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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

UNITIVE/MYSTICAL EXPERIENCES AND LIFE CHANGES

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Psychology

Susan F. Schneeberger

College of Education and Behavioral Sciences
Department of Counseling Psychology

December, 2010

This Dissertation by: Susan F. Schneeberger

Entitled: *Unitive/Mystical Experiences and Life Changes*

has been approved as meeting the requirement for the Degree of Doctor of Psychology in
College of Education and Behavioral Sciences, Department of Counseling Psychology

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ABSTRACT

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The purpose of this study was to explore life changes in beliefs, philosophy, and behavior in individuals who reported having a unitive/mystical experience (U/ME). A unitive mystical experience is a generally spontaneously occurring state of consciousness characterized by a sense of unity or “oneness” that transcends sensory or cognitive apprehension (Stace, 1960). There is often an ineffable certainty that an ultimate truth has been perceived and can be applied to one’s life. The experience may be accompanied or followed by feelings of joy and bliss. One hundred sixty adults from a broad range of demographic characteristics participated in a one-time web-based survey. The concept of a unitive mystical experience was based on the mysticism theory of Stace. Hood’s Scale-Research Form D (1975, 2005) was used to assess the intensity and degree of reported unitive mystical experiences since it is an operationalization of Stace’s theory. Life changes were assessed using Greyson’s Life Changes Inventory-Revised (Greyson & Ring, 2004). Participants also answered 10 demographic questions. Four research questions were addressed using correlational methodology. These questions explored the type of changes reported after a unitive mystical experience, the relationship of the intensity of the U/ME to the changes, perceptions of the overall quality of respondents’ lives after the U/ME, and the relationship of the changes to selected demographic variables.

Results of the study indicated that there were significant increases in participants' concern with social and planetary values, self-acceptance, spirituality, quest for meaning and sense of purpose, concern for others, and appreciation for life. Respondents reported a significant decrease in concern with worldly achievement. The area of religiousness showed no change. Results also indicated that a more intense unitive/mystical experience was associated with a greater degree of change overall and with a significant increase in appreciation for life specifically. Participants indicated that their overall quality of life had changed significantly after their unitive/mystical experience in a direction perceived as beneficial. There was no significant relationship between reported changes and demographic variables. Limitations of the study, suggestions for future research, and implications of the findings were discussed.

ACKNOWLEDGMENTS

Whatever you can do or dream you can, begin it.
Boldness has genius, power and magic in it.

The above quote is often attributed to the German poet, von Goethe. But a little research suggests that he did not write it after all, and its true source remains a mystery. Murray (1951) also quoted it in his book on the Scottish expedition to the Himalayas. Indeed, climbing a mountain is a fitting analogy for the process of completing a dissertation and requires a similar amount of support. The past seven years have been quite a climb, and I would like to acknowledge all the beings, on this planet and beyond, who helped push and pull me to the top.

First on the list are my parents, Fred and Dody Schneeberger, who encouraged a love of books and learning, and suggested that the answers to many of my questions could be found in the library, so I should go look it up! My father is no longer in the physical plane, but he taught me that having the heart to climb a mountain, whether literal or figurative, depends more on desire and determination than anything else. My mother is much wiser than she realizes, and her ways of knowing extend beyond the parameters of our current understanding. Both of them supported me in countless ways, and tried to demonstrate to me that life's biggest challenges could be considered "romantic adventures." My brother, Brian, and my sister-in-law, Julie offered encouragement, and amazement at how long the process took, and what a big pain it could be. Brian shares

my pathological sense of humor, and never failed to remind me that nothing in life is so awful that it cannot be made into a horrible joke. (Timmaaah forever!).

I would not be where I am today without the guidance and dedication of my dissertation committee. My Chair, Dr. Softas-Nall, encouraged, inspired, and shoved me at all the right moments, and never gave up on me. Dr. David Gonzalez was the first to hear and support my ideas for the dissertation, and assure me that it could be done. Dr. Susan Hutchinson demonstrated unfailing patience and expertise as she attempted to lead me through the labyrinth of statistical analysis. Dr. Linda Black was kind and supportive, and just running into her in the hall always made me feel better.

I am grateful to all the people who took the time to complete my survey, and to pass it on to others. Thanks also to the members of my cohort, Laurie, Jennifer, and Ann, who knew better than anyone what this experience was like. I was also assisted by many others too numerous to name, but a few are Diane, Gloria, and Roberta, from the APCE office, Aimee Rogers, Dr. Beth Firestein, Dr. Fred Hanna, Dr. Ginger Meyette, the medical and rehab staff of the Cardiovascular Institute, North Colorado Medical Center, and so many others...please know who you are.

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CHAPTER I

INTRODUCTION

Then something happened. My sense of time collapsed. I felt myself expand beyond the moment of my existence. Suddenly, I saw the forest itself as a blossom, delicate and ephemeral...I sensed the world as a momentary spring in which life bloomed...Not large and everlasting...but small and precious in the immensity of the universe...it brimmed with unfathomable mystery and beauty. (McNulty, 2007, p. 8)

Unitive or mystical states of consciousness are often mistakenly associated only with religious mysticism or psychophysiological pathology, or dismissed as a topic not amenable or relevant to scientific study. Yet as many as 60% of Americans report having at least one experience in which they felt a sense of unity with all things, a feeling that time and space were no longer relevant, and a positive, ineffable insight into a reality or truth which appeared “higher” in some way than their usual perceptions (Greeley, 1975; Hagerty, 2009; Hood, 2005). Other studies indicate that unitive or mystical experiences (U/MEs) occur in all cultures, transcend geographic and religious categories, and share a common experiential core (Hood, 2006; Stace, 1960).

Part of the challenge involved in conducting empirical research related to U/MEs stems directly from the experiential nature of the subject and its ineffability (Hood, 2006). In addition to this aspect is the frequently spontaneous occurrence of unitive mystical experiences and the uncertainty of possible predisposing factors. These characteristics make controlled studies in any kind of laboratory setting next to

impossible. If empirical research is to succeed in helping to validate concepts such as mysticism, researchers must sometimes develop new methods that reflect the understanding that exploring these concepts may transform the researcher as other objects of inquiry cannot:

Because these methods ask the researcher to use intuition and apply alternative states of consciousness such as direct knowing, dream and imagery work, and meditation to the research process, pursuing these transpersonal methods potentially becomes a self-realizing act. The encounter with the transcendent dimension of the topic of inquiry not only can inform but also can change the researcher, sometimes radically. (Braud & Anderson, 1998, p. x)

Despite the challenges involved, several trends in research from a variety of disciplines suggest a growing interest in exploring and understanding U/MEs. Scholars in the fields of psychology, neurophysiology, and philosophy continue to produce an increasing collection of empirical and theoretical data. Jung (1935/1966) and a few of his contemporaries approached the subject from the perspective of analytical psychology. Jung regarded mystical states of consciousness as part of the human spectrum of capabilities, and argued that no study of the human psyche would be complete without taking them into account.

Maslow (1973) agreed with Jung's (1935/1966) appraisal of unitive mystical experiences as being normal and essential aspects of human psychology. In his theory of actualization, Maslow referred to them as "peak experiences" and believed they were at the apex of his hierarchy of needs. He also described the transformative effects that peak experiences could have on the lives of those who reported them (Cardena, Lynn, & Krippner, 2000). This humanistic, or third force, psychology introduced much of the theory that laid the foundation for transpersonal, or fourth force, psychology.

Wilber (1996) and Washburn (2003) developed the two fundamental transpersonal approaches to human development. Both agreed that unitive/mystical (U/M) states of consciousness are aspects of the evolutionary capabilities of the human psyche. Wilber's approach is a hierarchical model in which each developmental stage is attained in a chronological progression, and any reversion to a previous stage is considered pathological. Washburn's developmental model is based on a spiral conceptualization in which stages are generally attained in a sequential manner. However, during the course of normal development, individuals may temporarily revert to some aspect of a previous stage without this being necessarily pathological. The most important distinction between Wilber and Washburn is that Washburn postulates a spiral-like revisiting of a non-egoic union as a manifestation of highest development. Wilber asserted that this represents the "pre-trans fallacy" which is a concept equating the prepersonal stage of development with the transpersonal stage (Wilber, 1996). However, Washburn makes a clear distinction between the earliest developmental stage, the infantile stage, in which the individual experiences the primary parent figure as indistinguishable from itself, and the transpersonal highest developmental stage. Washburn suggests that this transpersonal state of unity represents a completely transformed experience of being, achieved only as a result of successfully navigating previous stages.

The beginning and end of the spiral path share the same deep foundationshowever, the beginning and end of the spiral path are otherwise maximally different; for the ego at the beginning... is only starting to emerge from the ground, whereas the ego at the end of the path is mature and established in the world....At the beginning of the spiral path the unity of consciousness and life is only a primitive prepersonal unity; at the end...this unity is a completely actualized transpersonal unity. (Washburn, 2003, p. 36)

Hunt (1995) approached unitive mystical experiences using a holistic-phenomenological cognitive theory. He considered these states of consciousness to be an indication of higher mental capabilities and evolving cognitive processes. Hunt believed that the mind is normally focused on the concrete aspects of existence, which blocks the abstraction processes necessary to experience U/MEs.

One of the newest avenues of research into the characteristics of U/MEs involves the rapidly expanding field of neurophysiology and its associated technology. Researchers using this line of inquiry attempt to capture the activity of the brain during unitive/mystical states of consciousness. Again, the difficulty lies in the intrinsic unpredictability of these occurrences and the uncertainty regarding any triggering factors that may be involved. However, results of current studies are beginning to reveal some of the possible neurological correlates that may accompany U/MEs (Wulff, 2000).

Newberg (2001) used single photon emission computerized tomography (SPECT) to study contemplative nuns, monks, and meditators. He found that when they were engaged in deep meditation or prayer, there was decreased activity in the parietal lobes and increased activity in the frontal lobes. Some participants later reported U/MEs during these states, though this was by no means always the case. Saver and Rabin (1997) hypothesized that unitive/mystical events are primarily mediated by the limbic system and described them as unique neural processes involving emotional intensity not ordinarily experienced during everyday occurrences.

Researchers and theoreticians are also exploring the significance of U/MEs. To some investigators, these states of consciousness are complex neurophysiological processes that originate within the brain as part of its response to environmental stimuli

(Blackmore, 1999). To others, unitive/mystical events are not generated within the brain but are encounters with an external, ultimate reality that the brain's evolved capacity allows it to apprehend (Huxley, 1945; Smith, 2003). These scholars argue that the "common core" (Hood, 2006; Stace, 1960) characteristic of U/MEs, which points to the similarity of the event across all cultures and belief systems, is evidence of a universal and common reality. Other theoreticians, while agreeing with the basic phenomenon of the common core, do not necessarily interpret it as meaning that U/MEs are a direct encounter with an ultimate reality (Wulff, 2000).

Hood (1975, 2006) used the mysticism theory of Stace (1960) to operationalize the study of unitive mystical experiences by developing the Hood Mysticism Scale, which is used in much of the research that has been done to date. After extensive study of reported U/M events, Stace developed a systematic description of their characteristics, which is regarded as the primary theoretical conceptualization of mysticism. Stace observed that unitive/mystical states of consciousness inevitably involve an apprehension of unity or oneness that transcends sensory or cognitive perceptions. The experiences are predominantly transient and usually accompanied by feelings of bliss, happiness, love, and joy. They are reported as being more real than the usual sensory experiences of life and often involve lasting insights about reality and one's purpose in life.

Rationale for the Study

It is generally agreed that contemporary human existence can be a stressful and confusing enterprise, as well as presenting a variety of opportunities for enjoyment, growth, and learning. Most individuals experience periods of feeling overwhelmed by everyday concerns and uncertain about the direction of their lives. Underlying this stress

is the gradually intensifying knowledge that there is a finite amount of time to be spent on earth, and the desire to spend it meaningfully (Becker, 1973).

Millions of dollars are spent each year on therapy, medication, meditation, and various traditional and complementary products and procedures designed to help individuals cope. At best, these approaches seem to provide only temporary relief; at worst, individuals are left more confused, with continued dependence on external sources of strength. The need for a more comprehensive understanding of existential distress, and possible ways to assist individuals in creating meaningful lives, has led to several avenues of research, including some related to the effects of unitive mystical experiences. However, there are few studies designed to assess self-reported changes in beliefs and behavior in individuals who report having one or more U/MEs.

As did Tim McNulty (2007) in the account quoted at the beginning of this chapter, many have found the event life-altering and reported positive changes in beliefs, subjective feelings of well-being, and behavior. They described a heightened sense of meaning in their lives, deeper levels of happiness, increased compassion for others, better relationships, and other effects reflecting an improved quality of existence (Braud, 2009; Byrd, Lear, & Schwenka, 2000). Greeley (1975) found that individuals reporting one or more U/M states of consciousness frequently experienced a greater sense of direction and meaning in their lives. Such experiences also seem to correlate with qualities such as increased creativity, tolerance of ambiguity, and openness to new situations (Cardena et al., 2000). Insights gained during unitive/mystical experiences were associated with more purposeful living, and did not necessarily require a relationship with any kind of personal

deity (Byrd et al., 2000). Hunt (1995) theorized that mystical and related states represent an emerging cognitive capacity relating to higher development.

Several studies also support the therapeutic efficacy of mystical experiences. Although meditation is not a U/ME per se, it may sometimes facilitate one. Introducing meditation techniques to severely depressed adolescents was sometimes found to facilitate mystical experiences, which often led to therapeutic breakthroughs and subsequent improvements in their mental health (Horton, 1974). Spontaneous mystical experiences were also associated with positive therapeutic effects in individuals suffering from post-traumatic stress disorder (Decker, 1993).

Greyson and Ring (2004) have also studied U/M experiences extensively, specifically near-death experiences (NDEs), which usually meet the criteria for a unitive/mystical event. Their research suggests that those who have experienced an NDE often report increased appreciation of life, greater self-acceptance, more concern for others, increased interest in social and planetary concerns, a heightened quest for meaning and purpose, a deeper sense of spirituality, and a greater acceptance of dying based on the belief that life continues beyond death. Greyson and Ring developed a research questionnaire to explore life changes in those reporting NDEs as well as other types of U/MEs.

Unitive/mystical experiences are, by definition, intrinsically joyful, enlightening, and transforming. Those who report experiencing them are often inspired to make life changes that enhance not only their own lives, but also the lives of others with whom they associate. Occasionally, however, the alteration in values and behavior that may occur in those undergoing a U/M event may cause confusion and conflict with others.

Family members and friends may be unsure how to relate to their loved one's new perspective on life and the changed priorities that may accompany this. Individuals who have experienced U/M events may be uncertain about how to incorporate new values into the structure of their everyday lives (Greyson & Harris, 1987).

Therapists can play a significant role in assisting U/M experiencers and their friends and families to adjust to the changes that may occur in association with a mystical experience. Several practitioners and researchers report benefits to clients resulting from therapy and other methods of processing and incorporating unitive/mystical experiences. Palmer and Braud (2002) have described a study, cited previously, demonstrating the beneficial effects of group work, journaling, and individual counseling. Greyson (2000) described a group of 32 clinicians who developed a therapeutic strategy for working with clients who have had NDEs or other exceptional experiences. They advocated encouraging the client's recounting of the experience, noting that most clients are eager to talk but find the ineffability of their event frustrating as they struggle to find the right words. Other therapeutic practices that proved helpful were reflection, clarification, assistance in reconsolidating ego strength, hypnotherapy, guided imagery, and multimedia activities such as art or music.

Research to further explore and verify the beneficial effects of U/M events is needed not just to expand the basic pool of knowledge, but also to begin to investigate ways in which these experiences might be facilitated. Their effects could then be applied to all fields of human service in which healing and general well-being are sought. Ultimately, the knowledge gained through unitive mystical experiences may contribute to the expansion of human consciousness and the creation of a new existential paradigm.

Purpose of the Study

The purpose of this study was to explore life changes in beliefs, philosophy, and behavior in individuals who reported having a unitive/mystical experience.

Research Questions

- Q1 What type and degree of changes in beliefs and behavior are reported by individuals who report having one or more U/M experiences?
- Q2 How were the changes in beliefs and behaviors related to the degree or intensity of U/MEs.
- Q3 Has the perceived overall quality of life changed since the U/M experience? If so, how has it changed?
- Q4 How are reported changes in beliefs and behavior related to the demographic variables of gender, age, income, and education?

Delimitations of the Study

The study was conducted using self-report survey instruments. This is an efficient and cost-effective method, but does depend on the honesty and openness of the respondents. Inherent in any type of survey instrument is also the possibility that participants may misunderstand the wording or meaning of the statements, even though they are willing to respond honestly. The study also required a qualification that had to be met in order to participate, which was that participants had to believe they had experienced a unitive mystical experience, based on the criteria presented to them in the introduction to the survey. This necessarily limited the potential number of respondents. Since the survey was conducted using the internet, some individuals who would have qualified and been willing to participate, might not have known about the survey, or been able to access it.

Definition of Terms

Extrovertive mysticism. A type of experience in which the self attains a sense of unity and connection with all objects in the universe. A sense of “self” and “other” is maintained, but not experienced as separation (Stace, 1960).

Interpretive mysticism. The individual’s effort to understand or interpret a unitive/mystical experience, which may include constructs derived from one’s cultural context and/or religious/philosophical beliefs (Hood, 1975, 2005).

