

THE RELATIONSHIP BETWEEN INSPIRATION AS A PSYCHOLOGICAL
CONSTRUCT, TEMPERAMENT, AND POSITIVE AFFECT

by

RUSSELL DWIGHT FULMER

B.A., Fort Hays State University, 1999
M.S., Fort Hays State University, 2001

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department Special Education, Counseling, and Student Affairs
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2007

ABSTRACT

The purpose of the current study was to identify if any significant relationships between inspiration, temperament, and positive affect existed. The dependent variable was inspiration, which was measured by the Inspiration Scale (IS). Temperament was measured by the Keirsey Temperament Sorter II and positive affect by the Positive and Negative Affect Schedule (PANAS). One hundred forty-five students attending a large Midwestern university and small community college participated. Initially, participants completed the Keirsey Temperament Sorter II online. The IS and PANAS were administered in the student's classroom.

The data were consequently analyzed to determine if there was a correlation between inspiration and temperament, inspiration and positive affect, and inspiration and the combined effects of temperament and positive affect. The results were mixed:

1. No relationship between inspiration and temperament was discovered. ANOVA results indicated that mean inspiration scores for each temperament did not vary significantly.
2. A relationship was identified between inspiration and positive affect. Regression results suggested a positive linear relationship between inspiration and positive affect scores.
3. When inspiration was correlated with positive affect and temperament combined, no relationship was discovered. A 2 x 4 ANOVA showed no correlation between the variables.

The implications these results have on psychology and counseling are discussed, along recommendations for future research. Additionally, limitations of the study, such as inherent

risks associated with using self-report measures, are mentioned. The study concludes with a discussion of how future research can investigate inspiration, temperament, and positive affect.

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DEDICATION

This dissertation is dedicated to my wonderful family. Because of your support I was able to pursue and attain my doctorate. Your unwavering confidence in my abilities is greatly appreciated. For the many times you have inspired me, thank you.

Chapter 1

INTRODUCTION

Science is beginning to pay some attention to *inspiration* after a lengthy silence (Thrash & Elliot, 2002, 2003, 2004). Researchers have taken inspiration from its roots in the supernatural domain to validate it as a psychological construct and place it in the scientific realm of empirical psychology (Hart, 1993, 2001); Thrash & Elliot, 2003, 2004). Yet not unlike other concepts to which minimal study has been devoted, much remains to be learned about inspiration. This study sought to add to the knowledge and understanding foundation of the dynamic of inspiration.

Traditionally, inspiration was believed to arise from the divine, or a godly being (Kirk, 2005). God and mythological creatures have been credited with bestowing knowledge and truth to priests, artists, and lucky laymen (Rayburn & Richmond, 2002). Throughout history – before and beyond the official “birth” of psychology in 1879 – inspiration also has been attributed to people, places, and things in the overt environment. From the sculptures of Rodin to the Peace Corps experience, individuals reported inspiration from the world of the five senses (Peace Corp, 2006). The majority of researchers who touched on the subject of inspiration viewed it as a subcategory of creativity, through a lens of psychoanalysis (Rothenberg & Hausman, 1976). Recently, researchers have validated inspiration as a psychological construct defined by evocation, transcendence, and motivation (Thrash & Elliot, 2003). Across specific domains like the supernatural, or even from intrapsychic or environmental sources, this tripartite definition has held fast (Thrash & Elliot, 2003).

Similar to inspiration in both definition and applicability is *positive affect* (Thrash & Elliot, 2002). A few noted differences exist. “Inspiration is triggered by illumination among individuals high in receptive engagement, whereas activated positive affect is triggered by

reward salience among individuals high in approach temperament” (Thrash & Elliot, 2004, p. 970). Called the hallmark of well being (Lyubomirsky, King, & Diener, 2005), positive affect has been extensively examined (Greene & Noice, 1988; Hirt, Melton, McDonald, & Harackiewicz, 1996; Isen, 1999, 2000, 2002). Recently, researchers have attempted to differentiate positive affect and inspiration (Thrash & Elliot, 2004). Many positive life experiences have been attributed to positive affect, such as reported success in marriage, friendships, and work performance (Isen, 2003). Because positive affect is understood to be similar to inspiration, the latter may also be linked to positive events. Henceforth, the need to comprehend the inspiration phenomena surfaces again. Meanwhile, a phenomenon widely known to science, *temperament*, may impact both inspiration and positive affect (Kagan, 1998). A connection between temperament and positive affect already exists, which logically leads to the question: is there a relationship between temperament and inspiration?

The psychological community has studied temperament almost as much as inspiration has felt its neglect (Jung, 1971). Theorized to be the innate, inherited part of personality (Coon, 1998), temperament is a blueprint by which all experiences, inspired or not, transpire. Categorically, counselors, various professionals in myriad disciplines, and common people seeking to understand themselves better, garner insights from temperament (Keirse, 1998). A particular type of the variable connected to extraversion, approach temperament, has been linked to inspiration (Thrash & Elliot, 2002). Because temperament is the innate part of personality, it influences both thoughts and behaviors (Jung, 1971).

The current study aimed to pair mainstream temperament theory to positive affect and inspiration. A documented effect of temperament on inspiration has the potential to produce

revealing insight into the role personality plays in inspiration, considering temperament comprises half of personality, with character making up the other part (Keirsey, 1998).

This is a quantitative study intending to measure the relationship between personality temperament, positive affect, and inspiration. This study is both timely and important because temperament and positive affect are psychological constructs recognized by personality researchers and counselors whose clinical work is impacted by the temperamental type and positive or negative affect level of their clients (Thrash & Elliot, 2002; Lockwood & Kunda, 1999; Watson, Clark, & Tellegen, 1988). Also, some theorists have suggested that inspiration may facilitate the counseling process (Hart, 2000).

Further inquiry into inspiration appears worthwhile to clinicians and mental health practitioners. According to Hart (2000), “Most contemporary mental health complaints are characterized by a constricted epistemic style that is described as the opposite of inspiration. Inspiration may provide a direct antidote to many of these difficulties” (p. 41). Likewise, in another study Hart (1998) noted a correspondence between frequent mental health problems and “experiences described as the absence of inspiration” (p. 7).

Inspiration serves to predict an assortment of positive outcomes such as openness to experience, work-mastery motivation, creativity, perceived competence, and self-determination (Schulman, 2006). Inspiration has been mentioned as a component of happiness by the positive psychology movement (Seligman, 2002). Perhaps most of all, inspiration is subjectively well known to most people as an uplifting event or process responsible for positive occurrences in life. Most people know inspiration on a personal basis. Now is time for science to become better acquainted.

Statement of the Problem

Past research has examined inspiration and positive affect, established a connection between approach temperament and inspiration, and linked approach temperament to positive affect (Thrash & Elliot, 2003). Approach temperament was defined as, “a general neurobiological sensitivity to positive/desirable (i.e., reward) stimuli (present or imagined) that is accompanied by perceptual vigilance for, affective reactivity to, and a behavioral predisposition toward such stimuli” (Thrash & Elliot, 2002, p. 805). Additionally, no study has examined the interplay of temperament as typology or Keirsey’s (1998) four temperament types and positive affect on inspiration. The purpose of this study was to identify the relationship between temperament, positive affect, and inspiration.

This study attempted to identify temperament and positive affect as two variables being linked to inspiration. Theorists believe that inspiration predicts several favorable outcomes, as previously stated (Schulman, 2006). These encouraging results, coupled with the relatively small amount of research completed about inspiration, indicates a need to understand its dynamics more fully.

The foremost proposition of the present research was that temperament type and positive affect contribute to the inspiration experience. By discovering which temperament types experience inspiration to the highest frequency and intensity, the question of whether people have an inborn propensity to be inspired can be to some extent answered, as temperament composes the innate aspect of personality. Secondly, this study proposed to further explain the relationship and differences between positive affect and inspiration, two concepts already believed to have a connection (Thrash & Elliot, 2004). A central question confronting positive

affect and inspiration is if one of the two concepts begets the other. The current study aims to provide insight into this dilemma.

Little, scientifically, is known about inspiration. The existing research indicates inspiration may be a remedy to some common mental health complaints (Hart, 2000). It is not known if certain people experience inspiration more, or are even more susceptible to it. What has been established is that people have fundamentally different temperaments (Keirse, 1998; Keirse & Bates, 1984). Identifying whether or not certain types of people experience inspiration more than others is a basic first step to possibly determining if inspiration has potential therapeutic value (whether inspiration is of therapeutic benefit is not addressed in the current study). A main factor to inspiration and temperament is positive affect. Research shows that positive affect is closely aligned to inspiration (Thrash & Elliot, 2004). Also, that positive affect is correlated with many positive experiences (Isen, 1999, 2000, 2002, 2003). Inspired people of certain temperament types may report these experiences, or they may not. This question has yet to be answered. The present study attempted to uncover a relationship between inspiration, temperament, and positive affect, in essence, to understand inspiration more clearly.

Research Questions

This research sought to address the following three primary questions:

1. What is the relationship between temperament and inspiration?
2. What is the relationship between positive affect and inspiration?
3. Do temperament and positive affect interact in their relationship with inspiration?

Definitions

Inspiration: Inspiration is “a general construct characterized by evocation, motivation, and transcendence” (Thrash & Elliot, 2003, p. 871) measured by the Inspiration Scale. The concepts within this definition are clarified as follows:

1. Motivation: The energization and direction of behavior.
2. Evocation: When something is initiated and arises from a source seemingly outside a person.
3. Transcendence: Inspiration “entails going beyond the ordinary preoccupations or limitations of human agency” (Thrash & Elliot, 2003, p. 871).

