2008

Examining our worst fears

Jennifer Elmassian Leszkiewicz
Smith College

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ABSTRACT

Fifty five graduate students in the 2008 class of Smith College School for Social Work, on average, seek symbolic immortality through existential themes, excluding religion. Additionally, the more students identify with themes that define meaning in their lives, the greater their fear of encountering threats to that meaning. Further, students reported that they *daydream* about existential fears that threaten symbolic immortality more frequently than they dream, or have memories of them; and that they *dream* about primal fears more frequently than they daydream, or have memories of them.

This study tested the hypotheses that people fear what they imagine might happen to them more than what has actually happened to them (Kunzendorf, et al., 2003-2004; 2006-2007); and that the imagined happening that each individual fears most is not death per se, but something that represents a threat to meaning of life as defined by each individual (Kunzendorf, et al., 2006-2007). Students were surveyed to examine if they preserve their immortality through their work as social workers. Students were invited via e-mail to anonymously participate in this quantitative study that explored an individual's fears through utilization of three self-rating scales.

This research may increase awareness that although social work graduate students dream about primal fears, they daydream about their meaningful lives, and that they hope to live on through their positive work with their clients. Additionally, findings suggest that it is important for social workers to attend to their clients' worst fears by listening for existential themes that threaten meaning in life.

EXAMINING OUR WORST FEARS

A project based upon an independent investigation,
submitted in partial fulfillment of the requirements
for the degree of Master of Social Work.

Jennifer Elmassian Leszkiewicz

Smith College School for Social Work
Northampton, Massachusetts 01063

2008

"My heart is afraid that it will have to suffer," the boy confides to the alchemist one night as they look up at a moonless night. "Tell your heart that the fear of suffering is worse than the suffering itself," the alchemist replies. "And that no heart has ever suffered when it goes in search of its dreams, because every second of the search is a second's encounter with God and with eternity."
- Paulo Coelho (The Alchemist)

ACKNOWLEDGEMENTS

I wish to thank my thesis advisor, Jennifer Perloff, for her time in reviewing this research project. I also wish to thank my undergraduate professors in the Department of Psychology at the University of Massachusetts Lowell for preparing me with an exceptional foundation for my graduate school experience. As always, thanks to Conrad, Ernie, Roberto, André, and Jasper for their continuous love and support.

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CHAPTER I

INTRODUCTION

This study is an extension of previous group research that I co-conducted during 2006 at the University of Massachusetts Lowell (UML), in working toward a Bachelor of Arts degree in psychology. This previous research, *Dreaming and daydreaming about dreadful possibilities: Primal fears versus existential fears* (Kunzendorf et al., 2006-2007), was part of a larger UML study that examined the extent to which people can imagine unseen possibilities.

Fears and phobias are part of the human condition. An array of frightening thoughts and situations has alarmed people of every culture from the beginning of time. We as a society spend an ample amount of time and energy avoiding, rationalizing, coping with and often analyzing the worst case scenarios of our lives.

Protection of the body, mind, and spirit seem to be an obvious component that comes to mind when attempting to allay one's worst fears. Perhaps an individual's worst fears are instinctual as a survival mechanism. It could be that there is validity to the common perception that postponing death is the ultimate goal of our lives and that our worst fears involve the inability to stave off our physical demise. Perhaps it is conceivable that an individual's worst fears are developed by experience. Carl Jung spoke of the "collective unconscious" which influences behaviors in every circumstance passed down through generations. According to Jung's "psychic inheritance" all of our

experiences as a species are passed along dating back to the most primitive of ages (Jung, 1981). Perhaps fears are passed along, as well.

It is also conceivable that an individual's worst fears do not come from instinct or experience but are made up of *imagined happenings* (Kunzendorf et al., 2003-2004; 2006-2007). Ernest Becker (1975) contended that "more than death itself, what man fear(s) most (is) a nameless and faceless death" (p.92). Further, a perspective put forth by Robert Jay Lifton suggested that "there is a fundamental need in mankind to relate to life beyond the self" and that a need for "symbolic immortality" can be "expressed by different people in different ways or 'modes'" (Mathews & Kling, 1988, p.5).

In evaluating social work graduate students at Smith College School for Social Work as part of a Master's level thesis for Smith College School for Social Work, this study tests the hypotheses that people fear what they imagine might happen to them more than what has actually happened to them (Kunzendorf, et al., 2003-2004; 2006-2007); and that the imagined happening that each individual fears most is not death per se, but something that represents a threat to "meaning of life" as defined by each individual (Kunzendorf, et al., 2006-2007). These hypotheses grow out of Becker's and Lifton's theories because Becker contended that "the 'immortality symbols' that men have used and discarded across the face of history [are accordingly designed] to preserve their immortality rather than their lives" (Becker as cited in Kunzendorf et al., 2006-2007, p. 250). Lifton (1974) suggested that even though individuals eventually face a physical death, each attempt to endure by way of five distinct modes of symbolic immortality: *biological; creative; religious; nature;* and *experiential.*

Smith students were contacted via e-mail and they were asked to anonymously participate in this quantitative study that explores an individual's fears through utilization of three self-rating scales. These scales were comprised of Mathews and Kling's (1988) "Symbolic Immortality Scale" (Appendix A); Kunzendorf et al.'s (2006-2007) "Worst Fears Correspondence and Intensity Scale" (Appendix B), and Kunzendorf et al.'s (2006-2007) "Frequency of Dream Images, Daydream Images, and Memory Images Scale" (Appendix C) which correspond to Mathews and Kling's scale.

This study may advance important research by exploring if an individual's worst fears are direct fears of one's own mortality, or due to disconnection from what one views to be a meaningful life. Utilizing this specific population may also provide insight into whether or not individuals are inclined to dedicate their lives to a career in social work to ensure that their work will live on through others, preserving their own immortality to escape what Becker would term "a nameless and faceless death." In addition, this research may encourage social workers to better attend to their clients' worst fears by listening for existential themes.

CHAPTER II

LITERATURE REVIEW

Social Workers as a Group

Social work students invest a tremendous amount of time and resources as they work toward their graduate degrees. Students enter this field fully aware that after graduation they will enter into a profession that may not yield large monetary dividends. Each student has her/his own reasons for pursuing a career in this field; however, it is clear that each is entering a career dedicated to helping others through life's struggles.

Little research is available regarding why students choose social work for a career, or about the demographic profile of this group in general (Gibelman & Schervish, 1997; Rompf & Royse, 1994). Some profile statistics are provided by the *National Association of Social Workers (NASW).* However, the majority of NASW members hold master's degrees, but the majority of social workers in the United States hold bachelor's degrees. Therefore, NASW's profile statistics may not adequately reflect social workers, as a group. "In short, almost nothing is known about the national population of social workers" (Hodge, 2004, p.261).

Through his own research comparing social workers to the general population, Hodge (2004) did assert that "social workers were more likely to rate their lives as exciting, to live in racially mixed neighborhoods, to be stronger proponents of controversial speech, and to be perceived by survey interviewers as friendlier than the general public" (p.261).

Social Workers and Empathy

"Empathy refers to the capacity to understand and respond to the unique affective experiences of another person" (Decety & Jackson, 2006, p. 54). Often, students who pursue a career in social work explain that they do so to help other people with struggles, out of empathy. Perhaps there is a desire to make meaning when helping others. Perhaps their desire stems from a joining between the one who is in need and the helper who has felt misunderstood, or oppressed, or has been in need of some form of assistance in her/his own live as well. Research supports that when compared with the general population, social workers are often more exposed to early traumatic experiences within their families of origin (Black, Jeffreys, & Hartley, 1993; Marsh, 1988; Rompf & Royse, 1994; Russel, Gill, Coyne, & Woody, 1993). In contrast, Floyd, Coulon, Yanez, and Lasota (2005) studied 504 relatively young undergraduate students who responded to questions regarding trauma, fear of death, overall distress, and meaning in life. Findings suggest that there was no significant differences between those with a history of trauma exposure and those who had none, when measuring for levels of heighten fear of death and increased meaning in life.

Wired for Empathy

Research supports that we have built-in neural capacity for empathy within our brains that enables us to empathize. A social-neuroscience perspective asserts that "individuals come to understand the emotional and affective states expressed by others with the help of the neural architecture that produces such states in themselves" (Decety & Jackson, 2006, p. 54). Further, research supports that "social workers' perceptions of their health status, level of general happiness, and job satisfaction were just as high as

those of the general population" (Hodge, 2004, p.261). Perhaps those in this career are able to supply what seems like endless empathic care because of additional built-in components that humans have which allows for the ability to "monitor and regulate cognitive and emotional processes to prevent confusion between self and other" (Decety & Jackson, 2006, p. 54).

Prosocial and Altruistic Behavior

Aronson et al. (2005) define the term *prosocial behavior* as "any act performed with the goal of benefiting another person," and the term *altruism* as "the desire to help another person even if it involves a cost to the helper" (p.358). Evolutionary psychologists contend that prosocial behavior may have genetic roots, and may have evolved through natural selection. Darwin (1871) asserted through his theory of *group selection,* that behaviors that are beneficial to the survival of the overall group to which an organism belongs, are favored by natural selection.

Modern evolutionary psychologists often subscribe to *kin selection,* whereby "behaviors that help a genetic relative are favored by natural selection" (Aronson et al., p.359). This continues to be displayed in the bird, and animal kingdoms, as various birds, squirrels, and monkeys vocally warn others when predators are nearby. In doing so they risk being eaten themselves (Peetz, 2005). Evolutionary psychologists also look to another genetically-based theory, *norm of reciprocity,* to explain prosocial behavior. This theory asserts that "the expectation that helping others will increase the likelihood that they will help us in the future" (p.359).

C. Daniel Batson is perhaps one of the strongest proponents of the concept that people often help others for purely altruistic reasons (Aronson et al., 2005). Further, we

are more likely to help another person when we feel empathy towards them, even if it is at a cost to the helper (Batson, 1991).

Perhaps future research that explores social workers exclusively is needed to better indicate whether or not this group dedicates their lives to a career in social work to ensure that their work will live on through others, preserving their own immortality for fear of what Becker would term "a nameless and faceless death." However, it is possible that different social workers have varied motivations for entering this field, or it may be that there is no driving force for this career path other than purely altruistic behavior. Before an assessment can be made as to whether social workers seek immortality through their chosen career, it may be important to better understand the inner-workings of fear.

Summary

Little research is available regarding why students choose social work for a career, or about the demographic profile of this group in general. Research supports that when compared with the general population, social workers are often more exposed to early traumatic experiences within their families of origin. Perhaps social workers are motivated purely out of empathy for others who share their early-life experiences. Further, evolutionary psychologists suggest that prosocial behavior may have genetic roots. Although research supports that those with a history of trauma exposure, compared to those who do not, have no significant differences when measuring for levels of heighten fear of death and increased meaning in life.

The literature, while providing the results of some research, does not provide conclusive findings or comprehensive reference to research on this subject. Further research, specific to investigating social workers, may be beneficial to better assess if

those who choose the field of social work find their prosocial work rewarding within itself, or whether they do so to achieve symbolic immortality out of fear of confronting what Becker would term "a nameless and faceless death." It is important to understand the origins of fear to better understand Becker's theory.

The Evolution of Fear

The disciplines of neurology, psychology, and psychiatry are included in the study of *behavioral neuroscience*, which focuses on the function of the nervous system, especially the brain, in understanding animal behavior (Davis & Palladino, 2005). This science is rooted in Charles Darwin's theory of *natural selection* in which the specific characteristics of an organism, that allow for better adaptation within an environment, are more likely to be genetically passed along to an organism's future generations (Darwin, 1859). The following sections describe how humans are hard-wired to react to fear, as a survival mechanism, when physically, emotional, and/or socially threatened.

The Fearful Brain

The brain processes fear via two interconnected systems. The *fast system* depends on the inner-brain structure called the amygdala for reflexive and unconscious decision-making for immediate survival. The *slow system* depends on higher-evolved networks which allow for a conscious, contextual, and in-depth appraisal of potential danger within a given situation (Cozolino, 2002).

As a result of natural selection, the human nervous system has evolved over thousand of years. Most humans no longer have the need to physically fight or flee from predators on a daily basis. However, we continue to have surges of adrenaline, as well as surges of other stress hormones, pump through our bodies when we are faced with danger

– whether the threat is perceived or actual. Because animals have been continuously weary of dangerous situations that threaten survival throughout the years, "evolution favors anxious genes" (Beck as cited in Cozolino, 2002, p. 235).

Fighting for Survival

"Instincts are modes of energy that lead to certain forms of life-preserving behavior" (Lifton, 1974, p. 54). Several theorists suggest that aggression is innate and inevitable and that it has survival value (Freud, 1930; Lorenz, 1966). In the classic 1651 work *Leviathan,* Thomas Hobbes, as well, argued that humans have a natural instinct to aggress (Aronson, Wilson, & Akert, 2005). The idea that animals are genetically predisposed to fight, or aggress, has been debated for years. The research of Lore and Shultz (1993) asserted that every vertebrate species uses some form of aggression and that "the universality of aggression suggests that it evolved and has been maintained by natural selection because it has survival value" (p.18). However, they also put forth that aggression is an "optional strategy" for humans, as well as other species, because "equally powerful mechanisms" have evolved which allow for either the inhibition or expression of aggression.

Fearing for Survival

In addition to our primal physical reactions that trigger us to fight or flee a threatening situation, humans have inherited emotional reactions, such as fear, that are also valuable to our survival (Davis & Palladino, 2005). Early on, Darwin asserted that facial expressions have survival value as each expression communicates a specific emotional state (Darwin, 1872). Additional research conducted by Ekman & Friesen (1971) supports that the ability to encode and decode six major emotions (anger,

happiness, surprise, fear, disgust, and sadness) translates across culture and is innately part of being human and not a product of experience.

In his work regarding the primacy of emotion, Zajonc (1980) theorized that emotion stems from a survival instinct and cognition follows to support or negate the responses to emotion. He contended that "it was the *affective system alone* [a system of feelings and various emotions] upon which the organism relied for its adaptation" (p.170), as the limbic system that controls emotional reactions had been present *prior* to language and abstract thinking. In addition, "unlike language and cognition, affective responsiveness is universal among the animal species" (p.156).

Contrary to Zajonc, Lazarus (1982) purported that sensory experiences cause cognitions to occur, and in return cognitions lead to emotion. However, he does make an exception, citing that "perhaps humans are 'instinctually' wired to react with fear to spiders, snakes, or strangeness" (p.1021).

Social Exclusion: A Threat to Survival

Perhaps humans respond to another's gaze for their need for social acceptance, or worse, for fear from exclusion of a social network. Eisenberger, Lieberman, and Williams (2003) studied participants experiencing social exclusion while their brain activity was monitored using Magnetic Resonance Imaging (MRI). This research supports that the same regions in the brain that become activated when an individual experiences social exclusion are the same regions activated during physical pain.

Leary and MacDonald (2005) asserted that fear of social exclusion is significant to an individual's safety and survival, and is as equally vital as threats to physical wellbeing. Their research suggests that "social and physical pain share common

physiological mechanisms" and that "social exclusion is experienced as painful because reactions to rejection are mediated by aspects of the physical pain system" (p.202). Further, Panksepp (2003) proposed that this may explain the physical pain that accompanies emotional distress due to social rejection.

Emotional upheaval may be perceived as an imminent threat to one's contentment and may demonstrate the link between the equality of physical and emotional survival. Somatic symptoms often arise when an individual is emotionally threatened. People often express their emotional pain by saying that they are "broken hearted," "cut to the core," or "emotionally scarred" by a rejection or other loss of social connection (Leary & MacDonald, 2005). Other idioms such as "go with your gut," "keep a stiff upper lip," "it left a bad taste in my mouth," "it tore my heart out," and "it's a pain in the neck," are additional somatically expressive.

In addition to humans, other animals have a great need for social inclusion as well. Through his research conducted on monkeys, Harlow (1965) reared infant monkeys within total social isolation, containing them within an "isolation chamber" away from humans and other monkeys for up to two years. His findings suggest that total-isolation (and semi-isolation) of the monkeys "reduces these animals to a social-emotional level in which the primary social responsiveness is fear" (p.96).

The Role of the Amygdala

Fear: Actual versus Imagined

The term amygdala, the Latin word for almond, was first used by the anatomist Burdach in 1819 to describe "an almond-shaped cell mass located deep in the human temporal cortex …involved in negative and positive affect as well as spatial and motor

learning" (Davis & Whalen, 2001, p. 13). The amygdala, a pair of symmetrical brain structures is also involved in fear conditioning (Phelps et al., 2001). Begley, Underwood, Wolffe, Smalley, and Interlandi (2007) reported that this brain structure, which sets off the fear alarm within, is a structure that evolved well before the neocortex-the seat of conscious awareness. Fear evolved as a means to protect us from life-threatening situations, which is the prime objective of the evolutionary process. Because of this, "the evolutionary primacy of the brain's fear circuitry makes it more powerful than the brain's reasoning faculties" (p.37).

The amygdala has many pathways that connect to higher brain regions; however, fewer connections run from the higher brain regions to the amygdala. This enables fear to easily override logical thought, making it much more difficult for the reverse to happen without a great deal of effort and persistence (Begley et al., 2007). Many of us have fled from that venomous snake disguised as our garden hose! After being startled, we realize that the hose is not a threat; however, it takes a moment to override our startle response with logic, and for our bodies to return to their normal state of homeostasis.

Another example regarding the power of fear is demonstrated through an experiment that compared individuals' selection choices for flight insurance. Research supports that when individuals are given the choice between flight insurance that would cover "death by any cause" or, specifically, "death by terrorism," individuals chose the latter, even through an act of terrorism would be included in the "death by any cause" insurance choice (Gore, 2007). It appears that the specific term "terrorism" evokes an image that "triggers the amygdala's fear response" more powerfully than the alternative insurance choice: "by any cause" (Begley et al., 2007, p.37).

Further, Sarason and Sarason (2005) suggested that the extent to which we fear harmful events or scenarios is determined not by the probability that we will be faced with such threats, nor the amount of injury that we imagine we might endure; but, instead, it is "the disturbing quality of the event or situation itself" that we fear most (p.245).

Animals can learn to fear harmful stimuli from experience. However, humans may not need to have *direct experience* with harmful stimuli to fear it. Research supports that *simply being told* about harmful stimuli may be sufficient for us to fear it, and that to learn fear in the absence of direct experience is distinctively human. Additionally, research supports that it is the activation of the amygdala that is involved whether harmful stimuli have been *experienced* or *simply threatened* (Phelps et al., 2001).