Introvertive mysticism. A type of experience in which the sense of self is absorbed within a unifying consciousness. In contrast to introvertive mysticism, extrovertive mysticism excludes the multiplicity of external objects and the sense of ‘otherness’ (Stace, 1960).

Life changes. Changes in one’s belief system, philosophy and behavior often reported by individuals after a U/M experience, and attributed to the effects of this experience. For the purposes of this study, life changes will be measured by the Life Changes Inventory-Revised (Greyson & Ring, 2004).

Near death experience. A phenomenon reported by some individuals who have experienced clinical death, or extremely life-threatening conditions, and been revived. NDEs have been reported for centuries in all cultures and tend to include universal elements, such as a tunnel leading to a light, feelings of great love and joy, reunions with deceased loved ones and a sense of ultimate reality.

Neurological correlates. Changes in physiological brain functioning that can be assessed and measured with instrumentation such as single photon emission

computerized tomography (SPECT) and electroencephalogram (EEG; Saver & Rabin, 1997).

Unitive/mystical experience (U/ME). A generally spontaneously occurring state of consciousness characterized by a sense of unity or “oneness” that transcends sensory or cognitive apprehension (Stace, 1960). There is often an ineffable certainty that an ultimate truth has been perceived and can be applied to one’s life. The experience may be accompanied or followed by feelings of joy and bliss.

CHAPTER II

REVIEW OF THE LITERATURE

Mysticism has historically been considered to be primarily within the domain of religious or spiritual traditions, “new age” ideas, or psychological pathology. An increasing body of work by philosophers and scientists suggests that mystical or unitive experiences (U/MEs) are a valid aspect of the human experience, clearly distinct from pathology, and ultimately transcending the interpretive structure of religion. Several studies have shown that from 35 to 60% of respondents report having one or more mystical experiences (Greeley, 1975; Yamane & Polzer, 1994). Emerging from this perspective is growing support for the hypothesis that mystical experiences may often be associated with positive life changes and an increased sense of well-being, and may reflect and promote psychological health. The current study was designed to explore life changes in adults who report having one or more U/M experiences. The possibility of facilitating the occurrence of U/M events and the potential application of this to the promotion of maximal human health and life satisfaction was addressed.

Definitions of Unitive Mystical Experience

The word “mysticism” has its roots in the word “mystery,” having originated with the Greek “mysterion.” Depending on the context, the word mystery may denote something unknown, a secret or secret rite, or a truth that is accessible only through direct experience or revelation (Anderson, Fortson, Kleinedler, & Schonthal, 2008). Certainly

the concept of mysticism is often misunderstood and erroneously seen as being a philosophy, a religion, an opinion, a study of the occult, or a symptom of psychopathology (Underhill, 1999). In the most basic sense, a unitive/mystical experience is essentially a definitive, ineffable experience of union with something larger than the self, usually accompanied by feelings of peace, bliss, love, and certainty (Coxhead, 1985; Newberg, 2001). A U/M experience is also distinctly different from usual states of consciousness and leaves an impression of having encountered a different, and in some way “higher” reality. Despite its usual brevity, a U/M event is often regarded as a transformative milestone in the lives of those reporting them (Cardena et al., 2000).

The association of U/M experiences with religious conceptualizations or psychological pathology has historically resulted in its being dismissed as a topic not amenable or relevant to scientific study. Part of the problem stems from the experiential nature of the subject and its ineffability (James, 1902/1958). If empirical research is to succeed in helping to validate concepts such as mysticism, researchers must develop new methods which reflect the understanding that exploring these concepts may transform the researcher as other objects of inquiry cannot (Braud & Anderson, 1998).

For example, Davis (2009) suggested that experiential phenomena, such as unitive mystical experiences, were most effectively explored using a pluralistic methodological design that incorporated human science and natural science. This complementary approach involved the integration of quantitative and qualitative methods and depended on the specific research questions being asked. Braud (2009) described a disciplined and expanded view of research methodology including both quantitative instruments and analysis, and a variety of qualitative approaches. He emphasized the

importance of the researcher as the primary instrument in experiential research. Braud explained that researchers must bring the entirety of their skills, education, and experience to bear on the task of devising appropriate scientific methodology with which to address experiential topics.

Examples of Unitive/Mystical Experiences

Increasing scientific interest in alternate states of consciousness, including unitive/mystical experiences, has resulted in a growing database of first-hand accounts from a variety of individuals who report having them. Many of these accounts include comments regarding the subsequent effects these events have had on experiencers' lives. The following quotes illustrate the essential qualities of the U/M experience. The first account is a contemporary description by a young college student who was walking alone through a grove of redwoods in California:

I was struck by the centuries held in their stillness, imagining countless seasons of summer fog and winter storms passing through them like days. And the centuries too in the down hulks of fallen trees, grown over with beds of moss and shrubs, newseedlings sprouting from their bark, the fallen petals beside them. Then something happened. My sense of time collapsed. I felt myself expand beyond the moment of my existence. Suddenly, I saw the forest itself as a blossom, delicate and ephemeral...I sensed the world as a momentary spring in which life bloomed...Not large and everlasting...but small and precious in the immensity of the universe...it brimmed with unfathomable mystery and beauty.
(McNulty, 2007, p. 8)

McNulty (2007) went on to describe the profound effect this experience had on him. When he began his walk through the forest that day, he was a questioning student, searching to find his life's work. He had always loved nature, and writing had also become an enduring interest. But he felt uncertain about his ability to earn a living with such a combination. When he emerged from the forest, the details of his future were still unclear, but his perspective had changed. Suddenly he realized that following his passion

was the most important thing, and that certainty gave him the confidence and determination needed to develop a successful career as a writer and environmental activist.

The poet Tennyson, originally quoted by James (1902/1958), described having repetitive experiences that exemplify many of the criteria for a U/M event:

A kind of walking trance - this for lack of a better word - I have frequently had, quite up from boyhood, when I have been quite alone...All at once, as it were out of the intensity of the consciousness of individuality, individuality itself seemed to dissolve and fade away into boundless being, and this was not a confused state but the clearest, the surest of the sure, utterly beyond words--where death was an almost laughable impossibility--the loss of personality (if so it were) seeming no extinction but the only true life. (p. 295)

Coxhead (1985) cited the account of an English woman, Wendy Rose-Neill, a self-described “radical humanist” with no spiritual inclinations. Rose-Neill was working in her garden, feeling relaxed and contemplative when she suddenly felt compelled to lie down on the grass. Following is an excerpt from her account:

I felt as if I had suddenly come alive for the first time--as if I were awakening from a long deep sleep into a real world. I remember feeling that a veil had been lifted from my eyes and everything came into focus...Whatever else I believed, I realized that I was surrounded by an incredible loving energy, and that everything, both living and non-living, is bound inextricably with a kind of consciousness which I cannot describe in words...the experience seemed endless--as if I were in some kind of suspended eternal state of understanding. (p. 30)

Rose-Neill went on to describe a similar experience several months later. She stated that she never discussed it with anyone, primarily because she found it so difficult to put into words. Rose-Neill wrote about the effect the experiences had on her life:

These two experiences felt as if they were revelations, and that I had inexplicably tuned into some mysterious vibration of which I'd been unaware before...I've had many other versions of the...experience...less intense, but still involving my whole self in this extraordinary way...their general effect has been to enrich the quality of my life and to give me a sense of continuity and meaning which has taken me through times of great personal crisis, when it seemed that everything was

crumbling away. From these experiences, I have also gained a profound sense of wonder and mystery about the earth and the universe we inhabit, and an ever-deepening respect for all of life. (Coxhead, 1985, p. 31)

Single, unrepeated mystical experiences can have equally profound effects on an individual's view of life and his or her role in the newly expanded perception of the world. Muz Murray (Coxhead, 1985) wrote of his singular event, which occurred as he was gazing at the sea after a relaxing meal in Cyprus:

I began to feel a strange pressure in my brain. It was as if some deliciously loving hand had crept numbingly under my skull and was pressing another brain softly into mine. I felt a thrilling liquidity of being and an indescribable sensation as if the whole universe was welling-out of me from some deep center. My "soul" thrilled and swelled and I kept expanding until I found myself among and within the stars and planets. I understood that I was the whole universe! Yet suddenly I became aware of huge entities millions of miles high, maneuvering in space, through which the stars could still be seen...wave upon wave of extraordinary revelation swept through me, too fast for my conscious mind to record other than the joy and wonder of it. In those moments of eternity I lived and understood the truth of the esoteric saying "as above--so below." I was shown that every cell had its own consciousness which was mine. (p. 32)

Murray wrote that while the experience lasted possibly three minutes, at most, "it was enough to change my whole life" (Coxhead, 1985, p. 32). He described subsequently changing his diet, avoiding meat, alcohol, and tobacco and studying mysticism, in contrast to his former non-spiritual lifestyle. Murray also stated that he continued to process his experience at a deep level and received "mini-revelations" from time to time.

The traditions of Eastern and Western mysticism are richly represented in the literature. St. Teresa (Woods, 1980) wrote eloquently of her experience within a Christian framework:

I once had such great light from the presence of the Three Persons which I bear in my soul that it was impossible for me to doubt that the true and living God was present, and I came to understand things which I shall never be able to describe. One of these was how human flesh was taken by the Person of the Son and not by the other Persons....I shall never be able to explain any of this, for there are some

things which take place in such secret depths of the soul...like a person who believes he is understanding what is being told him. (p. 458)

Countless expression and descriptions of the Eastern mystical traditions exist, but perhaps these are most poignantly and succinctly presented in poetry, such as the following by Shutaku (Harvey, 1998):

Mind set free in the Dharma-realm,
I sit at the moon-filled window
Watching the mountains with my ears,
Hearing the stream with open eyes.
Each molecule preaches perfect law,
Each moment chants true sutra:
The most fleeting thought is timeless,
A single hair's enough to stir the sea. (p. 85)

A final example from contemporary accounts was written by author Sophy Burnham (1997). As she was touring a sacred site in Machu Picchu, she suddenly felt a roaring in her ears and a sense that she had a purpose in being there. She walked away from the tour group, climbed a nearby hillside, and lowered herself to the ground. She felt a pressure on her neck and the wordless knowledge that something was calling her.

Unable to speak, she assented to attend to it only if it was God:

With that I was immersed in a sweetness words cannot express. I could hear the singing of the planets, and wave after wave of light washed over me. But this is wrong, because I was the light as well, without distinction of self or of being washed....At one level I ceased to exist, was swallowed into light. At another level, although I no longer existed as a separate "I," nonetheless I saw things, thus indicating the duality of "I" and "other." In that state I knew things that today I haven't even the wit to ask questions about. Some I do not remember, but I know that I saw the structure of the universe. I had the impression of knowing beyond knowledge and being given glimpses into ALL....It was knowledge untranslatable, and it filled me with joy. (pp. 78-79)

Theoretical Conceptualizations and Characteristics of Unitive/Mystical Experiences

The previous descriptions of unitive mystical experience exemplify several definitive characteristics. Some of these were first noted by James (1902/1958) and include ineffability, the lack of adequate means to describe the experience, and the belief that it can be truly comprehended only by those with first-hand experience of it. A second characteristic is the noetic quality of U/M events, the conviction that a deep knowledge has been encountered which is beyond the capability of intellect and other human attributes. U/MEs are also frequently unexpected and often relatively brief, the most intense phase possibly lasting only minutes to a few hours, yet they may have significant and life-changing effects on those who have them.

W. T. Stace (1960) an English-born philosopher who taught at Princeton, has developed a comprehensive theory of mysticism, and his concepts are the basis for the primary instruments currently used to assess mystical experiences and related phenomena. Stace agreed with the central aspects of James' (1902/1958) description and considered the central core of mysticism to be the apprehension of a unity, a "oneness" that transcends sensory or cognitive consciousness. The experiences are usually transient and may be accompanied, or followed, by feelings of joy and bliss. The ineffable knowledge that a "higher" state of reality or an insight about one's purpose in life has been perceived are also common (Cardena et al., 2000).

Within this phenomenological core, Stace (1960) distinguished between what he calls "introvertive" and "extrovertive" mysticism. It is important to note that these terms are not synonymous with the concepts of introversion and extroversion as personality types. In the extrovertive experience, the self attains a unity with all objects in the

universe. Introvertive mysticism, by comparison, refers to an experience of self-loss, or self-absorption, within a unifying consciousness in which the multiplicity of empirical content is excluded (Stace). The following quote exemplifies an introvertive event, related by Arthur Koestler (Stace), which he experienced while he was imprisoned during the Spanish Civil War:

Then I was floating on my back in a river of peace under bridges of silence. It came from nowhere and flowed nowhere. Then there was no river and no I. The I had ceased to exist...When I say “the I had ceased to exist” I refer to a concrete experience...The I ceases to exist because it has, by a kind of mental osmosis, established communication with, and been dissolved in, the universal pool. It is this process of dissolution and limitless expansion which is sensed as the “oceanic” feeling, as the draining of all tension, the absolute catharsis, the peace that passeth all understanding. (pp. 120-121)

Stace also characterized mystical events as transcending the social construct of any particular religious or spiritual belief system, and as being a core phenomenon of human experience. Table 1 lists Stace’s criteria for introvertive and extrovertive U/MEs.

According to Stace (1960), then, the two essential differences between the types of unitive mystical experiences were the nonspatial and nontemporal quality of the introvertive experience, and the continuing perception of the material “things” of the world, albeit in an altered perspective, in extrovertive mysticism (Cardena et al., 2000). One way to rephrase this is that in introvertive mysticism, there is simply pure consciousness, not consciousness of anything; whereas in extrovertive mysticism, there is a consciousness of the oneness in all things.

Table 1

Stace's Criteria for Extrovertive and Introvertive Mystical Experiences

Extrovertive Experiences	Introvertive Experiences
1. The Unifying Vision - all things are one.	1. The unitary consciousness; the one; pure consciousness.
2. The apprehension of the one as life in all things.	2. No sense of space or time.
3. Sense of reality or objectivity.	3. Sense of reality or objectivity.
4. Blessedness, peace, love, etc.	4. Blessedness, peace, love, etc.
5. Feeling of the holy, sacred, or divine.	5. Feeling of the holy, sacred or divine.
6. Paradoxicality.	6. Paradoxicality.
7. Inerrability	7. Inerrability

Stace (1960) regarded the introvertive mystical experience as being more significant than the extrovertive type, but this is controversial and not supported by research (Cardena et al., 2000). Forman (1998) suggested that the extrovertive experience is considerably more common and can have equally profound effects on the subsequent lives of those who experience them.

Instrumental to any analysis of these life-changing aftereffects is the interpretive aspect of a mystical experience. The concept of interpretation as applied to mystical experience was discussed by Stace (1960) who noted that while there is a universal intrinsic character and experience of mystical events, some individuals may interpret

them, or attempt to analyze and understand them, through the lens of a particular cultural, spiritual, or religious system.

This interpretive aspect of mysticism has been studied extensively by Hood (1975, 2001) who developed the Mysticism Scale: Research Form D. Hood's Scale operationalizes the theory of Stace (1960) and has demonstrated that in addition to the introvertive and extrovertive categories, a third category related to mystical phenomena can be demonstrated. This interpretive factor refers to an individual's conceptualization of a UM/E and how it may be influenced by cultural constructs of religion and spirituality. Hence, a Buddhist may interpret the same experience in light of Buddhist philosophy, a Christian in terms of Christianity and so forth. Individuals who espouse spirituality without a formal religious structure, or who profess no spiritual beliefs, may conceptualize their experiences differently.

In developing his scale, Hood (1975, 2001) specifically avoided terms such as "God" that might limit the use of the instrument with participants who do not identify with such constructs, and to increase its cross-cultural applicability. However, some aspects of mystical experiences have shown a tendency to be interpreted in the context of the experiencer's social and cultural constructs, whatever those may be. It is generally accepted that some type of interpretation by the experiencer is an inevitable corollary to a mystical event, whether or not this is done consciously or explicitly.

An additional aspect of all categories of mystical experience is their relationship to the theory of perennialism and the common core theory. Advocates of the common core thesis postulate that there is a core mystical experience common to all mystical phenomena and that this experience transcends any philosophical, cultural, or religious

context pertaining to the individual reporting the event (Hood, 2006; Stace, 1960).

Believers of perennialism support the common core theory, but go a significant step further and propose that the universalism of the mystical experience, the common core, is in fact a direct encounter with ultimate reality (Huxley, 1945; Smith, 2003).

The characteristics of a mystical phenomenon discussed by Stace (1960) suggest that the perennialist view best described the experience of most individuals who reported having a mystical event. Although “ultimate reality” is a concept that may be interpreted in various ways depending on an individual’s culture and belief system, there nevertheless seems to be an unassailable conviction that one has encountered an insight regarding something that is more true and real than anything perceived through the usual sensory avenues. By definition, this ultimate reality would transcend the multiplicity of sociocultural and spiritual belief systems and be experienced similarly by all individuals (Cardena et al., 2000). Furthermore, these encounters are often described as life-changing events after which the individual never sees anything in quite the same way again.