Positive affect (PA): “The extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy” (Watson et al., 1988, p. 1063), measured by the PANAS.

Personality: “Consistent behavior patterns and intrapersonal processes originating within the individual” (Burger, 1997, p.4).

Temperament: Keirsey (1998) offers a set of definitional explanations for this vital piece of this research, measured by the Keirsey Temperament Sorter II:

1. A configuration of inclinations
2. The physical base from which character emerges
3. The inborn form of human nature

Limitations

Similar to most research in the behavioral sciences, the present study has its share of limitations.

1. Data were acquired from the Keirsey Temperament Sorter II, PANAS, and Inspiration Scale, self-report instruments with no provision for falsified responses. Research suggests these measures generally have solid reliability and validity. However, the possibility of deliberate or unintentional falsification exists, as is the case with any subjective, self-report instrument.
2. It is unknown if the participants in this study are indicative of a sample representative of the population. In all likelihood, data collected from four courses at two institutions of higher education in the Midwest are partially representative at best. Henceforth, the degree to which the results can be generalized is limited. Nonetheless, it is logical to conclude that the participants are reminiscent of people attending the public colleges and universities in the Midwest, more specifically the state of Kansas.
3. Inspiration is new to scientific inquiry. Although the Inspiration Scale displays strong psychometric properties, it remains one of the only measures of inspiration. As the research base into inspiration develops, the very definition of the phenomena could change, and almost certainly new instruments that gauge inspiration differently will arise. On the other hand, several instruments exist to measure temperament and positive affect. That the study employed but one instrument to investigate three multi-faceted variables is a limitation. It is possible a different pairing of instruments could produce different results.
4. Results may be skewed by the relatively small sample. Moreover, there were small group numbers of certain temperament types. When analyzed, the small groupings may have affected the statistical outcome of the ANOVA tests.

Chapter 2

REVIEW OF THE LITERATURE

This chapter presents an examination of the relevant literature on inspiration, temperament, and positive affect. The impact of each variable on the others (e.g., how positive affect impacts temperament), along with the ramifications of each concept to outside agencies and phenomena, is discussed. For example, numerous variables, such as creativity, genius, learning styles, and traits of personality, point to temperament and inspiration as their driving forces (Gelb, 1998; Keirse, 1998; Thrash & Elliot, 2003). Positive affect is thought to contribute to the organization of memories (Lee & Sternthal, 1999), low occurrence of organizational conflict (Baron, 1984), and innovation (Kahn & Isen, 1993).

Personality Classification

Recently, researchers have turned their energies towards the development of a systematic classification of personality characteristics (Halverson, Kohnstamm, & Martin, 1994). However, much uncertainty lingers regarding how these individual differences materialize in natural settings, such as public education classrooms. This uncertainty leads to questions about a possible interplay between inspiration and learning ability that remain unanswered.

Not every behavioral scientist is encouraged by attempts to categorize individuals into pre-determined temperamental models. Detractors argue that the schism amid temperament (e.g., *mental processes*) and its ramifications (e.g., *behavior*) is manufactured and ersatz (Gale, Hoffman, & Holden, 2000). They advocate a termination of the supposed gulf separating the two. Moreover, the opposing camp points to the ostensible unnaturalness and even impossibility of a one size fits all methodology. The claim is that such polarized approaches, ultimately, will not be supported.

Detractors notwithstanding, trait theorists hold firm that the study of individual differences comprises the very definition of their field (McRae & Costa, 1999). They maintain that the key to studying between-individual differences applicable to diverse settings is *stability*. Stable temperament traits serve as predictors of behavior across situations. In order to identify a correlation among inherent temperament, talent, and creativity, personality psychologists present stability as the necessary factor. The same holds true for temperament/inspiration correlations (Thrash & Elliot, 2004).

Creative Personalities

For centuries, inspired people with ostensibly disparate dispositions have produced timeless work. Gelb (1998) named seven principles utilized by the great Leonardo Da Vinci as both philosophy and methods for producing inspiration. The seven principles are:

Curiosita – Curiosity, thirsting for learning

Dimostrazione – Testing knowledge and learning from mistakes

Sensazione – Refining the senses to enliven experience

Sfumato – Welcoming of ambiguity, paradox, and uncertainty

Arte/Scienza – Holistic thinking, integrating science and art, logic and imagination

Corporalita – Versatility

Connessione – Systemic thinking

Likewise, classical Greece identified many of the features commonly associated with inspired, creative temperaments (Stephoe, 1998). Plato argued that inspiration derived from the Gods; hence, he offered a supernatural explanation (Garber, 2002). Both Plato and Leonardo were, clearly, highly inspired. Inspiration in its brilliant capacity is termed *genius*, and genius as a conception is essentially a contemporary idea, as elaborated on by Garber (2002):

The genius was, and to some extent continues to be, the romantic hero, the loner, the eccentric, the apotheosis of the individual. The further our society gets from individual agency – the less the individual seems to have real power to change things – the more we idealize the genius, who is by this definition the opposite of the committee or the collaborative enterprise. Indeed, some of the resistance to the idea that Shakespeare wrote his plays in collaboration with other playwrights and even actors in his company comes from our residual, occasionally desperate, need to retain this ideal notion of the individual genius. We prefer the myth: It was Watson and Crick who discovered DNA – not a whole laboratory of investigators. Edison invented the electric light bulb and the phonograph – never mind that he worked with an extensive team of technicians, mechanics, and scientists. (p. 64)

However, some people who show creative behaviors are classified as *abnormal*. Indeed, the relative infrequency of geniuses in society suggests they demonstrate psychological abnormalities of behavior (Comer, 2001). Were the inspired geniuses born into abnormality or merely exercising their preferred learning style? Researchers hypothesize that individual learning styles are a stable mixture of affective, cognitive, and physiological behaviors (Horton & Oakland, 1997), similar to the dynamic of temperament. Horton and Oakland suggested that because past research framed learning styles too densely, temperament supplies a more encompassing perspective.

History of Temperament

Temperament has its roots in the ancients. Plato, circa 340 B.C., was among the first to articulate the notion that human beings are born to one of four distinct temperaments, which he discussed in *The Republic* (Montgomery, 2002). Nearly 600 years after Plato, Galen discussed

the four temperaments, naming them *Sanguine*, *Melancholic*, *Choleric*, and *Phlegmatic* (Keirsey, 1998). Modern personality typology researchers point to the theory of Neo-Freudian Carl Jung. In his classic text *Psychological Types*, Jung (1921/1971) suggested that people are different in fundamental ways. At the apex of these differences is people's preference for *function* type (Keirsey & Bates, 1984). Jung (1921/1971) outlined four pairs of function preferences: (I) *Introversion* or (E) *Extraversion*; (S) *Sensing* or (N) *iNtuition*; (T) *Thinking* or (F) *Feeling*; and (P) *Perceiving* or (J) *Judging*. Jung elaborated on the four pairs:

1. Each person shows some characteristics of each domain. In other words, no one is fully an extravert; people are extraverted to an extent.
2. Preferences may strengthen or weaken over time. He emphasized that people have choice in the matter.
3. The degree to which the preferences are innate or derived from environmental influences in early life is unknown.
4. The preferences can be developed. Those oft used preferences become stronger while the second-tier functions usually tarnish.

Jerome Kagan (1998) suggested that Jung's archetypes of *cognitive* and *behavioral functioning* have been traditionally based on evolving impressions of scientific thought, with each new model introducing an altered perspective on the dynamics of human diversity. For instance, Galen amended Hippocrates' ideas by claiming the balance of bodily fluids, or four *humors* types – *Phlegm*, *Yellow bile*, *Black bile*, and *Blood* – determine temperament (Kagan, 1998). Galen titled his types Choleric, Melancholic, Phlegmatic, and Sanguine. It was human physiology, according to Galen, that governed temperament (Keirsey, 1998). Four fluids corresponded with four distinct temperament types:

1. Blood = Sanguine (Optimistic)
2. Black bile = Melancholic (Doleful)
3. Yellow bile = Choleric (Passionate)
4. Phlegm = Phlegmatic (Calm)

Since Galen, several scientists and philosophers have speculated about the characteristics of the four temperaments with surprisingly similar traits ascribed to each type (Keirsey & Bates, 1984). For example, Galen's Choleric is Paracelsus' *Inspired*, Fromm's *Receptive*, and Myers' *Friendly* (Keirsey, 1998). Although individual theorists offer their own particular brand of detail about the precise four-temperament definition, a general consensus has emerged regarding the association between temperament and individual character traits. Kagan (1998) explained the interwoven nature of character and temperament. Using cognition, emotion, and behavior as the raw material of consciousness, he critiqued the criteria regularly used to measure and define person-to-person variations. He suggested using temperament to gauge emotion, intelligence as a measure of cognitive intellect, and character to categorize behavioral patterns. Contemporary positivist philosophy then mandated that, for the sake of clarifying measurement, temperament and character be integrated into one concept. Imprecise evaluations of emotional responses and overt behaviors demand the pairing.