Research supports that people sometimes misidentify their emotions, and that they demonstrate *misattribution of arousal*, whereby people sometimes incorrectly identify the stimulus of their emotions that cause them to feel as they do, within a given situation (Aronson et al., 2005; Schachter & Singer, 1962). Further, research supports that "people concoct stories to explain lingering emotions, when the true source of emotion has passed without conscious integration" (Kunzendorf, et al., 2003-2004).

Fear and Dreams

Fear and anxiety appear to be the overall most common emotions reported in dreams (Kramer, 1970; Nielsen et al., 1991). Hartmann (2001) suggested that our dreams connect our memories with our imagination, combining together the many different people that we know (or do not know), as well as the many different places we have been (or hope to visit). Hartmann asserted that these connections are far from random, but

instead, reflect our emotions and emotional concerns present during the hours we spend awake.

Hartmann asserted that our dreams provide a context for our emotions, creating metaphors for our waking lives. He described dreaming as a "safe place" to make connections enabled by "the muscular paralysis of REM sleep which completely prevents the dreamer from running around screaming, shooting people, etc." (p.30).

Kunzendorf et al. (2006-2007) suggested that dreams depicting primal fears may involve the amygdala:

> "Dreams portraying primal fears might be attributable to the amygdala's 'fear module,' wherein 'evolution has made some objects and situations innate sources of fear' (Mineka & Öhman, 2002, p.927). Activation of the amygdala has been scientifically observed during rapid-eye-movement sleep (REM) when dreaming occurs (Braun et al., 1997; Hobson, Stickgold, & Pace-Schott, 1998; Maquet et al., 1996). Accordingly, primal fears that are hard-wired into the amygdala might sometimes be activated during REM sleep and might consequently be portrayed in REM dreams" (Kunzendorf et al., 2006-2007, p.256).

Summary

The study of behavioral neuroscience, rooted in Charles Darwin's theory of natural selection, is a developing science that helps to shed light on the human response of fear. Brain structures have evolved over the years; however, primitive neural structures continue to greatly influence conscious and unconscious thought processes. Although we have the ability to use intellect to override our fears, we continue to react to actual and/or perceived physical, psychological, and emotional threats during wakeful hours as well as

in our dreams. It could be that our fear for survival, in combination with our highly-evolved intellect, motivates us to make meaning in our lives. To better understand this need to make meaning in our lives, it is first important to explore the evolution of thought.

The Study of Thought and Meaning-Making

Instinct versus Experience

Brett (1953) cited that interest in thought has been important to humans dating at least as far back as the Greeks of the sixth century before Christ. Before 1850, those who studied thought were philosophers. Empiricism, the belief that all knowledge comes from experience, was supported by philosophers including John Locke, David Hume, John Stuart Mill, Thomas Hobbes, and George Berkeley. However Nativism, the alternative position to Empiricism, asserted that humans have some ideas that are *not acquired by experience* but are instead innate. Among the many ideas which French philosopher, mathematician, and Nativist René Descartes proposed was that everyone must believe in their own existence (Hayes, 1978). The debate between which of our ideas and behaviors are learned, and those which are innate, continue into modern times.

The Self-conscious Animal

Although humans have studied thought for years and years, it appears that there is no definitive description of the term "consciousness." Oakley (1985) wrote: "There are as many definitions of *awareness* or *consciousness* as there are writers (and readers)" (p.133). Theorists define these terms in a myriad of ways. For Oakley, *simple awareness, consciousness,* and *self-awareness* are three separate classifications that fall under the rubric of *awareness.*

Firstly, Oakley contended that *simple awareness* is comprised of primitive stimuli/response associations, utilizing an animal's reflexive system, as well as its homeostatic systems. Secondly, Oakley described *consciousness* as a more advanced state, which allows for "the ability to create central representations of external events and to use them as a basis for behavior" (p.137). It appears that consciousness depends on a more highly evolved information processing strategy within the brain. Some reptiles, birds and mammals experience consciousness. Thirdly, Oakley asserted that *self-awareness* describes the state when one is cognizant that she/he is an initiator of her/his own actions, and that she/he is a being with specific characteristics, dislikes, wants, and desires. Oakley suggested that for humans "the sense of 'me-ness' is perhaps the most powerful and influential part of the contents of self-awareness" (p.144). The implications of Oakley's assessments suggest that the highly-evolved brain is unique in that it is capable of employing abstract thought, including contemplation of mortality.

Self-image

When one becomes the object of one's own attention, one is said to possess a *self-image* (Oakley, 1985). Slobodkin (1978) purported that for humans the "self" appears consistent around the age of two or three years, when a child begins to refer to her/himself, suggesting that the child sees her/himself as a separate existence. However, he did not believe there to be a biological basis for the self-image, and purported that self-image is "determined by the individual's own experience within his or her cultural group" (thus countering those who believe that humans are predisposed to aggress) (Slobodkin as cited in Oakley, 1985, p.144).

Although it has been debated for years whether or not any other animals besides humans are self-aware, it may be that self-awareness is indeed employed by other animals. Gallup (1977) conducted self-recognition studies using mirrors which suggested that some high-ordered animals, such as chimpanzees and orangutans, become the object of their own attention as they display self-directed behavior when placed in front of a mirror. Other accounts suggest that animals, such as gorillas and elephants, may even possess an awareness of mortality (Kowalski, 2007).

The Human Desire to Transcend Death

Ernest Becker: Facing Our Existential Dilemma

The cultural anthropologist Ernest Becker (1973, 1975) believed that all animals are spared awareness of their imminent demise except for humans, who are uniquely aware of their own mortality:

> "What does it mean to be a self-conscious animal? The idea is ludicrous, if it is not monstrous. It means to know that one is food for worms. This is the terror: to have emerged from nothing, to have a name, consciousness of self, deep feelings, an excruciating inner yearning for life and self-expression–and with all this yet to die" (Becker, 1973, p.87).

"Our power of memory and foresight, according to Becker and other philosophers, gives human beings a position in the universe that is both exalted and tragic" (Kowalski, 2007). Becker (1973, 1975) espoused that we humans face a difficult existential dilemma: We are unique among animals, as we are self-conscious (Oakley would use the term *self-aware*); we use complex language systems; and we are able to create, to contemplate and

to reflect. Nonetheless, we are indeed like all other animals in that we share a finite lifespan.

However, Becker theorized that humans do not perseverate on this every moment of the day. He believed, instead, that defense mechanisms, including denial and repression, keep at bay the anxiety which stems from our thoughts of mortality. He claimed that "humans desire eternal life and prosperity and create cultural symbols, which do not age or die, to alleviate their fear of death and to provide the promise of immortality" (Munley & Johnson, 2003, p. 367). Becker asserted that "more than death itself, what man fear(s) most (is) a nameless and faceless death" (1975, p.92). Further, Becker (1973) asserted that humans create meaning in their lives so that, in the face of physical death, their existence would matter.

Robert Jay Lifton: Enduring through Symbolic Immortality

Among his many works, the psychiatrist and psycho-historian Robert Jay Lifton studied the physical and psychological effects of survivors of the 1945 explosion of the atomic bomb in Hiroshima in his book *Death in Life: Survivors of Hiroshima*. Lifton (1967) observed that survivors of the bomb tried to make meaning out of why *they* had survived, while others had not, in order to find meaning in the rest of their lives. "Lifton concluded that there is a fundamental need in mankind to relate to life beyond the self" (Mathews & Kling, 1988, p.5). Lifton proposed that through "*symbolic immortality*," the psychological process of creating meaningful images in our lives, "people feel a sense of attachment to human flow, to both their biology and their history. They feel a *sense of immortality* which enables active, vital life to go on" (Lifton, 1974, pp.59-60). He

purported that this need for symbolic immortality is inherit in all people, although they may be expressed very differently as a result of individuality or culture.

Lifton (1974) suggested that even though individuals eventually face a physical death, each attempt to endure by way of five distinct modes of symbolic immortality: biological; creative; religious; nature; and experiential. Lifton's biological mode is the sense that people will live on through their children and relatives, through important social relationships, and through one's culture as traditions are passed down through generations.

Lifton's creative mode suggests that our accomplishments and contributions will benefit those who survive us. Included in this mode are "teaching, art-making, repairing, construction, writing, healing, inventing, or through lasting influences of any kind on other human beings" (p.61). The religious mode, according to Lifton, suggests a graduation to a higher plane after death. In this mode, one transcends death "through spiritual attainment that connects one with eternal principles" (p.64). Lifton indicated that spiritual teachers including Buddha, Moses, Christ, and Muhammad, transcended individual death and provided a means for which their followers could transcend death, as well.

Lifton's nature mode involves the sense that immortality is achieved though being part of nature. "Whatever happens to man, the trees, mountains, seas, and rivers endure" (p.65). Lifton suggested that we continually go back to nature for "spiritual refreshment and revitalization," as the earth continually endures regardless of what happens to humankind.

Mathews and Kling (1988) describes Lifton's experiential mode as "being in an intense psychological state where time and death disappear. This state occurs when people 'lose themselves' in what they are doing" (p.7). Lifton (1974) asserted that these psychological states may be attained through "music, dance, battle, athletics, mechanical flight, contemplation of the past, artistic or intellectual creation, sexual love, childbirth, comradeship, and the feeling of working together with others in common cause" (p.82).

A Meaningful Life - A Meaningful Death

In addition to Becker, and Lifton; Yalom (2003) is yet another theorist who believed that death denial is an important defense mechanism: "One of our chief modes of death denial is a belief in personal *specialness*, a conviction that we are exempt from biological necessity and that life will not deal with us in the same harsh way it deals with everyone else" (p.xiii-xiv). However, when the threat of death does come, it appears that people quickly begin their quest for meaning, if they have not yet begun their search. Koestenbaum (1964) asserted: "The man who knows he will die wastes no time in attacking the problem of finding meaning and fulfillment in life…(he who faces death) adopts a no-nonsense approach to the business of living successfully" (p.164).

Yalom contended "though the physicality of death destroys us, the idea of death may save us" (p.126). Citing the literary works of Tolstoy's *The Death of Ivan Ilyich*, and *War and Peace*, as well as Dickens' *A Christmas Carol*, Yalom reminds us how the life of each protagonist is transformed with a *peace and meaningfulness* within each man's life that had never existed until each had been confronted with his imminent mortality. Erikson (1963), as well, proposed in his final stage of his *Crises of Psychosocial*

Development model that when approaching death, one must be able to attach meaning to one's life; otherwise one develops feelings of despair and anguish.

Death Anxiety

Philosophers, sociologist, psychologists, physicians, and theologians are included in the many professions that have contributed to the study of death and dying (also known as *thanatology).* However, research regarding death anxiety did not become a major topic of psychological interest until the late 1950s (Neimeyer & Van Brunt, 1995). Typically, death anxiety is a preoccupation of the world's Western societies (p.49). Gire (2002) aptly defines death anxiety as "a multifaceted construct…conceptualized to include: *fear of death of oneself*; *fear of death of others*; *fear of dying of self*; and *fear of the dying of others*" (chap. 2).

Fear of death of oneself is comprised of concerns about judgment in an afterlife. Concerns regarding the fate of one's physical body after death (i.e. cremation, earth burial, donation of the body to science,) as well as concerns regarding the fate of loved ones and personal possessions, are contemplated. Fear of death of others includes the anxiety experienced when considering the death of family members and friends. Fear of dying of one's self includes the actual process of dying. Many people are not particularly afraid of death itself; however, they are anxious about the process of dying. The fears of physical deterioration, physical pain, feeling like a burden to caretakers, and the financial cost of an illness and/or burial are included in the fear of the dying process. Fear of dying of others is very similar to the fear of dying of self, but instead, one fears for a significant other who must endure this process (Gire, 2002, chap.2).

The Role of Age and Gender in Studies in Death Anxiety

Some studies suggest that age may influence one's meaning of life and fear of death. Bengtson, Cuellar, and Ragan (1977) studied death attitudes in participants between the ages of 45 and 74. Their research suggested that death anxiety is highest among those in the middle-age range (45-54) while those participants who identified as 55 years of age and older reported lower death anxiety.

Thorson and Powell (1988) studied 599 adolescents and adults who completed a death anxiety scale. Among their findings, research supported that older participants have greater concerns regarding the existence of an afterlife, and loss of personal control, when compared to younger participants. Additionally, research conducted by Noppe and Noppe (1997) suggested that adolescences have a greater belief in the existence of an afterlife when compared to children or young adults.

Cicirelli (2001) studied groups that included 78 young adults (aged 19-29) and 68 older adults (aged 70-97) and compared them on their *personal meanings of death*. Results suggested that the only significant difference pertaining to age had been that the younger group scored higher than older adults when indicating that death was a force which motivates them to achieve their life's goals.

In addition, some studies suggest that gender may have influence on one's meaning of life and fear of death. Cicirelli (2001) suggested through his research that women scored higher than men on motivation in achieving their life goals, and fear of the dying process, and men had a greater fear of the unknown. Florian and Har-Even (1984) found that men fear punishment in an afterlife more than women, and that women fear self-annihilation more than men.

Positive Reframes

It is possible that focusing on our life's meaning distracts us from death anxiety. Research supports that people employ daily goals to avoid their worst fears (King, et al., 1998). Further, it may be that simply employing positive reframes to our plight in life makes our journey seem that much more purposeful. Research supports that simply being in a good mood could predispose individuals to feel that their lives are meaningful (King, et al., 2006).

Primal Fears versus Existential Fears

Kunzendorf et al. (2006-2007) studied 118 undergraduate college students testing Becker's theory that more than death itself, what people fear most is a nameless and faceless death. Additionally, they tested Lifton's theory that individuals attempt to transcend physical death by way of five distinct modes of symbolic immortality. Results suggested that for participants who sought symbolic immortality through their children's and grandchildren's memories of them (Lifton's biological mode), primal fears of death *were significantly less intense* than existential fears of having no offspring or dying before their offspring. Participants who sought symbolic immortality through important life accomplishments and contributions (Lifton's creative mode), primal fears of death were marginally less intense than existential fears of goals not being achieved, or of their contributions having no impact.

The Fear of Being Bitten and Eaten

Kunzendorf et al.'s (2006-2007) research supported that dreams which portray primal fears occur more frequently than either daydreams that portray primal fears or dreams which portray existential fears. This was indicated by high scores measured

through fears statements including: *Fear of being bitten (by snakes, spiders, dogs, etc.); Fear of being unable to breathe (i.e. due to asthma, drowning, suffocation); and Fear of being eaten (by sharks, dinosaurs, worms, cannibals).*

"When we were children we were preoccupied with death and one of our major developmental tasks has been to cope with the fear of obliteration" (Yalom, 2003, p.124). This fear has been historically represented through fairytales. Hansel and Gretel, Little Red Riding Hood, and Geppetto (from *Pinocchio*), among others, are each in fear of being eaten. "The fear of being eaten is grounded in instinct rather than in self-reflection and is manifested in children's fairytales (such as Hansel and Gretel) and, sometimes in their dreams" (Heilbrunn as cited in Kunzendorf, 2006-2007, p.251.) Often the central character in many Disney fairytales, including *Bambi* and *Finding Nemo*, has had to confront death (of their mothers, no less) early in their lives.

Summary

Although fear appears to be innate in most animals, humans may stand apart from other animals in that we are uniquely aware of our mortality. Becker asserted that humans create meaning in their lives so that, in the face of physical death, their existence would matter. Additionally, Lifton proposed that even though individuals eventually face a physical death, each attempt to endure by way of five distinct modes of symbolic immortality. Further, Yalom contented that the idea of death may save us from a meaningless death when confronted with imminent mortality. Erikson as well proposed one must be able to attach meaning to one's life; otherwise one develops feelings of despair and anguish.

Death anxiety is a preoccupation of the world's Western societies, and age and gender appear to influence how people make personal meaning of their lives. Kunzendorf et al.'s (2006-2007) research supported that dreams portraying primal fears occur more frequently than either daydreams that portray primal fears or dreams which portray existential fears. In addition, the results of their research supported both Becker, and Lifton's theories regarding the importance of meaning-making in transcending physical death.

CHAPTER III

METHODOLOGY

This research was designed to test the hypotheses that people fear what they imagine might happen to them more than what has actually happened to them (Kunzendorf, et al., 2003-2004; 2006-2007); and that the imagined happening that each individual fears most is not death per se, but something that represents a threat to "meaning of life" as defined by each individual (Kunzendorf, et al., 2006-2007). With this objective in mind, and through studying the fears of social work graduate students at Smith College School for Social Work, the research questions for this quantitative, observational study are: Do social work graduate students at Smith College School for Social Work fear imagined scenarios more than actual experienced events? In addition, is the imagined event that is feared most a physical death, or a threat to an individual's "meaning of life?"

The method used to explore these research questions is considered to be an *observational design*. This differs from a *true experimental design* which utilizes two (or more) randomly assigned groups (a control group and an experimental group) "to create the comparisons from which treatment-caused changes can be inferred" (Rosnow and Rosenthal, 2005, p.437). This current study examines only one group (graduate students) instead of examining two randomly assigned groups. This current study utilizes three *fixed-choice* instruments which allow for specified option choices within each self-rating instrument to elicit quantifiable data (p.112). An advantage in using self-rating

instruments is that they allow for complete anonymity which permits self-disclosure without fear of identification. A disadvantage to using anonymous rating scales is that the participants are unable to extrapolate on their answers as within an interview setting.

Sample

The Characteristics of the Participants

This study was open to graduate students who resided within the United States (US) during their 2007-2008 field placement, and who were 18 years of age and older in the graduating class of 2008 at Smith College School for Social Work. Although this study presented very minimal risk for this population, this study excluded those students residing outside of the US, as referrals for clinical social work services for those living outside the US were not identified within this study. The sample size obtained for this study was 55 participants (n=55) out of a class of 101 eligible students. Besides the age limitation, and the condition for US residency, there were no other specific inclusion or exclusion criteria to participate.

This sample attempted to reflect the existing diversity of the 2008 graduating class at Smith College School for Social Work, with no active recruitment of any specific demographic criteria. Enrollment within the 2008 graduate class at Smith College School for Social Work is not considered to be confidential. Therefore, this research specifically did not request any identifiable information.

Population Profile

The participants in the research participated anonymously. Therefore it is impossible to provide specific demographic characteristics. However, it is possible to provide general demographic characteristics of the 104 students within the 2008

graduating class at Smith College School for Social Work. Each student participated in this study during their second-year field placement. Therefore, each student had at least thirteen months of full-time social work experience (eight months during their first-year placement, and approximately five months during their second-year placement). Students in this class originate from several different states throughout the United States of America, and three students originate from other countries. This class includes 11 students who identify as male and 93 students who identify as female. Approximately 23 students identify as People of Color, and 81 students identify as White. Students in the 2008 class range in age between 23 and 59. However, over half of all students are in their mid-to-late twenties and early thirties.