Shamanism, Paleolithic Cave Art, and the Earliest Unitive Mystical Experiences

It seems probable, based on early written accounts, that individuals have been experiencing unitive mystical experiences at least since the beginning of recorded history. Recently some scholars in the fields of paleoanthropology, archaeology, and art history have suggested that mystical experiences may have been a part of the human heritage even prior to the development of writing (Tattersall & Schwartz, 2009). Interesting new theories regarding the purpose and implications of Paleolithic cave paintings present evidence that the first humans to know mysticism were shamans who ventured deep into

caves and attempted to depict their inner journeys with form and color (Lewis-Williams, 2002).

In December, 1994, Marie Chauvet and two friends were searching caves in the Ardeche region of France, hoping to find signs of Paleolithic (old stone age) art. Sensing a draft from behind a pile of rocks, they discovered an opening which led to a ledge overlooking a huge, echoing chamber. Using a ladder, they descended into the depths of the cave and held their lamps up toward what they soon realized was a major discovery. Awestruck, they gazed at complex, detailed images of animals, handprints, and geometric patterns. They later described the experience:

Alone in that vastness, lit by the feeble beam of our lamps, we were seized by a strange feeling. Everything was so beautiful, so fresh...Time was abolished, as if the tens of thousands of years that separated us from the producers of these paintings no longer existed....Deeply impressed, we were weighed down by the feeling that we were not alone; the artists' souls and spirits surrounded us. (Lewis-Williams, 2002, p. 17)

Current dating methods using AMS (Accelerator Mass Spectrometer) radiocarbon technology date the paintings of the Chauvet cave at approximately 32,000 years BP (before present; Abadia & Morales, 2007; Ambrose, 2006). This time period is believed to represent a transitional stage in the evolution of human consciousness, from the early conceptual abilities of Neanderthal to the complex capacity of the fully modern human (Lewis-Williams, 2002). While the Neanderthal were clearly more sophisticated than originally believed, they left no definitive evidence of the symbolic consciousness unique to modern humans (Tattersall & Schwartz, 2009). Hence, the paintings of Chauvet apparently represent the creations of early homo sapiens, specifically Cro-Magnon, who had minds with capacities identical to our own.

Chauvet cave is believed to be the oldest site of Paleolithic cave art among the many such sites scattered throughout Europe and the world, all of which provide “one of the most intimate windows on the Paleolithic mind” (Pettit & Pike, 2007, p. 27). Since the discovery of the Altamira cave paintings in Spain in 1876 (Fagan, 2010), scholars and researchers have offered several theories to explain the purpose and significance of the art that inspired Picasso to exclaim, after touring the famous Lascaux cave, that we have learned nothing new in art since then (Nowell, 2006). Obviously, the reason(s) for the cave paintings may never be truly known, but concrete evidence and deductive logic provide a methodology for some interesting speculation.

These explanatory theories include the “art for art’s sake,” totemism, and hunting magic hypotheses (Ambrose, 2006). The art for art’s sake approach was generally discarded based primarily on the fact that so much of the cave art was done deep within dark, nearly inaccessible sites. Painters had to take equipment into the caves, including lamps, and often some sort of scaffolding to reach the high ceilings where some of the paintings were done. Despite the ubiquitous “cave-dweller” appellation often applied to Paleolithic hunter-gathers, they did not normally live in caves, due to the inhospitable conditions of darkness, cold, poor ventilation, and humidity. Instead they built shelters outside the caves (Lewis-Williams, 2002).

Totemism and hunting magic theories have been challenged based largely on the species and number of animals, and the variety of symbols depicted in the caves. For example, none of the art in any of the major caves focused on one animal, or type of animal, as would be expected with a totemistic purpose. Similarly, the object of painting animals for hunting-magic reasons would be to depict the animals intended to be prey for

the hunters. Yet the remains of animals found at the campsites of Paleolithic groups do not correspond to the animals depicted in nearby caves. In the Chauvet cave, for example, none of the painted animals were associated with the remains of presumed Paleolithic meals found nearby (Clottes, 2010).

A contemporary theory involving shamanism is especially relevant to the current study of unitive/mystical experiences. Shamanism is a cross-cultural phenomenon involving a variety of practices and purposes, and apparently originating in prehistory. Eliade (1964) described the shaman as someone who entered an altered state of consciousness (ASC) for the purpose of interacting with the spiritual world on behalf of the community. Shamanism may have begun as an adaptive mechanism in early societies, but has transcended this bio-cultural purpose as reflected in its contemporary resurgence. It represents an important aspect of the complex human spiritual and psychological dynamic with continued implications and applications for the present and future (Winkelman, 2009). The individuals who painted in the caves may have been the first shamans.

Two of the researchers who have extensively studied and documented the hypotheses related to shamanism and Paleolithic art are Lewis-Williams (2002) and Clottes (2010), who presented several arguments to support this theory. First, the brains of the Upper Paleolithic people who painted in the caves were almost certainly fully modern. Hence, they were capable of experiencing unitive/mystical events, dreams, and visions and the associated human predilection to interpret them. In contrast, neurological and archaeological evidence indicates that while Neanderthals experienced dreams and visions, they could not interpret them or apply them to their understanding of experience.

Secondly, all known hunter-gatherer communities throughout history, such as those in which the cave painters lived, have practiced some form of shamanism (Clottes; Lewis-Williams). A third observation involved information gleaned from the current study of neurological correlates to altered states of consciousness (ASC; d'Aquili & Newberg, 2000; Saver & Rabin, 1997). Researchers were puzzled by the painted geometric patterns that often existed beside the detailed animal images found in the caves. Lewis-Williams suggested that these represent the geometric patterns often reported during the first stages of ASC.

Not surprisingly, there is considerable debate regarding all of the purported reasons why Paleolithic people journeyed deep into the dark and labyrinthine tunnels of a cave, or found ways to paint vast cave ceilings far beyond their reach. The principal critics of the shamanism hypothesis suggested that it depended too heavily on speculation, and that explanations should focus primarily on concrete evidence, such as the dating and technique of the paintings, and the recurrent subject motifs often observed (Bahn, 2002).

As researchers continue to develop methodologies, the search for answers to the enigma of Paleolithic cave art will surely continue. Based on the evidence so far, however, it does seem possible that the first people to experience unitive/mystical events, and to try to express, interpret, and utilize them, may have lived 32,000 years ago beside the caves scattered throughout France and Spain. As the discoverers of Chauvet observed, the juxtaposition of past and present as we encounter the mirrors of our own minds elicits a response almost mystical in itself. Such research involves and changes the researcher in

unique and enduring ways, and encourages the continued development of research methodologies that incorporate both evidence and experience (Braud & Anderson, 1998).

Prevalence and Predisposing Factors of Unitive/Mystical Experiences

Any statistics on the incidence of U/M experiences clearly are influenced by how the term is defined and how the respondents interpret this definition. Several studies suggest that unitive/mystical events are more common than might be generally expected. The distinguishing feature of ineffability may contribute to the fact that those who have had such an experience may find it difficult to describe, so it may not be a usual topic of conversation. Research done by Greeley (1975) and his associates is one of the most well-known studies. It involved a national sample of 1,460 Americans who were asked “Have you ever felt as though you were very close to a powerful, spiritual force that seemed to lift you out of yourself?” Answer choices were *never in my life, once or twice, several times, often, and I cannot answer this question* (Thalbourne, 2004). The Greeley study will be discussed further in a subsequent section of the current study, its present relevance being that results showed as many as 60% of respondents reported having at least one U/M experience.

A British study involving 1,865 participants indicated that 36.4 % of them reported having an experience in which they were aware of a presence or power that was distinctly different from their usual state of consciousness (Hay & Morisy, 1978). Subsequent studies done in the United States using Greeley’s (1975) question have shown that between 30.9% and 39.3% of respondents report having at least one U/ME (Cardena et al., 2000). National polls conducted in the 1960s showed that 21-41% of those responding affirmed having a mystical insight or awakening (Back & Bourque,

1970). Results of two Gallup polls in 1990 each showed that 53% of respondents reported such an experience (Levin, 1993; Yamane & Polzer, 1994). Two studies showed a significant, though small, positive correlation between the incidence of U/MEs and increased age, education, and socioeconomic status (Greeley; Hay & Morisy).

The experiences of unitive/mystical phenomena appeared to be similar despite the variety of circumstances, or predisposing factors, with which they may be associated.

This is an area in which further discussion and study are needed. The primary distinction is between spontaneous mystical events, which may occur even in individuals who may have little or no knowledge or belief related to them, and experiences which are desired or sought as a result of various practices or facilitators, such as meditation, holotropic breath work (Grof & Grof, 1989) and entheogens (formerly referred to as “psychedelic” or “hallucinogenic” substances).

The Good Friday Experiment

Entheogen-induced states, reported in such studies as the Good Friday Experiment (Pahnke, 1966), continue to be controversial regarding the exact nature and significance of the various experiences related by participants, as well as side effects of the drugs used. Pahnke was a doctoral student in religion at Harvard supervised by Timothy Leary. He recruited 20 white, male theology students to participate in a double-blind study to explore whether ingesting the drug psilocybin could potentiate mystical experiences. Ten students received psilocybin capsules; the other 10 received nicotinic acid capsules, which produce flushing and other effects but are not considered hallucinogenic. Students who received psilocybin reported significantly higher instances of mystical experiences than those who received nicotinic acid, suggesting that

entheogenic substances could, at least in some instances, facilitate U/M events. A follow-up six months later indicated that the 10 who ingested psilocybin continued to report beneficial effects on behavior, attitude, and religious faith. They described feeling more love and empathy towards others and a sense of awe toward the beauty of life.

A more recent follow-up report, begun in the 1980s (Doblin, 1991), provided more detail about the subjects of the Good Friday experiment and their experiences. Doblin interviewed 23 participants and found that most of those who had received psilocybin still believed that taking it had affected their lives in several positive ways. They referred to improved decision-making capability, decreased sense of ego boundaries, and increased appreciation for nature and life in general. However, only two participants rated the experience as totally positive. Many reported episodes of fear and anxiety, feeling they were going crazy and a sense of being unpleasantly overwhelmed. One participant had a psychotic break and had to be given a psychotropic antidote to assist him through the drug's effects. He continued to suffer anxiety effects long after the experiment.

Grof's Holotropic Breathwork

Another process used to facilitate alternative states of consciousness is holotropic breathwork (HB), first developed by Grof and Grof (1989). Practitioners of this technique have reported experiences of transcending ego and physical boundaries and attaining insight and peace. HB essentially involves a process of prolonged, voluntary hyperventilation, which may also include elements such as supportive touch, massage, and music. Hyperventilation produces a variety of physiological effects associated with hypocapnia, which is a decrease in brain CO₂ partial pressure and an accompanying

increase in pH constituting respiratory alkalosis. Brain studies, such as electroencephalography (EEG), done during hyperventilation have demonstrated a decrease in frontal lobe activity. The resultant lowered threshold of inhibition is believed to contribute to various states of altered consciousness, including that of unitive/mystical experiences. A similar process is believed to account for the beneficial effects of breathwork used in psychotherapy to treat patients with disorders such as anxiety and depression (Rhinewine & Williams, 2007).

Breathing in a systematic way is also involved in several of the many varieties of meditation. Meditators have also reported experiences meeting the most commonly acknowledged criteria of a unitive/mystical event. Some practitioners explain that they meditate with the intention of producing such a state, and are sometimes successful. Others report a spontaneous, not sought, unexpected U/ME while meditating (Horgan, 2003).

No studies were found which suggest a method or technique that consistently, reliably, and safely produces a mystical experience which meets the generally accepted criteria of Stace (1960) and others. Some methods, notably entheogenic-induced practices, obviously have significant risks associated with them. Importantly, Stace and Hood (2006) favor a stance of “causal indifference,” which bases the identification and validity of a mystical experience solely on whether or not it meets Stace’s criteria.

Rhea White: Exceptional Human Experiences

The work of White (1997b, 2000) is also relevant to a consideration of unitive/mystical experiences and possible predisposing factors to them. On a snowy afternoon in 1952, Rhea White, a junior at Penn State University, was driving back to school from a

party in Syracuse, New York. As the snowstorm worsened and driving conditions steadily deteriorated, White's friend offered to take a turn at the wheel. As they struggled to reach the top of an icy hill, a truck from the opposite direction hit them head on, killing White's friend instantly. White was thrown through the windshield onto the hood of the car and had what is generally referred to as a near-death experience (NDE). She was flooded with a sense of great peace, love, and beauty and felt herself being lifted from her critically injured body. White then heard a voice firmly telling her that nothing that has ever lived can possibly die (White, 1997b).

White subsequently devoted herself to studying these and other transpersonal life-changing occurrences, exploring their meanings and etiologies, and working with individuals who reported having them. She coined the term "exceptional human experiences" (EHEs) to describe them and was awarded an honorary Ph.D. in 2006 from the Institute of Transpersonal Psychology for her work. She died in January, 2007.

White (1997a) classified EHEs into five categories, the first of which is unitive/mystical experiences. There are interesting and relevant differences as well as similarities between her criteria for EHEs and Stace's (1960) criteria for U/M experiences. White understood that in order to systematically study exceptional events, researchers would need to create if not a common language, then at least some generally accepted terminology to allow the standardization of concepts that would facilitate communication, and the development of research methodology, hence her use of the term "exceptional human experiences." As Palmer and Braud (2002) pointed out, there have been numerous other terms used, including their own suggestion of "nonordinary and transcendent experiences" (NOTES), but EHEs is still the best known descriptor. They

discourage terminology such as “anomalous” that may imply an abnormal or pathological process, which, by definition, does not apply to EHEs.

White (1997b) made an important distinction between “exceptional experiences” and “exceptional human experiences” (EHEs). She stated that EHEs usually begin as exceptional experiences, events that seem impossible or questionable according to Western theories of reality. Some individuals were frightened by such occurrences or dismiss them as one-time happenings. However, for many, the experience catalyzed a process that eventually resulted in the realization of their highest human potential and the transformation of their lives in a variety of ways. White classified the experiences of these individuals as EHEs since they resulted in lasting life transformations. Hence, all EHEs are exceptional experiences, but not all exceptional experiences are EHEs (Brown, O’Connor, & Barkatsas, 2009).

After extensive study, White (2000) developed 10 characteristics attributed to all five categories of EHEs including unitive/mystical experiences. First, EHEs are spontaneous; one cannot make them occur. This includes spontaneous experiences that may be associated with entheogenic drugs, meditation, or hypnosis. Thus, White differs subtly from the causal indifference posited by Stace (1960) and Hood (2006). She acknowledged the legitimacy of EHEs associated with entheogens or other consciousness-altering practices but did not believe the EHE was necessarily potentiated by any of these activities. This has obvious implications for research focusing on possible ways to facilitate the occurrence of EHEs and U/M experiences for their beneficial effects.

Second, EHEs involve transcendence, an awareness of going beyond, rising above, or in some way nullifying the usual parameters of human experience. This can be

a literal sensation, as in an out-of-body experience involving looking down on oneself, or on another person or location. In a near-death experience, some of which also clearly meet the criteria for a U/M event, individuals often describe transcending the boundary between life and death (Moody, 1975).

The third general characteristic of EHEs is that they provide a new experience of self. There is an awakening to previously unknown capabilities and a sense that humans are more than has been thought. Spino (1977) described an experience he had while running:

Somewhere down that road I had felt the wind blowing flesh from my body until there was nothing left to resist the sweep through space. Something else had taken me, something grand and inexorable and powerful beyond anything else I had known. Then when the run was over, I seemed to shrink back into my own body, and I...wept as I tried to decide "who I was"--the one who had run the race or the usual Mike Spino? (p. 127)

Fourth, EHEs are experiences of connection. This involves connection to different parts of the self, as well as to other individuals and other life forms, to the earth, the universe and the sacred.

A fifth characteristic of EHEs is that they present a direct experience of a reality that is generally considered to be impossible. There is no uncertainty on the part of the experiencer, but rather an instantaneous knowing that whatever is happening is real, despite being unlike anything in the usual categories of human experience.

Sixth, during an EHE there is a sense of internal unity between mind, body, and any other possible aspects of the self normally considered relatively separate. This allows the EHE to be experienced by the whole self, and is part of the simultaneously interconnected and transcendent quality of an EHE.

A seventh attribute of EHEs is that they are, in a sense, invitations to further development and evolution. Rather than being a one-time, isolated occurrence they may be viewed as part of an ongoing process that can enrich human life, and increase understanding of the nature of existence. This necessitates one's conscious agreement to be open to such experiences, which may facilitate their reoccurrence.

White's (2000) eighth general description of EHEs relates to the possibility that they may be part of an emerging experiential paradigm. Researchers studying quantum physics and other evolving theories suggest that a different version of reality is being discovered and/or created in which EHEs may be acknowledged as logical manifestations of a new scientific model. Concepts such as quantum entanglement (Radin, 2006) may apply to some aspects of EHEs. This phenomenon occurs when one or more events, or systems, appear to be connected to one another while separated spatially. Another example is the use of "remote viewing" by the U.S. military and other organizations in which individuals who may be thousands of miles from a source attempt to visualize the location of a target object or facility (Powell & Mack, 2005).