Contemporary Approaches to Temperament

Personality psychologists continue their search for differences between temperament types and character (Molfese & Molfese, 2000). To serve their purposes, researchers use psychometric inventories and tests. The Keirsey Temperament Sorter II (KTS-II) is a popular instrument to determine psychological type (Montgomery, 2002; Provost & Anchors, 2003). The Keirsey dichotomous traits are:

1. *Extraversion* (E) and *introversion* (I)
2. *Sensing* (S) and *intuition* (N)
3. *Thinking* (T) and *feeling* (F)
4. *Judging* (J) and *perceiving* (P)

Keirsey and Bates (1984) pioneered a fresh approach to understanding the four basic temperaments. Keirsey's (1998) view of the four temperaments is comparable to the portrayals of historic temperament portraits from Galen to Jung. An analysis (Montgomery, 2002; Tieger & Tieger, 2000) shows the disparities between the four people types:

1. *NT Conceptualizers*, or *Rationales*, are logical, analytical, strive to be competent in all they do, set high standards, and tend to be impatient with those who do not immediately comprehend concepts or need reassurance and emotional support.
2. *NF Idealists* have the ability to see meaning, patterns, and connections. They are insightful and strive for authenticity in their actions and harmony in their relationships. Pitfalls include being vague, unrealistic, and emotional.
3. *SJ Traditionalists*, or *Guardians*, are realistic, organized, and have a strong work ethic. Usually responsible, conservative people, the SJ temperament is also known as the *Cornerstone* temperament. *Thinker (T) Traditionalists* (STJs) find comfort in their routines, are dependable, and see things in black or white. They can be inflexible, insensitive, and may resist new ideas. *Feeler (F) Traditionalists* (SFJs) are devoted, conscientious people who live by a commitment to their obligations. Gaining satisfaction by fulfilling family and work duties, they may be overly sensitive and easily offended, avoid conflict, and not be assertive when need be.

4. *SP Experiencers*, or *Artisans* fall under the spontaneous, generous, *Action* temperament. Practical and casual, SPs are normally good in a crisis and think quickly on their feet. *Thinking (STPs) Artisans* are easy-going, straightforward people who need ample liberty for happiness. They are fun and playful, but may be insensitive to others' feelings and schedules, and often do not take time to understand the needs of others. *Feeling (SFPs) Artisans* are deeply caring, unassuming, and love to enjoy the sensual aspects of nature. They tend to see only the good in people, may have difficulty standing up for themselves, and could hold a grudge if they feel judged.

Horton and Oakland (1997) expanded the four temperaments by describing the preferred learning styles of Rationale, Idealist, Guardian, and Artisan students. Rationale students reported interest in pioneering theories and favored strategies that championed innovation and testing. Idealist students aimed to connect learning with their personal lives, striving to unearth the personal significance of the material. Also, NFs favored methods that accentuated collaboration amongst people. Guardian students reported learning most efficiently with concrete, outlined, and habitual, step-by-step learning materials. Artisan students preferred action-oriented, diverse, and amusing learning strategies. Despite these findings, few studies published in academic journals have studied the effectiveness of these applications (Halverson et al., 1994).

Temperament as Nature and Nurture

The *nature* versus *nurture* debate continues to generate debate and research (Robinson, 1996). One perspective is that even though external life experiences significantly impact the internal dynamics of the mind, these effects occur only within the framework of innate, cerebral physiology (Robinson, 1996). Consequently, neither outside influences nor brain anatomy exist

in a vacuum – the internal brain structure is the foundation by which environmental happenings arise. Robinson (1996) suggested that cerebral variations can be related to psychological differences due to the unique nature of brain structures embodying a stable starting point for distinguishing physiological boundaries.

Temperament, as known to the behavioral sciences, regards the inborn aspects of personality. If the brain is a supercomputer, temperament is the hardware (Keirse, 1998). Temperament theory arose from an antiquated concept generally traced by modern researchers to an ancient physician named Galen. In contrast to earlier notions that astrology and gods decide fate, Galen suggested that the balance of our bodily fluids, or humors, determine behavior (Keirse, 1998). Vestiges of the four humors in temperament are apparent even today. “Four humors” (2005) stated that “practitioners refer to humoral immunity or humoral regulation to mean substances like hormones and antibodies that are circulated throughout the body, or use the term blood dyscrasia to refer to any blood disease or abnormality” (§ 6).

Impact of Temperament on Inspiration

Despite the problems associated with defining a concept like inspiration, theorists have examined it from varying schools of thought within psychology and counseling and from separate disciplines (Carter, 2004). All through the centuries, those who declared themselves inspired have been the subject of admiration and skepticism alike. The inspired have been assigned titles and labels from prophet to delusional eccentric (Dornbach, 2003). These labels have been viewed as both inconsistent and/or logical to the true nature of inspiration, depending on the eye of the beholder. While some perceive the designation of *inspired* as figurative, others see it as literal (Metcalf, 1999). In this sense, inspiration is referred to as an enduring principle, as a meticulous model of creativity generation. Inspiration has been approached as a supernatural

influence, an intrapsychic *mélange*, and an environmental source (Thrash & Elliot, 2003). Henceforth, inspiration is not a singular event, regardless of its source.

The genuine makeup of inspiration aside, researchers agree that inspiration is a construct that has been described rather than explained or understood (Carter, 2004; Thrash & Elliot, 2002, 2003). Carter (2004) stated, “In fact, research to date has posed more questions than it has answered. One of the reasons for the general lack of research into creativity has been a widespread assumption that it is an essentially spiritual or transcendent process which is inaccessible to scientific investigation or analysis and which is certainly resistant to linguistic analysis” (p.6). The creative person has traditionally been viewed as a blank slate capable of receiving creative aptitudes from divine revelation (Carter, 2004). Modern-day men and women deemed creative frequently attribute their creativeness to supernatural authorities (Ghiselin, 1952; Harding, 1948, cited in Thrash & Elliot, 2003).

Neurological Foundations of Temperament and the Creatively Inspired

Noted theorist Ivan Pavlov researched the neurological foundation of temperament disparity (Burger, 1997). Eysenck (1991) expanded on Pavlov’s work, placing special emphasis on introversion, extraversion, and creativity in particular. Robinson (1996) synthesized a number of studies to find that introverts exhibit increased arousal in certain cortical regions of the brain in comparison to extraverts. This system has served as a catalyst for imminent research (Eysenck, 1991). The value of this theory in the basic sense is its integration of several research conclusions and the potential it carries of paving the way for fresh innovations and upgrading current theories (Eysenck, 1991).

Eysenck's (1991) suppositions explicate:

1. Experiential variations amid creativity understood as an imaginative personality trait and creativity as applied by accomplishments in the arts and sciences.
2. Creativity as a separate notion than intelligence.

Researchers disagree as to whether creative individuals look for stimulation or retreat socially to steer clear of over-stimulation (Helson, 1996). Eysenck (1991) noted that creative people behave exactly like introverts by showing both high arousal and withdrawal in order to lower their level of arousal. Other creativity investigators (e.g., Martindale, 1999) agree with this viewpoint and maintain that inspirational creativity is the product of interactions with the environment. Genetically, this viewpoint has a sound foundation. The results coincide with the consensus that introverts display higher rates of creativity; hence the blends of withdrawal and elevated arousal (Eysenck, 1991). Moreover, Wilson and Matheny (1986) suggested in research about temperament in twins that a physiological influence on temperament is inevitable. For evidence, they point to observable individual differences amidst infantile siblings. The relationship between genetics and personality traits remains questionable (Azar, 2002). Nonetheless, Molfese and Molfese (2000) suggest an environmental, or nurture component, plays a role in the creativity and temperament *mélange* as well.

The current study recognized both nature and nurture aspects as change agents to inspiration by acknowledging the effects of temperament on the human being. Because temperament is considered an innate component of functional existence, its impact is therein omnipresent.

Nevertheless, the necessity of classifying particular features of personality traits remains in order to uncover the effects of these systems on creative, and maybe inspired, people. It is

important to distinguish creativity and inspiration as separate. It is equally important to operate under the presumption the two are intertwined with one perhaps a principle prerequisite of the other. The current study investigated these variables as working pieces of a person's *personality*.

Personality as a Measure of Temperament and Inspiration

Personality is a complex term that is difficult to define and hence ripe for a vast assortment of perceptions, interpretations, and assigned meanings. Personality, in reference to psychology, has three aspects to its definition (Burger, 1997):

1. Personality is a consistent pattern of behavior.
2. Personality entails interpersonal processes – interactions between people – involving emotional, motivational, and cognitive processes that transpire inside us and influence these interactions.
3. The consistent behavior patterns and intrapersonal processes have their genesis inside the individual. The varying ways we express ourselves originates from within.

Although there are accepted principles of personality, the different approaches to it are accountable for the absence of one unanimously received definition. Several theories, however, exist and offer their descriptions and explanations of personality's phenomena (Emmons, 1995, cited in Burger, 1997).

Andrews and Lilienfeld (1996) suggested that definition difficulties and henceforth measurement problems have thwarted efforts to understand personality. Correspondingly, others (e.g., Schlinger, 2003) suggest that futile is the endeavor that tries to measure indefinable and vague attributes like personality, or intelligence. Longstanding disputes about the nature versus nurture debate are pointed to for evidence of the trouble involved with studying such a concept (Schlinger, 2003).

Adding to the debate is disagreement about what should be included in the area of personality in relation to creativity and inspiration. An expansive perspective groups intellectual aptitudes, temperament, the unconscious, and even abnormal psychology attributes into personality (Kemp, 1996). This standpoint parallels early research, which recommended that personality include intelligence, interests, and values (Guilford, 1959). In the years following Guilford's work, Cattell (1973) incorporated an inclusive philosophy into the personality, intelligence, and creative system by coupling his personality instruments with an intelligence scale. He suggested that one's abilities, motivation, and personality were independent entities.