The Recruitment Process

Approval to conduct this research and to survey graduate students in the 2008 graduating class at Smith College School for Social Work was granted by the Human Subjects Review Committee at Smith College School for Social Work (Appendix D). Subsequently, the Registrar's Office invited students via college e-mail, to participate in this research. Through this e-mail, students received a greeting from this investigator and a brief explanation of the research topic, study procedures, and inclusion criteria (Appendix E).

Students were invited to voluntarily participate in this study comprised of completing three anonymous, electronic self-rating scales using *Survey Monkey®*, an online survey software program. Students were informed that data collected would be used for this investigator's MSW thesis at Smith College School for Social Work and in any resulting publications or presentations. Those who chose to participate were directed

to an internet link where they were asked to read an informed consent form that detailed their rights as a participant (Appendix F). They were informed that beginning the study questionnaires would indicate that they had read the informed consent; that they understood its contents; that they had an opportunity to ask questions about the study; and that they agreed to participate in this study.

Ethics and Safeguards

Precautions Taken to Safeguard Confidentiality and Identifiable Information

This research utilized the 2008 graduating class at Smith College School for Social Work as its population. Identifiable information including sex, race, ethnicity, gender, sexual orientation, and religious/spiritual affiliations may have compromised anonymity within this study. Therefore, this research specifically did not request disclosure of any potentially identifiable information as the results of this study, including laboratory or any other data, may be published for scientific purposes, and general viewing.

Data Collection

Data was collected using *Survey Monkey*® for 31 days between January 30, 2008 and February 29, 2008. *Survey Monkey*® is an online program that collects data for a fee ($29.90 per month for surveys that contain more than 10 questions, and allows for up to 1,000 responses). This account was specifically designed *not* to collect the participants' e-mail addresses or their computers' internet protocol (IP) addresses, so that participation within this study was completely anonymous and untraceable. In addition, data was protected by *Secure Sockets Layer* (SSL) encryption, through the *Survey Monkey*®

website, for an additional $9.95 per month, to ensure an added layer of security to protect participant anonymity and traceability.

Prior to beginning the self-rating scales, participants were required to read an informed consent form. Within this form, participants were informed that the study would take approximately 15 minutes to complete. However, they were informed that they were not limited to any specific time limit while completing the scales. After participants agreed to the informed consent they were directed to the first of three self-rating scales.

Measures

The first self-rating scale presented was Mathews and Kling's (1988) "Symbolic Immortality Scale" (SIS) (Appendix A). This scale was comprised of 30 statements for the purpose of measuring participants' identification within symbolic immortality modes. These statements were presented exactly as in the Mathews and Kling's scale, except that the word "mankind" was updated to the word "humankind." Also, unlike the original scale, the statements were ordered at random, so that the five thematic modes of symbolic immortality were undisclosed. Figure 1 shows examples of five statements and their associated mode included in the SIS used to measure which particular modes of symbolic immortality a participant might identify.

Figure 1. Example of statements used to measure modes of symbolic immortality.

Statement	Mode
"It is important to me to have children to carry on my family line."	Biological
"It is important to write, create, or build something that will exist after my death."	Creative
"Death is a graduation to a higher existence."	Religious
"The fundamental relationship between humankind and nature gives my life meaning."	Nature
"What makes life meaningful is some of the great experiences I have had."	Experiential

Utilizing the SIS, participants were asked to select a number ranging from "1" to "6" that best indicated the extent to which they disagreed or agreed with each statement, where the number "1" represented strong *disagreement*, the number "6" represented strong *agreement.* Additionally, participants were given the opportunity to decline an answer to any particular question.

Survey Monkey® generated mean scores measuring intensity of responses for each of the 30 statements. Statements were then grouped together by thematic mode which determined if participants identified within the *religious* mode, where they seek to transcend death through spiritual attainment; within the *experiential mode* where time and death disappear through being in an intense psychological state; within the *nature mode*, though identification with the earth which continually endures regardless of what happens to humankind; and/or within the *biological mode* through their children and relatives, important social relationships, culture and traditions passed down through generations. Subsequently, mean scores for each thematic mode were averaged. Figure 2 shows an example of the first rating scale which measures symbolic immortality.

Figure 2. Example of rating scale measuring symbolic immortality.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	Strongly Agree (6)	Response Declined
It is important to me to live my life to the fullest by experiencing as much of it as I can.	○	○	○	○	○	○	○

The second self-rating scale presented was Kunzendorf et al.'s (2006-2007) "Worst Fears Correspondence and Intensity Scale" (Appendix B), comprised of 16 original statements that represented the authors' set of developed worst fears in scale

format. This scale was designed to measure the intensity of participants' worst fears and was modeled after the five thematic modes put forth by Mathews and Kling's "Symbolic Immortality Scale" (p 251). This rating scale was descriptive as opposed to the numeric scale used in the first scale. However, these responses were assigned an equivalent numeric response within *Survey Monkey*® ranging from "1" representing *no fear at all,* to "8" representing *one of my worst fears.* Figure 3 shows an example of the second rating scale and of a fear statement categorized by Kunzendorf et al. (2006-2007) as a primal fear:

Figure 3. Example of rating scale measuring fear intensity.

Please indicate the extent to which these statements correspond with YOUR worst fears:

	No Fear At All	Not Very Fearful	A Little Fearful	More Than a Little Fearful	Some-what Fearful	Very Fear-ful	Terribly Fearful	One of My Worst Fears	Res-ponse Declined
Fear of being buried alive.	○	○	○	○	○	○	○	○	○

Twelve fear statements were categorized under the thematic modes of *religious, nature, creative, biological,* or *experiential.* Four fear statements were categorized as *primal fears. Survey Monkey*® generated mean scores for each of the 16 statements which measured the *intensity* of participants' worst fears. Statements were then grouped together by each thematic mode (religious, nature, creative, biological, and experiential). Primal fears where grouped together, as well. Mean scores measuring intensity of responses for each mode, and for primal fears, were averaged and compared.

Immediately follow this self-rating scale, a third scale was presented. This self-rating scale, Kunzendorf et al.'s (2006-2007) "Frequency of Dream Images, Daydream Images, and Memory Images Scale" (Appendix C) investigated the frequency in which dream images, daydream images, and memory images are pictured. The statements were comprised of the same 16 fear statements presented in the second scale.

Survey Monkey® generated mean scores measuring *frequency* for each of the 16 statements found in the "Worst Fears Correspondence and Intensity Scale." A *two sample t-test* was performed using *Microsoft Excel*® for the three variables; *dream images*, *daydream imagines, and memory images* for each fear statement to compare mean scores of frequency of images, and to compare the thematic mode of each fear statement to highest mean scores. The statistical test (t-test) was performed between the three possible pairs of responses to determine whether the difference was statistically significant. Figure 4 shows an example of a fear statement and rating scale from the third rating scale.

Figure 4. Example of rating scale measuring fear frequency.

Please indicate the frequency of your dream images, daydream images, and memory images that picture the following:

…that you would not achieve your life's work.

	Never	Once	Yearly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○

These responses were also coded by *Survey Monkey*® to corresponding numerical values ranging from "1" representing *never,* to "5" representing *daily.* Upon completion of these self-rating scales, participants were led to a web page that thanked them for their participation, and returned them to the home page of the *Survey Monkey*® website.

Data Analysis

Both descriptive and inferential statistics were used in order to evaluate data gathered from responses obtained from three self-rating instruments. Descriptive statistics were used to analyze measurements of central tendency (i.e. mean, median, and mode) and measures of variability (i.e. indices of dispersion, range, and standard deviation) of the data generated from the self-rating instruments. Inferential statistics were used to "examine the likelihood that an observed relationship among variables… is not just the product of chance (Anastas 1999, p.559). More specifically, univariate models including analysis of variance (ANOVA), and a two sample t-test were developed to evaluate participants' intensity of identification within five thematic modes of symbolic immortality; to evaluate participants' intensity of worst existential and primal fears; and to evaluate the frequency in which participants picture these fears through dream images, daydream images, and memory images. Statistical software packages used to generate descriptive and inferential statistics included *Survey Monkey*®, a *Microsoft Windows*® version of the statistical software program *SPSS*®, and *Microsoft Excel*®.

CHAPTER IV

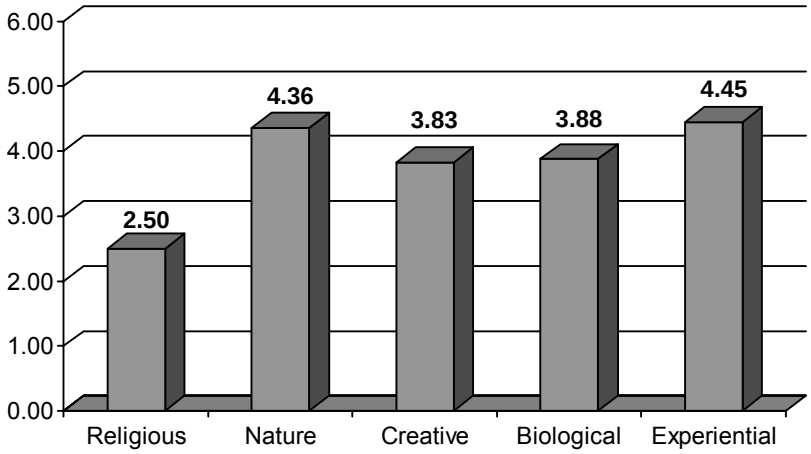
FINDINGS

Symbolic Immortality Scale

Fifty five participants, out of 101 potential participants, completed the Mathews and Kling (1988) "Symbolic Immortality Scale" (Appendix A). This scale was comprised of 30 statements used to determine which symbolic immortality thematic modes participants identified with most. The original authors of this instrument, Kunzendorf et al. (2006-2007), intentionally designed this scale to have an even number of response choices. This was done to prevent participants from choosing a neutral position, thereby forcing them to commit to a response in a particular direction. As a result, a mean score of less than 3.5 signified disagreement with a statement, while a mean score greater than 3.5 would signify agreement.

Survey Monkey® generated mean scores measuring intensity of responses for each of the 30 statements. Statements were then grouped together by thematic mode, and the mean scores for each thematic mode were averaged. The mean scores measuring intensity within the *religious, nature, creative, biological,* and *experiential modes* were 2.50, 4.36, 3.83, 3.88, and 4.45 respectively. Figure 5 graphically displays mean scores measuring intensity of responses for the five thematic modes of symbolic immortality.

Figure 5. Mean scores of intensity of responses for symbolic immortality.



Although it appears that there is a difference between mean scores measuring intensity of responses among the thematic modes, a one-way analysis of variance (ANOVA) was performed to determine if there was a statistically significant difference between mean scores which might indicate a dominant thematic mode for social work graduate students at Smith College School for Social Work. Table 1 shows that differences did exist among the mean scores between thematic modes of symbolic immortality, as indicated by the "Sig." value of .000.

Table 1

An analysis of variance (ANOVA) representing mean scores measuring intensity of responses for the five thematic modes of symbolic immortality.

ANOVA

Mean Intensity Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.651	4	3.663	9.016	.000
Within Groups	10.156	25	0.406		
Total	24.807	29			

"F" represents a ratio calculated by *SPSS*® which estimates the between-groups to the within-groups population variance. The associated "Sig.," or "*p* value" of .000 represents the probability of statistical significance (*SPSS*® rounds off this value because it is a value that is less than .0005.) This *p* value of .000 represents the probability that in less than one time in 1000, the null hypothesis stating that there is no difference between thematic modes would be falsely rejected.

Although the ANOVA indicated a strong likelihood that there was a statistically significant difference between groups, it does not differentiate where those differences occurred. Therefore, the Bonferroni method, which is a conservative post hoc comparison test, compared every possible pairing of means to determine which specific mean scores differed significantly among the thematic modes. Table 2 displays the data generated using the Bonferroni method.

Table 2

Comparison of group means of the five thematic modes of symbolic immortality using Bonferroni method.

Multiple Comparisons

Dependent Variable
Mean Intensity Score; Bonferroni

(I) Mode	(J) Mode	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Religious	Nature	-1.86500**(*)**	.36798	.000	-2.9977	-.7323
	Creative	-1.33000**(*)**	.36798	.013	-2.4627	-.1973
	Biological	-1.38500**(*)**	.36798	.009	-2.5177	-.2523
	Experiential	-1.95167**(*)**	.36798	.000	-3.0844	-.8190
Nature	Religious	1.86500**(*)**	.36798	.000	.7323	2.9977
	Creative	.53500	.36798	1.000	-.5977	1.6677
	Biological	.48000	.36798	1.000	-.6527	1.6127
	Experiential	-.08667	.36798	1.000	-1.2194	1.0460
Creative	Religious	1.33000**(*)**	.36798	.013	.1973	2.4627
	Nature	-.53500	.36798	1.000	-1.6677	.5977
	Biological	-.05500	.36798	1.000	-1.1877	1.0777
	Experiential	-.62167	.36798	1.000	-1.7544	.5110
Biological	Religious	1.38500**(*)**	.36798	.009	.2523	2.5177
	Nature	-.48000	.36798	1.000	-1.6127	.6527
	Creative	.05500	.36798	1.000	-1.0777	1.1877
	Experiential	-.56667	.36798	1.000	-1.6994	.5660
Experiential	Religious	1.95167**(*)**	.36798	.000	.8190	3.0844
	Nature	.08667	.36798	1.000	-1.0460	1.2194
	Creative	.62167	.36798	1.000	-.5110	1.7544
	Biological	.56667	.36798	1.000	-.5660	1.6994

***** The mean difference is significant at the .05 level.

The statistics generated by the Bonferroni analysis suggests that there is a statistically significant difference between the religious mode when compared to each of the other thematic modes. However, there appears to be no statistically significant difference between the mean scores among the other four thematic modes. Therefore, data suggest that social work graduate students at Smith College School for Social Work seek symbolic immortality through the experiential, nature, biological, and creative modes, without distinction.

Worst Fears Correspondence and Intensity Scale

Fifty four participants, out of 101 potential participants, completed Kunzendorf et al.'s (2006-2007) "Worst Fears Correspondence and Intensity Scale" (Appendix B). This scale was comprised of 16 statements that represented the original authors' set of developed worst fears in scale format. This scale was designed to measure the *intensity* of participants' worst fears and was modeled after the five thematic modes put forth by Mathews and Kling's "Symbolic Immortality Scale." In addition to these fears that threaten symbolic immortality (also known as "existential fears"), five *primal* fear statements designed by Kunzendorf et al. (2006-2007) were also included.

This rating scale was descriptive as opposed to the numeric scale used in the first scale. However, these responses were assigned an equivalent numeric response within *Survey Monkey*® ranging from "1" representing *no fear at all,* to "8" representing *one of my worst fears.* As with the first instrument, the original authors of this second instrument, Kunzendorf et al. (2006-2007), intentionally designed this scale to have an even number of response choices to prevent participants from choosing a neutral position.

Survey Monkey® generated mean scores for each of the 16 statements which measured the *intensity* of participants' worst fears (Appendix H). Statements were then grouped together by thematic mode and the mean scores measuring intensity of responses for each mode were averaged. The mean scores of existential fears within the religious, nature, creative, biological, and experiential modes were 1.78, 3.64, 3.29, 3.38, and 3.60 respectively. The mean score for primal fears was 2.96. Figure 6 displays a linear regression comprised of mean scores measuring intensity of identification within symbolic immortality modes as they correlate to the mean scores of corresponding fears. Additionally, the mean score measuring intensity of participants' primal fears is displayed.

Figure 6. Correlated mean scores measuring intensity of symbolic immortality identification and existential fears, as compared to primal fears.

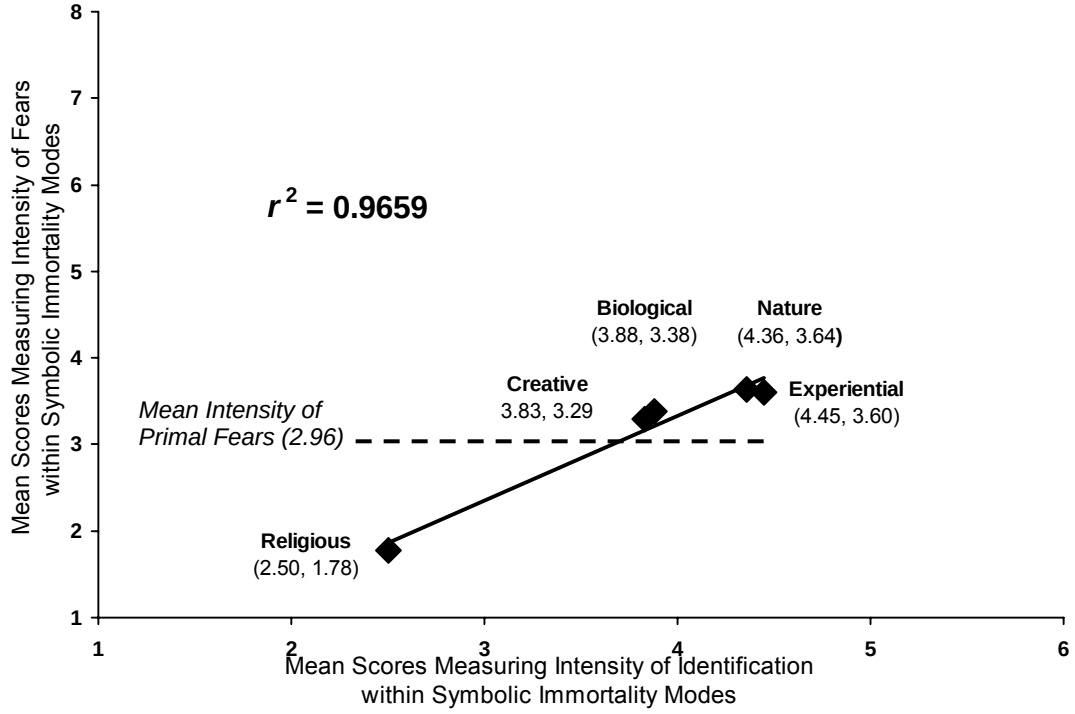


Figure 6 suggests that participants who identified more strongly with any particular thematic mode of symbolic immortality also had a correlated increase in the intensity of fear that threatens preservation of symbolic immortality which threatens existential meaning. In other words, the greater the identification with themes that define meaning in the lives of these participants, the greater their fear of encountering threats to that meaning. In addition, this figure suggests that mean scores measuring intensity of existential fears for each thematic mode, except for the religious mode, are greater than mean scores measuring intensity for primal fears. This corresponds to the statistically significant differences found by the ANOVA for the five thematic modes in Table 2. That is, the religious mode, which was found to be statistically significantly different than the other four modes, falls at a distinctly different location than the other four modes on this plot.