In her ninth characteristic of EHEs, White (1997b) discussed the lack of meaning that often seems to pervade the lives of individuals. She believed that people need to create stories of their lives in order to endow them with meaning. While there are many books and instructional materials devoted to journaling and other methods for creating one's story, the missing element, according to White, is a connection to the spiritual. EHEs can provide this link, serving as a connection between the mythic archetypes and the sacred. White also believes that a connection between science and the sacred can be

facilitated by the study and validation of EHEs. Neumann (1989) described this evolving connection from the perspective of science:

Science is breaking through now into the mystery dimensions. It's pushed itself into the sphere the myth is talking about. It's come to the edge,...the interface between what can be known and what is never to be discovered because it is a mystery that transcends all human research. (p. 132)

Finally, the tenth characteristic of EHEs expands the idea of establishing a new paradigm by suggesting that the sharing and communicating of EHEs is part of this process. It may also assist individuals in incorporating their EHEs into their lives and allowing the awareness of new insights and transformative effects. In a study using quantitative and qualitative methods, Palmer and Braud (2002) found that disclosing and working with EHEs in a variety of structured formats, such as journaling and discussion groups, was significantly related to “high levels of meaning and purpose, high levels of spirituality, ...permeable boundaries, and...transformative life changes” (p. 29).

In summary, the reported incidence of unitive/mystical experiences depends partially on the criteria used to define them. Regardless of the definition used, at least 30-60% of the general population report having such an event at least once (Greeley, 1975; Hagerty, 2009; Hood, 2005). Underrepresentation of the actual number is possible due to the fact that many people do not report their events unless specifically asked about them. Overrepresentation could occur if individuals misinterpret descriptions of U/MEs, or interpret them more broadly than intended. Varying instrumentation and methodology used to assess unitive/mystical events could also result in either over- or underrepresentation of the reported incidence.

The criteria developed by Stace (1960), Hood (1975, 2001), and White (1997b, 2000) to describe U/M experiences are very similar, though White adds the stipulation

that in order to be considered an “exceptional human experience” as opposed to simply an “exceptional experience,” the event must be associated with significant and lasting life changes by the experiencer. This is also an important aspect of the current study.

Understanding Unitive/Mystical Experiences

Theoretical and empirical efforts to understand U/M experiences have primarily involved the disciplines of psychology, neurophysiology, and philosophy. One of the earliest psychological explanations was a brief response from Freud (1961) to his friend, Romain Rolland, who expressed disappointment that Freud had not dealt more extensively with the “oceanic” feeling of oneness. Rolland believed the unitive/mystical experience had profound spiritual significance and was a direct encounter with divinity. Freud replied that while such an experience might provide religious sustenance, he regarded it as a regression to a pre-egoic state in which separation from the external world has not yet occurred. This is not unlike Wilber’s (1996) conceptualization of the pre-trans fallacy discussed previously.

Other psychologists of Freud’s era agreed with his analysis of the U/M experience as primarily one of pathological regression. However, there were also psychoanalysts in the “adaptive school” (Parsons, 1999) of interpretation who believed U/M states of consciousness could be a transformative process, having positive effects similar to psychotherapy or various types of creative experiences. This view was primarily developed by object-relations theorists and ego psychologists (Prince & Savage, 1966). Horton (1974, p. 379) cited the example of a patient suffering from extreme anxiety whose mystical experiences were intrinsically calming and helped facilitate the transition to a fuller state of integration and individuation.

The influence of Eastern philosophy and its conceptualization of mysticism has also enriched psychological theory. Engler (1984) integrated an object-relations framework with Buddhist psychology to create a developmental model of the psyche. According to this model, the development of a sense of self is the primary task of early psychological evolution. This must be accomplished and well-integrated before the self-transcending process of authentic U/M experience can occur.

Analytical psychologists generally regard U/M events as legitimate aspects of the human spectrum of experience (Cardena et al., 2000). Jung (1935/1966) considered mystical states of consciousness to be encounters with the archetypes of the collective unconscious, hence outside the self and requiring ego-transcendent processes (Jung). Neumann (1989) stated that U/M experiences begin when consciousness is not focused on the ego. Encountering the nonego requires the ego to suspend its struggle for supremacy over unconscious forces and transcend the binary division of world and self. This results in a mystical encounter of ego and nonego, in which both are transformed. There is little extant research on this analytical interpretation of unitive/mystical events and it remains an area for future work (Cardena et al.).

The contribution of contemporary humanistic psychologists to U/M theory is best represented by Maslow (1973). In his studies of self-actualized individuals, he noted that many of them reported having U/M experiences. Maslow called these peak experiences, hoping to distinguish and separate them from traditional religious events, with the intention of making them more accessible and appealing to researchers. He believed peak experiences could be transformative and have lasting effects on the lives of those who

had them, and agreed with the perennialists that these events were a direct encounter with a universal reality (Cardena et al., 2000).

Transpersonal Psychology

Maslow (1973) is often regarded as the father of transpersonal psychology with its focus on the transcendent aspects of human consciousness and their application to the actualization of maximum human potential, although the roots of transpersonal theory can certainly be seen in Jung's (1935/1966) work. Washburn (2003) and Wilber (1996) are the two primary theorists who have developed models of transpersonal evolution. Wilber's model is essentially a hierarchical one in which unitive/mystical experiences occur as a correlate of the higher stages of human development. All stages in the model are sequential and, by definition, do not incorporate the possibility of an occasional return to a previous stage, or the transitional skipping of one stage and returning later. This would represent pathology in Wilber's model.

As opposed to Wilber's (1996) hierarchical structure, Washburn (1995, 2003) developed what he referred to as a spiral dynamic theory of human development. Briefly stated, the essence of this theory is that human consciousness evolves in a spiral fashion from the preegoic state of the infant, through ego development and then, depending on the path chosen by the individual, to either a fuller manifestation of present life roles or through a "dark night of the soul" to a trans-egoic state. Washburn (2003) emphasized that this trans-egoic level of development did not separate the individual from life or from the world, but permitted the individual's return to the world transformed and able to bring a new sense of joy and purpose to life.

Wilber (1996) considered Washburn's (2003) spiral theory to be an example of the pre/trans fallacy (Wilber) which stated that non-hierarchical models of development confuse the preegoic stage with the transegoic one. Wilber's interpretation of Washburn's theory was that Washburn's transegoic state was actually a regression which was identical to the earliest stage of development. In response to Wilber, Washburn argued that his concept of the spiral model did not postulate a return to an identical preegoic state, but rather a return to a state free from ego constraints, but completely different and transformed from the early infantile pre-developmental state, hence the designation of "spiral" (Washburn).

Hunt (1995) used concepts from holistic-phenomenological cognitive theories to interpret mystical experiences. He asserted that U/M phenomena were not indications of regression or pathology, but representations of higher mental capabilities and emerging cognitive processes. Hunt believed the ability to experience mystical states of consciousness was a higher level of the capacity for abstraction, a capacity normally subdued or masked by the mind's prioritization of the more practical and concrete aspects of existence (Hunt, 1984).

Neurophysiological Aspects of Unitive/Mystical Experiences

Another ongoing approach to the study of mysticism involves exploring the neurophysiological correlates to mystical or unitive experiences. Technological advances in brain imaging have allowed researchers to attempt to capture some of the physiological manifestations of mystical phenomena. One obvious limitation to this work is that such experiences rarely appear on cue, and are virtually impossible to reproduce in the laboratory. Nevertheless, some interesting results have been obtained that represent the

beginning of a new era of exploration that will grow as the field of brain technology is advancing.

Researchers using single photon emission computerized tomography (SPECT) to study contemplative nuns, monks, and meditators found that during states of prayer or meditation, their brains showed decreased activity in the parietal lobes and increased activity in the frontal lobes (Newberg, 2001; Newberg, Pourdehnad, Alavi, & d'Aquili & Newberg, 2003). The study involved three female Franciscan nuns and eight Tibetan Buddhist monks and meditators (four females and four males). All of the subjects had performed more than 15 years of daily practice in meditation or contemplative prayer. None of the subjects had any history or clinical evidence of psychological or medical abnormalities, or substance abuse.

This is not to suggest that engaging in prayer or meditation, or other practices which may induce deep relaxation, is synonymous with experiencing a mystical event, or that these activities necessarily facilitate a unitive/mystical experience. Nevertheless, since some individuals have reported experiencing U/M states of consciousness during activities such as meditation and prayer, recording and analyzing the brain activity of those so engaged appears to be a relevant avenue of research. This would enable investigators to compare neurological activity recorded during prayer or meditation without subsequent reports of a U/M experience to brain activity occurring during these practices in which the subject subsequently does report a U/M event.

Other researchers have suggested a "limbic marker hypothesis" for some experiences of altered consciousness (Saver & Rabin, 1997). This hypothesis is based on the assumption that all human experiences are brain experiences, including mystical

phenomena. The authors' research has led them to localize unitive/mystical events as being primarily mediated by the limbic system. They suggest that the ineffability generally agreed to be a characteristic of U/M experiences is due to the brain processing these experiences as being reminiscent of ordinary perception, yet accompanied by extremes of emotion and feeling not experienced during everyday events (Saver & Rabin).

Despite accelerating technology, brain researchers report conflicting results when attempting to study mystical phenomena; the methodological obstacles involved suggest that this approach is still in the beginning stages (Andreson & Forman, 2001). Again, the meditative states that can be associated to some extent with neurological correlates are not necessarily U/M experiences as conceptualized in my study using the criteria of Stace (1960). Many reported instances of U/M phenomena were spontaneous and occurred in a variety of contexts, usually happening incidentally in the course of everyday life. This does not dispute the observation that some individuals are apparently also able to facilitate unitive/mystical occurrences at least some of the time through the practice of prayer, meditation, entheogens, hypnosis, or other means. The possibility of intentionally manifesting such events has encouraging potential implications for further research as well as suggesting applications for therapy and the facilitation of human well-being.

The philosophical implications of the possible neurophysiological correlates of U/M experiences are also relevant to present and future research and application. The concepts of perennialism (Huxley, 1945; Smith, 2003) and the common core thesis (Hood, 2006; Stace, 1960) discussed previously help illustrate one of the aspects of contrasting philosophical interpretations of brain studies. Proponents of the common core

thesis postulate that all U/M experiences have an essential similarity that transcends the variations of cultural, sociological, religious, and other factors of the individuals reporting these events. Perennialists agree with this stance and in addition believe that this common core is an encounter with a singular ultimate reality that exists, in a sense, independently of the human mind.

Some theorists who support the common core theory but do not support perennialism may envision neurological correlates of U/M experiences as evidence that these experiences obtain their commonality by virtue of their being generated by common neurological structures and processes shared by all humans. Reductionists such as Blackmore (1999) would agree with this view of the brain as a generator of all experience, including mystical ones.

Essentially, reductionism as it relates to the current discussion is the proposition that the brain is no more, and no less, than the sum of its parts. Its overall structure and functional capacity can ultimately be understood by examining the structure and function of each of its components and how they interact with each other. Thus, unitive/mystical experiences in their varied forms are a function of the brain, generated by its self-contained physiological operation. They are not revelations of an ultimate truth or reality which is in some sense independent of the brain. Associated with this is the corollary that there actually is no ultimate reality that can be accessed or revealed; reality is, instead, the perception of a relative juxtaposition of neural responses to stimuli (Blackmore, 1999; Horgan, 2003).

In contrast, perennialists view the brain as a receiver of U/M events, which they regard as having a common reality independent of any neural processes. They view

neurological findings associated with mystical states of consciousness as helping to explain this receptive function of the brain (Smith, 2003). The terms “ultimate reality,” “absolute reality,” and similar references are subject to a variety of definitions and conceptual analyses, none of which seem particularly satisfying. This inability to describe the concept reflects the ineffability that is a defining characteristic of unitive/mystical states of consciousness (Stace, 1960).

Regardless of the description, some apprehension of universal truth or absolute reality is a major and defining aspect of most reports of U/M events. This encounter with an ultimate truth may be experienced in a religious or spiritual framework if the experiencer holds such a belief system. But individuals having no specific belief system report a similar core experience of encountering something, or some new way of perception, that is more “real” and all-encompassing than anything they have previously known (Horgan, 2003).

It may seem logical that researchers focusing on the neurological aspects of U/M phenomena would tend to be reductionists, but this is not always the case. Interestingly, many believe that even if exact neurological correlates for mystical experiences could be found, this would not necessarily imply the reductionistic conclusion that mystical insights do not represent reality and are merely a self-contained physiological dynamic of the brain (Saver & Rabin, 1997). D’Aquili & Newberg (2000) emphasized the possibility that the brain is the organ allowing humans access to such phenomena, not the origin of them.

Psychopathology and Unitive/Mystical Experiences

Related to the study of brain functioning and mysticism is the theory that mystical phenomena are manifestations of neurological disease or psychological pathology (Group for the Advancement of Psychiatry [GAP], 1976). Much of this confusion appears to stem from the failure to define U/M experiences accurately and neglecting to compare the characteristics of mystical events to those originating in pathology. Several researchers dispute any real connection between psychopathology and mysticism including Spanos and Moretti (1988) who found no relationship between mystical experiences and mental illness. Hunt (1995) and Kroll and Crosby (1996) also found a lack of commonality between descriptions of U/M experiences and manifestations of psychological or physiological dysfunction.

Newberg (2001) found several distinctions between unitive experiences and psychopathology. First, those reporting mystical experiences describe them as joyful, blissful, ecstatic, and more real than ordinary perceptions. Psychotic states of altered consciousness, however, are frequently experienced as confusing, frightening, and unreal. Second, individuals having a U/M experience find the distinction from ordinary perception peaceful and insightful; whereas, those having a psychotic break from usual perceptions find this to be a distressing and unwelcome event. Third, psychotic episodes frequently involve egoistic delusions of grandeur or other distorted representations of ego, while a mystical experience usually involves a suspension of ego, or its transcendence.

Ng (2007) suggested that an individual's interpretation of experiences and subsequent behavior are also relevant to establishing the distinction between psychosis

and U/MEs. Hood, Hill, and Spilka (2009) noted that it is logical to assume that both psychologically intact and psychotic individuals may have U/MEs, but that “mysticism neither causes nor is produced by psychoses” (p. 371). Stifler, Greer, Sneek and Dovenmuehle (1993) noted that essential personality structure appeared to be the distinguishing feature between psychotic and normal mystics; normal individuals exhibited fluidity and openness, while psychotics exhibited rigidity and resistance.

Research on the Effects of Unitive/Mystical Experiences

Several studies have demonstrated a higher than average level of psychological well-being in those reporting mystical experiences than in the general population. Greeley (1975) found that respondents who reported having mystical experiences demonstrated significantly higher levels of psychological well-being than the national average, as measured by standard psychological scales. Bates and Stanley (1985) found that mystical experiences were associated with higher than average levels of psychological health as demonstrated by improved interpersonal relationships, increased self-esteem, lower levels of anxiety, clearer sense of self, increased concern for others, and a more positive outlook on life in general.

Some researchers have suggested that the ability to experience U/MEs may be related to the attainment of higher psychological developmental stages. Cook-Greuter (2000) referred to the attainment of a “Unitive ego stage,” which she believed facilitates an openness to mystical phenomena. This stage involves an open acceptance to the flow of experience and empathy for individuals at all stages of development, which in turn may function as a catalyst for mystical experiences. The effects of mystical or transcendent events were found to be an increased willingness to witness rather than

judge, a sense of simplicity and joy due to letting go of the need to meet the expectations of self and others, increased wonder at being in life, and a deep and compassionate understanding of the human condition.

Byrd et al. (2000) used four measures of subjective well-being and three measures of unitive/mystical experiences, including the Hood Scale (1975, 2001), in a sample of college students to examine U/MEs as predictors of well-being. Participants were 150 students at the University of Nebraska (98 women and 52 men, with a mean age of 20.7 years). Thirty-two percent were Catholic, 28% were Protestant, 33% indicated other, and 7% listed no religious affiliation.

The authors concluded that while the relationship between subjective well-being and U/MEs was complex, there appeared to be an overall positive correlation between the two. The most significant findings suggested that the presence of an interpretive element or cognitive framework associated with a U/ME was positively correlated with scores on the measures of well-being. This was particularly significant as indicated by an increased sense of purpose in life, and a greater feeling of satisfaction with life generally. Participants whose results indicated that they may have experienced U/MEs without having a meaningful cognitive framework with which to interpret them, demonstrated a negative correlation with the well-being measures. The authors cautioned against generalizing their conclusions beyond the college population, and suggested that the relative youth and probable minimal experience of the participants with unitive/mystical events may have influenced the results.

Anderson (2001) utilized the process of embodied writing as one way to provide an interpretive framework for those who had unitive/mystical experiences. She described

the development of embodied writing as occurring during a seminar on spirituality she taught for four years at the Institute of Transpersonal Psychology. Seminar participants discovered that they wanted to write about the body in a new way that would more fully and vividly express their experiences and also evoke some experiential resonance in those who read their descriptions. Seminar participants developed seven distinctive characteristics of embodied writing, such as the emphasis on writing from the inside out, including both internal and external data, and acknowledging the interconnectedness of the body/mind/spirit with the universe in which it exists.

Anderson (2001) also noted the beginning application of embodied writing to research, which has obvious applications to the study of unitive/mystical experiences. Since one of the primary characteristics of a U/ME is its ineffability, discovering ways to attempt to capture and convey the experience would have several implications. As Byrd et al. (2000) suggested, having a framework in which to process U/MEs appeared to be positively correlated with well-being.