Personality and creativity are entrenched concepts, but science did not begin studying personality and intelligence as measures of temperament until recent times. Not until the mid part of the 20th century with the "discovery" of the creative personality did theorists begin looking at the pair (Helson, 1996). Helson suggested that despite the vast results of myriad studies, contentions have not diminished the position among most experts of a creative personality. A superior grasp of the creative personality could arise from identifying the collective traits that span across creative disciplines to ascertain the foremost resemblances and disparities amid creative individuals (Helson, 1996).

The need to understand the creative personality is paramount. Humanistic theorist Abraham Maslow "described every psychologically healthy person he studied as creative" (Burger, 1997, p. 334). Through the lens of a particular school of thought, adapted methodology, and selected measure and instrumentation, researchers continue their efforts to scientifically analyze the underlying elements of personality and creativity (Helson, 1996).

Function Types versus Intelligence Types

The popular – over 30 million users – KTS-II is an instrument that measures a person's personality type (Montgomery, 2002). Individuals complete the 70-item questionnaire to determine their temperament group: Artisan, Guardian, Rational or Idealist. Table 1 summarizes Keirsey's four temperament types (Keirsey, n.d.).

Table 1

The Four Temperaments Overview

<u>Type</u>	<u>Description</u>
SP Artisans:	Prefer jobs where they can troubleshoot, respond to crises and negotiate. They also enjoy identifying and responding to opportunities.
SJ Guardians:	Prefer jobs that demand responsibility. They enjoy improving the efficiency of processes and setting up standardized procedures.
NT Rationales:	Enjoy jobs that demand a high level of expertise and high standards of competence. They enjoy designing and understanding systems.
NF Idealists:	Enjoy jobs that allow them to support and encourage others. Their tendency to be enthusiastic can energize and improve the moral of others.

Four temperament variants are within each of the four temperament types, which translate into 16 personality types. The four personality scales are:

1. (E)=*Expressive* vs. (I)=*Attentive*
2. (S)=*Observant* vs. (N)=*Introspective*
3. (T)=*Tough-Minded* vs. (F)=*Friendly*
4. (J)=*Scheduling* vs. (P)=*Probing*

The KTS-II, based on Keirsey's temperament theory, serves many purposes, including team building, conflict resolution, career exploration, guidance counseling, relationship counseling, and self understanding (Keirsey, n.d.). All these purposes have the potential to help individuals and groups in various ways.

The theory behind typology originated from Jung's (1921, 1971) theory of personality. Jung proposed that people respond to the world in different ways, and he separated personality into functional types. Postulating that individuals react to their environment primarily as introverts or extraverts, he proposed that each person then operates through a mental function – either thinking, feeling, *sensation*, or *intuition*. Jung believed that everyone is born with one of these functions as dominant (Corsini & Wedding, 2000).

A fundamental difference exists between the theory of Keirsey and Isabella Myers, co-developer of the MBTI who expanded the work of Jung. Keirsey (1998) suggested the main difference between his work and that of Jung and Myers is that while they attempted to determine what the different types have in mind, he tried to determine what the types can do well under varying circumstances. Table 2 provides a comparison of Keirsey's *Intelligence Types* (behavioral patterns based on temperament) and Myer's *Function Types* (general personality types).

Although Keirsey and his instrument, the KTS-II, Myers and Briggs and their instrument, the MBTI, share a common origin, notable differences exist between them. It is worth noting that

Myers-Briggs expanded almost solely the work of Jung, the Neo-Freudian psychoanalyst (Corsini & Wedding, 2000). Alternatively, Keirsey borrowed heavily from *Gestalt* and *Behaviorist* theory; the many remnants of behaviorism are visible due to Keirsey's observation that because thoughts and feelings cannot be directly observed, they ought not be at the forefront of his model. Myers-Briggs, on the other hand, did have an interest in cognitive processes, traces of Jung apparent again (Quenk, 1999).

A prime difference between Myers-Briggs and Keirsey is found in the foundation of each approach (Keirsey, 1998). At the heart of Keirsey theory is the proposition that each individual begins life as one of four temperament types (Montgomery, 2002). These types serve as the starting point for all other personality characteristics, such as introversion and extroversion. With Myers-Briggs, introversion and extroversion are not merely derivatives of temperament (Myers & McCauley, 1985). Rather than temperament types comprising the base of their theory, Myers-Briggs begin with function attitudes (introversion and extroversion serving as the beginning of the dominant function attitude). Thus, Keirsey's focal point is temperament type while Myers-Briggs' is function attitude (Keirsey, 1998; Quenk, 1999). As a consequence of Myers-Briggs emphasis on introversion and extroversion, there is a difference in how the two models view the four dichotomies of personality type. Keirsey places his emphasis on dichotomy two, intuitiveness or sensing, claiming that introversion and extroversion are of secondary importance.

Table 2

Function Types versus Intelligence Types

Function Types	Intelligence Types
Thinking Types	NT Rationales
ESTJ -- ENTJ [Extraverted Thinking]	ENTJ -- INTJ [Coordinator]
ISTP -- INTP [Introverted Thinking]	ENTP -- INTP [Engineer]
Intuitive Types	NF Idealists
ENTP-- ENFP [Extraverted Intuiting]	ENFJ -- INFJ [Mentor]
INFJ -- INTJ [Introverted Intuiting]	ENFP -- INFP [Advocate]
Feeling Types	SP Artisans
ESFJ -- ENFJ [Extraverted Feeling]	ESTP -- ISTP [Expeditor]
ISFP -- INFP [Introverted Feeling]	ESFP -- ISFP [Improviser]
Sensory Types	SJ Guardians
ESTP -- ESFP [Extraverted Sensing]	ESTJ -- ISTJ [Administrator]
ISFJ -- ISTJ [Introverted Sensing]	ESFJ -- ISFJ [Conservator]

Temperament Preferences

Keirsey theorists have maintained that the two most essential parts of life are what is said and what is done: words and actions (Montgomery, 2002). Montgomery developed a temperament matrix to differentiate where each temperament falls in terms of speech and behavior. He suggests, plainly, that while some talk about what is (Sensors, S's, from the second character domain, as with SJ and SP temperaments), others discuss what is possible (Intuitives,

N's, from the second character domain, as with NF and NT temperaments). Secondly, some do what works (the SP Artisan and NT Rational temperaments) while others lean towards what is right (SJ Guardian and NF Idealist temperaments). Aptitude amongst the four temperaments lies within how this speech and action talent comes to fruition. Each temperament operates as follows:

NF Idealists: Speak about abstractions and imaginings and do what is good and proper.

SP Artisans: Speak about concrete things and experiences and do what gets results.

SJ Guardians: Speak about concrete things and experiences and do what is good and proper.

NT Rationales: Speak about abstractions and imaginings and do what gets results

(Montgomery, 2002).

The idea that one's greatest aptitudes have their roots in one's natural talents has gained attention in recent years (Buckingham & Clifton, 2001). These researchers spearheaded a 25-year study to discover core human strengths, which they summarized into *signature themes* that highlight the dynamics of the identified, individual strength, like *Responsibility* or *Ideation*. Although temperament was not correlated with the findings, results showed that each person's inherent strengths possess the most room for growth. In other words, to excel personally and in one's chosen career field, one is best served to cultivate and expand on what one genuinely *is*. The parallels between *strength maturation* and *temperament aptitude* are ostensibly obvious: They form a gestalt; if one is improved or reinforced, so, too, is the other strengthened, if one is neglected, so, too, is the other weakened. An example of this is someone with strength in the empathic domain and has the temperament of NF Idealist.

Keirsey theory integrates word and behavior preference into aptitude strengths for the four temperaments (Montgomery, 2002). He classifies the speech propensity of *what is possible* as *Abstract*, and *what is* as *Concrete*. Likewise, *what works* behavior is termed *Utilitarian* and *what is good* becomes *Cooperative* (Keirsey, 1998).

NF/Idealist Temperament: Abstract Cooperators have skills in diplomatic integration. Thus their most practiced and developed intelligent operations are usually teaching and counseling (NFJ mentoring), or conferring and tutoring (NFP advocating). Optimally, they would be sages in one of these forms of social development. The Idealist temperament has an instinct for interpersonal integration, learn ethics with ever increasing zeal, sometimes become diplomatic leaders, and often speak interpretively and metaphorically of the abstract world of their imagination (Keirsey, 1998). According to Keirsey and Bates (1998), an Idealist ranks his or her skill set as follows: (a) Diplomacy, (b) Strategy, (c) Logistics, and (d) Tactics.

SJ/Guardian Temperament: Concrete Cooperators have skills in logistics. “Thus their most practiced and developed intelligent operations are often supervising and inspecting (SJT administering), or supplying and protecting (SJF conserving). And they would if they could be magistrates watching over these forms of social facilitation” (Keirsey & Bates, 1998, p. 79). According to Keirsey (1998), a Guardian ranks his or her skill set as follows: (a) Logistics, (b) Tactics, (c) Diplomacy, and (d) Strategy. Researchers suggest that Guardians and Rationales make up nearly 80 percent of corporations (Decarlo, Lewis, & Wysocki, 2001).

