5	6
18. I feel like many of the people I know have gotten more out of life than I have.	1	2	3	4	5	6
24. Given the opportunity, there are many things about myself that I would change.	1	2	3	4	5	6
30. I like most aspects of my personality.	1	2	3	4	5	6

36. I made some mistakes in the past, but I feel that all in all everything has worked out for the best.	1	2	3	4	5	6
42. In many ways, I feel disappointed about my achievements in life.	1	2	3	4	5	6
48. For the most part, I am proud of who I am and the life I lead.	1	2	3	4	5	6
54. I envy many people for the lives they lead.	1	2	3	4	5	6
60. My attitude about myself is probably not as positive as most people feel about themselves.	1	2	3	4	5	6
66. Many days I wake up feeling discouraged about how I have lived my life.	1	2	3	4	5	6
72. The past had its ups and downs, but in general, I wouldn't want to change it.	1	2	3	4	5	6
78. When I compare myself to friends and acquaintances, it makes me feel good about who I am.	1	2	3	4	5	6
84. Everyone has their weaknesses, but I seem to have more than my share.	1	2	3	4	5	6

Appendix D

THE IMPRESSION MANAGEMENT SCALE

Instructions: Using the scale below as a guide, circle a number for each statement.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

	Disagree						Agree
1. I sometimes tell lies if I have to.	1	2	3	4	5	6	7
2. I never cover up my mistakes.	1	2	3	4	5	6	7
3. There have been occasions when I have taken advantage of someone.	1	2	3	4	5	6	7
4. I never swear.	1	2	3	4	5	6	7
5. I sometimes try to get even rather than forgive and forget.	1	2	3	4	5	6	7
6. I always obey laws, even if I'm unlikely to get caught.	1	2	3	4	5	6	7
7. I have said something bad about a friend behind his/her back.	1	2	3	4	5	6	7
8. When I hear people talking privately, I avoid listening.	1	2	3	4	5	6	7
9. I have received too much change from a salesperson without telling him or her.	1	2	3	4	5	6	7
10. I always declare everything at customs.	1	2	3	4	5	6	7
11. When I was young I sometimes stole things.	1	2	3	4	5	6	7
12. I have never dropped litter on the street.	1	2	3	4	5	6	7
13. I sometimes drive faster than the speed limit.	1	2	3	4	5	6	7
14. I never read sexy books or magazines.	1	2	3	4	5	6	7
15. I have done things that I don't tell other people about.	1	2	3	4	5	6	7
16. I never take things that don't belong to me.	1	2	3	4	5	6	7
17. I have taken a sick-leave from work or school even though I wasn't really sick.	1	2	3	4	5	6	7
18. I have never damaged a library book or store merchandise without reporting it.	1	2	3	4	5	6	7
19. I have some pretty impure habits.	1	2	3	4	5	6	7
20. I don't gossip about other people's business.	1	2	3	4	5	6	7

Table 1

Means, Standard Deviations, Minimum Values, and Maximum Values for the Psychological Well-Being Scale, the Mindfulness Scale, the Need for Cognition Scale, the Openness to Experience Scale, the Impression Management Scale, and SAT scores (N=96)

Variable	*M*	*SD*	Minimum	Maximum
Psychological Well-Being	385.86	44.61	277.0	474.0
Mindfulness	104.39	15.04	63.0	137.0
Need for Cognition	22.05	21.98	-31.0	64.0
Openness to Experience	110.94	15.81	68.0	136.0
Impression Management	5.66	3.33	.00	14.0
SAT	1312.19	115.56	960	1550

Note. SAT = Scholastic Aptitude Test.

Table 2

Zero-order Intercorrelations among the Variables of Interest (Psychological Well-Being, Mindfulness, Need for Cognition, and Openness to Experience) and the Control Variables (SAT scores, Impression Management, and Gender) (N = 96)

Variable	1	2	3	4	5	6	7
1. PWB		.61**	.46**	.32**	-.11	.13	-.11
2. LMS			.63**	.61**	-.15	.12	-.10
3. NFC				.37**	.12	.14	-.04
4. OTE					-.16	.14	-.09
5. SAT						-.03	.18
6. IM							-.03
7. Gender							-

Note. PWB = Psychological Well-Being Scale; LMS = Langer Mindfulness Scale; NFC = Need for Cognition Scale; OTE = Openness to Experience Scale; IM = Impression Management; SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 3

Summary of Simultaneous Multiple Regression Analyses for Thoughtfulness Variables Predicting Psychological Well-Being (N = 96)