The Pearson *r* correlation coefficient (r^2) value indicates the strength of association between the two variables that comprise this linear regression. The r^2 value of .9659 means that 96% of the variation in the mean scores measuring intensity of identification within symbolic immortality modes can be attributed to variation in mean scores measuring intensity of fears within symbolic immortality modes. An r^2 value of 49% and above is "a result that most in social work or in the social sciences would feel quite satisfied with" (Anastas, p. 464). An ANOVA was then performed between mean scores measuring intensity of fears among existential fears that threaten symbolic immortality, and primal fears. The results of the analysis are shown in Table 3.

Table 3

An analysis of variance (ANOVA) representing mean scores measuring intensity of fear.

ANOVA

Mean Intensity of Fears

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.474	5	1.295	2.804	.078
Within Groups	4.618	10	.462		
Total	11.093	15			

The Sig. value of .078 suggests no difference. Statistics presented in Table 3 confirm that there is no statistical significance between mean scores measuring participants' existential fears and mean scores measuring participants' primal fears at the .05 significance level.

A post hoc test using the Bonferroni method was then performed in order to evaluate specific differences between individual existential fears and primal fears; however, there are no remarkable differences to report. Because of the results of the ANOVA which indicated rejection of the null hypothesis at the 92% confidence interval, and the rigorous or conservative nature of the Bonferroni method, an alternative statistical multiple comparisons test, the Least Significant Difference (LSD) test was conducted (Appendix K). The results of this test suggest a statistically significant difference between the mean intensity of fears response for the religious mode and the primal fears mean intensity response. Further, the analysis indicates that there is a statistically significant difference between the religious mode and the four other thematic modes. However, there does not appear to be a statistically significant difference between those four thematic modes and primal fear. These results correspond with the distribution of the mean intensity scores shown on the linear regression plot.

Frequency of Dream Images, Daydream Images, and Memory Images Scale

Fifty participants, out of 101 potential participants, completed Kunzendorf et al.'s (2006-2007) "Frequency of Dream Images, Daydream Images, and Memory Images Scale" (Appendix C). This scale investigated the *frequency* in which dream images, daydream images, and memory images are pictured. The statements were comprised of the same 16 statements presented in the second instrument. Eleven statements were representative of existential fears, and five statements were representative of primal fears. Although each statement was evaluated separately, the intent of this instrument was to compare the frequency of dreams, daydreams, and memories of existential fears, as a whole, to the frequency of dreams, daydreams, and memories of primal fears.

Survey Monkey® generated mean scores measuring *frequency* (Appendix I) for each of the 16 statements found in the "Worst Fears Correspondence and Intensity Scale." A *two sample t-test* was performed using *Microsoft Excel*® for the three variables; *dream images*, *daydream imagines, and memory images* for each fear statement (Appendix J).

This test was run to compare mean scores of frequency of images, and to compare the thematic mode of each fear statement to highest mean scores. For example, participants were asked to designate a response that indicated the frequency of their dream images, daydream images, and memory images that pictured the following: *"…that you would not achieve your life's work,"* a statement categorized under the thematic class of *creative mode*. For this particular fear statement, the mean score of the frequency of *dream image* was 1.51; while the mean score of frequency of *daydream image* was 2.62; and the mean score of frequency of *memory image* was 1.87. These

scores suggest that participants had higher mean scores for frequency of daydream images for this creative mode statement.

Subsequently, a statistical test (t-test) was performed between the three possible pairs of responses to determine whether the difference was statistically significant. Wherever the probability of the *calculated T* being less than the *critical t* is equal to .05 or less, there is a statistically significance difference between the two means. Table 4 shows mean scores of frequency of image variables as they correspond to fear type (existential or primal) and thematic modes of symbolic immortality and the results of the t-test. Statistically significant values are emboldened.

Table 4.

Two sample t-test representing frequency of dream, daydream, and memory image score results for existential and primal fears at the .05 significance level.

No.	*Fear Type and Thematic Mode*		*Dream*	*Daydream*	*Dream*	*Memory*	*Daydream*	*Memory*
1	Existential (creative)	Mean	**1.51**	**2.62**	1.51	1.87	**2.62**	**1.87**
		p	**0.00**		0.16		**0.02**	
2	Existential (biological)	Mean	**1.35**	**2.45**	1.35	1.47	**2.45**	**1.47**
		p	**0.00**		0.59		**0.00**	
3	Primal	Mean	1.80	1.54	1.80	1.45	1.54	1.45
		p	0.22		0.07		0.63	
4	Existential (experiential)	Mean	**1.90**	**2.67**	1.90	1.70	**2.67**	**1.70**
		p	**0.00**		0.38		**0.00**	
5	Existential (religious)	Mean	1.10	1.19	1.10	1.13	1.19	1.13
		p	0.42		0.78		0.63	
6	Primal	Mean	2.04	1.82	**2.04**	**1.60**	1.82	1.60
		p	0.30		**0.04**		0.32	
7	Existential (nature)	Mean	**1.44**	**2.53**	1.44	1.68	**2.53**	**1.68**
		p	**0.00**		0.27		**0.00**	
8	Primal	Mean	**1.08**	**1.36**	1.08	1.19	1.36	1.19
		p	**0.02**		0.28		0.21	
9	Existential (religious)	Mean	**1.10**	**1.71**	1.10	1.30	**1.71**	**1.30**
		p	**0.00**		0.16		**0.04**	
10	Existential (creative)	Mean	**1.18**	**1.86**	1.18	1.45	1.86	1.45
		p	**0.00**		0.14		0.08	
11	Primal	Mean	1.46	1.40	**1.46**	**1.10**	**1.40**	**1.10**
		p	0.71		**0.00**		**0.03**	
12	Existential (nature)	Mean	**1.42**	**2.32**	**1.42**	**1.92**	2.32	1.92
		p	**0.00**		**0.03**		0.17	
13	Existential (biological)	Mean	**1.41**	**2.06**	1.41	1.28	**2.06**	**1.28**
		p	**0.00**		0.45		**0.00**	
14	Primal	Mean	2.73	3.2	2.73	2.33	**3.2**	**2.33**
		p	0.10		0.12		**0.00**	
15	Existential (religious)	Mean	1.04	1.06	1.04	1.09	1.06	1.09
		p	0.70		0.45		0.73	
16	Existential (experiential)	Mean	**1.78**	**2.66**	1.78	2.17	2.66	2.17
		p	**0.00**		0.18		0.13	

Note: *p* (T<=t) two-tail is significant ≤ .05.

Table 4 illustrates that of the 32 total possible comparisons, (i.e. daydream to dream, and daydream to memory,) there was a statistically significant higher response for daydreams for 18 of the paired comparisons. A total of 15 daydream dominant responses out of 18 fell within the existential group. All of the existential thematic modes showed statistical significance except for the religious mode, where two statements did not have any statistically significant image response for any of the three image paired comparisons.

The second most frequent image variable was dream. However, the frequency of this response was much lower than that for the daydream variable. Out of a possible 32 paired comparisons (i.e. dream to daydream, and dream to memory) for the 16 fear statements, there were only two responses that were statistically significant to the 95% confidence level, while there was a third dominant dream response that was statistically dominant at the 93% confidence interval. All three of these dominant dream image responses fell into the primal fear statement group. While this percentage of statistically significant responses was 30% (including the 93% interval) the percentage in the existential fears group of statements was 0%.

The results of this scale suggest that participants daydream about existential fears that threaten symbolic immortality more frequently than they dream, or have memories of them. Additionally, participants appear to dream about primal fears more frequently than they daydream, or have memories of them.

CHAPTER IV

DISCUSSION

This study was conducted to examine if the worst fears of social work graduate students at Smith College School for Social Work were direct fears of their own mortality, or due to disconnection from what they view to be a meaningful life. This study investigates if perhaps these individuals dedicate their lives to this career to ensure that their work lives on through others, preserving their own *symbolic immortality*; the psychological process of creating meaning in our lives to ensure immortality.

This quantitative, observational study was conducted in the hopes of contributing to the limited amount of literature that explores the reasons why social workers are drawn to careers that are so often undervalued and financially under-compensated in our society. To glean this information, this study utilized three existing self-rating instruments: Mathews and Kling's (1988) "Symbolic Immortality Scale" (Appendix A); and Kunzendorf et al.'s (2006-2007) self-rating scales (Appendices B and C) that measure the *intensity* and *frequency* of given fear statements that corresponds to Mathews and Kling's scale.

The results of the study must be viewed in context of the ideal design. This study did not evaluate the universe of possible age, race, ethnicity, sex, gender, or other specific characteristic combinations that represent social work graduate students at Smith College for Social Work, or social workers, in general. Nor did this study include an endless possibility of fear statements.

Additionally, it should be noted that the sample size used in this study may have been too small to capture statistical significance. This population of graduate students at Smith College School for Social Work is comprised of approximately 101 eligible study participants. Although over half of these students agreed to participate in this study, several did not. Further, of those students who chose to participate, several declined to respond to statements within the instrument. Perhaps a number of potential respondents chose not to respond to this study, or to specific statements within the instruments, because of the study's sensitive subject matter.

Symbolic Immortality Scale

Major Findings

Data generated from an analysis of variance (ANOVA) suggests that participants seek symbolic immortality within four out of the five of Lifton's thematic modes, with no *single* mode identified as dominant for the group. Participants largely identified within the *experiential mode and nature mode*, evenly. Next, participants identified within the *biological mode and creative mode* evenly, as well. However, no statistically significance difference was found between these four thematic modes at the .05 level of significance. However, statistical significance was found between the *religious mode* and the other four thematic modes of *experiential, nature, biological, and creative.*

The Religious Mode

Lifton (1974) asserted that in seeking symbolic immortality through the religious mode, an individual transcends death "through spiritual attainment that connects one with eternal principles (p.64)." In studying social work graduate students at Smith College

School for Social Work, data suggests that, as a group, these participants do not appear to seek symbolic immortality through the religious mode.

Perhaps this finding is most representative through their response to the statement: *"The meaning of life is determined by my religious beliefs."* In response to this statement, 73% of participants selected a rating score of 3 or below, indicating some level of disagreement with this statement. This may indicate that social work graduate students at Smith College School for Social Work do not identify religion as a great source of meaning-making within their lives. However, the term "religion," used by Lifton in his theory of symbolic immortality (and subsequently used by Mathews and Kling in their instrument), may connote traditional beliefs and practices within conventional terms. If the term "spirituality" were used instead of the term "religion," the instrument may have yielded very different results. This point will be elaborated on more within the *nature mode* discussion section.

Out of a total of 55 participants who responded to the SIS, seven participants declined to answer at least one statement representative of the religious mode. This translated into 14 declined responses for statements representing this thematic mode. Out of these seven participants, four scored high in symbolic immortality through religion when responding to other religious mode statements. It is unclear as to why those who scored so highly declined to respond to all statements representing this mode. Perhaps they identified with this thematic mode so greatly that it had been uncomfortable for them to contemplate the topic of an afterlife. Alternatively, they may simply have been unsure of their opinions, thus declining a response. However, the fact that this group, in general, do not appear to seek symbolic immortality through the religious mode may suggest that

they commit to this often selfless career of social work for reason other than assuring spiritual attainment.

The Experiential Mode

Lifton contended that in seeking symbolic immortality through the experiential mode, time and death disappear through being in an intense psychological state. All 55 social work graduate students at Smith College School for Social Work responded to each statement that represented the experiential mode within the SIS. Data suggests that, as a group, participants seek symbolic immortality through the experiential mode. This finding may be most representative through their response to the statement: *"What makes life meaningful is some of the great experiences I have had."* In response to this statement, 91% of participants selected a rating score of 4 or greater, indicating some level of agreement with this statement. This may indicate that social work graduate students at Smith College School for Social Work may identify experiential living as of great importance to meaning-making in their lives. Perhaps this corresponds with the findings of Hodge (2004) that social workers are more likely to rate their lives as exciting.

However, this group does not appear to be open to each and every pleasurable or exciting experience that life has to offer. This is made evident through their response to the statement *"I would do almost anything that would be pleasurable or exciting to me."* In response to this statement, 67% of participants selected a rating score of 3 or below, indicating some level of disagreement with this statement. This suggests that this group has clear boundaries regarding their experiential living.

Lifton (1974) contended that individuals may identify within the experiential mode through "comradeship, and the feeling of working together with others in common cause" (p.82). Perhaps social workers find a zest for life through their actual work with their clients, where time and death disappear, and/or through association with other like-minded social worker who dedicate themselves to effecting change.

On the other hand, social workers often hear from their clients tragic narratives involving trauma, loss, and death. Perhaps social workers spend their free time immersed within experiential activities which promote self-care, that aid in transcending these themes.

The Nature Mode

Lifton claimed that in seeking symbolic immortality through nature, we identify with the earth which continually endures regardless of what happens to humankind. All but one participant out of the 55 social work graduate students at Smith College School for Social Work responded to each statement that represented the nature mode within the SIS. Data suggests that, as a group, participants seek symbolic immortality through the nature mode. This finding may be most representative through the groups' response to the statement: *"The fundamental relationship between humankind and nature gives my life meaning."* In response to this statement, 75% of participants selected a rating score of 4 or greater, indicating some degree of agreement with this statement. This finding is not particularly surprising given that there are many social workers who enter this field to pursue a career in adventure therapy and/or wilderness therapy.

It is worth noting that although participants do not appear to seek symbolic immortality through the religious mode as previously discussed, 69% of participants

selected a rating score of 4 or greater, indicating some level of agreement with the statement: *"Being part of nature is an important aid in my spiritual fulfillment."* This may indicate that while this group, as a whole, does not identify as religious, (as seen through their lack of identification within the religious mode) they may, however, identify as *spiritual.*

There are several social work graduate programs in Massachusetts. Competing schools of Smith College School for Social Work include Simmons College, Boston College, and Boston University, each located in an urban setting. Smith College School for Social Work is located in a fairly progressive city in rural western Massachusetts. Perhaps participants scored highly through identification within the nature mode because these students who were drawn to this geographic location may already identify as naturalists. If this study surveyed social work students within other programs, results may have been different.

The Biological Mode

Lifton maintained that in seeking symbolic immortality through the biological mode individuals will hope to live on through their children and relatives, through important social relationships, and through one's culture, as traditions are passed down through generations. Data suggests that, as a group, participants seek symbolic immortality through the biological mode.

Of the 55 participants who responded to the SIS, 14 participants declined to answer at least one statement measuring symbolic immortality for the biological mode. This translated into 37 declined responses for statements representing the biological mode. Perhaps the high amount of declined responses for statements representing this

mode is indicative of an unknown variable such as whether or not participants currently have, plan to have, or are able to have children. Perhaps participants without children chose to decline to respond to these statements, while others without children chose to respond by indicting some level of disagreement.

It is noteworthy that while 69% of participants were in agreement with the statement: *"It is important to me to tell my children about past generations to keep memories of relatives alive,"* only 21% of participants were in agreement with the statement *"It is important to me to have children to carry on my family line."* This may indicate that this group is not overly concerned with passing along their DNA, as much as they hope to pass along memories, culture, and family traditions.

It is also noteworthy that 62% of participants largely responded in *agreement* to the statement: *"It is important to know that my loved ones and people I have been close to will remember me after I am dead,"* as this statement further represents identification with symbolic immortality through the biological mode, without requiring an individual to have progeny.

The Creative Mode

Lifton (1974) asserted that in seeking symbolic immortality through the creative mode, our accomplishments and contributions will benefit those who survive us. Included in this mode are "teaching, art-making, repairing, construction, writing, healing, inventing, or through lasting influences of any kind on other human beings" (p.61). Of the 55 participants who responded to the SIS, three participants declined to answer at least one statement measuring symbolic immortality for the creative mode. This translated into 5 declined responses for statements representing the creative mode.

Overall, data suggests that, as a group, participants seek symbolic immortality through the creative mode.

Although 56% of participants responded in agreement to the statement: *"After my death my life will still have meaning through the things I have made or created,"* 82% responded in *agreement* to the statement: *"It is important for me to know that my work will have a positive effect on the lives of people who live on after my death."* This might be explained by the fact that the work of social workers typically does not entail the creation of tangible work products, but instead this work involves aiding people through their struggles.

Worst Fears Correspondence and Intensity Scale

Major Findings

Using a linear regression analysis, mean response scores *measuring intensity of fears* within symbolic immortality modes were compared to mean response scores measuring *intensity of identification* within symbolic immortality modes. Subsequently, mean scores measuring fears that threatened symbolic immortality, also known as *existential fears*, were then compared to mean scores measuring *primal fears.* This comparison was performed using analysis of variance (ANOVA) with subsequent post hoc tests for comparison of individual pairs.

Results of a linear regression using data generated by this instrument indicated that participants who identified more strongly with any particular thematic mode of symbolic immortality also have a correlated increase in the intensity of fear that threatened preservation of symbolic immortality which threatened existential meaning. The Pearson correlation coefficient for the linear regression was 0.9659 which suggests a

very robust signal. In addition, this figure suggests that mean scores measuring intensity of existential fears for each thematic mode, except for the religious mode, are greater than mean scores measuring intensity for primal fears.

As shown in Figure 5, the highest mean scores measuring intensity of fear responses were within the nature mode and the experiential mode, which had nearly similar responses of 3.64 and 3.60, respectively. The next two modes, biological and creative, had roughly similar responses of 3.29 and 3.38, respectively. The religious mode fell well below these four modes with a mean intensity of fear response of 1.78. Also superimposed on this linear regression plot was the mean intensity of primal fears response score which was recorded with a score of 2.96.

This plot initially suggested that there is a greater fear of losing the identification with symbolic immortality for the first four modes listed compared to primal fears. This supports the assessment of Ernest Becker (1975) that more than physical death, man fears "a nameless and faceless death" (p.92).

Counterintuitive Finding

The results yielded a somewhat surprising finding regarding the religious mode. Data suggest that participants who identified with the religious mode had substantially less fear of loosing identification with that mode than of primal fears. While there are perhaps many individuals who do not necessarily believe in an afterlife, experience and intuition may suggest that more individuals do believe in some form of afterlife, such that fears related to loosing identification with that mode might be expected to be greater.