NT/Rational Temperament: Abstract Utilitarians have skills in strategic analysis. “Thus their most practiced and developed intelligent operations tend to be marshalling and planning (NTJ organizing), or inventing and configuring (NTP engineering). And they would if they could be wizards in one of these forms of rational operation” (Keirsey, 1998, p. 167). According to

Keirsey, a Rational ranks his or her skill set as follows: (a) Strategy, (b) Diplomacy, (c) Tactics, and (d) Logistics.

SP/Artisan Temperament: Concrete Utilitarians have skills in tactical variation. “Thus their most practiced and developed intelligent operations are usually promoting and operating (SPT expediting), or displaying and composing (SPF improvising). And they would if they could be virtuosos of one of these forms artistic operation” (Keirsey, 1998, p. 39). According to Keirsey (1998), an Artisan ranks his or her skill set as follows: (a) Tactics, (b) Logistics, (c) Strategy, and (d) Diplomacy.

The temperaments bring diverse preferences and talent for language and behavior to work and academic settings (Montgomery, 2002). At school, temperament differences indicate that children learn best through methods tailored to their disposition. Also, the uniqueness of each individual implies that invariably people will learn at varying rates. Herein lies an opportunity for inspiration in students (Hart, 2001). Hart noted that in most topics of academia, “there is an opportunity to create the dynamic tension of ambiguity and, in turn, open the wisdom space to engage the student at a very deep level” (p. 4).

Inspiration in Psychology

Inspiration has received little attention in scientific behavioral science literature. Only recently have researchers begun to study the structure (Hart, 1993, 1998, 2000; Thrash & Elliot, 2003, 2004) and the functionality of this experience (Burlinson, Leach, & Harrington, 2005; Hart, 2000; Lockwood & Kunda, 1999; Mills, 2002). These researchers found that most people have a similar comprehension of the meaning of inspiration, that it merely seems people would have widely varying definitions of the construct when in actuality most are clear on the conception

(Hart, 1993, 1998). Burleson et al., (2005) and (Mills, 2002) discovered, as expected, that inspiration can be responsible for changing behavior.

Inspiration as a Supernatural Phenomena

Inspiration has been attributed to several sources, from a poem to a divine revelation (Hart, 2000). These sources can be construed as coming from one of two places, supernatural spheres or the natural environment (Metcalf, 1999). Among the first recordings of inspiration are writings transcribed by Greeks, whose ideas of religion contemporaries deem as mythology.

Millennia ago, inspiration was ascribed to mythological creatures called muses. Nine muses in all, the daughters of Mnemosyne and Zeus were said to inspire artisans (Kirk, 2005). The muses have unquestionably inspired western civilization – the word *music* comes from their name.

Throughout much of history, the Christian God was marked as giver of inspiration. According to Craig (1994), the writers of the Bible were inspired to draft a perfect text. A divine hand is at the root of inspiration in cases such as these. In other cases inspiration is attributed to natural sources, from people (poets, presidents, activists) to places (oceans, mountain ranges, prairies) to things (architecture, novels, ideas), namely that with a perceived direct natural influence (Thomas, 1994).

Inspiration through Social Comparison Theory

One psychological arena that has looked at inspiration is *social comparison* theory (Plotnik, 2002). This theory, pioneered by Leon Festinger, suggests group membership as the primary motivator behind inspiration. Social comparison theorists believe individuals compare themselves to others with similar characteristics as to measure the accuracy of one's own beliefs and attitudes (Plotnik, 2002). Inspiration occurs when an individual deems his or her beliefs or

attitudes insufficient in comparison to a coveted group. Festinger's theory hence suggests a cognitive reason for motivation (Plotnik, 2002).

Other researchers discovered that positive social comparisons may influence the self-concept of adolescents and lead to inspiration (Burlison et al., 2005). In this study, adolescents who favorably compared themselves to others at an advanced arts program reported positive changes in their self-concepts. Yet in certain cases, individuals may be inspired to behavior detrimental to their health. Mills (2002) studied the media's impact on eating disorders. When viewing images of very thin models, the chronic dieters (or restrained eaters) were inspired to continue their present lifestyles. The study concluded that inspiration instigates self-enhancement amongst dieters (Mills, 2002). Thin media images serve as the evocation component for inspiration.

Burlison et al. (2005) and Mills (2002), suggested that social comparison may facilitate inspiration when a person's goal or desire is perceived as attainable. This coincides with earlier work by Lockwood and Kunda (1997) who studied the influence of role models. The authors discovered that "relevant superstars provoke self-enhancement and inspiration when their success seems attainable but self-deflation when it seems unattainable" (p. 91).

Positive Affect and its Relation to Temperament and Inspiration

Most literature surrounding temperament and positive affect centers on emotional development in infants (Conway, 2005; Low, 2004). Personality, in relation to the *Big Five traits* (Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism) especially extraversion, has been connected to both positive affect and inspiration (Olson, 2005). However, temperament has been indirectly studied. Depue and Collins (1999) examined the neurobiology of individual differences. They found that transmission of the neurotransmitter

dopamine effects extraversion, a trait in temperament commonly labeled as positive. Results of further research (Katz, 1999) indicate that dopamine levels may alter over time. From this, Isen (2003) concluded that although temperament may have a hereditary basis, traits such as extraversion that derive from temperament may be amended in accordance to environmental variables.

Inspiration, in its form as a general construct, may consequently enter into the temperament/affect equation to influence one or both. Indeed, similarities and differences alike highlight positive affect and inspiration. Thrash and Elliot (2004) stated “inspiration is triggered by illumination among individuals high in receptive engagement, whereas activated PA is triggered by reward salience among individuals high in approach temperament” (p. 957). Positive affect, however, has received more attention from theorists.

Cross-cultural work on positive affect has found some interesting results, as the following summary by Tsai, Knutson, and Fung (2006) shows:

How people want to feel ("ideal affect") differs from how they actually feel ("actual affect") and that cultural factors influence ideal more than actual affect. In 2 studies, controlling for actual affect, the authors found that European American (EA) and Asian American (AA) individuals value high-arousal positive affect (e.g., excitement) more than do Hong Kong Chinese (CH). On the other hand, CH and AA individuals value low-arousal positive affect (e.g., calm) more than do EA individuals. For all groups, the discrepancy between ideal and actual affect correlates with depression. These findings illustrate the distinctiveness of ideal and actual affect, show that culture influences ideal affect more than actual affect, and indicate that both play a role in mental health. (p. 288)

According to most definitions, affect is synonymous with emotion, positive affect tantamount to happy feelings (Isen, 2003). It logically follows then that researchers consider positive affect a beneficial state that usually accompanies many a good thing (Isen, 2000, 2003). Science has supported many of these good things; the literature indicates that positive affect's ramifications are far-reaching. Positive affect is regarded, generally, as a source of human strength and one tightly knitted to happiness (Isen, 2003), and as a catalyst that engenders success (Lyubomirsky et al., 2005).

Isen (2003) provided an encompassing overview of positive affect through the eyes of psychology throughout the years. In this work, she postulates that affect has gone from neglect, to a misunderstood occurrence, to a thorn in the side of cognition, to partial recognition, comprehension, and accolade. Along with advocating further research into positive affect, Isen examines how studies continue to demonstrate its pervasive features.

As a whole, positive affect appears to benefit humankind by serving as a facilitator and promoter. For instance, researchers have found that positive affect wards off physical ailments (Stephoe & Wardle, 2005). According to Steptoe and Wardle (2005), the biological correlates of positive affect have been connected to positive health outcomes. In this case, positive affect appears to facilitate healthy aging by promoting physical wellbeing. Another example demonstrates how positive affect promotes cognitive flexibility (Aspinwall & Richter, 1999) to facilitate the establishment of self-control and thereby reduce the occurrence of defensiveness or withdrawal (Carnevale & Isen, 1986).

The facilitating tendencies of positive affect reach into memory organization (Lee & Sternthal, 1999), flexible thinking patterns (Urada & Miller, 2000), and innovation (Kahn &

Isen, 1993). Its promoting influence extends to social responsibility and helpfulness (Isen & Geva, 1987) and the ability to form diverse viewpoints (Trope & Pomerantz, 1998).

Chapter Summary

This chapter provided an overview of temperament, inspiration, and positive affect. Also, the apparent interwoven nature of temperament, positive affect, and inspiration as known by science. By examining the related realms of creativity, a more colorful picture of inspiration's ramifications was formed. Temperament was discussed through defining the four temperaments, examining its extensive history, and a discourse of the creatively inspired personality. Finally, positive affect was reviewed. Closely aligned with inspiration, positive affect facilitates growth and empowers humankind to betterment.

Chapter 3

METHOD

Primary quantitative research was employed using three survey instruments with known valid and reliable psychometric properties. Inspiration served as the dependent variable, and temperament and positive affect as the independent variables. Additionally, basic demographic information (see Appendix A) was collected.

Participants

Participants were recruited from a large Midwestern university and a small, Midwestern community college comprised chiefly of freshman and sophomore college students. Students enrolled in Human Needs, introductory psychology, and Social Psychology, comprised the sample base of potential participants. Participants received extra credit in accordance with their course instructor's policy. One hundred forty-five students participated in the study.

Research Hypotheses

The hypotheses of this study tested for statistically significant effects on inspiration from each of the independent variables of temperament and positive affect. The hypotheses looked for significant effects by low, medium, or high inspiration, temperament type, and low, medium, or high positive affect level. Additionally, the study determined if there were any interactive effects among the independent variables. The research hypotheses are:

1. There is a significant positive relationship between temperament and inspiration.
2. There is a significant positive relationship between positive affect and inspiration.