The importance of having an interpretive framework was also suggested in studies involving the sharing, writing, and disclosure of U/MEs. Several of the personal accounts previously cited refer to the writers' inability to discuss their experiences with anyone else, and their belief that they could not explain them in a way others could understand. Anderson (2001) used the technique of embodied writing, which can be used to convey many types of experiences, including U/MEs. Embodied writing seeks to portray the lived experience of the body in words that will also evoke an empathic resonance in readers.

Palmer and Braud (2002) explored the effects of a 10-week experimental program designed for individuals who had experienced any of the five types of exceptional human experiences (EHEs; White, 1997b). As previously discussed, U/MEs share most of the characteristics of EHEs. The researchers hypothesized that being able to disclose and process EHEs might have beneficial effects for individuals who reported them.

Participants had to be at least 18 years old and had to have experienced an EHE that they had not previously disclosed but were willing to share in a safe, confidential environment.

Participants were randomly assigned to one of five groups, four of which involved various activities related to processing EHEs and one of which served as a control group. All groups completed a pre- and post-test assessment battery utilizing 12 quantitative, standardized instruments, and 8 qualitative instruments. During the 10 weeks of the study, the four non-control groups participated in activities such as writing journals and autobiographical accounts, and discussing their experiences in individual and small group settings. Seventy participants completed the study. Ninety-three percent were 35 years of age or older, 87% were female, 86% were of European ethnic backgrounds, and 53% listed their current spiritual/religious affiliation as “other.” They were from various locations in the United States, with 73% being from California.

Results of the study demonstrated that EHEs in general, and U/MEs in particular, were regarded as meaningful and important by participants, and that being able to share these experiences was beneficial. Some of the effects associated with EHEs were high levels of meaning and purpose in life, high levels of spirituality, and a tendency toward transformative life changes. Disclosure and processing were positively and significantly

associated with purpose and meaning in life, increased psychological well-being, reduced stress, increased openness, and spirituality.

U/MEs also seemed to be associated with qualities such as increased creativity, tolerance of ambiguity, and openness to new situations (Cardena et al., 2000). Insights gained during mystical events were associated with more purposeful living and did not necessarily require a relationship with any kind of personal deity (Byrd et al., 2000). Hunt (1995) theorized that mystical and related states represent an emerging cognitive capacity relating to higher development.

Several studies also supported the therapeutic efficacy of mystical experiences. Although meditation is not a mystical phenomenon per se, some individuals have reported that it sometimes facilitated one. Introducing meditation techniques to severely depressed adolescents was sometimes found to facilitate mystical experiences that often led to therapeutic breakthroughs and subsequent improvements in their mental health (Horton, 1974). Spontaneous mystical experiences were also associated with positive therapeutic effects in individuals suffering from post-traumatic stress disorder (Decker, 1993).

One of the most generally acknowledged types of U/M consciousness is the near-death experience (NDE). Although NDEs have been reported for centuries in all cultures, Moody (1975) originated the term and conducted pioneering explorations with individuals who had experienced them. As he continued to document these descriptions and reports, he realized that having an NDE was a life-altering event for most persons. They described increased feelings of compassion, less or no fear of death, increased

ecological concern, enhanced self-esteem, greater appreciation of life and respect for all living things, thirst for knowledge, and other effects generally considered positive.

Among those studying Moody's (1975) findings were psychologist Kenneth Ring, and physician Bruce Greyson. They were particularly intrigued with the subsequent life changes associated with NDEs and believed that more systematic research was indicated. Greyson and Ring (2004) began developing a quantitative instrument to assess and measure life changes in individuals reporting NDEs. Continued research led to their realization that the after effects of NDEs were much like those effects reported by individuals who had experienced any type of U/M event, and had similar life-enhancing effects (Greyson & Ring). Most NDEs meet Stace's (1960) criteria for mystical events and those who report them describe an experience that includes a sequence of perceptions and sensations essentially identical for all experiencers, and transcends the individual variability of culture, ethnicity and geography.

This core experience is characterized by an intense sense of reality and the certainty that a universal truth has been encountered. Most individuals describe seeing and being part of a beautiful light that emanates love and peace. They describe realizing the interconnectedness of all things, and sense that they are part of eternity and that earthly life is merely a brief interval (Ring, 1985). Certainly many scientists regard NDEs as simply neurophysiological correlates of the dying process (Blackmore, 1999). Other scientists, including d'Aquili and Newberg (2000), acknowledged the neurological processes associated with death while retaining the possibility that NDEs represent more than neuronal decay. Greyson (2000), a physician, noted that the clinical brain death usually seen in NDEs is defined by a brain stem that is no longer independently capable

of sustaining cardiac and respiratory functions, let alone the higher cognitive capacity necessary to produce the detailed and coherent multisensory experiences that are reported with NDEs.

Conclusion

Researchers have begun to consider unitive/mystical experiences as a legitimate subject for investigation. There is growing consensus that U/M events are an aspect of human capacity, and that a full appreciation of what it means to be human must acknowledge and explore them. In addition to contributing to the basic research necessary to better understand U/M states of consciousness, clinicians must continue to investigate their transformative effects and potential therapeutic benefits. As some researchers have suggested, the prevalence of mystical experiences may be an indication of an evolving new paradigm in human consciousness. If this is so, clinicians will benefit from being prepared to assist clients in processing mystical experiences and facilitating the life-changing effects they may produce.

CHAPTER III

METHODOLOGY

This chapter describes the methodology used to conduct the current study. A discussion of the research design includes the type of research used, the rationale for selecting the methodology, and the appropriateness of the design to the study. Next the population is described as well as selection and characteristics of the participants. Independent and dependent variables are discussed, followed by a description of the instruments and an explanation and justification for their use in the study. The procedure for conducting the research is presented, followed by the methods used for analysis of the data.

Research Design

The research design was a correlational, survey-based study that examined life changes in beliefs, philosophy, and behavior among participants who reported experiencing one or more unitive or mystical states of consciousness. The independent variables were (a) unitive/mystical experiences reported by participants and (b) 10 demographic variables. The dependent variables were (a) overall life change reported by respondents and (b) reported life changes in eight value clusters.

Participants

The population targeted for the study was adults 18 years of age and older who reported having had one or more unitive/mystical experiences. Purposive non-probability

sampling methodology was used to recruit participants from a variety of sampling sources. Study recruitment and participation occurred in an online survey format. Permission was requested to access potential respondents via listservs and non-public mailing lists, which are described below. Sampling frames were also chosen partially based on the likelihood of prospective participants having access to a computer and being able to navigate the survey's online format. At the beginning and end of the survey, participants were asked to forward the survey link to others they believed might be interested in determining their qualification for the study and participating in it. Referring others to the survey can be considered a type of snowball methodology.

A demographic form was included at the end of the survey to obtain information about the participants (see Appendix A). Participants were asked to indicate their age, ethnicity, gender, education level, income, diet changes, political viewpoint, employment status, spiritual/religious practices, and whether they had experienced one or more than one U/ME.

Since participation in the study required respondents to meet the qualification of having had one or more unitive/mystical experience, permission was obtained from two sampling frames that might logically be expected to have a higher incidence of such experiences and be open to acknowledging them. These sampling frames were the members of the Association for Transpersonal Psychology and the students of the Institute of Transpersonal Psychology.

The Association for Transpersonal Psychology is a membership-supported, international coordinating organization for scientific, social, and clinical transpersonal work that serves the world community. It was originally founded to investigate peak

experiences and mystical states and to explore the potential of consciousness evolution for creating positive change in individuals and society. Membership is open to anyone interested in transpersonal topics and includes approximately 900 members from over 40 countries.

The Institute of Transpersonal Psychology (ITP) is a private, non-sectarian graduate school accredited by the Western Association of Schools and Colleges, emphasizing transpersonal research and the training of clinicians in transpersonal methodology and practice. Degrees offered include a Ph.D. in Transpersonal Psychology, a Psy.D. in Clinical Psychology, and a Ph.D. in Transpersonal Psychology. ITP has 350 students, many of whom are off-campus and live in a variety of world locations.

Permission was also obtained to recruit participants via the listservs of the student population of the School of Applied Psychology and Counselor Education (APCE) of the University of Northern Colorado (UNC) and the UNC School of Psychological Sciences participant pool. The School of APCE offers APA accredited graduate programs in school psychology and counseling psychology, and CACREP accredited programs in counselor education and professional counseling. UNC is a public institution of higher education and research with approximately 10,000 undergraduate and 2,100 graduate students from 48 states and 42 countries.

Previous research indicated that between 40 and 60% of the general population reported having one or more U/M experiences. These studies were conducted in several countries including Britain (Hay & Morisy, 1978), the United States (Greeley, 1975; Levin, 1993; Yamane & Polzer, 1994), Iran (Hood, 2001), and Israel (Lazar & Kravetz,

2005). Samples included student populations, respondents polled from the general population, and members of religious orders, including Christian, Muslims, and Jews.

In the present study, the estimate of 40-60% of individuals who reported having one or more UM/Es was incorporated and sample size was calculated for multiple regression. There were eight explanatory variables and one criterion variable. Cohen's (1992) power analysis and Green's (1991) multiple regression analysis formula for sample size were used for this calculation with the objective of achieving a desired power of .80, sufficient for detecting a medium effect size of $R^2 = .15$. Results of this calculation indicated that a minimum sample size of 122 was needed. The number of respondents who participated in the survey was 160.

Instruments

Hood's Scale-Research Form D

The Hood Scale (see Appendix B) was developed by Ralph Hood (1975) and was constructed to operationalize Stace's (1960) theory of mysticism. It is the most widely used instrument for the study of mysticism (Burriss, 1999) and is used to measure the extent and type of U/M experiences reported by respondents.

The scale consists of 32 statements that respondents indicate are *definitely true*, *probably true*, *probably not true* or *definitely not true* for them. Examples of items include "I have had an experience in which I realized the oneness of myself with all things" and "I have never experienced anything I could call ultimate reality." Half of the items are negatively stated (beginning with "I have never") and are reverse scored. Items comprising the "Introvertive Mysticism" subscale are 1-4, 11, 21, 23, and 32. The "Extrovertive Mysticism" items are 6, 8, 10, 12, 15, 19, 24 and 27-31. Items in the

“Interpretive” subscale are 5, 7, 9, 13, 14, 16-18, 20, 22, 25, and 26. In a previous study I conducted using the Hood Scale (1975, 2001) with a convenience sample of 37 undergraduate psychology students, the scale was modified by dropping items 5, 18, and 21 to obtain better reliability of the subscales. Reliability estimates obtained for that study using Cronbach’s alpha were Introvertive mysticism = .75, Extrovertive Mysticism = .91, and Religious Interpretation = .86.

Originally, I planned to use the three subscales of the Hood; however, the factor analysis conducted for the current study did not support this three-factor structure. Therefore, a decision was made to use the mean total score of the scale for the current study based on a Cronbach’s alpha value of .89 for the total score reliability estimate. Recoded item scores on Hood’s Scale (1975, 2001) had possible values of 1--*definitely not true*), 2--*probably not true*, 4--*probably true*, and 5--*definitely true*. The range of possible scores was from 32 to 160. Hood total score reliability was also approved by Hood (personal communication, July 8, 2010), and supported by previous studies as reported above (Hood, 1975; Hood, Morris, & Watson, 1993). Possible explanations for the failure to demonstrate three factors in the current study are discussed in Chapter V.

This instrument is usually referred to as Hood’s Mysticism Scale-Research Form D (Hill & Hood, 1999). Permission was obtained from Hood (personal communication, October 6, 2008) to omit the word “mysticism” from the title during the current study in order to minimize any potential preconceptions about this frequently misunderstood concept. Total score reliability for the Hood Scale (1975, 2001) was found to be adequate in an initial study of 300 predominantly Protestant undergraduates (Hood, 1975). An additional four samples were also used by Hood (1975) to calculate scale mean scores;

these samples consisted of two groups of undergraduates, sizes 65 and 52, at a fundamentalist Christian college in the southern United States ($M_s = 132.2$ and 114.9 , respectively), and two groups, sizes 83 and 29, at the University of Tennessee at Chattanooga ($M_s = 110.2$ and 104.9 , respectively). Hood reported corrected item-total correlations ranging from $.29$ to $.55$ in his original sample of 300 college students. Hood et al. (1993) also reported reliabilities for subscales based on their three-factor solution: Alpha coefficients were $.76$, $.69$, and $.76$ for Extrovertive, Introvertive, and Interpretive scales, respectively, for his original sample of 300.

The validity scores from the Hood Scale (1975, 2001) are well documented (Hill & Hood, 1999). Related to its convergent validity, scores from the scale have been found to be associated with measures of openness to experience and to religious participation in Hood's original sample of 300 college students (Hood, 1975). Discriminant validity was supported by results failing to demonstrate a relationship between Hood Scale (1975, 2001) scores and either psychoticism or neuroticism as measured by the Eysenck Personality Questionnaire (Caird, 1988) in a sample of 115 college students at the University of Queensland. Hood, Hall, Watson, and Bederman. (1979) found scores on the Hood Scale (Hood, 1975) to be positively correlated with personality characteristics such as creativity and tolerance in the original sample of 300 college students.

Factor analytic studies (Caird, 1988; Hood, 1975, 2001) indicated that the scores from the Hood Scale (Hood, 1975) were composed of three subscales, which represented introvertive and extrovertive experiences as well as those falling under Hood's interpretive category (Reinert & Stifler, 1993). Caird's sample was comprised of 115 undergraduate students (70 male, 45 female) at the University of Queensland. Reinert and

Stifler's sample involved 87 adults (47 male, 40 female); 64 were Christians and 23 were not. Median age was 43 years ($M = 43.4$, $SD = 12.11$). These subjects included three distinct groups: 30 contemplative monks and nuns from Buddhist, Christian, and Hindu traditions; 30 patients diagnosed as psychotic from a psychiatric hospital whose charts listed religious delusions, hallucinations, or obsessions, and who reported at least one intense religious experience; and 30 "normal" subjects who had no psychotic symptoms and no special religious practices. To assess validity, mean differences among the three groups were examined using a one-way ANOVA and Scheffe' tests. Normal subjects scored significantly lower than the two other groups, which was expected. The mystic and psychotic groups had no significant differences in scores.

Results of two recent studies again suggested a three factor structure of Hood's Scale: one involving a large sample of American university students and the other involving Americans of primarily Christian affiliation and Muslims in Iran (Hood, 2001). Hood et al. (2009) recommended the three factor solution be used for current and future research due to its compatibility with Stace's (1960) theoretical conceptualization and its superior psychometric adequacy. Relevant to the current study, these studies also supported the common core thesis (Hill & Hood, 1999; Stace) that there is an experiential commonality in mystical states which transcends the interpretive framework of culture, religion, and other variables that may affect how an individual processes the experience.

Hood (2006) attempted to use neutral language in the construction of the scale while acknowledging that no language can be truly neutral. His purpose was to avoid conventional Western religious terms and concepts such as "God" or "Christ," so that respondents with alternative religious frameworks, or those espousing no religious

beliefs, could effectively relate their U/M experiences to the questions in the scale. At the same time, respondents who did embrace traditional Western religious doctrines could still relate to the question using this interpretive structure (Hood).

To further evaluate the effect of language on the integrity of the Hood Scale, Hood and Williamson (2000) created two additional versions of the scale. These were identical to the original version, except that the terms “God” or “Christ” were used where appropriate. Both the original scale plus one of the modified versions were then given to relevant samples of committed Christians. Factor analysis of all three versions was done and results showed identical factor structures for all versions. Analysis also confirmed that each of the three versions matched Stace’s (1960) phenomenologically derived model very closely. For most studies, including the present one, the original version of the Hood Scale (1975, 2001), without any specific religious terminology, was used since individuals with a wide variety of spiritual beliefs, or none, can effectively relate to the questions.

Life Changes Inventory-Revised

The Life Changes Inventory-Revised (LCI-R; see Appendix C) was developed by Greyson and Ring (2004) and was originally created to study the life changes in beliefs, philosophy, and behavior associated with near-death experiences (NDEs). The experiential descriptions of individuals reporting NDEs are strikingly similar to accounts of U/M experiences and include a sense of ineffability, ego transcendence, a heightened sense of reality, and a certainty that a higher reality or divine authority has been encountered (Greyson, 2000). This has led to general acknowledgment that most NDEs meet Stace’s (1960) criteria for U/M experiences and can be considered a subset of

unitive/mystical experiences. Thus, the LCI-R was uniquely appropriate for the purposes of the current study due to the specificity with which it addressed the concept of life changes associated with U/M events.

The LCI-R (Greyson & Ring, 2004) begins with the stem “Since my near-death incident...” For the purposes of the current study, permission was obtained from Greyson (personal communication, October 21, 2008) to modify this stem to “Since my U/M experience(s)...” The plural option is included to account for those individuals who have had more than one U/M event. This change in the introductory stem was the only modification needed to the LCI-R for the current study. Respondents were then asked to consider 50 items, each of which presented a value that may have been affected by their U/M experience(s). For example, “Since my U/M experience(s)...my desire to help others has” and “Since my U/M experience(s)... my appreciation of nature has.” For each item the possible response choices were *strongly increased*, *increased somewhat*, *not changed*, *decreased somewhat*, and *strongly decreased*.