There may be several explanations for this counterintuitive finding. It could be that this population sampled may not be considered typical of the general population.

That is, the outlook of social workers may be specifically influenced by their lives experiences. Research supports that when compared with the general population, social workers are often more exposed to early traumatic experiences within their families of origin (Black, Jeffreys, & Hartley, 1993; Marsh, 1988; Rompf & Royse, 1994; Russel, Gill, Coyne, & Woody, 1993). It could be that many of the participants in this particular sample have experiences in their lives that impact their outlook as to whether there is a just God. For instance, many of these participants have witnessed the ramifications of social injustices through working with their clients during their field placement experiences. This is not to suggest unequivocally that these participants are atheistic in their outlook, but rather, perhaps they simply may be more skeptical than the general population regarding identification with the religious mode.

As noted earlier, it is also a possibility that the sample size used was too small to capture statistical significance. The number of responses to this instrument totaled 54, which was reduced slightly by a total of 5 non-responses for individual questions within the religious mode set of questions. Perhaps a number of potential respondents chose not to respond to statements because of its sensitive subject matter.

Comparison through Analysis of Variance

In order to evaluate whether the differences observed when plotting the linear regression were significant, an analysis of variance (ANOVA) was performed on the mean scores measuring the intensity of fears within each of the five thematic modes, and the mean score for the intensity of primal fear. Results indicated statistical significance at the 92% confidence interval level. When applying the standard 95% or greater confidence interval criterion for rejection of the null hypothesis, this result suggests that

there is no statistically significant difference in the mean scores measuring intensity for existential fears and primal fears.

However, rejection of the null hypothesis at the 92% confidence interval does not appear to be trivial. Visual inspection of the plot of the data shown on Figure 5 would indicate a difference between the religious mode and the other thematic modes, at least, if not primal fear. There are several important variables that might be impacting the results. As with the results for the linear regression analysis, the sample size may be affecting the overall results. The number of participants who responded to the instrument was less than desired with a sample size of 54. Perhaps a lower cutoff criterion may be warranted in that the standard 95% confidence level may result in false acceptance of the null hypothesis when the sample size is too small.

The Accuracy of the Fear Statements

Primal Fears

It could be one of the fear statements was ambiguous. Review of the responses for primal fears shows a high mean intensity for the fear statement: *"fear that I am dying or someone that I love is dying."* This statement elicited the second highest intensity response of all statements, surpassed only by an existential fear statement in the nature mode. The potential problem with this statement is that asking whether an individual has a fear of dying may be quite different than asking if an individual has a fear of a loved one dying. That is, while the first part of the statement would appear to be a primal fear, the second part of the statement would appear to fall equally, if not more so, into the biological mode. A loved one can very well be a child or a grandchild. It could be argued

that due to ambiguity or uncertainty of this fear statement, it may be reasonable to discard the results from this statement.

The remaining primal fear statements may be more representative of imminent death, i.e. *"fear of being bitten (by snakes, spiders, dogs, etc.);" "fear of being unable to breathe (i.e. due to asthma, drowning, suffocation);" "fear of being buried alive;" "fear of being eaten (by sharks, dinosaurs, worms, cannibals.)"* Using the responses for these four primal fear statements only, the mean score would result in a lower mean score at 2.68 compared to the mean score of 2.96 for all five primal fear statements.

The Nature Mode

A similar, but somewhat different problem arises in the fear statement set for the nature mode. The first fear statement of that set asked whether there was a *"fear of nature being destroyed beyond repair (i.e. destruction of water, air, trees, wildlife, or open space.)"* The mean score measuring intensity of fears for the nature mode was the highest of all thematic mode fear statements at 4.22. However, the second of the pair of statements: *"fear that I will be isolated from nature by my schedule or living environment (i.e. living in the city)"* may be ambiguous. Many participants may already live in a rural environment, may have no intention of living otherwise, and may not sense that fear. Alternatively, those who come from urban environments may not view this as a real fear since many cities have parks and open spaces that would allow contact with nature. Therefore, the wording of this thematic mode statement may not have been as clear as a hypothetical fear statement such as *"fear that you could never again walk in a park, see squirrels, experience nature, etc."* Perhaps the ambiguity of the presented fear statement

may have muted the intensity of the loss of nature mode response since it had a much lower mean score of 3.06.

The Biological Mode

The limitation to this set of fear statements is that this study did not differentiate between participants whom either had children, or wished to have children; and those who had no intention of having children, were incapable of having children, or did not see hope of having children. An indication of this possibility is in the data. For the statement: *"fear that I will not have any children/grandchildren"* the percentage of *"no fear at all"* responses was 24.1%. This response would be likely only if the participant had no intention of ever having children, or if the participant already had children. Likewise, the second statement: *"fear that my child, or future child, will die before my own death"* had a *"no fear at all"* response of 24.1%. This matches exactly with the percentage for the first statement. This may be an indication that 13 of the 54 participants probably have no intention of having children.

While this portion of the sample set may be, on the one hand, representative of the effect of the biologic mode fear intensity, that is, it is not a real fear when viewing the population as a whole; it may also be considered invalid in that the fear measurement cannot be manifested unless there is a basis on which to evaluate the fear. For instance, if a participant has children, or plans to have children, they still may not have high fear intensity if they desire, but do not ultimately have children, or if their children should die before them. In other words, their response might be *"somewhat fearful," "a little fearful,"* etc. Further, the instrument could not measure, because of its anonymity, who was responding in regard to sex, gender, age, and their personal circumstances including

health, etc. Those participants may have experienced fears if having children were a real possibility for them.

A total of 13 participants indicated a response of *"no fear at all"* to the first fear statement: *"fear that I will not have any children/grandchildren."* When discarding these responses on the basis of inapplicability, a substantially different mean intensity score would result. In addition, it should be noted that two participants from the sample of 54 chose not to respond to this statement at all, further suggesting an inapplicability of the question for a portion of the sample. Further, a total of 13 participants indicated a response of *"no fear at all"* to the second biological mode fear statement: *"fear that my child, or future child, will die before my own death."* This statement had 4 participants who chose not to respond at all. If scores indicating *"no fear at all"* were discarded, the mean intensity fears score for the biological mode would be 4.32. This score is substantially higher than the 3.38 score, when including the participants who responded with *"no fear at all."*

The Creative Mode and Experiential Mode

The remaining two symbolic immortality modes do not appear to have sensitive and/or ambiguous questioning that might affect the overall results. The fear statements for the creative mode and experiential mode appear appropriate and the mean score of the intensity of fear responses for each thematic mode statement, while different, do not suggest an underlying variable that might be affecting the results.

Additional Post Hoc Testing

While four of the modes representing existential fears do not exhibit a statistically significant difference with primal fear, there is an indication of a difference when a Least

Significant Difference (LSD) post hoc test was performed (Appendix K). The existential fears represented through the nature mode are significant at the 74% confidence interval and the experiential mode is significant at the 71% interval. While not to the confidence level that would allow rejection of the null hypothesis, the results suggest that other variables may underlie the results. The creative and biological modes also show significance, but at lower confidence intervals of 41% and 52%, respectively. The importance of these results may be that if the fear statements that measured existential and primal fears were more specific, there may have been a more marked difference between one or more of the thematic modes and primal fear.

Frequency of Dream Images, Daydream Images, and Memory Images Scale

Frequency of Daydreams

The data from the survey were evaluated using a two sample T-test to compare the strength of the responses for three possible image variables; *dream*, *daydream*, and *memory*. Image responses for each of the 16 statements were paired with one another. Inspection of the data shows both expected and unexpected results. The least surprising result is that of the 16 total statements comparing paired responses for the three variables, the daydream image variable was found to be the dominant image, with the most occurrences at a confidence interval of 95% or higher. Of the 32 total possible comparisons, (i.e. daydream to dream, and daydream to memory) there was a statistically significant higher response for daydreams for 18 of the paired comparisons. A total of 15 daydream dominant responses out of 18 fell within the existential group. This comprised 68% of the possible 22 paired responses within that group. Of the ten possible statements

representing primal fears, there were three (30%) daydream dominant responses of the paired comparisons that were statistically significant at the 95% confidence interval.

The high number of responses for daydream images that represent the existential group likely reflects the learned importance of what these statements represent. That is, these participants may be more likely to think in a conscious way about hopes and fears, or their legacy, compared to actual death itself. Further, existential thought may even occur to perhaps *avoid* thoughts of death. This may support the research of King, et al. (1988) in that people employ daily goals to avoid their worst fears. A person may have a fear of death through being bitten by a spider, drowning, being buried alive, or being eaten by a shark, but that fear may not be as great as "will I survive after my physical death." It may be that some or most of the participants within this study have not fully pondered the thought of their own mortality. However, most individuals acknowledge to some extent, at some time or other, their own mortality.

While it may be intuitive that daydreams of physical survival would trump any alternative option, the data suggest otherwise. While there are more statements that represent the existential modes, than for primal fears, the percentage of dream image dominant responses is more than twice that for the former than the latter. This suggests that the population of social workers sampled consciously think about how they will be remembered after they have passed, rather than about dying per se.

Daydreams and Religion

A somewhat surprising result of this survey, however, was the apparent lower frequency of any image response for the religious mode, as compared to the other four thematic modes. Of the statements representing the religious mode, two statements did

not have any statistically significant image response for any of the three image paired comparisons. All of the remaining four existential thematic modes had statistically significant dominant daydream image responses for at least one of the two possible paired comparisons for both of the two statements within each thematic mode. This might suggest that of the population sampled, there is not a strong emphasis on symbolic immortality through the religious mode.

One statement representing the religion mode: *"personal non-existence after death,"* did elicit statistically significant image responses. For this statement, the daydream response was statistically more dominant than the dream or memory images. This response, and lack of response to the other two religious mode statements: *"that you are going to hell"* and *"that someone you love is going to hell,"* perhaps underscores the more consistent dominant daydream images for the thematic statements in the other four modes. The respondents within the sample apparently do not fear any repercussions in an afterlife and, in fact, they appear to doubt the actual presence of an afterlife. Since they, as a group, apparently do not have a strong believe in an afterlife, or seek immortality through that mode, they may be more motivated to achieve symbolic immortality through one or more of the other existential modes.

This result is consistent with the results of the second instrument, "Worst Fears Correspondence and Intensity Scale," where the mean score for identification within the religious mode, and the associated mean score for the intensity of fear of losing that identification, fell well below those same scores for the other four existential modes, and even the mean score for primal fear intensity. This is a significant finding in that intuitively it might be expected that social workers would be motivated to at least equally

strive for symbolic immortality through the religious mode as the other four existential modes, if not more so. That is, doing good deeds might lead to spiritual attainment, however that might be perceived.

Instrument Limitations

Review of the third scale results also appear to support the observations made concerning the limitations imposed by statements within the existential modes. In the previous discussion, it was noted that the mean score for the intensity of fear of losing identification with the biological mode was probably biased to the low side due to inclusion of a large fraction of participants (13 of 54) that appeared not to have a desire to have children. For the nature mode, it was postulated that one of the two thematic mode statements was not optimally formulated such that it resulted in lower intensity of responses, thereby diluting the score of the remaining statement.

Symbolic Immortality through Daydreams

Inspection of the frequency of the daydream image responses for the four modes, not including the religious mode, indicates that there were 13 statistically significant daydream image responses out of a possible 16 paired comparisons (four modes with two questions and two paired comparisons each). This resulted in an 81% statistically significant daydream image dominant response compared to 30% for the primal fears group of 10 possible paired comparisons. Therefore, participants would appear to think of those four modes, and the associated loss of symbolic immortality through these modes, as compared to primal fears including death itself.

Frequency of Dream Images

The second most frequent image variable was dream. However, the frequency of this response was much lower than that for the daydream variable. Out of a possible 32 paired comparisons (i.e. dream to daydream, and dream to memory) for the 16 fear statements, there were only two responses that were statistically significant to the 95% confidence level, while there was a third dominant dream response that was statistically dominant at the 93% confidence interval. All three of these dominant dream image responses fell into the primal fear statement group. While this percentage of statistically significant responses was 30% (including the 93% interval) the percentage in the existential fears group of statements was 0%.

Although existential fears may also be manifested in dreams, dreams appear to reflect the expression of primal fears more frequently. The fact that the dominant dream image is only statistically significant for statements representing primal fears would tend to support this. The first statement that demonstrated a significant dominant dream image response (at the 93% confidence level) was: *"fear that you are being bitten by snakes, spiders, dogs, etc."* The second (at the 96% confidence interval) was: *"fear that you are unable to breath due to asthma, drowning, suffocation,"* while the third statement (at the 99% confidence level) was *"that you are being eaten by sharks, dinosaurs, worms, cannibals."* Each of these statements is typical of unpleasant occurrences during dreams (nightmares) while asleep. These occurrences can be equated with primal fears inherent in the hard-wiring of the brain during sleep state, as reported within the Literature Review Section.

The interpretations made in this discussion are not intended to assert that primal fears are not experienced as daydream images. The results of the third scale do show daydream responses for primal fear statements. It is to be expected that a person contemplating a hike on the weekend might be thinking about the possibility of being bitten by a spider; or a person might have a thought about drowning during a kayak trip down a river. Other respondents may genuinely have phobias or anxieties that cause them to think or daydream about those fears. Nonetheless, the results of this scale suggest that participants daydream about existential fears that threaten symbolic immortality more frequently than they dream, or have memories of them. Additionally, participants appear to dream about primal fears more frequently than they daydream, or have memories of them.

Frequency of Memory Images

Similar to the findings of Kunzendorf, et al. (2006-2007), the frequency of memory images over dream, and daydream images within this study were overall insignificant. Memory image had only one statistically significant result out of a possible 32 paired comparisons, (i.e. memory to dream, and memory to daydream.) This occurred within the nature mode statement: *"that you are isolated from nature by your schedule or living environment."* Memory image dominated over dream image; however it did not dominate over daydream image.

While a number of statements may not be expected to elicit a strong response for memory, such as *"that you are being buried alive,"* it might have been expected that a higher number of responses would occur at least for several statements, including *"that someone you love is dying."* The fact that memory image was not a statistically

significant strong response may be related to the population sampled. The student population, while not necessarily very young, was nonetheless on average relatively young. The average age of the student population sampled was mid-to-late twenties to early thirties. This age may not have allowed sufficient time for experiencing certain life occurrences and building up a memory including incompletion of past endeavors, etc. that could result in a memory image for a specific statement.

Nonetheless, there were responses that indicated that memory image was a real potential response. There was substantial frequency of responses for the memory image for *"that you or someone you love is dying,"* and *"that you are isolated from nature by your schedule or living environment,"* etc. Overall, though, when making paired comparisons, the dominant image was daydream. Therefore, the lack of memory image responses suggests that participants daydream more frequently about future losses, than they have memories of past losses. This finding may support the hypotheses of Kunzendorf, et al., 2003-2004; 2006-2007) that people fear what they imagine might happen to them more than what has actually happened to them.

Conclusions

The cultural anthropologist Ernest Becker (1975) asserted that humans both benefit from, and agonize because of our capacity for abstract thinking. Because humans are self-conscious animals, we are cognizant of our own mortality in a way that other animals are spared. Becker contended that we humans are motivated to create meaning to symbolize the unique identity of our lives out of fear of "a nameless and faceless death" (p.92). Further, the psycho-historian Robert Jay Lifton asserted that we humans make meaning through symbolic immortality comprised of identification within five thematic

modes comprised of experiential, biological, nature, religious, and creative. He believed that we seek symbolic immortality through these modes to escape the fear of a meaningless life by ensuring that we live on eternally through our loved ones memories of us, our culture and traditions, our work, etc.

Little research is available regarding why students choose social work for a career. What *is* known is that social work students invest a tremendous amount of time and resources as they work toward their graduate degrees. Students enter this field fully aware that after graduation they will enter into a profession that may not yield large monetary dividends. Each student has her/his own reasons for pursuing a career in this field; however, it is clear that each is entering a career dedicated to helping others through life's struggles.

This study surveyed the graduate students from the 2008 class of Smith College School for Social Work in hopes of discovering if they were inclined to dedicate their lives to a career in social work to preserve their own immortality through their work. Data from this study suggests that these social work graduate students seek symbolic immortality through Lifton's experiential, nature, biological, and creative modes, without distinction. Conversely, these students do not appear to seek symbolic immortality through Lifton's religion mode.

Perhaps it is not surprising that students actively seeks symbolic immortality through the biological mode by indicating that it is important to them to live on through their children, and/or loved one. Also, it is conceivable that these students identify so strongly within the nature mode, as this population is self-selected in attending a graduate school geographically located in rural western Massachusetts. However, it is notable that

social work graduate students seek symbolic immortality through Lifton's experiential mode. Perhaps they do so in order to attain what Lifton (1974) described as the intense psychological state of "the feeling of working together with others in common cause" (p.82). Data suggests that these students seek immortality through the creative mode as well, in that they hope to live on through their important work with their clients.

It appears that fear is a powerful instinctual survival mechanism. In addition, humans can *learn* to fear, and often, our fears are born from our imaginations. Although statistical significance was found when analyzing data for the dream image and daydream image variables, no significance was found for the memory image variable. This suggests that students' fears are composed of imagined scenarios and not actual experienced events, whereby supporting the hypothesis of Kunzendorf, et al. (2003-2004; 2006-2007), that people fear what they imagine might happen to them more than what has actually happened to them. Further, data supports Kunzendorf, et al. (2006-2007) in that these students reported that they *daydream* about existential fears that threaten symbolic immortality more frequently than they dream, or have memories of them. Regardless of its origin, the state of fear is inescapable and more than likely impossible to cleanse from our dreams. These students reported that they *dream* about primal fears more frequently than they daydream, or have memories of them.

Data suggest that the more these students identify with themes that define meaning in their lives, the greater their fear of encountering threats to that meaning. However, further analysis of this population does not support the hypothesis of Kunzendorf, et al., 2006-2007 that the imagined happening that each individual fears *most* is not death per se, but something that represents a threat to meaning of life as

defined by each individual, as there were no statistical significant findings when this study tested for distinction between threats to existential fears that threaten meaning in life, and primal fears of death.

Nonetheless, this research may increase awareness that although these social work graduate students dream about their primal fears, they daydream about their very meaningful lives. These social work graduate students appear to seek symbolic immortality through working together with others in common cause, and they hope to live on through their positive work with their clients. Additionally, findings from this research suggest the importance for social workers to attend to their clients' worst fears by listening for existential themes that threaten meaning in life.