3. There is a significant positive relationship between the combined effects of temperament and positive affect on inspiration. Participants with high positive affect of each temperament will have higher scores on inspiration.

Instruments

Keirsey Temperament Sorter II

Temperament is defined as “the inborn form of human nature” (Keirsey, 1998, p. 20). Temperament was operationally determined by results of the Keirsey Temperament Sorter II (see Appendix D), which places each person into one of four temperament types. The KTS-II has shown to be reliable, closely paralleling that of the MBTI test-retest reliability of $\pm .70$. Although little information is available, the KTS-II is again theorized to closely align with the MBTI. Research by Winer (2001) showed a correlation range of $\pm .20$ to $.60$, which suggests a strong relationship may exist between the two instruments.

The KTS-II consists of 70 questions from which respondents select either (a) or (b). Collective responses place people into one of four temperament groups, the NF, NT, SJ, or SP. The instrument is based on the theory that each individual is one of the four and displays characteristics consistent with that of the respective temperament. The KTS-II assists with career counseling, workforce training, and self understanding.

PANAS

Positive affect is defined as “the extent to which a person feels enthusiastic, active, and alert” (Watson et al., 1988, p. 1063). It was measured by means of the Positive and Negative Affect Schedule (PANAS) (see Appendix C). The PANAS displays sound psychometric properties. Its Cronbach’s alpha reliability is near $.90$. The PANAS shows test-retest reliability, $.68$ at $p < .05$, and it may be generalized to non-student populations (Watson et al., 1988). The

PANAS has high scale validity, with convergent correlations between the positive and negative scales ranging from .89 to .95. All of the descriptors have good varimax primary loadings (.50 and up) with the single factor of “inspired” being .67.

The PANAS, with regards to positive affect, consists of a 10-item mood scale. Respondents rate the extent to which they feel a certain way – depending on the specific item – numerically from “1, very slightly or not at all” to “5, extremely”. The PANAS was developed to easily and accurately measure affect. The instrument has been used by researchers and clinicians to measure mood states.

Inspiration Scale

Inspiration is defined as a “general construct characterized by evocation, motivation, and transcendence” (Thrash & Elliot, 2003, p. 871). Scores on the Inspiration Scale (IS) (see Appendix B) will operationally measure the concept. The IS has strong psychometric properties. Peter Schulman (2006) from the Positive Psychology Center suggested the IS has strong psychometric properties and, “demonstrates a consistent two-factor structure, internal consistency, temporal stability, and measurement invariance across time and across populations. The IS also demonstrates strong evidence of construct validity and empirical utility.”

The Inspiration Scale shows stability across time. Its overall, frequency, and intensity indexes of inspiration reliably demonstrate a Cronbach’s alpha of over .90. Moreover, applying reliability to test-retest correlations, researchers arrived at a statistic of .77 for latent frequency and intensity, suggesting high stability for individual differences (Thrash & Elliot, 2003). Predictive validity was established in the scale as well. “The overall IS index positively predicted the overall daily inspiration aggregate ($r = .38, p < .001$)” (2003, p. 881).

For preliminary investigation of the IS, developers narrowed down a list of inspiration factors from 19 to 4 based off psychometric criteria (internal consistency and unifactorial structure in an exploratory factor analysis). Ultimately, the researchers determined that the essence of inspiration was better secured with four statements (Thrash & Elliot, 2003).

By employing a confirmatory factor analysis, the covariance matrix of the IS was analyzed with Amos 4.01. Using maximum likelihood estimates the parameters were significant, with standardized loadings exceeding .80. There was a high correlation between the two latent variables ($r = .81, p < .0001$) with the researchers determining that the two-factor model was a better fit than the one-factor (Thrash & Elliot, 2003). A follow-up study produced similar results; the researchers were able to replicate the results of the first study and produce temporal stability.

In another study aimed at validating the inspiration construct, the developers conducted a known-groups (i.e., inventors) analysis to establish additional construct validity. They focused on U.S. patent holders, a group they deemed likely to rate high in inspiration. Comparing this group to a sample of university alumni, a group identified as having no reason to be particularly inspired, results suggested that inventors showed inspiration more frequently, intensely, and overall than a comparison group. These results were used to support the scales' construct validity (Thrash & Elliot, 2003). Inventors with higher degrees of inspiration frequency had higher numbers of held patents ($r = .21, p < .05$).

The IS scales of inspiration *frequency* and inspiration *intensity* lead to the *overall* scale, which was employed for analysis in the study. The four temperament types considered are NF, NT, SJ, and SP. The study was implemented by administering the measures to participants. From the measures, each person was assigned a personality temperament and has a score on the three different keys of the Inspiration Scale.

The IS consists of four statements about inspiration. Each statement has two parts, one addressing the frequency of inspiration experienced and the other the intensity. The questionnaire takes approximately two minutes to complete. The IS was developed due to a lack of instrumentation available to measure inspiration. It predicts an assortment of positive outcomes, including creativity and self-determination.

Procedure

To conduct the study, consent was granted from the Institutional Review Board (IRB) at the participating institutions (see Appendix G). The IRB determined that informed consent would be granted by participants based on their willingness to participate. Thus, written informed consent was not pursued.

Recruitment of participants occurred during the fall semester of 2006. Permission to recruit was obtained prior from the course instructors. Students in the Human Needs class at Kansas State University and Introductory and Social Psychology at Highland Community College were asked to participate in return for extra credit.

The first step was for participants to complete the online version of the KTS-II and the demographic questionnaire. Participants were instructed to access the website www.advisorteam.com, register, and complete the KTS-II. The following week, they were to record their temperament type along with their password and ID's to the site for verification purposes, and bring the results to class. The information was collected and each account was therefore checked for accuracy.

During this class period, the final two questionnaires were administered in paper format. The participants completed the Inspiration Scale, which was attached to the PANAS. The inventories were counterbalanced – half of the participants completed the PANAS first and half

the IS first (either was stapled on top). Participants then handed in their packet, which consisted of their demographic information, temperament type and website information, and completed PANAS and IS.

Chapter 4

RESULTS

The purpose of this research was to investigate the relationships between inspiration, temperament, and positive affect. This research conceptualized inspiration according to a model by Thrash and Elliot (2003), temperament from the theory of Keirsey (1998), and positive affect through a myriad of studies, with measurement through the PANAS (Watson et al., 1988). This chapter begins with an overview of the participants and their demographic information. Next, a series of tables illustrate demographic information followed by temperament and positive affect frequency distributions. Afterwards, a summary of the practice study that initiated the current research is discussed. Subsequently, an overview of each research hypothesis is presented. A summary and discussion of the results concludes the chapter.

Demographics

Participants consisted of 145 college students enrolled in a Human Needs class at Kansas State University and General Psychology, Social Psychology, and Human Growth and Development courses at Highland Community College in Wamego, Kansas. Students represented each grade classification (22 Freshmen, 47 Sophomore's, 49 Juniors, and 27 Seniors). The average age was 20.4 with over 70% of the students being female. Table 3 shows gender, and Table 4 presents grade classification information for the participants. In Table 5, temperament frequencies and percentiles and presented. Following, Tables 6 and 7 show positive affect descriptive statistics, frequencies, and percentiles.

Table 3

Frequencies and Percentages for Student Gender

	<u>Gender</u>		
	<u>Frequency</u>	<u>Percent</u>	<u>Cumulative Percent</u>
Female	102	70.3	70.3
Male	43	29.7	100.0
Total	145	100.0	

Table 4

Participant Grade Classification Frequencies and Percentages

	<u>Class</u>		
	<u>Frequency</u>	<u>Percent</u>	<u>Cumulative Percent</u>
Freshman	22	15.2	15.2
Sophomore	47	32.4	47.6
Junior	49	33.8	81.4
Senior	27	18.6	100.0
Total	145	100.0	

Table 5

Temperament Frequencies of the Participants

	<u>Temperament</u>		
	<u>Frequency</u>	<u>Percent</u>	<u>Cumulative Percent</u>
NF Idealist	38	26.2	26.2
NT Rationale	24	16.5	42.8
SJ Guardian	53	36.6	79.3
SP Artisan	30	20.7	100.0
Total	145	100.0	

Table 6

Positive Affect Descriptive Statistics of the Participants

<u>Positive Affect Descriptive Statistics</u>		
Median		30.00
Skewness		.605
Std. Error of Skewness		.201
Percentiles	25	27
	50	30
	75	33.50

Table 7

Positive Affect Scores, Frequencies, and Percentiles

<u>Positive Affect</u>			
Score	Frequency	Percent	Cumulative Percent
20	1	.7	.7
21	2	1.4	2.1
22	2	1.4	3.4
23	5	3.4	6.9
24	3	2.1	9.0
25	5	3.4	12.4
26	7	4.8	17.2
27	15	10.3	27.6
28	16	11.0	38.6
29	11	7.6	46.2
30	14	9.7	55.9
31	12	8.3	64.1
32	5	3.4	67.6
33	11	7.6	75.2
34	2	1.4	76.6
35	7	4.8	81.4

	36	5	3.4	84.8
	37	6	4.0	89.0
	38	4	2.8	91.7
	39	4	2.8	94.5
	40	1	.7	95.2
	41	2	1.4	96.6
	42	1	.7	97.2
	45	3	2.1	100.0
Total	145	100.0	100.0	

Practice study

A group of 12 participants were recruited to gauge the level of response for completing the online version of the Keirsey Temperament Sorter II. These individuals were students in a General Psychology course at Highland Community College. All 12 participants completed the online questionnaire. Based on this high response rate, it was determined that this survey method would be used for each participant in the study. The scores from this group were included in the final data set. The procedure used to collect data from all participants was exactly the same.