Specific statistics for reliability and validity of the scores from the LCI-R (Greyson & Ring, 2004) are difficult to find despite the instrument being used in several studies to explore various transpersonal phenomena (Brouillette, 1997; Carpenter, 1994; Chang, 1998; Hong, 1993). Greyson (personal communication, October 21, 2008) conducted a study involving 45 individuals who reported experiencing NDEs. These participants completed the LCI-R twice at an average interval of 19 years. The test retest reliability coefficient of the Absolute Change Score, or Global Score, between the two administrations of the scale was $+0.794$ ($p < .001$). Test retest reliability coefficients for

the value clusters ranged from +.459 ($p = .003$) for the category Concern with Worldly Achievement to +.868 ($p < .001$) for the category Appreciation of Death.

The LCI-R (Greyson & Ring, 2004) originally yields two types of scores: one is an Absolute Change Score that represents the overall magnitude of change reported by respondents since their U/MEs. The Absolute Change Score has a range of 0 to 2 and does not indicate the direction of change, that is, whether the change represents an increase, a decrease, or no change since respondents' U/MEs. The second type of score is a Value Cluster Score for each of the nine value clusters that reflect common domains of change and transformation following U/M events. The nine clusters are appreciation for life, self-acceptance, concern for others, concern with worldly achievement, concern with social/planetary values, quest for meaning/sense of purpose, spirituality, religiousness, and appreciation of death. Possible scores for each cluster item range from -2 to 2. Total scores for each cluster depend on the number of items in each cluster. These clusters were developed based on an iterative process of interviews with NDE experiencers and preliminary factor analyses of LCI responses done on separate samples (Greyson & Ring). The items comprising the nine value clusters are presented in Appendix C. Some sample items for each of the nine clusters are:

1. Appreciation for Life (4 items): Item 3 = appreciation of the “ordinary things of life”
2. Self-acceptance (3 items): Item 5 = feelings of self-worth
3. Concern for Others (10 items): Item 1 = desire to help others
4. Concern with Worldly Achievement (7 items): Item 9 = concern with the material things of life

5. Concern with Social/Planetary Values (5 items): Item 21 = concern with the welfare of the planet
6. Quest for Meaning/Sense of Purpose (4 items): Item 22 = understanding of “what life is all about”
7. Spirituality (5 items): Item 13 = concern with spiritual matters
8. Religiousness (4 items): Item 7 = interest in organized religion
9. Appreciation of Death (3 items): Item 50 = interest in issues related to death and dying

The remaining five items were not included in the scoring of any value cluster:

1. Item 6 = interest in psychic phenomena
2. Item 29 = desire for solitude
3. Item 31 = involvement in family life
4. Item 36 = openness to the idea of reincarnation
5. Item 42 = feelings of personal vulnerability

These five items were retained in the LCI-R by Greyson and Ring (2004) since they represented common aftereffects of U/M experiences, specifically NDEs.

Demographic Form

Ten demographic questions (see Appendix A) were included as the last section of the survey. Participants were asked to indicate their gender, age, ethnicity, highest level of education completed, political views, employment status, spiritual/religious beliefs, household income, whether they reported having one or more than one unitive/mystical experience, and whether their eating habits had changed since their U/ME(s).

Procedure

Pilot Study

Permission was obtained from the University of Northern Colorado's Institutional Review Board to conduct a pilot study with a total of 12 students enrolled in two master's level classes in the school's Couples and Families counseling program. The pilot study was conducted to determine the feasibility of the procedures and the online format, and to solicit comments from participants regarding their experience in taking the survey. Participants were asked to estimate the time needed to complete it and to note any difficulty they may have had understanding the survey. Due to the small number of respondents, no statistical analysis was done. Participants reported in the comments section that the survey took 15 minutes to complete, was easy to understand, and presented no navigational difficulties. As a result, no changes were made in the survey design or procedures.

Full Study

Permission was obtained from the University of Northern Colorado's Institutional Review Board to conduct the study. A copy of the introduction to the study and the consent form appear in Appendix D. Permission was then obtained from the following organizations and groups to access their listservs via email: The Institute of Transpersonal Psychology (ITP), the Association for Transpersonal Psychology (ATP), the student population of the School of Applied Psychology and Counselor Education (APCE) of the University of Northern Colorado (UNC), and from the UNC School of Psychological Sciences participant pool. At the beginning and end of the survey,

participants were encouraged to forward the link to others they believed might be interested in participating. This can be considered a type of snowballing.

Since the primary qualification for participating in the survey was that participants reported having one or more unitive/mystical experiences, some recruitment efforts focused on populations where this qualification predisposes such as members of educational and professional organizations that supported research in transpersonal studies (ITP and ATP). However, since I was also interested in obtaining data regarding U/M experiences in more general populations, I also targeted some less specifically focused groups such as UNC and general interest populations accessed through referrals from participants who forwarded the survey link to others.

Once permission was granted to access listservs and organizations, an email was sent out, inviting potential participants to determine whether they qualified for the study and would like to participate. The email included a link to the online survey host: www.surveymonkey.com. The website contained a cover letter explaining the study and the qualifications for participation (see Appendix D). If participants met qualifications and wanted to continue with the survey, they were directed to the standard explanatory statement required by the Institutional Review Board informing them that completing the survey implied consent, assuring them of anonymity and confidentiality, and providing an email contact to the researcher if they had any questions regarding the survey. Once participants met the qualifications and agreed to complete the survey, they were directed sequentially to the two instruments followed by the demographic section.

Advantages and Limitations of Online Data Collection

Several benefits of conducting surveys in an online format contributed to the decision to use this method. The online process is much more cost effective and ecological than printing and mailing forms (Yun & Trumbo, 2000). Although there was a cost associated with using Survey Monkey for data collection, it was less than the expense involved in traditional hard copy methods that include costs for the questionnaires, paper, printing, and postage. One study estimated that online data collection was less than half the cost of using traditional methods (Lefever, Dal, & Matthiasdottir, 2007).

Delivery of the survey and response times were also much quicker. Researchers can access large numbers of participants with common characteristics quickly even though they may be widely separated geographically. Reaching an equivalent number of participants through face-to-face and hard copy methods, if it were even possible, would take considerably longer (Wright, 2005). Respondents often feel more comfortable addressing sensitive issues in the relative anonymity of the website (Brace, 2004). Participants who may feel inhibited in face-to-face data collection, such as that employed in classrooms, may welcome the opportunity to complete an online survey in the safety of their home environment (Van Selm & Jankowski, 2006).

Despite the many advantages to online data collection, there are also limitations. Sampling issues include the fact that relatively little may be known about the characteristics of the respondents beyond the requested demographic and qualifying information. Since many web-based surveys include a request that participants forward

the access information to others they believe may be interested, the researcher has no control over some of the ultimate parameters of the sampling frame (Wright, 2005).

Related to the sampling issue just discussed was the fact that response rates could not be calculated with exactness since there was no way to know how many potential participants were solicited. There is no conclusive evidence related to differences in response rates between surveys conducted by mail and those conducted online (Lefever, et al., 2007). However, some studies suggest that response rates for web-based surveys are equal to, or better than, those conducted via traditional mailed surveys (Thompson, Surface, Martin, & Sanders, 2003).

Technical issues related to the use of computers may also be problematic. Obviously, the participants in the current survey were limited to those having access to the Internet and having the ability to navigate it successfully enough to complete the survey (Lefever et al., 2007). Some potential respondents were concerned about privacy or spam issues that may be associated with the Internet as well as the inability to obtain an immediate response from the researcher to any questions they may have (Yun & Trumbo, 2000).

Data Analysis

Prior to conducting statistical analyses with PASW 18 (formerly SPSS) to answer research questions, preliminary analyses were conducted to examine frequencies and distributive characteristics of the data. Data from both survey instruments were then transformed in the following manner: The negatively worded items in the Hood Scale (1975, 2001) were reverse scored according to the scoring instructions for the instrument.

Response options were then recoded so that higher numbers on a scale of 1, 2, 4, and 5 always indicated a higher score or a greater degree or intensity of mystical experience.

The LCI-R (Greyson & Ring, 2004) was designed to measure the degree of change in nine value clusters. Response options were from -2 to +2, or from the lowest degree of change to the highest. Since I was interested in exploring the direction of change as well as the magnitude of change, response options were re-coded on a 1 to 5 scale in order to reflect both direction and magnitude of change within each cluster.

Factor Analysis and Reliability of the LCI-R

The initial factor analysis conducted by Greyson and Ring (2004) yielded nine clusters and five items (6, 29, 31, 36, and 42) that did not load on any factor. I dropped these items prior to the analyses conducted for this study. Exploratory principal components factor analyses were run to determine whether Greyson's (Greyson & Ring, 2004) original nine factor structure could be demonstrated. The result was 12 factors based on number of eigenvalues greater than or equal to 1.0, so the analysis was re-run to force nine factors. In this case, the pattern matrix failed to converge for the Promax rotated solution; so item 32 was dropped since it failed to load at 0.3 or higher on any factor based on the pattern coefficients. The subsequent analysis, again forcing nine factors, resulted in poor factor loadings in several of the hypothesized clusters. This could be attributed to the variable number of items comprising each cluster of the LCI-R, with some clusters having as few as three items. Factor analysis on factors with fewer items has been shown to be less stable (Brown et al., 2009; Pillon, Laranjeira, & Dunn, 1998).

Since the factor analysis on the LCI-R did not clearly support nine factors, a decision was made to run reliability using Cronbach's alpha on each of the hypothesized

clusters. This analysis resulted in good cluster reliability scores after dropping items 33 and 45 from the fifth cluster (Concern with Social and Planetary Values) and dropping item 3 from the ninth cluster (Appreciation of Death). Cronbach's alpha values for the eight clusters were .724 for Appreciation for Life, .703 for Self-acceptance, .905 for Concern for Others, .758 for Concern with Worldly Achievement, .755 for Concern with Social and Planetary Values, .720 for Quest for Meaning and Sense of Purpose, .821 for Religiousness, and .829 for Spirituality. Since the primary objective of my study was not to support a factor structure but to obtain interpretable and reliable cluster scores to answer the research questions, the resultant eight factors proved effective for this purpose. A decision was made to allow only data where respondents answered all items in each of the eight clusters, since this resulted in an adequate sample size of 154-160, depending on the cluster.

Reliability analysis was also run on the LCI-R to examine the Absolute Change Score, also referred to as the total score (Greyson & Ring, 2004). The value for Cronbach's alpha was found to be acceptable at .879. However, the inter-item correlation matrix indicated poor correlation of many items, some of which were negatively correlated. Therefore, this total score statistic was not used in the subsequent analyses.

Factor and Reliability Analyses on the Hood Scale

The results of several studies (Caird, 1988; Hood, 1975, 2001; Reinert & Stifler, 1993) indicated that the Hood Scale (1975) appeared to be composed of three factors: introvertive, extrovertive, and interpretive. Initial principal component factor analysis for the current study yielded 10 factors based on eigenvalues greater than or equal to 1.0. A rotated Promax analysis was then run to force three factors, which explained less than

40% of the variance and indicated several items which did not load on any of the factors at 0.3 or higher based on pattern coefficients. Similarly, when the analysis was then run to force a single factor, several items failed to load and only 25% of the variance was explained. Dropping several items from the scale failed to improve these results substantially.

A reliability analysis was then conducted, resulting in a Cronbach's Alpha of .89, with all 32 items on the scale included. Hood (personal communication, July 7, 2010) confirmed that using just the global (total) scores of the Hood Scale (1975, 2001) proved quite acceptable for research purposes. Given the purposes of my study and the high reliability of the global score data, the decision was made to use the mean total scores in subsequent analyses. A decision was then made to use only data in which participants completed at least 90% of the 32 scale items, which meant that up to three items could be omitted.

*Analyses Conducted to Answer
the Research Questions*

Q1 What type and degree of changes in beliefs and behavior are reported by individuals who report having one or more U/M experiences?

This question was addressed with reference to the eight value clusters in the Life Changes Inventory-Revised (LCI - R). Descriptives including means and standard deviations were computed for each cluster and cluster means were rank ordered from low to high. Results are presented in Chapter IV. A repeated measures analysis of variance (also known as a within-subjects analysis) was then conducted using the means of each of the eight clusters to determine whether there were significant differences between the means of more than two clusters.

Three assumptions must be met when using this analysis. The first is normality-- the dependent variable or variables must be normally distributed in the population. This was evaluated using a histogram, a skewness value of within ± 1 , and a kurtosis value of within ± 3 , which was met by all eight clusters. The second assumption is independence of observations, which was met by virtue of the online survey design involving a one-time completion of data collection for each participant. The third assumption is sphericity, meaning that the variances of the adjacent repeated measures are all equal as are the correlations among the repeated measures. This was assessed using Mauchly's Test of Sphericity, which yielded a result of $p < 0.05$. Since this demonstrated significance, the assumption of sphericity was not met. Therefore the multivariate statistics, which do not require the sphericity assumption, are reported in Chapter IV. An alpha of .05 was used to determine statistical significance.

Significant differences between the means of at least two pairs was indicated by a Wilk's Lambda value of 0.166 and an effect size of .834 based on eta-squared, indicating that 83% of the variance was explained by differences among the eight clusters. Therefore, post hoc analyses were then conducted using paired-samples *t*-tests on seven selected pairs of clusters using a Bonferroni adjusted alpha of .007. The pairs chosen were (a) Concern with Worldly Achievement and Concern with Social/Planetary Values, (b) Concern with Worldly Achievement and Appreciation for Life, (c) Appreciation for Life and Concern for Others, (d) Self-acceptance and Concern for Others, (e) Appreciation for Life and Quest for Meaning and Sense of Purpose, (f) Concern with Worldly Achievement and Religiousness, and (g) Spirituality and Quest for Meaning and Sense of Purpose. The selection of these particular pairs was based on examining the

mean scores for each cluster (see Chapter IV, Table 7) to determine which pairs appeared to show similar or dissimilar degrees of change and/or were especially relevant to the interests of the current study.

Q2 How were the changes in the eight clusters related to unitive/mystical experiences as measured by the total scores of the Hood Scale?

A simultaneous entry multiple regression was conducted to address this question. The resultant value for *R* square was examined to determine what percent of the variance in the degree and intensity of reported U/MEs was explained collectively by the eight life change categories. Each of the eight areas of life change was then compared separately to the reported intensity of U/ME by conducting *t*-tests of individual regression coefficients. Pearson correlations were also conducted with the Hood score and the eight value cluster scores, and were examined to determine the degree of correlation between each life change area.

Normal distribution of the residuals is one assumption that must be met when this procedure is used. This was assessed by observing the standardized residual histogram, which indicated that the assumption was met. A large sample size can also counteract violations of this assumption due to the Central Limit Theorem. A second assumption is that the relationship between the independent and dependent variable(s) is a linear one. This assumption was tested by examining the residual plots, and was met. The third assumption is of homoscedasticity, which means that the variance of the residuals is the same for all levels of the independent variables. This was also evaluated by examining the residual scatter plots for any discernible pattern, which confirmed that the assumption was met. The final assumption is that the independent variables are not singular and not highly correlated with other independent variables. This was assessed by checking the

bivariate correlations between independent variables for values greater than .70 and the variance inflation factor (VIF), which is a measure of collinearity, for values greater than 10. Based on these diagnostics, the assumption appeared to have been met.

Q3 Has the perceived overall quality of life changed since the unitive/mystical experience? If so, how has it changed?

Eight single sample *t*-tests were conducted to address this question by comparing the means of the eight clusters for the LCI-R to determine whether or not they were significantly different from a value of 3, which indicated no change since experiencing a U/ME. Item scores for the LCI-R ranged from 1 (*strongly decreased*) to 5 (*strongly increased*). Therefore, 3 was used as the cutoff value when examining the degree and direction of change reported since the respondent's U/ME. A statistically significant *t*-test indicated that the respondents reported a significant change in beliefs or behavior or both. To maintain a familywise error rate at .05, each score was assessed at a Bonferroni adjusted alpha of .00625. Assumptions that applied to this analysis were normal distribution of the population, which was evaluated by observation of histograms, and independence of observations, which was met by virtue of the online survey design, involving a one-time completion of data collection for each participant. .

Q4 How are reported changes in beliefs and behavior related to the demographic variables of gender, age, income, and education?

This question was addressed by conducting eight simultaneous entry regressions, with the eight LCI - R clusters being the dependent variables and the demographic variables of gender, age, income, and education being the independent variables. The categorical variables of gender and education were dummy coded prior to their use in the regression model. The percent of variance in the eight clusters explained by the selected

demographic variables collectively and separately was assessed. This was done by examining the values for R squared as well as the F and p values.

Normal distribution of the residuals is an assumption that must be met when this procedure is used. This was assessed by observing the standardized residual histogram. A second assumption is that the relationship between the independent and dependent variable(s) is a linear one. This assumption was tested by examining the residual plots. The third assumption is of homoscedasticity, which means that the variance of the dependent variable(s) is the same for all independent variables. This was also evaluated by examining the residual plots. The final assumption is that the independent variables are not singular and not highly correlated with other independent variables. This was assessed by checking the bivariate correlations between independent variables for values greater than .70, and the variance inflation factor (VIF), which is a measure of collinearity, for values greater than 10. Based on these diagnostics, all assumptions appeared to have been met. To maintain a familywise error rate at .05, statistical significance was assessed at a Bonferroni adjusted alpha of .00625.