Recommendations

This study utilized a relatively small sample population. It is recommended that future studies of this kind ensure a larger sample to especially allow for a greater distinction between the identification within modes of symbolic immortality, and between existential and primal fears. It may also be beneficial to conduct this study utilizing graduate students of social work who attend colleges located in urban areas as well, to avoid bias from those who already identify within the nature mode. Additionally, it may be advantageous to sample graduate students enrolled in other academic disciplines in comparison to graduate students of social work, so that findings can be more easily attributable to the social work profession. Further, it may be beneficial to adjust the rating scales to clarify statements that appear ambiguous. For example, this study may yield very different results if the term "spirituality" were substituted for the term "religion."

It is also recommended that social workers inquire about their clients' dreams and daydreams to attain insight regarding their hopes, fears, and their life's meaning. Additionally, this research suggests that social workers hope to live on through their positive work with their clients. Future research is recommended to explore the impact on social workers when they are unable to witness, for whatever reasons, any positive difference they are making (or will make) in their clients' lives.

References

Aronson, E., Wilson, T.D., & Akert, R.M. (2005). *Social psychology* (5th edition). Upper Saddle River, NJ: Pearson Prentice Hall.

Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer.* Hillsdale, NJ: Erlbaum.

Becker, E. (1973). *The denial of death*. New York: Free Press.

Becker, E. (1975). *Escape from evil*. New York: Free Press.

Begley, S., Underwood, A., Wolffe, R., Smalley, S., & Interlandi, J. (2007, December 24). The roots of fear: The evolutionary primacy of the brain's fear circuitry makes it more powerful than reasoning circuits. *Newsweek, 150*(26), 36-40.

Bengtson, V. L., Cuellar, J. B., & Ragan, P. K. (1977). Stratum contrast and similarities in attitudes toward death. *Journal of Gerontology, 32*, 76-88.

Black, P. N., Jeffreys, D., & Hartley, E. K. (1993). Personal history of psychosocial trauma in the early life of social work and business students. *Journal of Social Work Education, 29*(2), 171-180.

Braun, A., Balkin, T., Wesenten, N., Carson, R., Varga, M., Baldwin, P., Selbie, S., Belenky, G., & Herscovitch, P. (1997). Regional cerebral blood flow throughout the sleep-wake cycle. *Brain, 120,* 1173-1197.

Brett, G.S. (1953). *History of psychology.* London: G. Allen.

Cicirelli, V.G., (2001). Personal meanings of death in older adults and young adults in relation to their fears of death. *Death Studies, 25*, 663-683.

Coelho, P. (2005). *The Alchemist*. New York: HarperCollins Publishers Inc.

Cozolino, L.J. (2002). *The neuroscience of psychotherapy: Building and rebuilding the human brain.* New York: W.W. Norton & Company.

Darwin, C.R. (1859). *The origin of species by means of natural selection, or the Preservation of favoured races in the struggle for life.* Boston: Adamant Media Corporation.

Darwin, C.R. (1871). *The descent of man and selection in relation to sex.* London: Murray.

Darwin, C.R. (1872). *The expression of the emotions in man and animals.* London: Murray.

Davis, M., & Whalen, P. J. (2001). The amygdala: Vigilance and emotion. *Molecular Psychiatry, 6,* 13–34.

Davis, S.F., & Palladino, J.J. (2005). *Psychology: media and research update* (4th edition). Upper Saddle River, NJ: Pearson Prentice Hall.

Decety, J., & Jackson, P.L. (2006). A social neuroscience perspective on empathy. *Current Directions in Psychological Science, 15*, 54-58.

Eisenberger, N.I., Lieberman, M.D., & Williams, K.D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*(5643), 290-292.

Ekman, P., & Friesen, W.V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology, 17,* 124-129.

Erikson, E.H. (1963). *Childhood and society* (2nd edition). New York: Norton.

Florian, V., & Har-Even, D. (1984). Fear of Personal Death: The effects of sex and religious belief. *Omega: Journal of Death and Dying, 14*(1), 83-91.

Floyd, M., Coulon, C., Yanez, A.P., & LaSota, M.T. (2005). The existential effects of traumatic experiences: A survey of young adults. *Death Studies, 29*(1), 55-63.

Freud, S (1930). *Civilization and its discontents*. London: Hogarth Press.

Gallup, G.G. (1977). Self-recognition in primates: A comparative approach to the bidirectional properties of consciousness. *American Psychologist, 32*, 329-338.

Gibelman, M., & Schervish, P. H. (1997). *Who we are.* Washington, DC: NASW Press.

Gire, J. T. (2002). How death imitates life: Cultural influences on conceptions of death and dying. In W. J. Lonner, D. L. Dinnel, S. A. Hayes, & D. N. Sattler (Eds.), *Online Readings in Psychology and Culture* (unit 14, chap. 2). Bellingham, WA: Western Washington University. Retrieved January 20, 2008 from http://www.wwu.edu/~culture

Gore, A. (2007). *An assault on reason*. New York: Penguin Press.

Harlow, H.F., Dodsworth, R.O., & Harlow, M.K. (1965). Total social isolation in monkeys. *Proceedings of the National Academy of Sciences of the United States of America*, *54*(1), 90-97.

Hartmann, E. (2001). *Dreams and nightmares: The origin and meaning of dreams*. Cambridge, MA: Perseus publishing.

Hayes, J. R. (1978). *Cognitive psychology: Thinking and creating*. Homewood, IL: Dorsey Press.

Heilbrunn, G. (1955). The basic fear. *Journal of the American Psychoanalytic Association, 3*, 447-466.

Hobson, J.A., Stickgold, R., & Pace-Scott, E.F. (1988). The neurophysiology of REM sleep dreaming. *Neuroreport, 9*(3), R1-R14.

Hodge, D.R. (2004). Who we are, where we come from, and some of our perceptions: Comparison of social workers and the general population. *Social Work, 49*(2), 261-268.

Jung, C.G. (1981). *The Archetypes & the Collective Unconscious (The Collected Works of C. G. Jung),* (Vol. 9). Princeton, NJ: Princeton University Press.

King, L.A., Hicks, J.A., Krull, J.L., & Del Gaiso, A.K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology, 90*(1), 179-96.

King, L.A., Richards, J.H., & Stemmerich, E. (1998). Daily goals, life goals, and worst fears: Means, ends, and subjective well-being. *Journal of Personality, 66*(5), 713.

Koestenbaum, P. (1964). The vitality of death. *Journal of Existentialism, 5*, 139-166.

Kowalski, G. (2007). *The souls of animals.* Novato, CA: New World Library.

Kramer, M. (1970). Manifest dream content in normal and psychopathologic states. *Archives of General Psychiatry*, *22*, 149-159.

Kunzendorf, R.G., Leszkiewicz, J., Hamill, K., McAleer, S., Geoffroy, S., Ciampaglia, A., Pereira, D., & Brito, C. (2006-2007). Dreaming and daydreaming about dreadful possibilities: Primal fears versus existential fears. *Imagination, Cognition, and Personality, 26*(3), 249-257.

Kunzendorf, R.G., McGlone, M., Hulihan, D., Boulia, K., Portuese, J., Dinsmore, T., & Bramhall, E. (2003-2004). Reframing cognitive therapy to integrate recent research on emotion, imagery, and self-talk. *Imagination, Cognition, and Personality, 23*, 309-323.

Lazarus, R.S. (1982). Thoughts on the relations between emotion and cognition. *American Psychologist, 37*, 1019-1024.

Leary, M.R., & MacDonald, G. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin, 131*(2), 202-223.

Lifton, R.J. (1967). *Death in life: Survivors of Hiroshima*. New York: Random House.

Lifton, R.J. (1974). Symbolic immortality. In R.J. Lifton & E. Olson (Eds.), *Living and dying* (pp. 53-74). New York: Bantam Books.

Lore, R.K., & Schultz, L.A. (1993). Control of human aggression. *American Psychologist, 48*, 16-25.

Lorenz, K. (1966). *On aggression*. New York: Harcourt Brace.

Maquet, P., Peters, J., Aerts, J., Delfiore, G., Degueldre, C., Luxen, A., & Franck, G. (1996). Functional neuroanatomy of human rapid-eye-movement sleep and dreaming. *Nature, 283,* 163-166.

Marsh, S. R. (1988) Antecedents to choice of a helping career: Social work vs. business majors. *Smith College Studies in Social Work, 58*(2), 85-100.

Mathews, R.C., & Kling, K.J. (1988). Self-transcendence, time perspective, and prosocial behavior. *Journal of Voluntary Action Research*, *17*, 4-24.

Mineka, S., & Öhman, A. (2002). Phobias and preparedness: The selective, automatic, and encapsulated nature of fear. *Biological Psychiatry, 52,* 927-937.

Munley, P.H., & Johnson, P.D. (2003). Ernest Becker: A vital resource for counseling psychology. *Counselling Psychology Quarterly, 1*(4), 363-372.

Neimeyer, R. A., & Van Brunt, D. (1995). Death anxiety. In H. Wass & R. A. Neimeyer (Eds.), *Dying: Facing the facts* (3rd ed.) (pp. 49-58). New York: Taylor & Francis.

Nielsen, T., Deslauriers, D., & Baylor, G. (1991). Emotions in dream and waking event reports. *Dreaming*, *1*, 287-300.

Noppe, I.C., & Noppe, L.D. (1997). Evolving meanings of death during early, middle, and later adolescence. *Death Studies, 21*(3), 253-275.

Oakley, D. A. (1985). Animal awareness, consciousness, and self-image. In D. A. Oakley (Ed.), *Mind and brain* (pp. 132–151). New York: Methuen.

Panksepp, J. (2003). Feeling the pain of social loss. *Science, 302*(5643), 237-239.

Peetz, D. (2005). Co-operative values, institutions and free riding in Australia: Can it learn from Canada? *Industrial Relations.* Retrieved January 29, 2008 from http://goliath.ecnext.com/coms2/gi_0199-5383974/Co-operative-values-institutions-and.html

Phelps, E.A., O'Connor, K.J, Gatenby, J.C., Gore, J.C., Grillon, C., & Davis, M. (2001). Activation of the left amygdala to a cognitive representation of fear. *Nature Neuroscience, 4*(4), 437-441.

Rompf, E. L., & Royse, D. (1994). Choice of social work as a career: Possible influences. *Journal of Social Work Education, 30*, 163-171.

Russel, R., Gill, P., Coyne, A., & Woody, J. (1993) Dysfunction in the family of origin of MSW and other graduate students. *Journal of Social Work Education, 29*(1), 121-129.

Sarason, I.G., & Sarason, B.R. (2005). *Abnormal psychology: the problem of maladaptive behavior*. Upper Saddle River, NJ: Pearson Prentice Hall.

Schachter, S., & Singer, J.E. (1962). Cognitive, social, and physiological determinants of emotional states. *Psychological Review, 69,* 379-399.

Slobodkin, L.B. (1978). Is history a consequence of evolution? In P.P.G. Bateson & P.H. Klopfer (Eds.), *Perspectives in ethology* (Vol. 3, pp. 233-235). New York: Plenum Press.

Thorson, J.A., Powell, F.C. (1988). Elements of death anxiety and meanings of death. *Journal of Clinical Psychology*. *44*(5), 691-701.

Yalom, I.D. (2003). *The gift of therapy: An open letter to a new generation of therapists and their patients.* New York: Harper Perennial.

Zajonc, R.B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist, 35*, 151-175.

Appendix A
Symbolic Immortality Scale

On a continuum, please indicate the extent to which you disagree or agree with each statement below:

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	Strongly Agree (6)	Response Declined
It is important to me to live my life to the fullest by experiencing as much of it as I can.	○	○	○	○	○	○	○
After my death my life will have meaning through the lives of my children.	○	○	○	○	○	○	○
It is important to me to understand one's place in nature and humankind's relationship with all living things.	○	○	○	○	○	○	○
Since life is so short, it is important to enjoy as many pleasurable and exciting things as possible.	○	○	○	○	○	○	○
Death is a graduation to a higher existence.	○	○	○	○	○	○	○
What makes life meaningful is some of the great experiences I have had.	○	○	○	○	○	○	○
I would do almost anything that would be pleasurable or exciting to me.	○	○	○	○	○	○	○
It is important to me to have children to carry on my family line.	○	○	○	○	○	○	○
Being with nature gives me a sense of peace and tranquility about my life.	○	○	○	○	○	○	○
The fundamental relationship between humankind and nature gives my life meaning.	○	○	○	○	○	○	○

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	Strongly Agree (6)	Response Declined
It is important to follow your religious beliefs in order to assure spiritual attainment after death.	○	○	○	○	○	○	○
Long after my death people will remember that I was here because of my work or accomplishments.	○	○	○	○	○	○	○
It is important to lead my life according to my religious beliefs.	○	○	○	○	○	○	○
Being part of nature is an important aid in my spiritual fulfillment.	○	○	○	○	○	○	○
Practicing my religion assures me of eternal peace.	○	○	○	○	○	○	○
The meaning of life is determined by my religious beliefs.	○	○	○	○	○	○	○
It is important for me to know that my loved ones and people I have been close to will remember me after I am dead.	○	○	○	○	○	○	○
A rich and full life is one that goes in many different directions encompassing a wide range of life experiences	○	○	○	○	○	○	○
I would do almost anything to ensure the future of my children.	○	○	○	○	○	○	○
It is important for me to know that my work will have a positive effect on the lives of people who live on after my death.	○	○	○	○	○	○	○
When I look back on my life, it is important for me to know that I have experienced most of what life has to offer.	○	○	○	○	○	○	○

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	Strongly Agree (6)	Response Declined
I feel most alive when I am alone with nature.	○	○	○	○	○	○	○
It is important to know that many of my beliefs, values, and attitudes will continue in my children.	○	○	○	○	○	○	○
After my death my life will still have meaning through the things I have made or created.	○	○	○	○	○	○	○
I would do almost anything to ensure that I live my life according to my religious beliefs.	○	○	○	○	○	○	○
It is important to know that people will continue to value or use my ideas or things that I have made after my death.	○	○	○	○	○	○	○
It is important to me to tell my children about past generations to keep memories of relatives alive.	○	○	○	○	○	○	○
When I look back at my life, it is important to me that some of the goals I have achieved will continue to benefit people after my death.	○	○	○	○	○	○	○
It is important to write, create, or build something that will exist after my death.	○	○	○	○	○	○	○
I am in nature and nature is in me.	○	○	○	○	○	○	○

Source: Mathews, R.C., & Kling, K.J. (1988). Self-transcendence, time perspective, and prosocial behavior. *Journal of Voluntary Action Research, 17*, 4-24.

Appendix B
Worst Fears Correspondence and Intensity Scale

Please indicate the extent to which these statements correspond with YOUR worst fears:

	No Fear At All	Not Very Fearful	A Little Fearful	More Than A Little Fearful	Some-what Fearful	Very Fearful	Terribly Fearful	One Of My Worst Fears	Response Declined
Fear that I will not achieve my life's work.	○	○	○	○	○	○	○	○	○
Fear that I will not have any children/ grand-children.	○	○	○	○	○	○	○	○	○
Fear of being bitten (by snakes, spiders, dogs, etc.).	○	○	○	○	○	○	○	○	○
Fear that I physically and/or mentally cannot live life to its fullest (i.e. due to disease or accident).	○	○	○	○	○	○	○	○	○
Fear that I am going to hell.	○	○	○	○	○	○	○	○	○
Fear of being unable to breathe (i.e. due to asthma, drowning, suffocation).	○	○	○	○	○	○	○	○	○

	No Fear At All	Not Very Fearful	A Little Fearful	More Than A Little Fearful	Some-what Fearful	Very Fearful	Terribly Fearful	One Of My Worst Fears	Response Declined
Fear of nature being destroyed beyond repair (i.e. destruction of water, air, trees, wild-life, open space).	○	○	○	○	○	○	○	○	○
Fear of being buried alive.	○	○	○	○	○	○	○	○	○
Fear of the possibility of personal non-existence after death.	○	○	○	○	○	○	○	○	○
Fear that my life's work will have no impact or meaning after my death.	○	○	○	○	○	○	○	○	○
Fear of being eaten (by sharks, dinosaurs, worms, cannibals).	○	○	○	○	○	○	○	○	○
Fear that I will be isolated from nature by my schedule or living environment (i.e. living in the city).	○	○	○	○	○	○	○	○	○

	No Fear At All	Not Very Fearful	A Little Fearful	More Than A Little Fearful	Some-what Fearful	Very Fearful	Terribly Fearful	One Of My Worst Fears	Response Declined
Fear that my child, or future child, will die before my own death.	○	○	○	○	○	○	○	○	○
Fear that I am dying, or someone that I love is dying.	○	○	○	○	○	○	○	○	○
Fear that someone I love is going to hell.	○	○	○	○	○	○	○	○	○
Fear that I will be unable to experience pleasure and/or excitement.	○	○	○	○	○	○	○	○	○

Source: Kunzendorf, R.G., Leszkiewicz, J., Hamill, K., McAleer, S., Geoffroy, S., Ciampaglia, A., Pereira, D., & Brito, C. (2006-2007). Dreaming and daydreaming about dreadful possibilities: Primal fears versus existential fears. *Imagination, Cognition, and Personality, 26*(3), 249-257.

Appendix C

Frequency of Dream Images, Daydream Images, and Memory Images Scale

Please indicate the frequency of your dream images, daydream images, and memory images that picture the following:

…that I will not achieve my life's work.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you would not have any children/grandchilden.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are being bitten (by snakes, spiders, dogs, etc.).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you physically and/or mentally cannot live life to its fullest (i.e. due to disease or accident).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are going to hell.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are unable to breathe (i.e. due to asthma, drowning, suffocation).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that nature is destroyed beyond repair (i.e. destruction of water, air, trees, wildlife, open space).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are being buried alive.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...personal non-existence after death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that your life's work would have no impact or meaning after your death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are being eaten (by sharks, dinosaurs, worms, cannibals).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are isolated from nature by your schedule or living environment (i.e. living in the city).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that your child, of future child, will die before your own death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are dying, or someone that you love is dying.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that someone you love is going to hell.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

...that you are unable to experience pleasure and/or excitement.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined
Dream Image	○	○	○	○	○	○	○
Daydream Image	○	○	○	○	○	○	○
Memory Image	○	○	○	○	○	○	○

Source: Kunzendorf, R.G., Leszkiewicz, J., Hamill, K., McAleer, S., Geoffroy, S., Ciampaglia, A., Pereira, D., & Brito, C. (2006-2007). Dreaming and daydreaming about dreadful possibilities: Primal fears versus existential fears. *Imagination, Cognition, and Personality, 26*(3), 249-257.