Analysis of Research Questions and Hypotheses

Hypothesis 1

Type I error rate for all analyses was set at $\alpha = .05$. The first research hypothesis stated, “There is a significant relationship between temperament and inspiration.” Based on Univariate Analysis of Variance results, this hypothesis was not supported. Tables 8, 9, 10, and 11 show the inspiration by temperament comparisons.

The means that each temperament did vary descriptively between inspiration types, but not enough to produce significant results. The NF temperament had the highest overall inspiration mean (39.05) and SJ the lowest (36.55). Overall, the temperaments had a mean inspiration score of 37.90.

A Levene test for homogeneity of variance was conducted. The test indicated that the assumption of homogeneity of variance was not violated ($F < 1$). An ANOVA, using Type III sum of squares, indicated that Hypothesis 1 was not support, $F(1,141) = 1.249$, $MSe = 45.17$, $p = .295$.

Table 8

Descriptive Statistics for the Temperament's Inspiration Scores

<u>Temperament</u>	<u>Inspiration</u>		
	M	SD	N
NF	39.05	6.460	38
NT	38.83	6.799	24
SJ	36.55	7.218	53
SP	38.07	6.028	30
Total	37.90	6.739	145

Table 9

ANOVA Results for Temperament by Inspiration

<u>Tests of Between – Subjects Effects</u>				
	Type III SS	df	MS	F
Temperament	169.22	3	56.40	1.25
Error	6370.22	141	45.17	
Total	214781.00	145		

Hypothesis 2

The second research hypothesis stated, “There is a significant positive relationship between positive affect and inspiration. Participants with high positive affect will have higher scores on inspiration.” To assess this hypothesis a simple linear regression analysis was conducted, with positive affect as the predictor variable and inspiration as the criterion. Results supported hypothesis two. Data points on a scatterplot indicated a positive linear relationship existed between the positive affect and inspiration. Positive affect explained 12% of the variance in inspiration ($R^2 = .123$). Tables 11 and 12 show the results of the regression analysis.

Table 10

ANOVA Table for Hypothesis Two

	<u>ANOVA</u>				
	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Regression	804.60	1	804.60	20.06	.000
Residual	5734.841	143	40.104		
Total	6539.448	144			

- a. Predictors: (Constant), Positive Affect
 b. Dependent Variable: Inspiration
-

Table 11

Coefficient Statistics for Positive Affect and Inspiration

	<u>Coefficients</u>				
	<u>Unstandardized Coefficients</u>		<u>Standardized Coefficients</u>		
	B	Std. Error	Beta	t	Sig.
Constant	23.886	3.172		7.531	.000
Positive Affect	.456	.102	.351	4.479	.000

Hypothesis 3

The third research hypothesis stated, “There is a significant positive relationship between the combined effects of temperament and positive affect on inspiration. Participants with high positive affect on each temperament will have higher scores on inspiration.” This hypothesis was not supported. A 2 x 4 ANOVA was conducted with Type III Sum of Squares. Positive affect scores were divided into two parts with a median split. For each temperament type, participants’ PANAS scores were separated into high and low positive affect. The positive affect groupings and temperament type were then analyzed (see Table 13).

A Levene test of Equality of Error Variances showed no significance, and the homogeneity of variance assumption was therefore not violated. There was no temperament by positive affect interaction. However, there was a main effect for positive affect, which confirms what was found for the test of Hypothesis 2. Table 13 presents results of the 2 x 4 ANOVA.

Table 12

Descriptive Statistics of Temperament by Positive Affect Compared to Inspiration

<u>Dependent Variable: Inspiration</u>				
<u>Temperament</u>	<u>Positive Affect</u>	<u>M</u>	<u>SD</u>	<u>N</u>
NF	1	38.15	6.831	20
	2	39.94	6.216	18
	Total	39.05	6.460	38
NT	1	35.11	5.533	9
	2	41.07	6.649	15
	Total	38.83	6.799	24
SJ	1	34.84	7.244	37
	2	40.50	5.550	16
	Total	36.55	7.218	53
SP	1	37.00	7.260	15
	2	39.13	4.486	15
	Total	38.07	6.028	30
Total	1	36.33	7.089	81
	2	39.87	5.733	64
	Total	37.90	6.739	145

1 = Low Positive Affect, < median scores

2 = High Positive Affect, > than median scores

Table 13

ANOVA Results for Temperament by Positive Affect and Inspiration

Tests of Between – Subjects Effects

Dependent Variable: Inspiration

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Temperament	40.587	3	13.52	.32	.81	.007
Positive Affect	362.471	1	362.47	8.59	.004	.059
Temperament * PA	228.610	3	76.20	1.80	.149	.038
Error	5778.07	137	42.17			
Total	214781.00	145				

a. R Squared = .116 (Adjusted R Squared = .071)

Summary

The results of the data analysis conducted to test the three hypotheses was presented in this chapter. Additionally presented was demographic information from the study's 145 participants. There was support found for only one of the three hypotheses. Hypothesis 2 was supported, suggesting that a relationship does exist between inspiration and positive affect. However, Hypotheses 1 and 3 were not supported. Chapter 5 includes a summary and discussion of the results.

Chapter 5

SUMMARY, DISCUSSION AND RECOMMENDATIONS

Overview

This research studied the relationships between inspiration, temperament, and positive affect. Inspiration was investigated using a definition by Thrash and Elliot (2003, 2004). Temperament was examined through Keirsey's (1998) theory of typology. Positive affect was defined and measured by way of Watson, et al.'s (1988) model.

Participants consisted of university and community college students. They were recruited from a Human Needs class at Kansas State University and General Psychology, Social Psychology, and Human Growth and Development courses at Highland Community College, Wamego campus. There were 146 participants. They were administered the Inspiration Scale (Thrash & Elliot, 2003) and PANAS (Watson, Clark, & Tellegen, 1988). They completed the online version of the Keirsey Temperament Sorter II.

This study analyzed three research questions:

1. Is there a relationship between inspiration and temperament?
2. Is there a relationship between inspiration and positive affect?
3. Is there a relationship between inspiration and the combined effects of temperament and positive affect?

An ANOVA, simple linear regression, and 2 x 4 ANOVA were used to analyze the data. Each test was analyzed at the 5% level of significance. The results indicated a significant relationship between inspiration and positive affect. This is consistent with previous research showing a connection between the two factors (Thrash & Elliot, 2002). Results showed no

significant relationship between inspiration and temperament. Similarly, no relationship was discovered between inspiration and the combined effects of temperament and positive affect.

Compatibility with Similar Studies

With reference to compatibility with previous studies, this research showed mixed results. One prior study linked inspiration to a particular type of temperament, approach (Thrash & Elliot, 2002). The current research suggested that a relationship between inspiration and temperament does not exist, at least according to criteria as proposed by the Keirsey Temperament Sorter II. However, the definition and measure of temperament as employed by this study did not include approach temperament (as discussed in current study's *Statement of the Problem*).

This study found a relationship to exist between inspiration and positive affect. This finding parallels that of Thrash and Elliot (2004), who proposed the two variables are closely tied. Positive affect being paired with temperament produced a significant relationship, but other studies have examined the three factors in other contexts together, not the particular definitions assigned or measures employed to study inspiration, temperament, and positive affect.

Contributions to Current Research

Results indicate a connection between inspiration and positive affect, although no significant relationship was found among inspiration and temperament. Based on this outcome, there are a number of implications for psychology and counseling.

1. This study demonstrated that temperament has no significant relationship with inspiration; hence, one's innate personality disposition has little bearing on whether or not one becomes inspired. Put another, more positive way, everybody across the diverse temperament spectrum has equal opportunity to attain inspiration.

2. As an identifiable relationship between inspiration and positive affect was revealed from the study, and as counselors already recognize the importance of positive emotional well being, clinicians *may be able* to use inspiration as a catalyst for provoking positive affect. If a counselor can inspire a client, the results of this study suggest that client could ultimately make improvements in the affective realm. However, it should be noted that the inspiration/positive affect connection is one of correlation and not cause and effect. Likewise, positive affect could be used to induce inspiration. Although this study has not demonstrated either of these methods, the *possibility*, due to the correlation established between the two factors, exists.
3. This study has given recognition to inspiration as a psychological, scientific construct. Due to the current limited research supply surrounding inspiration, the involvement of the variable is an inherent contribution. The study has shown that something once considered only in the realm of religion and the supernatural can be scrutinized using scientific measures. The contribution of this study was to take something philosophical and quantify it.

Discussion

This study attempted to take a variable that religion has long pondered and subject it to scientific scrutiny. Recently, the positive psychology movement along with a select few researchers (Hart, 1993, 1998, 2000; Thrash & Elliot, 2002, 2003, 2004) have recognized inspiration as a psychological construct, not a purely philosophical one. Therein lies a significant contribution of the present study: it took something philosophical and abstract and quantified it. Doing so proved to be a vigorous task, for although ample writings about inspiration exist, those that are scientific in nature are scarce. Rarer still are psychometric instruments that measure the

construct. Consequently, the limitations and hindrances of studying such a concept are hereby acknowledged.