Summary

The research design was a correlational, survey-based study to examine life changes in beliefs, philosophy, and behavior among participants who reported experiencing one or more unitive or mystical states of consciousness. Based on literature reporting the number of individuals in the general population who have had UM/Es, and the requirements for conducting multiple regression analysis on the data, a minimum sample size of 122 was needed. Participants were recruited from public and private universities, professional organizations, and participant referral. The two instruments

used in the study were Hood's Scale: Research Form D (1975, 2001) and Greyson's Life Changes Inventory-Revised (Greyson & Ring, 2004). A pilot study was conducted that determined the feasibility of the procedures and the use of the measures.

CHAPTER IV

RESULTS

The results of the study are presented in this chapter. First, the collected demographic data are used to describe the sample. Data for the two instruments, Hood's Scale-Research Form D (1975, 2001) and the Life Changes Inventory-Revised, are then discussed. Finally, the statistical analyses conducted to address each research question are described and the results of these procedures are presented.

Participants

Participants for the online study were recruited from The Association for Transpersonal Psychology, the Institute of Transpersonal Psychology, the student population of the School of Applied Psychology and Counselor Education of the University of Northern Colorado (UNC), and from the UNC School of Psychological Sciences participant pool. Participants were also asked to refer others who might be eligible and willing to participate. This resulted in 223 participants who accessed the survey and 160 who completed all or most of the requested information.

Approximately 73% were female, 26% were male, and 89% were of White/Caucasian ethnicity (see Table 2). The ages of the participants ranged from 20 to 67 years; 49% of the participants were between 40 and 59 years of age. They were generally well-educated and most reported having more than one unitive/mystical experience (see Table 3).

Table 2

Demographics of Participants by Gender and Ethnicity

Variable	<i>N</i>	<i>p</i>
<u>Gender</u>		
Female	116	73.0
Male	42	26.4
Other	1	0.6
Total	159	
<u>Ethnicity</u>		
Asian/Pacific	4	2.5
Black/African American	1	0.6
Hispanic	7	4.4
White/Caucasian	141	88.7
Other	6	3.8
Total	159	

Table 3

Demographics of Participants by Age, Education, and One or More Than One Unitive Mystical Experience

Variable	<i>N</i>	<i>p</i>
<u>Age</u>		
20-29	29	18.5
30-39	35	22.3
40-49	29	18.4
50-59	48	30.6
60-69	16	10.2
Total	157	
<u>Education</u>		
High School Graduate	3	1.9
Trade/Technical Training	6	3.8
Some College	12	7.6
College Graduate	32	20.3
Some Post-graduate	56	35.4
Post Graduate Degree	49	31.0
Total	158	
<u>One or More Than One U/ME</u>		
One	10	6.3
More Than One	149	95.7
Total	159	

As indicated in Table 4, the majority of the participants were employed either full-time (38.4%) or part-time (23.3%); 22.6% indicated they were self-employed. Over half of the respondents described themselves as being spiritual but not religious (57.9%) and 17.6% designated “other” as the most appropriate response in the spiritual/religious category. Some respondents reported eating fewer animal products after their U/ME(s).

Table 4

Demographics of Participants by Employment Status, Spiritual/Religious Beliefs, and Dietary Practices

Variable	<i>N</i>	<i>p</i>
<u>Employment Status</u>		
Full Time	61	38.4
Part Time	37	23.3
Retired	10	6.3
Self-employed	36	22.6
Unemployed	15	9.4
Total	159	
<u>Spiritual/Religious Beliefs</u>		
Catholic	12	7.5
Jewish	2	1.3
Orthodox Church	2	1.3
Protestant	16	10.1
Other	28	17.6
Spiritual but not religious	92	57.9
Neither spiritual nor religious	7	4.4
Total	159	
<u>Dietary Practices</u>		
I eat fewer animal products	46	29.1
I eat more animal products	3	1.9
No Change	109	9.0
Total	158	

As shown in Table 5, slightly more than 50% of the participants had a household income of \$60,000 or more annually. About half of the respondents indicated their political views were liberal or very liberal, while almost a fourth of the sample reported being conservative or very conservative.

Table 5

Demographics of Participants by Income and Political Views

Variable	<i>N</i>	<i>p</i>
<u>Income</u>		
Less than \$10,000	13	8.7
\$10,000 to \$19,999	9	6.0
\$20,000 to \$29,999	16	10.7
\$30,000 to \$39,999	13	8.7
\$40,000 to \$49,999	15	10.1
\$50,000 to \$59,999	15	10.1
\$60,000 to \$69,999	21	14.1
\$70,000 to \$79,999	10	6.7
\$80,000 to \$89,999	10	6.7
\$90,000 to \$99,999	9	6.0
\$100,000 to \$149,999	16	10.7
\$150,000 or More	11	7.4
Total	149	
<u>Political Views</u>		
Conservative	15	9.5
Very Conservative	3	1.9
Liberal	53	33.5
Very Liberal	37	23.4
Moderate	28	17.7
No Political Views	22	13.9
Total	158	

Instruments

The Life Changes Inventory-Revised (LCI-R) was used to assess life changes reported by participants subsequent to their unitive/mystical experiences. As previously reported in Chapter III, factor analysis did not clearly support the nine-factor structure originally proposed by Greyson and Ring (2004). Therefore, reliability analyses were performed on each of the nine hypothesized clusters using Cronbach's alpha. As

indicated in Table 6, this demonstrated good reliability of scores for eight of the nine clusters after dropping items 33 and 45 from the fifth cluster. The three-item ninth cluster (Appreciation of Death) was dropped from subsequent analysis due to inadequate reliability (Cronbach's alpha = -0.261).

Table 6

Reliability Analysis for the Eight Clusters of the LCI-R

Cluster	Items per Cluster	α
Appreciation For Life	4	.724
Self-acceptance	3	.703
Concern For Others	10	.905
Concern With Worldly Achievement	7	.758
Concern With Social and Planetary Values	3	.755
Quest for Meaning and Sense of Purpose	4	.720
Religiousness	4	.821
Spirituality	3	.829

Hood's Scale-Research Form D (1975, 2001) was used to assess the extent and intensity of unitive/mystical experiences reported by participants. As reported in Chapter III, some of the results from previous studies indicated a three-factor structure for Hood's Scale. However, the factor analyses conducted for the current study did not clearly support three factors even when several items were dropped. Reliability analysis was performed for the total scores of Hood's Scale (1975) including all 32 items, which resulted in a Cronbach's alpha of .89. Therefore, the total score means were used in the analyses performed to answer the research questions.

Results of the Research Question Analyses

Research questions were addressed using the survey data and statistical analyses presented in Chapter III.

Research Question 1

Q1 What type and degree of changes in beliefs and behavior are reported by individuals who report having one or more unitive/mystical experiences?

A repeated measures analysis of variance (also known as a within-subjects analysis) was conducted using the means of each of the eight clusters, which were ordered from the lowest to the highest (see Table 7). The results were then assessed to determine the direction and magnitude of change for each cluster, with a mean of 3.0 indicating no change. The assumption of normality was evaluated using a histogram, and skewness and kurtosis statistics, as described in Chapter III. As seen in Table 7, the skewness and kurtosis values suggest that scores on these variables are all relatively normally distributed. Based on a value of 3, indicating no change, participants' Concern with Worldly Achievement decreased after their U/ME(s), their Religiousness remained

essentially the same, and the remaining clusters showed increases in the value being measured (see Table 7).

Table 7

Mean, Standard Deviation, Skewness, and Kurtosis for the LCI-R Clusters

Cluster	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Concern with Worldly Achievement	2.52	0.53	- 0.25	- 0.36
Religiousness	3.01	0.92	0.23	- 0.24
Concern with Social and Planetary Values	3.81	0.67	- 0.34	0.93
Self-acceptance	4.14	0.63	- 0.45	- 0.37
Spirituality	4.16	0.70	- 0.83	0.76
Quest for Meaning and Sense of Purpose	4.17	0.63	- 0.41	- 0.55
Concern for Others	4.22	0.53	- 0.47	- 0.32
Appreciation for Life	4.28	0.38	-0.30	-0.32

Results of the analysis also indicated that there were significant differences between the means of at least two areas of life change. In other words, at least two pairs differed significantly in their degree of post-U/ME change. Table 8 illustrates that approximately 83% of the variance was explained by differences among the eight areas of life change.

Table 8

Differences Between Degree of Change in Pairs of LCI-R Clusters

Wilks Lambda	<i>F</i>	<i>d</i>	Error <i>df</i>	<i>p</i>	Partial Eta Squared
0.166	109.652	153	7.000	< .05	.834

However, the analysis did not indicate which specific pairs of life change areas differed in the degree of post-U/ME change. There are a number of ways to address that issue statistically with post hoc analyses (Howell, 2009), although there is no consensus on any particular methodology. For the purposes of this study, it was decided that paired-samples *t*-tests would be the most appropriate procedure. *T*-tests are conducted to determine whether the means of two groups are statistically different from each other (Trochim, 2006). Therefore, seven paired samples *t*-tests were conducted (see Table 9) on pairs believed to indicate significantly different, or similar, degrees of change after the U/ME, and/or to be of particular interest in light of the purposes of the study as discussed in Chapter III. A Bonferroni adjusted alpha of .007 was used to determine statistical significance. The negative *t*-values are just a function of which cluster was listed first when conducting the analyses.

Table 9

Paired Samples T-tests

Pair	<i>t</i>	<i>df</i>	<i>p</i>
Concern with Worldly Achievement and Concern with Social/ Planetary Values	17.898	159	< .007*
Concern with Worldly Achievement and Appreciation for Life	-26.196	160	< .007*
Appreciation for Life and Concern for Others	1.788	162	.076
Self-Acceptance and Concern for Others	-1.830	161	.069
Appreciation for Life and Quest for Meaning and Sense of Purpose	2.949	159	<.007*
Concern with Worldly Achievement and Religiousness	-6.217	160	<.007*
Spirituality and Quest for Meaning and Sense of Purpose	-.027	160	.979

* Statistically significant at a Bonferroni-adjusted alpha = .00.

By examining the means of the eight LCI - R clusters, it was apparent that Concern with Worldly Achievement was the only cluster for which respondents reported a decreased interest or concern since their unitive/mystical experiences (see Table 7).

This difference was statistically significant. As stated previously, this analysis was based on a mean value of 3, signifying no change. As seen in Table 9, three of the pairs did not differ significantly in their degree of change after a U/ME: (a) Self-acceptance and Concern for Others, (b) Appreciation for Life and Concern for Others, and (c) Spirituality and Quest for Meaning and Sense of Purpose. In other words, participants reported change in those areas; however, the degree of change varied among some of the clusters. The two individual clusters in which the most change since the U/ME was reported, based on a comparison of mean scores, were Appreciation for Life and Concern for Others. The *t*-tests showed that these two did not differ from each other significantly in their degree of change.

Research Question 2

Q2 How were the changes in beliefs and behaviors related to U/M experiences as measured by the total scores of the Hood Scale?

Descriptives and simultaneous entry multiple regression analyses were conducted to address this question. The overall mean score of the Hood's Scale (1975) and the mean scores of the eight LCI-R clusters were used to examine the data. There were 158 participants who answered all items in the LCI-R clusters and at least 90% of the Hood items.

First, the results (see Table 10) indicate that more intense U/MEs were significantly correlated with a greater collective degree of change in the eight value clusters. The R^2 value of 0.229 indicates that approximately 23% of the variance in the Hood score was explained collectively by the eight LCI-R cluster scores. This represents a statistically significant proportion of explained variance, $F(8, 149) = 5.54, p < .05$.

Table 10

Proportion of Variance in Hood Score Explained by the Eight LCI-R Scores

<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std. Error of the Estimate
.479	.229	.188	0.471

Table 11 indicates the relationship between the total Hood score and each individual LCI-R cluster score, and the correlations between the eight clusters. Scores for all life change areas, except Religiousness and Concern with Social/Planetary Values, showed a significant correlation with the Hood Scale (1975) score when each was considered separately. However, the only area uniquely sharing variance with the Hood score in the regression analysis was Appreciation for Life (see Table 12).

As seen in Table 11, several of the LCI-R cluster scores also showed relatively high intercorrelations, which may partially explain why only one of them was significantly related to the Hood score within the multiple regression even though several were significantly related when considered separately. For example, participants who reported the most change in Quest for Meaning and Sense of Purpose also reported a heightened Appreciation for Life. Similarly, participants who reported an increased Concern for Others also reported a substantial increase in the Quest for Meaning and Sense of Purpose in their lives.

Table 11

Bivariate Correlations for Relationship of Each Cluster Score to Hood Score (U/MEs)

	1	2	3	4	5	6	7	8	9
1. Hood (U/ME)s									
2. Appreciation for Life	4.34								
3. Self Acceptance	2.85*	.457*							
4. Concern for Others	.288	.621	.570						
5. Concern with Worldly Achievement	-.192	.210	-.219	.325					
6. Concern with Social And Planetary Values	.120	.535	.199	.400	-.144				
7. Quest for Meaning/ Sense of Purpose	.307*	.657	.623	.620	-.158	.348			
8. Spirituality	.274*	.513	.399	.424	-.222	.303	.611		
9. Religiousness	.011	.098	.117	.144	.118	-.059	.220	.362	

* Significant shared variance with Hood score at $< .05$

Table 12 shows the results of the regression, indicating the relationship of each of the LCI-R cluster scores separately to the Hood score after controlling for the other seven clusters, i.e., it indicates the unique shared variance between a particular cluster and the Hood score. Again, the only cluster significantly related to the Hood score was Appreciation for Life.

Table 12

Summary of Multiple Regression Analysis

Variables	Unstandardized Coefficients		β	Standardized Coefficients	
	<i>B</i>	<i>SE(B)</i>		<i>t</i>	<i>P</i>
Constant	2.874	.466		6.171	<.05
Appreciation for Life	.419	.102	.459	4.104	<.05
Self-acceptance	.080	.081	.096	.982	.327
Concern for Others	-.014	.107	-.015	-.136	.892
Concern with Worldly Achievement	-.081	.079	-.082	-1.03	.303
Concern with Social/Planetary Values	-.130	.068	-.168	-1.91	.057
Quest for Meaning and Sense of Purpose	-.031	.099	-.038	-.316	.752
Spirituality	.064	.074	.086	.859	.392
Religiousness	-.037	.046	-.066	-.815	.416

Research Question 3

Q3 Has the perceived overall quality of life changed since the unitive/mystical experience? If so, how has it changed?

This question was addressed by observing descriptives and by conducting single sample *t*-tests for the eight LCI-R clusters to determine whether participants reported statistically significant changes in any of the eight areas after their U/M experiences. A value of 3 indicated no change. The results of the *t*-tests indicated that respondents reported significant post-U/ME changes in seven of the eight value clusters (see Table

13). There was no significant change in the area of Religiousness. Participants reported experiencing a significant decrease in the area of Concern with Worldly Achievement and a significant increase in the other seven areas. Thus, there was a significant change in the life qualities assessed by the LCI-R in all areas except Religiousness. To maintain a familywise error rate at .05, statistical significance was assessed at a Bonferroni adjusted alpha of .00625.

Table 13

One-Sample Statistics Showing Post U/ME Changes for Each Cluster

Cluster	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
Concern with Worldly Achievement	161	2.52*	0.53	0.04
Religiousness	161	3.01	0.92	0.07
Concern with Social and Planetary Value	160	3.81*	0.67	0.05
Self-acceptance	162	4.14*	0.63	0.05
Spirituality	161	4.16*	0.70	0.06
Quest for Meaning and Sense of Purpose	160	4.17*	0.63	0.05
Concern for Others	163	4.22*	0.52	0.04
Appreciation for Life	163	4.28	0.58	0.05

* Difference from a mean of 3.0 based on Bonferroni-adjusted alpha = .00625

Research Question 4

Q4 How are reported changes in beliefs and behavior related to the demographic variables of gender, age, income, and education?

This question was addressed by conducting eight simultaneous entry regressions with the eight LCI-R clusters being the dependent variables and the demographic variables of gender, age, income, and education being the independent variables. The results of these analyses indicated no statistically significant relationships between any of the eight clusters and the four demographic variables. To maintain a familywise error rate at .05, statistical significance was assessed at a Bonferroni adjusted alpha of .00625. The variable of age explained approximately 15% of the variance in the category of Concern with Worldly Achievement despite lack of statistical significance.

Summary

Results of the study indicated that there were significant increases in participants' concern with Social and Planetary Values, Self-acceptance, Spirituality, Quest for Meaning and Sense of Purpose, Concern for Others, and Appreciation for Life. The degree of change varied, indicating more change in some areas than in others. Respondents reported a significant decrease in Concern with Worldly Achievement. The area of Religiousness showed no change. Results also indicated that a more intense unitive/mystical experience was associated with a greater degree of change overall and with a significant increase in Appreciation for Life specifically. Participants indicated that their overall quality of life had changed significantly after their U/MEs in a direction perceived as beneficial. There was no significant relationship between reported changes and demographic variables.

CHAPTER V

DISCUSSION

A discussion of the findings of the study is presented in this chapter. First, a summary of the results is followed by an examination of each research question. This is done with reference to the relevant literature and by describing how the current study may contribute to the literature. An assessment of the limitations of the study is followed by implications for application of the findings and suggestions for future research. The chapter concludes with a final summary and conclusions.