Appendix D
Human Subjects Review Committee Approval Letter

January 19, 2008

Jennifer Leszkiewicz
26 Sylvan Lane
Groton, MA 01450

Dear Jennifer,

Your revised materials have been reviewed. You did a very good job with their amendment and all is now in order. We are glad to give final approval to your study.

Please note the following requirements:

Consent Forms: All subjects should be given a copy of the consent form.

Maintaining Data: You must retain signed consent documents for at least three (3) years past completion of the research activity.

In addition, these requirements may also be applicable:

Amendments: If you wish to change any aspect of the study (such as design, procedures, consent forms or subject population), please submit these changes to the Committee.

Renewal: You are required to apply for renewal of approval every year for as long as the study is active.

Completion: You are required to notify the Chair of the Human Subjects Review Committee when your study is completed (data collection finished). This requirement is met by completion of the thesis project during the Third Summer.

Good luck with your project.

Sincerely,

Ann Hartman, D.S.W.
Chair, Human Subjects Review Committee

CC: Jennifer Perloff, Research Advisor

Appendix E
Electronic Recruitment Letter

Hello Smith College School for Social Work graduating class of 2008!

My name is Jennifer E. Leszkiewicz and, like you, I am a second-year (soon to be third year!) graduate student at Smith College School for Social Work. I am conducting a quantitative research study that explores an individual's worst fears, and I would be very grateful for your participation within this study.

Participation in this study is completely voluntary, and completely anonymous, and would entail your involvement by responding to three electronic self-rating scales using *Survey Monkey;* an online survey software program. This study will take approximately 15 minutes to complete, although you are not limited to any specific time limit while completing the survey. During this study, you **will not** be asked to disclose any identifiable information. The data collected during this study will be used for my MSW thesis at Smith College School for Social Work and in any resulting publications or presentations.

As a participant you will need to meet the following inclusion criteria: You must be a student in the 2008 graduating class of Smith College School for Social Work; you must be at least 18 years of age; and you must currently reside within the United States.

If you agree to participate in this study, and you meet the above inclusion criteria, please connect to the internet link below. You will be asked to read, and to agree to, an informed consent form that details your rights as a participant before you begin the survey.

I thank you in advance for your participation!

Jennifer

Contact Information:
Jennifer E. Leszkiewicz
jleszkie@smith.edu

Appendix F
Electronic Informed Consent Letter

Dear Smith College School for Social Work graduating class of 2008,

My name is Jennifer E. Leszkiewicz and I am a second-year graduate student at Smith College School for Social Work. I am conducting a quantitative research study that explores an individual's worst fears. The data collected from this research will be used for my MSW thesis at Smith College School for Social Work and in any resulting publications or presentations.

Nature of Participation
Participation in this study would entail your involvement by anonymously responding to three electronic self-rating scales using *Survey Monkey®;* an online survey software program. This study will take approximately 15 minutes to complete, although you are not limited to any specific time limit while completing the survey. This study is open to students in the graduating class of 2008 at Smith College School for Social Work, who currently reside within the United States (US), and are at least 18 years of age. Although this study presents very minimal risk for this population, this study excludes those students currently residing outside of the US, as referrals for clinical social worker services for those living outside the US are not identified within this study. Beside the age limitation, and the condition for current US residency, there are no other specific inclusion or exclusion criteria to participate.

Possible Risks and Discomfort
There are no anticipated risks involved in being a participant in this study. For some people, there may be temporary discomfort as the relatively short self-rating scales involve rating some statements about mortality. However, please contact the *National Association of Social Workers (NASW)* to locate a clinical social worker within your geographical area, in the unlikely event that any discomfort of more than minimal intensity or more than minimal duration should happen to occur (see "Contact Information" below).

Benefits
There are no immediate or long-term benefits that come from serving as a participant in this research, except the satisfaction of contributing to the advancement of the research. You will not receive any financial compensation for participation with this study.

Confidentiality
You will be participating in this study anonymously. You **will not** be asked to disclose any identifiable information, as the results of this study including laboratory or any other data may be published for scientific purposes, and general viewing.

Refusal or Withdrawal of Participation
Participation in this study is completely voluntary. You may decline to answer any question without penalty. You are absolutely free to terminate your participation in this study for any reason, discomfort-related or otherwise, before submitting your survey. However, you may not withdraw from this study once you have submitted your survey, as participation is anonymous and it would be impossible to identify your particular survey.

Contact Information
National Association of Social Workers (NASW) Clinical Social Work Registry internet website link: http://www.helppro.com/aspdocs/naswbsearch1.asp

National Association of Social Workers (NASW) Telephone Referral Service:
800-242-9794

If you have any questions or concerns about your rights regarding your participation in this study, or about any aspect of the study, and/or to request additional information about this study, please contact Jennifer E. Leszkiewicz, via telephone at xxx-xxx-xxxx, or via e-mail at jleszkie@smith.edu .You may also contact Smith College School for Social Work Human Subjects Review Committee via telephone at 413-585-7974.

BY BEGINNING THIS SURVEY, YOU ARE INDICATING THAT YOU HAVE READ AND UNDERSTAND THE INFORMATION ABOVE AND THAT YOU HAVE HAD AN OPPORTUNITY TO ASK QUESTIONS ABOUT THE STUDY, YOUR PARTICIPATION, AND YOUR RIGHTS AND THAT YOU AGREE TO PARTICIPATE IN THE STUDY.

Appendix G

Mean Intensity Scores of Statements Measuring Symbolic Immortality

Mode	Statement	Strongly Disagree (1)	(2)	(3)	(4)	(5)	Strongly Agree (6)	Response Declined	**Rating Avg.**
Experiential	It is important to me to live my life to the fullest by experiencing as much of it as I can.	0.0% (0)	0.0% (0)	3.6% (2)	9.1% (5)	30.9% (17)	56.4% (31)	0.0% (0)	**5.40**
Biological	After my death my life will have meaning through the lives of my children.	10.9% (6)	14.5% (8)	5.5% (3)	23.6% (13)	9.1% (5)	23.6% (13)	12.7% (7)	**3.88**
Nature	It is important to me to understand one's place in nature and humankind's relationship with all living things.	1.8% (1)	1.8% (1)	12.7 % (7)	25.5% (14)	23.6% (13)	32.7% (18)	1.8% (1)	**4.69**
Experiential	Since life is so short, it is important to enjoy as many pleasurable and exciting things as possible.	1.8% (1)	7.3% (4)	9.1% (5)	34.5% (19)	23.6% (13)	23.6% (13)	0.0% (0)	**4.42**
Religious	Death is a graduation to a higher existence.	10.9% (6)	14.5% (8)	27.3 % (15)	18.2% (10)	14.5% (8)	7.3% (4)	7.3% (4)	**3.35**
Experiential	What makes life meaningful is some of the great experiences I have had.	1.8% (1)	1.8% (1)	5.5% (3)	18.2% (10)	20.0% (11)	52.7% (29)	0.0% (0)	**5.11**
Experiential	I would do almost anything that would be pleasurable or exciting to me.	20.0% (11)	27.3% (15)	20.0 % (11)	16.4% (9)	12.7% (7)	3.6% (2)	0.0% (0)	**2.85**
Biological	It is important to me to have children to carry on my family line.	18.2% (10)	20.0% (11)	18.2 % (10)	18.2% (10)	9.1% (5)	10.9% (6)	5.5% (3)	**3.13**
Nature	Being with nature gives me a sense of peace and tranquility about my life.	0.0% (0)	0.0% (0)	7.3% (4)	16.4% (9)	30.9% (17)	45.5% (25)	0.0% (0)	**5.15**

Nature	The fundamental relationship between humankind and nature gives my life meaning.	3.6% (2)	7.3% (4)	14.5 % (8)	23.6% (13)	36.4% (20)	14.5% (8)	0.0% (0)	**4.25**
Religious	It is important to follow your religious beliefs in order to assure spiritual attainment after death.	43.6% (24)	23.6% (13)	10.9 % (6)	10.9% (6)	5.5% (3)	1.8% (1)	3.6% (2)	**2.13**
Creative	Long after my death people will remember that I was here because of my work or accomplishments.	7.3% (4)	27.3% (15)	25.5 % (14)	21.8% (12)	10.9% (6)	5.5% (3)	1.8% (1)	**3.19**
Religious	It is important to lead my life according to my religious beliefs.	21.8% (12)	27.3% (15)	12.7 % (7)	16.4% (9)	7.3% (4)	10.9% (6)	3.6% (2)	**2.92**
Nature	Being part of nature is an important aid in my spiritual fulfillment.	1.8% (1)	14.5% (8)	12.7 % (7)	12.7% (7)	29.1% (16)	27.3% (15)	1.8% (1)	**4.37**
Religious	Practicing my religion assures me of eternal peace.	47.3% (26)	29.1% (16)	9.1% (5)	9.1% (5)	0.0% (0)	1.8% (1)	3.6% (2)	**1.87**
Religious	The meaning of life is determined by my religious beliefs.	34.5% (19)	20.0% (11)	18.2 % (10)	10.9% (6)	7.3% (4)	5.5% (3)	3.6% (2)	**2.51**
Biological	It is important to know that my loved ones and people I have been close to will remember me after I am dead.	3.6% (2)	12.7% (7)	21.8 % (12)	10.9% (6)	27.3% (15)	23.6% (13)	0.0% (0)	**4.16**
Experiential	A rich and full life is one that goes in many different directions encompassing a wide range of life experiences.	0.0% (0)	7.3% (4)	10.9 % (6)	20.0% (11)	32.7% (18)	29.1% (16)	0.0% (0)	**4.65**
Biological	I would do almost anything to ensure the future of my children.	10.9% (6)	7.3% (4)	12.7 % (7)	10.9% (6)	14.5% (8)	21.8% (12)	21.8% (12)	**3.98**
Creative	It is important for me to know that my work will have a positive effect on the lives of people who live on after my death.	1.8% (1)	5.5% (3)	10.9 % (6)	23.6% (13)	29.1% (16)	29.1% (16)	0.0% (0)	**4.60**

Experiential	When I look back on my life, it is important for me to know that I have experienced most of what life has to offer.	0.0% (0)	9.1% (5)	12.7 % (7)	30.9% (17)	36.4% (20)	10.9% (6)	0.0% (0)	**4.27**
Nature	I feel most alive when I am alone with nature.	10.9% (6)	29.1% (16)	21.8 % (12)	20.0% (11)	10.9% (6)	7.3% (4)	0.0% (0)	**3.13**
Biological	It is important to know that many of my beliefs, values, and attitudes will continue in my children.	10.9% (6)	12.7% (7)	12.7 % (7)	16.4% (9)	16.4% (9)	14.5% (8)	16.4% (9)	**3.70**
Creative	After my death my life will still have meaning through the things I have made or created.	5.5% (3)	16.4% (9)	18.2 % (10)	16.4% (9)	29.1% (16)	10.9% (6)	3.6% (2)	**3.83**
Religious	I would do almost anything to ensure that I live my life according to my religious beliefs.	47.3% (26)	16.4% (9)	9.1% (5)	14.5% (8)	7.3% (4)	1.8% (1)	3.6% (2)	**2.21**
Creative	It is important to know that people will continue to value or use my ideas or things that I have made after my death.	12.7% (7)	18.2% (10)	16.4 % (9)	25.5% (14)	14.5% (8)	10.9% (6)	1.8% (1)	**3.44**
Biological	It is important to me to tell my children about past generations to keep memories of relatives alive.	9.1% (5)	7.3% (4)	3.6% (2)	16.4% (9)	20.0% (11)	32.7% (18)	10.9% (6)	**4.45**
Creative	When I look back at my life, it is important to me that some of the goals I have achieved will continue to benefit people after my death.	3.6% (2)	10.9% (6)	12.7 % (7)	20.0% (11)	32.7% (18)	18.2% (10)	1.8% (1)	**4.24**
Creative	It is important to write, create, or build something that will exist after my death.	7.3% (4)	20.0% (11)	16.4 % (9)	25.5% (14)	16.4% (9)	14.5% (8)	0.0% (0)	**3.67**
Nature	I am in nature and nature is in me.	1.8% (1)	10.9% (6)	7.3% (4)	20.0% (11)	23.6% (13)	34.5% (19)	1.8% (1)	**4.59**

Appendix H
Mean Scores Measuring Intensity of Fear Statements

Mode	Statement	No Fear At All (1)	Not Very Fearful (2)	A Little Fear-ful (3)	More Than a Little Fear-ful (4)	Some-what Fearful (5)	Very Fear-ful (6)	Terribly Fearful (7)	One of My Worst Fears (8)	Resp-onse De-clined	**Rating Avg.**
Creative	Fear that I will not achieve my life's work.	7.4% (4)	27.8% (15)	25.9% (14)	7.4% (4)	14.8% (8)	5.6% (3)	3.7% (2)	7.4% (4)	0.0% (0)	**3.63**
Biological	Fear that I will not have any children/ grand-children	24.1% (13)	27.8% (15)	16.7% (9)	7.4% (4)	5.6% (3)	3.7% (2)	3.7% (2)	7.4% (4)	3.7% (2)	**3.06**
Primal	Fear of being bitten (by snakes, spiders, dogs, etc.).	25.9% (14)	35.2% (19)	13.0% (7)	5.6% (3)	14.8% (8)	1.9% (1)	3.7% (2)	0.0% (0)	0.0% (0)	**2.69**
Experiential	Fear that I physically and/or mentally cannot live life to its fullest (i.e. due to disease or accident).	16.7% (9)	13.0% (7)	25.9% (14)	0.0% (0)	27.8% (15)	3.7% (2)	7.4% (4)	5.6% (3)	0.0% (0)	**3.78**
Religious	Fear that I am going to hell.	68.5% (37)	20.4% (11)	5.6% (3)	1.9% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	3.7% (2)	**1.38**
Primal	Fear of being unable to breathe (i.e.due to asthma, drowning, suffocation)	14.8% (8)	29.6% (16)	22.2% (12)	7.4% (4)	9.3% (5)	5.6% (3)	7.4% (4)	3.7% (2)	0.0% (0)	**3.31**
Nature	Fear of nature being destroyed beyond repair (i.e. destruction of water, air, trees, wildlife, open space).	7.4% (4)	16.7% (9)	22.2% (12)	7.4% (4)	13.0% (7)	18.5 % (10)	9.3% (5)	5.6% (3)	0.0% (0)	**4.22**

Primal	Fear of being buried alive.	40.7% (22)	25.9% (14)	9.3% (5)	5.6% (3)	1.9% (1)	7.4% (4)	3.7% (2)	5.6% (3)	0.0% (0)	**2.67**
Religious	Fear of the possibility of personal non-existence after death.	48.1% (26)	14.8% (8)	5.6% (3)	5.6% (3)	11.1% (6)	7.4% (4)	3.7% (2)	1.9% (1)	1.9% (1)	**2.62**
Creative	Fear that my life's work will have no impact or meaning after my death.	27.8% (15)	22.2% (12)	22.2% (12)	7.4% (4)	5.6% (3)	7.4% (4)	5.6% (3)	1.9% (1)	0.0% (0)	**2.94**
Primal	Fear of being eaten (by sharks, dinosaurs, worms, cannibals).	59.3% (32)	20.4% (11)	5.6% (3)	1.9% (1)	3.7% (2)	3.7% (2)	3.7% (2)	1.9% (1)	0.0% (0)	**2.06**
Nature	Fear that I will be isolated from nature by my schedule of living environ-ment (i.e. living in the city).	25.9% (14)	24.1% (13)	18.5% (10)	7.4% (4)	11.1% (6)	5.6% (3)	1.9% (1)	5.6% (3)	0.0% (0)	**3.06**
Biological	Fear that my child, or future child, will die before my own death.	24.1% (13)	14.8% (8)	14.8% (8)	3.7% (2)	11.1% (6)	3.7% (2)	11.1% (6)	9.3% (5)	7.4% (4)	**3.70**
Primal	Fear that I am dying, or someone that I love is dying.	14.8% (8)	18.5% (10)	14.8% (8)	9.3% (5)	14.8% (8)	5.6% (3)	9.3% (5)	13.0% (7)	0.0% (0)	**4.09**
Religious	Fear that someone I love is going to hell.	77.8% (42)	11.1% (6)	3.7% (2)	1.9% (1)	1.9% (1)	0.0% (0)	0.0% (0)	0.0% (0)	3.7% (2)	**1.33**
Existential	Fear that I will be unable to experience pleasure and/or excitement.	25.9% (14)	9.3% (5)	22.2% (12)	13.0 % (7)	11.1% (6)	11.1 % (6)	3.7% (2)	3.7% (2)	0.0% (0)	**3.41**

Appendix I
Mean Scores Measuring Frequency of Dream Images,
Daydream Images, and Memory Images

Please indicate the frequency of your dream images, daydream images, and memory images that picture the following:

…that you would not achieve your life's work.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**68.0% (34)**	10.0% (5)	12.0% (6)	2.0% (1)	2.0% (1)	0.0% (0)	6.0% (3)	1.51
Daydream Image	**40.0% (20)**	8.0% (4)	10.0% (5)	22.0% (11)	12.0% (6)	2.0% (1)	6.0% (3)	2.62
Memory Image	**64.0% (32)**	4.0% (2)	4.0% (2)	14.0% (7)	4.0% (2)	2.0% (1)	8.0% (4)	1.87

...that you would not have any children/grandchilden.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**78.0% (39)**	10.0% (5)	4.0% (2)	2.0% (1)	0.0% (0)	2.0% (1)	4.0% (2)	1.35
Daydream Image	**42.0% (21)**	14.0% (7)	12.0% (6)	18.0% (9)	10.0% (5)	2.0% (1)	2.0% (1)	2.45
Memory Image	**76.0% (38)**	4.0% (2)	6.0% (3)	6.0% (3)	0.0% (0)	2.0% (1)	6.0% (3)	1.47

...that you are being bitten (by snakes, spiders, dogs, etc.).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**58.0% (29)**	14.0% (7)	18.0% (9)	10.0% (5)	0.0% (0)	0.0% (0)	0.0% (0)	1.80
Daydream Image	**74.0% (37)**	8.0% (4)	10.0% (5)	6.0% (3)	2.0% (1)	0.0% (0)	0.0% (0)	1.54
Memory Image	**72.0% (36)**	12.0% (6)	10.0% (5)	4.0% (2)	0.0% (0)	0.0% (0)	2.0% (1)	1.45

...that you physically and/or mentally cannot live life to its fullest (i.e. due to disease or accident).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**54.0% (27)**	12.0% (6)	22.0% (11)	8.0% (4)	2.0% (1)	0.0% (0)	2.0% (1)	1.90
Daydream Image	**32.0% (16)**	16.0% (8)	16.0% (8)	22.0% (11)	10.0% (5)	2.0% (1)	2.0% (1)	2.67
Memory Image	**60.0% (30)**	12.0% (6)	8.0% (4)	12.0% (6)	0.0% (0)	0.0% (0)	8.0% (4)	1.70

...that you are going to hell.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**88.0% (44)**	6.0% (3)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	4.0% (2)	1.10
Daydream Image	**86.0% (43)**	4.0% (2)	4.0% (2)	2.0% (1)	0.0% (0)	0.0% (0)	4.0% (2)	1.19
Memory Image	**86.0% (43)**	2.0% (1)	2.0% (1)	2.0% (1)	0.0% (0)	0.0% (0)	8.0% (4)	1.13

...that you are unable to breathe (i.e. due to asthma, drowning, suffocation).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**44.0% (22)**	12.0% (6)	40.0% (20)	4.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	2.04
Daydream Image	**56.0% (28)**	18.0% (9)	16.0% (8)	8.0% (4)	2.0% (1)	0.0% (0)	0.0% (0)	1.82
Memory Image	**64.0% (32)**	16.0% (8)	8.0% (4)	6.0% (3)	2.0% (1)	0.0% (0)	4.0% (2)	1.60

...that nature is destroyed beyond repair (i.e. destruction of water, air, trees, wildlife, open space).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**72.0% (36)**	8.0% (4)	14.0% (7)	2.0% (1)	0.0% (0)	0.0% (0)	4.0% (2)	1.44
Daydream Image	**44.0% (22)**	4.0% (2)	18.0% (9)	20.0% (10)	10.0% (5)	2.0% (1)	2.0% (1)	2.53
Memory Image	**68.0% (34)**	4.0% (2)	12.0% (6)	6.0% (3)	2.0% (1)	2.0% (1)	6.0% (3)	1.68

...that you are being buried alive.