Despite the adversity of the undertaking, this study has proved successful in not only its recognition of inspiration as a variable of scientific merit, but also in identifying a connection between it and a heavily researched, established concept in positive affect. Moreover, the study has raised an important question for the psychological community to answer – should it continue to recognize inspiration as having scientific value. What factor(s) account for the variance in inspiration? Positive affect accounted for approximately 12%. Thus, the majority of inspirations makeup remains unknown. If inspiration is to someday be applied by psychology, the structure of the concept must first be comprehended.

Recommendations for Further Study

In order to comprehend the inspiration phenomena more completely, to understand its role in the human condition, and to identify how inspiration can be coupled with other factors to possibly influence a therapeutic setting, further studies are needed. For example:

1. Relatively little is understood scientifically about inspiration. Conceptualized as a phenomenon involving evocation, motivation, and transcendence (Thrash & Elliot, 2003), inspiration materialized across different fields, from the religious to the environmental. For centuries people have reported being inspired the supernatural. For equally as long, external events and things have inspired, such as Such a widespread phenomena justifies specific examination into the dynamics of inspiration in each field. For example, do religious people exhibit higher levels of inspiration? If so, do they report higher levels of positive affect and thus better health?

2. Inspiration should be studied using a wider variety of measures. The current study employed use of the Inspiration Scale, a psychometrically sound measure, yet one of the few measures of inspiration. More instruments would lead to a more holistic perception of inspiration. Conversely, more domain specific measures would create a clearer picture of how inspiration operates when initiated by religious, environmental, or intra-psychic means. It should be noted that the instrument used to gauge inspiration, the Inspiration Scale, is a comprehensive measure whose developers took into account these common domains (religion, environment, intra-psychic) in which inspiration is thought to derive and materialize.
3. As the present study examined inspiration, temperament, and positive affect from an American perspective, more studies are needed that explore these factors across other cultures. Conceptualizing the factors and implementing the study from varying cultural perspectives would add to a research base deficient in this area.
4. If future researchers choose to define inspiration as a phenomenon that is evoked from a stimulus outside of a person and not something willfully generated, study into how to evoke inspiration would be advantageous to the field. The present study established a link between inspiration and positive affect. Identification of specific ways to bring about inspiration may help enhance an individuals positive affect level, which research suggests has various health benefits (Isen, 2002).
5. Further study could modify the current research. Although a relationship was found between inspiration and positive affect, no cause and effect among the factors was established. Future research could conduct an experiment involving inspiration and positive affect in hopes of determining if one variable brings about the other.

Additionally, temperament could be compared to inspiration and positive affect using a separate model of the personality spectrum than the one employed in this study. Rather than Keirsey's version of typology and personality, studies into trait theories could be performed.

Conclusion

Inspiration has long played a central role in peoples lives. It can contribute to greatness and happiness when present (Isen, 2000) and lead to loneliness and depression when absent (Hart, 1998). Such an important behavioral variable surely deserves more attention in the psychological community. For if inspiration can be invoked by therapeutic actions then clinicians could use the power of inspiration to benefit their clients.

The outcomes of this study suggested that people experience varying levels of inspiration regardless of their fundamental makeup. Temperament had little bearing on inspiration. A logical deduction can therefore be made: Inspiration favors no one merely due to something beyond one's control. Also, high inspiration levels can be found often in individuals with high positive emotional content. As such, those who report positive affect stand a good chance of entering the inspired realm. For even if inspiration can rarely be evoked willfully, positive affect can be brought about through good decision-making (Isen, 1987), and once tangible positive affect is attained, magical inspiration may be nearby.

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APPENDIX A

Participant Demographic Form

Participant Demographic Form

Age: _____

Gender: _____

Grade Classification:

- 1) Freshman
- 2) Sophomore
- 3) Junior
- 4) Senior

TEMPERAMENT TYPE (SJ, SP, NF, or NT)

Email address:

AdvisorTeam Password

APPENDIX B

Inspiration Scale (IS)

Inspiration Scale

Directions:

Below are four statements, each followed by two questions. The questions concern how often and how deeply/strongly you experience what is described in the statement. Please answer both questions after each statement by circling numbers from 1 to 7.

1. I experience inspiration.

A) How often does this happen? [never] 1 2 3 4 5 6 7 [very often]

B) How deeply or strongly (in general)? [not at all] 1 2 3 4 5 6 7 [very deeply or strongly]

2. Something I encounter or experience inspires me.

A) How often does this happen? [never] 1 2 3 4 5 6 7 [very often]

B) How deeply or strongly (in general)? [not at all] 1 2 3 4 5 6 7 [very deeply or strongly]

3. I am inspired to do something.

A) How often does this happen? [never] 1 2 3 4 5 6 7 [very often]

B) How deeply or strongly (in general)? [not at all] 1 2 3 4 5 6 7 [very deeply or strongly]

4. I feel inspired.

A) How often does this happen? [never] 1 2 3 4 5 6 7 [very often]

B) How deeply or strongly (in general)? [not at all] 1 2 3 4 5 6 7 [very deeply or strongly]

Note: Key for the Inspiration Scale: Inspiration **frequency** subscale: sum of items: 1a, 2a, 3a, 4a; Inspiration **intensity** subscale: sum of items: 1b, 2b, 3b, 4b; **Overall** scale: sum of items: 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b. Source: Thrash, T. M., & Elliot, A. J. (2003).

APPENDIX C

Positive and Negative Affect Schedule (PANAS)

PANAS

Directions: This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you generally feel this way; that is, how you feel on the average. For example, if you generally feel Interested “Quite a bit” then circle 4 in the corresponding row.

Use the following scale to record your answers.

(1) = Very slightly or not at all (2) = A little (3) = Moderately (4) = Quite a bit (5) = Extremely

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

American Psychological Association, 1988; Reprinted with permission. (Watson, Clark, & Tellegen, 1988)

APPENDIX D

Website to register and take the Keirsey Temperament Sorter II (KTS-II)

The #1 online personality assessment. Designed by David Keirsey PhD for corporate, career and personal development. Used by Fortune 500 companies, counseling professionals, and major universities Top of Form

Please provide the following:

Name: Why?
E-mail:
Verify E-mail:
Create password:
Verify password:
Professional User: Yes No



Yes! Subscribe me to Personality Zone, the free quarterly newsletter from AdvisorTeam.com. Thank you!

Returning Users Please log in:

Email:
Password:

- Go to my Personal Page
- Take the Sorter

SUBMIT

[Forgot your password?](#)

APPENDIX E

Permission to use the PANAS

From : Dr. David Watson <david-watson@uiowa.edu>
Sent : Wednesday, May 17, 2006 2:22 PM
To : "Rusty Fulmer" <rfulmer@hotmail.com>
CC : la-clark@uiowa.edu, kthomas@apa.org
Subject : Re: PANAS use

Dear Mr. Fulmer,

I appreciate your interest in the PANAS, and I am pleased to grant you permission to use the PANAS in your dissertation research. Please note that to use the PANAS, you need both our permission and the permission of the American Psychological Association (APA), which is the official copyright holder of the instrument. Because I am copying this email to APA, however, you do not have to request permission separately from APA; this single e-mail constitutes official approval from both parties.

We make the PANAS available without charge for non-commercial research purposes. We do require that all printed versions of the PANAS include a full citation and copyright information (i.e., "American Psychological Association, 1988; reprinted with permission").

Good luck with your research.

Sincerely,

David Watson

APPENDIX F

Permission to use the Inspiration Scale

From : <tmthra@wm.edu>

Sent : Wednesday, May 10, 2006 1:21 PM
To : Rusty Fulmer <rfulmer@hotmail.com>
Subject : Re: IS questions

Feel free to go ahead and use the measure.
Todd

APPENDIX G

Institutional Review Board (IRB) Exemption Statement

Kansas State University
University Research
Compliance Office
203 Fairchild Hall
Lower Mezzanine
Manhattan, KS 66506-1103
785-532-3224
Fax – 785-532-3278
<http://www.ksu.edu/research/comply>

TO: Fred Bradley
CEP
322 Bluemont Hall

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: September 1, 2006

RE: Proposal Entitled, “The relationship between inspiration as a psychological construct, temperament, and positive affect”

Proposal Number: 4005

The Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is exempt from further review.

This exemption applies only to the proposal currently on file with the IRB. Any change affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Exemption from review does not release the investigator from statutory responsibility for obtaining the informed consent of subjects or their authorized representatives, as appropriate, either orally or in writing, prior to involving the subjects in research. The general requirements for informed consent and for its documentation are set forth in the Federal Policy for the Protection of Human Subjects, 45 CFR 46.116-117, copies of which are available in the University Research Compliance Office and online at <http://ohrp.osophs.dhhs.gov/humansubjects/goidance/45cfr46.htm#46.116>. In cases of remote oral data collection, as in telephone interviews, oral consent is sufficient and the researcher is required to provide the respondent with a copy of the consent statement only if the respondent requests one. The researcher must, however, ask the respondent whether he or she wishes to have a copy. The initiative in requesting a copy must not be left to the respondent. Regardless of whether the informed consent is written or oral, the investigator must keep a written record of the informed consent statement, not merely of the fact that it was presented, and must save this documentation for 3 years after completing the research.

The identification of a human subject in any publication constitutes an invasion of privacy and requires a separate informed consent.

Injuries or any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.