Variable	β	*pr*	*sr*
Mindfulness	.51**	.43**	.36**
Need for Cognition	.14	.12	.10
SAT	-.03	-.03	-.03
Impression Management	.04	.05	.04
Gender	-.15	-.15	-.14
Mindfulness	.66**	.56**	.52**
Openness to Experience	-.11	-.11	-.08
SAT	.01	.01	.01
Impression Management	.07	.08	.06
Gender	-.15	-.19	-.15

(*table continues*)

Note. SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 3 (continued)

Variable	β	*pr*	*sr*
Need for Cognition	.44**	.47**	.39**
Openness to Experience	.12	.12	.10
SAT	-.15	-.16	-.14
Impression Management	.03	.03	.03
Gender	-.15	-.16	-.15
Mindfulness	.57**	.42**	.36**
Need for Cognition	.13	.12	.09
Openness to Experience	-.10	-.10	-.08
SAT	-.04	-.04	-.03
Impression Management	.06	.07	.06
Gender	-.15	-.18	-.14

Note. SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 4

Zero-order correlations between the Thoughtfulness Variables and the Subscales of the Psychological Well-Being Scale (N = 96)

Variable	Subscales of the Psychological Well-Scale					
	SA	AU	PL	PG	EM	PR
Mindfulness	.46**	.52**	.44**	.78**	.39**	.31**
Novelty-Producing	.37**	.48**	.31**	.62**	.23*	.17
Novelty-Seeking	.34**	.54**	.31**	.71**	.24*	.19
Flexibility	.25*	.25*	.15	.55**	.14	.21*
Engagement	.48**	.30**	.59**	.55**	.61**	.45**
Need for Cognition	.34**	.48**	.33**	.62**	.25*	.17
Openness to Experience	.24*	.30**	.21*	.51**	.18	.11

Note. SA = Self-Acceptance; AU = Autonomy; PL = Purpose in Life; PG = Personal Growth; EM = Environmental Mastery; PR = Positive Relations with Others.

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

Table 5

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.21	.20	.15
Novelty-Seeking	.09	.09	.07
Flexibility	-.01	-.02	-.01
Engagement	.50**	.50**	.42**
SAT	.04	.05	.04
Impression Management	.04	.05	.04
Gender	-.12	-.16	-.12

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 6

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Self-Acceptance Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.21	.17	.15
Novelty-Seeking	-.01	-.01	-.01
Flexibility	.02	.01	.01
Engagement	.38**	.35**	.32**
SAT	.04	.05	.04
Impression Management	.09	.11	.09
Gender	-.05	-.06	-.05

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 7

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Autonomy Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscales	β	*pr*	*sr*
Novelty-Producing	.29*	.25*	.21*
Novelty-Seeking	.41**	.33**	.28**
Flexibility	-.12	-.12	-.10
Engagement	-.03	-.01	-.01
SAT	.02	.03	.02
Impression Management	.05	.06	.05
Gender	-.05	-.06	-.05

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

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

Table 8

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Purpose in Life Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.14	.13	.10
Novelty-Seeking	-.01	-.01	-.01
Flexibility	-.12	-.12	-.10
Engagement	.54**	.50**	.45**
SAT	-.08	-.10	-.08
Impression Management	.04	.05	.04
Gender	-.07	-.08	-.06

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 9

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Personal Growth Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.23*	.26*	.16*
Novelty-Seeking	.40**	.42**	.27**
Flexibility	.14	.18	.11
Engagement	.16*	.22*	.13*
SAT	-.07	-.11	-.06
Impression Management	.02	.03	.02
Gender	-.16	-.24	-.15

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

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

Table 10

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Environmental Mastery Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.06	.05	.04
Novelty-Seeking	-.12	-.11	-.08
Flexibility	-.05	-.05	-.04
Engagement	.68**	.58**	.56**
SAT	.11	.14	.11
Impression Management	.05	.06	.05
Gender	-.01	-.01	-.01

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

**$p < .01$.

Table 11

Summary of Simultaneous Multiple Regression Analysis for Subscales of the Langer Mindfulness Scale Predicting the Positive Relations with Others Subscale of the Psychological Well-Being Scale (N = 96)

LMS Subscale	β	*pr*	*sr*
Novelty-Producing	.04	.04	.03
Novelty-Seeking	-.14	-.11	-.09
Flexibility	.10	.10	.08
Engagement	.46**	.40**	.38**
SAT	.11	.13	.11
Impression Management	-.07	-.08	-.07
Gender	-.12	-.13	-.11

Note. LMS = Langer Mindfulness Scale; SAT = Scholastic Aptitude Test.

**$p < .01$.

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