	Never	Once	Yearly	Monthly	Weekly	Daily	Res-ponse Declined	Weighted Mean
Dream Image	**94.0% (47)**	4.0% (2)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	1.08
Daydream Image	**78.0% (39)**	10.0% (5)	10.0% (5)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1.36
Memory Image	**86.0% (43)**	4.0% (2)	4.0% (2)	2.0% (1)	0.0% (0)	0.0% (0)	4.0% (2)	1.19

...personal non-existence after death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Res-ponse Declined	Weighted Mean
Dream Image	**92.0% (46)**	4.0% (2)	0.0% (0)	2.0% (1)	0.0% (0)	0.0% (0)	2.0% (1)	1.10
Daydream Image	**64.0% (32)**	8.0% (4)	16.0% (8)	10.0% (5)	0.0% (0)	0.0% (0)	2.0% (1)	1.71
Memory Image	**82.0% (41)**	2.0% (1)	4.0% (2)	6.0% (3)	0.0% (0)	0.0% (0)	6.0% (3)	1.30

...that your life's work would have no impact or meaning after your death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Res-ponse Declined	Weighted Mean
Dream Image	**88.0% (44)**	4.0% (2)	4.0% (2)	2.0% (1)	0.0% (0)	0.0% (0)	2.0% (1)	1.18
Daydream Image	**62.0% (31)**	8.0% (4)	16.0% (8)	10.0% (5)	4.0% (2)	0.0% (0)	0.0% (0)	1.86
Memory Image	**78.0% (39)**	0.0% (0)	10.0% (5)	2.0% (1)	4.0% (2)	0.0% (0)	6.0% (3)	1.45

...that you are being eaten (by sharks, dinosaurs, worms, cannibals).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**72.0% (36)**	12.0% (6)	14.0% (7)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	1.46
Daydream Image	**76.0% (38)**	12.0% (6)	8.0% (4)	4.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	1.40
Memory Image	**90.0% (45)**	2.0% (1)	4.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	4.0% (2)	1.10

...that you are isolated from nature by your schedule or living environment (i.e. living in the city).

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**78.0% (39)**	8.0% (4)	8.0% (4)	6.0% (3)	0.0% (0)	0.0% (0)	0.0% (0)	1.42
Daydream Image	**48.0% (24)**	10.0% (5)	14.0% (7)	20.0% (10)	6.0% (3)	2.0% (1)	0.0% (0)	2.32
Memory Image	**62.0% (31)**	6.0% (3)	14.0% (7)	10.0% (5)	4.0% (2)	2.0% (1)	2.0% (1)	1.92

...that your child, of future child, will die before your own death.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**80.0% (40)**	4.0% (2)	8.0% (4)	4.0% (2)	2.0% (1)	0.0% (0)	2.0% (1)	1.41
Daydream Image	**50.0% (25)**	6.0% (3)	28.0% (14)	14.0% (7)	0.0% (0)	0.0% (0)	2.0% (1)	2.06
Memory Image	**80.0% (40)**	4.0% (2)	8.0% (4)	2.0% (1)	0.0% (0)	0.0% (0)	6.0% (3)	1.28

...that you are dying, or someone that you love is dying.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	24.0% (12)	8.0% (4)	**40.0% (20)**	22.0% (11)	4.0% (2)	0.0% (0)	2.0% (1)	2.73
Daydream Image	26.0% (13)	6.0% (3)	16.0% (8)	**32.0% (16)**	14.0% (7)	6.0% (3)	0.0% (0)	3.20
Memory Image	**40.0% (20)**	10.0% (5)	20.0% (10)	16.0% (8)	6.0% (3)	0.0% (0)	8.0% (4)	2.32

...that someone you love is going to hell.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**92.0% (46)**	4.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	4.0% (2)	1.04
Daydream Image	**92.0% (46)**	2.0% (1)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	4.0% (2)	1.06
Memory Image	**86.0% (43)**	4.0% (2)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	8.0% (4)	1.09

...that you are unable to experience pleasure and/or excitement.

	Never	Once	Yearly	Monthly	Weekly	Daily	Response Declined	Weighted Mean
Dream Image	**68.0% (34)**	8.0% (4)	8.0% (4)	10.0% (5)	6.0% (3)	0.0% (0)	0.0% (0)	1.78
Daydream Image	**40.0% (20)**	8.0% (4)	18.0% (9)	16.0% (8)	16.0% (8)	2.0% (1)	0.0% (0)	2.66
Memory Image	**54.0% (27)**	6.0% (3)	10.0% (5)	12.0% (6)	12.0% (6)	0.0% (0)	6.0% (3)	2.17

Appendix J
Two Sample t-Test Representing Frequency of
Dream, Daydream, and Memory Image Scores at the .05 Significance Level

Creative Mode	*FS1 Dream*	*FS1 Daydream*	*FS1 Dream*	*FS1 Memory*	*FS1 Daydream*	*FS1 Memory*
Mean	**1.51**	**2.62**	1.51	1.87	**2.62**	**1.87**
Variance	0.91	2.63	0.91	2.12	2.63	2.11
Observations	47	47	47	46	47	46
Pooled Variance	1.77		1.51		2.38	
Df	92		91		91	
t Stat	-4.03		-1.41		2.34	
P(T<=t) two-tail	**0.00***		0.16		**0.02***	
t Critical two-tail	1.99		1.99		1.99	

Biological Mode	*FS2 Dream*	*FS2 Daydream*	*FS2 Dream*	*FS2 Memory*	*FS2 Daydream*	*FS2 Memory*
Mean	**1.35**	**2.45**	1.35	1.47	**2.45**	**1.47**
Variance	0.87	2.38	0.87	1.21	2.38	1.21
Observations	48	49	48	47	49	47
Pooled Variance	1.63		1.04		1.81	
df	95		93		94	
t Stat	-4.22		-0.54		3.57	
P(T<=t) two-tail	**0.00***		0.59		**0.00***	
t Critical two-tail	1.99		1.99		1.99	

Primal	*FS3 Dream*	*FS3 Daydream*	*FS3 Dream*	*FS3 Memory*	*FS3 Daydream*	*FS3 Memory*
Mean	1.8	1.54	1.8	1.45	1.54	1.45
Variance	1.14	1.07	1.14	0.71	1.07	0.71
Observations	50	50	50	49	50	49
Pooled Variance	1.11		0.93		0.89	
df	98		97		97	
t Stat	1.24		1.81		0.48	
P(T<=t) two-tail	0.22		0.07		0.63	
t Critical two-tail	1.98		1.98		1.98	

Experiential Mode	*FS4 Dream*	*FS4 Daydream*	*FS4 Dream*	*FS4 Memory*	*FS4 Daydream*	*FS4 Memory*
Mean	**1.90**	**2.67**	1.90	1.70	**2.67**	**1.70**
Variance	1.30	2.22	1.30	1.19	2.22	1.19
Observations	49	49	49	46	49	46
Pooled Variance	1.76		1.25		1.72	
df	96		93		93	
t Stat	-2.89		0.88		3.63	
P(T<=t) two-tail	**0.00***		0.38		**0.00***	
t Critical two-tail	1.98		1.99		1.99	

Religious Mode	*FS5 Dream*	*FS5 Daydream*	*FS5 Dream*	*FS5 Memory*	*FS5 Daydream*	*FS5 Memory*
Mean	1.10	1.19	1.10	1.13	1.19	1.13
Variance	0.14	0.37	0.14	0.29	0.37	0.30
Observations	48	48	48	46	48	46
Pooled Variance	0.25		0.21		0.33	
df	94		92		92	
t Stat	-0.81		-0.28		0.48	
P(T<=t) two-tail	0.42		0.78		0.63	
t Critical two-tail	1.99		1.99		1.99	

Primal	*FS6 Dream*	*FS6 Daydream*	*FS6 Dream*	*FS6 Memory*	*FS6 Daydream*	*FS6 Memory*
Mean	2.04	1.82	**2.04**	**1.60**	1.82	1.60
Variance	1.02	1.21	1.09	1.05	1.21	1.05
Observations	50	50	50	48	50	48
Pooled Variance	1.12		1.035		1.13	
Df	98		96		96	
t Stat	1.04		2.12		1.00	
P(T<=t) two-tail	0.30		**0.04***		0.32	
t Critical two-tail	1.98		1.98		1.98	

Nature Mode	*FS7 Dream*	*FS7 Daydream*	*FS7 Dream*	*FS7 Memory*	*FS7 Daydream*	*FS7 Memory*
Mean	**1.44**	**2.53**	1.44	1.68	**2.53**	**1.68**
Variance	0.68	2.46	0.68	1.57	2.46	1.57
Observations	48	49	48	47	49	47
Pooled Variance	1.58		1.12		2.03	
Df	95		93		94	
t Stat	-4.28		-1.12		2.92	
P(T<=t) two-tail	**0.00***		0.27		**0.00***	
t Critical two-tail	1.99		1.99		1.99	

Primal	*FS8 Dream*	*FS8 Daydream*	*FS8 Dream*	*FS8 Memory*	*FS8 Daydream*	*FS8 Memory*
Mean	**1.08**	**1.36**	1.08	1.19	1.36	1.19
Variance	0.12	0.56	0.12	0.37	0.56	0.37
Observations	50	50	50	48	50	48
Pooled Variance	0.34		0.24		0.47	
Df	98		96		96	
t Stat	-2.41		-1.09		1.25	
P(T<=t) two-tail	**0.02***		0.28		0.21	
t Critical two-tail	1.98		1.98		1.98	

Religious Mode	*FS9 Dream*	*FS9 Daydream*	*FS9 Dream*	*FS9 Memory*	*FS9 Daydream*	*FS9 Memory*
Mean	**1.10**	**1.71**	1.10	1.30	**1.71**	**1.30**
Variance	0.22	1.17	0.22	0.69	1.17	0.69
Observations	49	49	49	47	49	47
Pooled Variance	0.69		0.45		0.93	
df	96		94		94	
t Stat	-3.64		-1.43		2.11	
P(T<=t) two-tail	**0.00***		0.16		**0.04***	
t Critical two-tail	1.98		1.99		1.99	

Creative Mode	*FS10 Dream*	*FS10 Daydream*	*FS10 Dream*	*FS10 Memory*	*FS10 Daydream*	*FS10 Memory*
Mean	**1.18**	**1.86**	1.18	1.45	1.86	1.45
Variance	0.36	1.55	0.36	1.12	1.55	1.122
Observations	49	50	49	47	50	47
Pooled Variance	0.96		0.73		1.34	
df	97		94		95	
t Stat	-3.43		-1.50		1.75	
P(T<=t) two-tail	**0.00***		0.14		0.08	
t Critical two-tail	1.98		1.99		1.99	

Primal	*FS11 Dream*	*FS11 Daydream*	*FS11 Dream*	*FS11 Memory*	*FS11 Daydream*	*FS11 Memory*
Mean	1.46	1.4	**1.46**	**1.10**	**1.4**	**1.10**
Variance	0.66	0.65	0.66	0.18	0.65	0.18
Observations	50	50	50	48	50	48
Pooled Variance	0.66		0.43		0.42	
Df	98		96		96	
t Stat	0.37		2.70		2.25	
P(T<=t) two-tail	0.71		**0.00***		**0.03***	
t Critical two-tail	1.98		1.98		1.98	

Nature Mode	*FS12 Dream*	*FS12 Daydream*	*FS12 Dream*	*FS12 Memory*	*FS12 Daydream*	*FS12 Memory*
Mean	**1.42**	**2.32**	**1.42**	**1.92**	2.32	1.92
Variance	0.78	2.22	0.78	1.91	2.22	1.91
Observations	50	50	50	49	50	49
Pooled Variance	1.50		1.34		2.07	
df	98		97		97	
t Stat	-3.67		-2.14		1.39	
P(T<=t) two-tail	**0.00***		**0.03***		0.17	
t Critical two-tail	1.98		1.98		1.98	

Biological Mode	*FS13 Dream*	*FS13 Daydream*	*FS13 Dream*	*FS13 Memory*	*FS13 Daydream*	*FS13 Memory*
Mean	**1.41**	**2.06**	1.41	1.28	**2.06**	**1.28**
Variance	0.91	1.39	0.91	0.51	1.39	0.51
Observations	49	49	49	47	49	47
Pooled Variance	1.15		0.72		0.96	
df	96		94		94	
t Stat	-3.01		0.76		3.92	
P(T<=t) two-tail	**0.00***		0.45		**0.00***	
t Critical two-tail	1.98		1.99		1.99	

Primal	*FS14 Dream*	*FS14 Daydream*	*FS14 Dream*	*FS14 Memory*	*FS14 Daydream*	*FS14 Memory*
Mean	2.73	3.2	2.73	2.33	**3.2**	**2.33**
Variance	1.41	2.53	1.41	1.87	2.53	1.87
Observations	49	50	49	46	50	46
Pooled Variance	1.97		1.63		2.21	
df	97		93		94	
t Stat	-1.65		1.56		2.87	
P(T<=t) two-tail	0.10		0.12		**0.00***	
t Critical two-tail	1.98		1.99		1.99	

Religious Mode	*FS15 Dream*	*FS15 Daydream*	*FS15 Dream*	*FS15 Memory*	*FS15 Daydream*	*FS15 Memory*
Mean	1.04	1.06	1.04	1.09	1.06	1.09
Variance	0.04	0.10	0.04	0.13	0.10	0.13
Observations	48	48	48	46	48	46
Pooled Variance	0.07		0.08		0.11	
df	94		92		92	
t Stat	-0.38		-0.77		-0.35	
P(T<=t) two-tail	0.70		0.45		0.73	
t Critical two-tail	1.99		1.99		1.99	

Experiential Mode	*FS16 Dream*	*FS16 Daydream*	*FS16 Dream*	*FS16 Memory*	*FS16 Daydream*	*FS16 Memory*
Mean	**1.78**	**2.66**	1.78	2.17	2.66	2.17
Variance	1.69	2.60	1.69	2.36	2.60	2.36
Observations	50	50	50	47	50	47
Pooled Variance	2.14		2.01		2.48	
df	98		95		95	
t Stat	-3.00		-1.35		1.53	
P(T<=t) two-tail	**0.00***		0.18		0.13	
t Critical two-tail	1.98		1.99		1.99	

* *p* (T<=t) two-tail is significant ≤ .05.

Appendix K
Comparison of Mean Scores Measuring Intensity of Fears using
Least Significant Difference (LSD) test

Multiple Comparisons

Dependent Variable

Mean Intensity of Fears; Least Significant Difference

(I) Mode	(J) Mode	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Religious	Nature	-1.86333(*)	.62038	.013	-3.2456	-.4810
	Creative	-1.50833(*)	.62038	.035	-2.8906	-.1260
	Biological	-1.60333(*)	.62038	.027	-2.9856	-.2210
	Experiential	-1.81833(*)	.62038	.015	-3.2006	-.4360
	Primal	-1.18733(*)	.49631	.038	-2.2932	-.0815
Nature	Religious	1.86333(*)	.62038	.013	.4810	3.2456
	Creative	.35500	.67959	.613	-1.1592	1.8692
	Biological	.26000	.67959	.710	-1.2542	1.7742
	Experiential	.04500	.67959	.949	-1.4692	1.5592
	Primal	.67600	.56859	.262	-.5909	1.9429
Creative	Religious	1.50833(*)	.62038	.035	.1260	2.8906
	Nature	-.35500	.67959	.613	-1.8692	1.1592
	Biological	-.09500	.67959	.892	-1.6092	1.4192
	Experiential	-.31000	.67959	.658	-1.8242	1.2042
	Primal	.32100	.56859	.585	-.9459	1.5879
Biological	Religious	1.60333(*)	.62038	.027	.2210	2.9856
	Nature	-.26000	.67959	.710	-1.7742	1.2542
	Creative	.09500	.67959	.892	-1.4192	1.6092
	Experiential	-.21500	.67959	.758	-1.7292	1.2992
	Primal	.41600	.56859	.481	-.8509	1.6829
Experiential	Religious	1.81833(*)	.62038	.015	.4360	3.2006
	Nature	-.04500	.67959	.949	-1.5592	1.4692
	Creative	.31000	.67959	.658	-1.2042	1.8242
	Biological	.21500	.67959	.758	-1.2992	1.7292
	Primal	.63100	.56859	.293	-.6359	1.8979
Primal	Religious	1.18733(*)	.49631	.038	.0815	2.2932
	Nature	-.67600	.56859	.262	-1.9429	.5909
	Creative	-.32100	.56859	.585	-1.5879	.9459
	Biological	-.41600	.56859	.481	-1.6829	.8509
	Experiential	-.63100	.56859	.293	-1.8979	.6359

***** The mean difference is significant at the .05 level.