Summary of the Study Purpose and Results

The purpose of this study was to explore the reported effects of unitive/mystical experiences (U/MEs) on the subsequent lives of those who have had one or more such events. Unlike other studies reported in the literature, this study focused exclusively on individuals who had already experienced this specific type of occurrence. In addition, participants were recruited with the intention of obtaining a more heterogeneous sample than most of the existing studies, which often focused on particular populations such as college students or religious groups (Carpenter, 1994; Doblin, 1991; Hood, 2001; Newberg et al., 2003).

Participants reported significant changes in their values, beliefs, and behaviors after their unitive/mystical experiences. The most striking changes involved an increased Appreciation for Life and a greater Concern for Others. Participants reported a decrease

in their Interest in Worldly Achievement. The intensity or degree of U/ME was positively correlated with more life change overall. All life change areas, except Religiousness and Concern with Social/Planetary values, also indicated significant change after the U/ME when considered separately in relation to the intensity of the experience. Appreciation for life was significantly related to the intensity of U/ME when controlling for the other seven value clusters. As expected, respondents reported no statistically significant relationship between the demographic variables of gender, age, income, and education to selected areas of life change.

Discussion of Results

Types of Changes Reported After a Unitive/Mystical Experience

The results for the first research question indicated that having one or more U/MEs had profound effects on those who experienced them. These effects were reflected in several different areas of the participants' lives, with some areas indicating significantly more change than others. The only area in which in which no significant change after a U/ME was reported was Religiousness.

The Religiousness cluster included items relating to interest and involvement in organized religious activities and personal religious practices. Almost half of the respondents reported being associated with a mainstream religion. The finding that a U/ME had no effect on these activities corroborated previous studies which suggest that individuals tend to interpret their U/MEs in light of their current belief systems (Hood, 2005, 2006). Slightly more than half the participants described themselves as spiritual but not religious. Hence, the finding of no change in the area of religiousness suggested that

having a U/ME did not result in their becoming any more or less involved in traditional religious practices.

Analysis of the data also indicated some interesting differences in the degree of change in the other seven life areas. Participants' Appreciation for Life increased significantly more than any area except Concern for Others. The items included in the Appreciation for Life cluster assessed participants' appreciation for nature and for the ordinary things of life, reverence for all life forms, and a sense of the sacred aspect of life. This finding has a multitude of possible implications but certainly reflects the majority of personal accounts of unitive/mystical experiences that describe a sense of unity and connection with all things, which sometimes becomes so intense that even the distinction between self and other momentarily ceases to exist (Burnham, 1997; Coxhead, 1985; Stace, 1960).

Participants' Concern for Others increased essentially as much as their Appreciation for Life; there was no significant difference in degree of change between these two areas. Items pertaining to Concern for Others assessed the desire to help others, be an empathic and accepting listener, express love openly to others, and have insight into their problems. This finding also seemed to relate to the feelings of connection engendered by U/MEs. Logically, the degree to which participants' self-acceptance, self-worth, and desire for self-understanding increased was not significantly different than their concern for others. Hence, the increased compassion and acceptance for oneself reported by respondents was also expressed outwardly in their relationship with the world.

Spirituality and the Quest for Meaning and Purpose were also not significantly different in their degree of change. It is generally acknowledged that most individuals, at least at some point in their lives, wonder if there is an inherent purpose in their existence. They look for answers about the ultimate nature of reality and the origin of the universe. The spirituality cluster assessed respondents' interest and concern with spirituality, their belief in a higher power, and their desire to achieve a higher state of consciousness. Items in the cluster dealing with Quest for Meaning and Purpose assessed participants' understanding of life's purpose in general as well as their own personal sense of purpose and meaning. These two areas of Spirituality and Quest for Meaning certainly shared some theoretical and philosophical connections; the finding that participants reported virtually identical degrees of increase in both tends to confirm this. One possibility is that an increase in such things as belief in a higher power and the desire to achieve a higher level of consciousness contributed to the increase in a sense of purpose and meaning for respondents. Higher levels of spirituality have also been associated with a greater degree of subjective well-being (Wills, 2009). Interestingly, findings for the areas of Spirituality and Quest for Meaning were in contrast to those from the area of Religiousness for which respondents reported no significant change after their U/MEs. Previous studies on well-being, which associated religious involvement with increased well-being, often did not distinguish between the concepts of religion and spirituality (Diener, Suh, Lucas, & Smith, 1999). Results of the current study indicated that assessing these concepts separately may provide more specific information.

The only area in which participants reported a decrease after their unitive/mystical experiences was Concern with Worldly Achievement. Respondents reported a

statistically significant decrease in their interest in impressing others, their concern with material things and material success, their competitive tendencies, and their desire to become well-known.

*The Relationship of Life Changes to
Intensity of Unitive/Mystical
Experience*

The results of the second research question indicated that participants who reported more intense U/MEs, as evidenced by higher scores on the Hood Scale (1975), also reported a greater degree of life change overall as indicated by the scores on the LCI-R. Interestingly, over 90% of respondents reported having more than one U/ME, which could suggest the possibility that the extent of life change may also be partially related to the cumulative effects of U/MEs. This is an area in which much more research is needed. The literature indicated that whether an individual's U/ME met Stace's (1960) criteria for an extrovertive or introvertive experience, the subsequent degree of life transformation and change reported was substantial (Cardena et al., 2000; Coxhead, 1985; McNulty, 2007; Palmer & Braud, 2002).

Data for the current study also indicated that an increased Appreciation for Life was specifically and significantly related to a more intense U/ME as indicated by higher scores on Hood's Scale (1975). There were four items in the Appreciation for Life cluster. Participants were asked about their appreciation for the ordinary things of life, reverence for all forms of life, appreciation of nature, and sense of the sacred aspect of life. Those who reported the most intense U/MEs indicated a significant increase in these qualities. Many of the unitive/mystical experiences described in the literature occurred while the individual was in a natural setting and often involved a transformed perception

of nature as part of the experience. Hence, the enhanced appreciation for the natural world was a logical outcome.

The Appreciation for Life cluster also included an item related to respondents' sense of the sacred aspect of life. This quality seemed to relate to the other two items in the cluster: an appreciation for the ordinary things of life and a reverence for all forms of life. Based on the unitive essence of the U/ME, these items suggest that when all life is perceived as being part of a sacred whole, everything becomes meaningful. This may also relate to the decrease in the consumption of animal products reported by 29% of the participants.

*Unitive/Mystical Experiences and Changes
in the Overall Quality of Life*

Results for the third research question clearly supported results of previous studies which indicated that undergoing a U/ME is a life changing event for most individuals. The next obvious question is whether these changes are considered positive or beneficial by those who experience them. This is ultimately a subjective matter, although the results of previous studies using standardized measures of well-being and psychological health indicated that life changes associated with U/MEs were overwhelmingly beneficial in their effects (Bates & Stanley, 1985; Byrd et al., 2000; Cook-Greuter, 2000; Greeley, 1975).

It is also generally acknowledged that values such as self-acceptance, compassion for others, concern for ecological and social justice issues, heightened sense of purpose in life, and a desire to achieve an expanded state of consciousness are positive qualities associated with enhanced subjective well-being (SWB) and psychological health.

Participants in the current study reported an increase in all of these areas subsequent to their U/MEs.

Respondents in the current study reported a statistically significant decrease in their Concern with Worldly Achievement, which included factors such as an interest in attaining material wealth, caring about others' opinions of them, a desire to achieve fame or notoriety, and the tendency to be competitive. Again, whether a decrease in these characteristics is considered a positive quality is ultimately a subjective matter for each individual. These competitive and materialistic tendencies have historically been valued in many facets of American society as being vital components for achieving success. Conversely, many researchers have found that beyond the assets necessary to provide for basic needs, increased material wealth was not associated with greater subjective well-being. Wealth and the qualities often required to attain it might, in fact, actually decrease subjective well-being, increase divorce rates, reduce ability to appreciate life, and increase stress in economically developed countries (Clydesdale, 1997; Diener et al., 1999).

Several studies also indicated that being able to disclose and process U/MEs in a supportive, structured environment is an important factor in maximizing the positive changes engendered by the event (Anderson, 2001; Palmer & Braud, 2002; White, 1997b). Since a U/ME is, by definition, essentially impossible to fully explain or describe, being able to process it with others can help to substantiate and apply the newly acquired insights to one's life. Being able to disclose a U/ME and receive support also validates the experience as the essential common elements are discussed and confirmed by others.

Demographic Variables and Life Changes

The results for the fourth research question indicated no statistically significant relationship between the demographic variables of gender, age, income, and level of education, and post U/ME life changes. Although not statistically significant, results from older respondents tended to indicate less Concern with Worldly Achievement as indicated by the variable of age that explained 15% of the variance in this category. A few previous studies indicated a small, but significant positive correlation between the incidence of U/MEs and increased age, education, and socioeconomic status (Greeley, 1975; Hay & Morisy, 1978). Most of the literature has shown that unitive/mystical experiences are a transcultural phenomenon that occurs across the spectrum of demographic characteristics (Coxhead, 1985; Diener & Biswas-Diener, 2002; Diener et al., 1999; Hood, 2001). Features of U/MEs are also strikingly similar across differing cultures, beliefs, and possible precipitating factors, which supports the common core thesis of mysticism (Hood, 2006; Stace, 1960). Hence, the finding in the current study that demographic variables were not significantly correlated with the incidence of U/MEs was not surprising.

Limitations of the Study

One limitation of the study was that it was conducted exclusively in an online format. This limited participation to individuals who had access to computers and were able to navigate the survey successfully. This format also prevented respondents from being able to get immediate answers to any questions they may have had about the survey procedure. As with most anonymous studies, there is always the possibility that

participants will falsify their responses or misinterpret survey items despite their intention to answer honestly.

There was also no way to determine the exact response rate for the study. This was due partly to the fact that although recruitment targeted several specific groups, there was no way to determine either the number of respondents from any specific group or the number who received the invitation. Also, participants were asked at the beginning and end of the survey to contact others whom they believed might qualify and be willing to participate. Again, there was no way to track these referrals or determine what percent of those contacted actually completed the survey. Data from the demographic questions did compensate partially for some of these limitations by providing some basic information about respondents. Also, the total number of individuals who accessed the survey was known. Some of these individuals may have read the explanatory introduction, determined that they did not qualify to participate, and exited the survey. Finally, the exploratory factor analysis for this study failed to confirm the introvertive/extrovertive/interpretive structure of Hood's Scale (1975) found in much of the literature. This could be considered a possible limitation in terms of measurement.

Implications for Application and Future Research

The current study explored life changes in individuals who had one or more unitive/mystical experiences as defined by the criteria developed by Stace (1960). Results indicated that having a unitive/mystical experience led to significant life changes that were generally regarded as positive. An increasing number of researchers and clinicians have acknowledged that U/MEs and other states of altered consciousness are a valid aspect of the human developmental spectrum (James, 1902/1958; Jung, 1935/1966;

Maslow, 1973; Washburn, 2003). Several implications for the application of the study findings logically follow from these considerations.

First, the subject of unitive/mystical states of consciousness should be included specifically in relevant courses of study in human development and human capacity. The study of U/MEs could also be meaningfully included in areas such as philosophy, theology, anthropology, medicine, physics, literature, and many others. Current research indicates that U/MEs are a relatively common experience and individuals may benefit from a better understanding of them.

Mystical experience has historically been regarded as an area not appropriate for scientific inquiry. However, there is increasing evidence to the contrary from the growing body of research on the subject of altered states of consciousness such as U/MEs and exceptional human experiences (EHEs; Braud, 2009; Greyson & Ring, 2004; Hood, 2005; Newberg, 2001; White, 1997a, 1997b, 2000). This evidence supports the concept that excluding these phenomena from relevant curricula in areas such as psychology is to omit a significant aspect of human experience and capacity, which has been shown to enhance subjective well-being and engender positive life change.

A second implication from the present study is closely related to the inclusion of unitive/mystical experiences in relevant educational programs, which could be done in a variety of ways. One approach would be to include the subject of U/MEs and other non-pathological altered states of consciousness as a required part of the human development spectrum curriculum. A transpersonal theory such as Washburn's (2003) spiral theory of human development would present U/MEs in the context of a basic psychological knowledge core. Alternatively, elective classes in the study of U/MEs could be offered as

special interest seminars. Currently practicing clinicians would also benefit from an increased awareness and understanding of U/MEs. Future research could assist in establishing the most effective way to promote this by surveying clinicians' attitudes toward the subject of U/MEs, their current levels of knowledge, and their ideas on implementing new understanding into their practices.

In addition to learning the theoretical and developmental aspects of mystical experience, prospective clinicians in mental health need to know how to facilitate disclosure and processing in individuals who have had such an event. While most U/MEs are very positive experiences, individuals who have them are then faced with incorporating the experience, and the insights often gained from it, into their lives. Many individuals report that having a unitive/mystical experience significantly altered their view of the nature of life and their place in it. Friends and family members may fail to understand or validate the experience of someone who may suddenly express different values and behaviors. Psychotherapists can provide a safe, accepting environment in which to disclose, explore, and process the U/ME experience. This may involve using techniques such as embodied writing, journaling, and facilitating support groups (Anderson, 2001; Palmer & Braud, 2002).

A third implication of the data from the current study is intertwined with a suggestion for future research. Since experiencing a unitive/mystical event has been shown to be beneficial to most individuals who reported them, some future research could profitably focus on the possibility of facilitating these phenomena. The current study adhered to the previously discussed theory of causal indifference, which postulates that the categorization of an event as a U/ME is based entirely on whether it meets the

Stace (1960) criteria. Hence, any possible precipitating factors such as meditation, holotropic breathwork, or entheogenic substances were considered irrelevant and participants were not asked about the circumstances surrounding their experiences. Many, if not most, reported instances of U/MEs are spontaneous and occur while the individual is enjoying nature, engaging in sexual or athletic activities, or simply engaged in the common activities of life. Some individuals purposely meditate with the hope or goal of attaining a mystical state of consciousness, but a U/ME is often reported as an unexpected occurrence during a meditative session (Newberg, 2001; Newberg et al., 2003).

With further research into possible precipitating factors for unitive/mystical experiences comes the question of whether clinicians could or should assist desiring clients in attempting to facilitate the experience. The use of entheogens to create altered states of consciousness has the generally well-known and well-documented potential for immediate and long-term adverse effects (Doblin, 1991; Pahnke, 1966). Also, it is far from certain that entheogens, or any other known practice, will inevitably be associated with a U/ME. Until there is much more evidence regarding what may facilitate U/MEs, it seems prudent for clinicians to suggest methods not associated with possible adverse effects. These would include meditation, guided imagery, and relaxation techniques.

Related to the issue of possible means to facilitate U/MEs is the theory of causal indifference. The current study did not allow for reporting any potential precipitants associated with respondents' U/MEs. Future research could include studies of individuals who have had U/MEs and whether these events were spontaneous or associated with activities or practices that may have facilitated them. The qualities of the mystical

experience could then be explored to determine any differences between spontaneous events and those possibly connected to a purposive activity.

Most U/MEs are positive, even blissful, experiences; most of the literature has dealt with these positive effects. It is also necessary to achieve a better understanding of the possible negative consequences and challenges of the experience. As previously discussed, these can include difficulty incorporating the U/ME into one's life view and changed relationships with loved ones. This area of research has predominantly focused on the occasional negative effects of near-death experiences (NDEs), which usually meet the criteria for unitive/mystical experiences and can effectively be considered a subset of them (Greyson, 2000; Greyson & Harris, 1987; Greyson & Ring, 2004). More study of the possible adverse reactions to U/MEs other than NDEs is needed to extend the knowledge base and to provide clinicians with strategies for assisting clients.

Continued exploration of specific life changes reported by those who experience U/MEs is another avenue for further research. For example, the results of the current study indicated that approximately 30% of respondents reported eating fewer animal products after their U/MEs. Similarly, most individuals have a sequence of routine physiological tests on record: lipid panels and various other blood tests, pulmonary and cardiac function procedures, and baseline measurements of weight, pulse rate, and blood pressure. It would be interesting to know whether, and in what ways, these assessments changed significantly after a U/ME and if so, whether the changes were maintained over time.

Perhaps the most important area for future research involves the continued development and refinement of research methodology designed to investigate

experiential phenomena such as U/MEs. Quantitative research, such as the current study, has provided valuable data that can be addressed with traditional statistical analyses. However, the richness of the mystical experience, and its effects on those who report them, are difficult aspects to capture solely with quantitative methods and instruments. Qualitative and mixed methods approaches have been used to broaden the scope of information that can be gained from the study of alternate states of consciousness (Braud & Anderson, 1998; Hood et al., 2009; Palmer & Braud, 2002).

It would be interesting and informative to conduct in-depth, semi-structured interviews with individuals who have experienced unitive/mystical experiences. Relevant questions to ask would include: What were you doing when you experienced your U/ME? What specific changes in your life do you associate with the U/ME? What did you learn from it? What was most challenging for you after your U/ME? What is the meaning of your U/ME for you? What do you think U/MEs mean generally? This line of inquiry would add to the basic knowledge base and contribute to the understanding and possible facilitation of U/MEs.

Neuroscientists have continued to develop advanced technologies designed to explore the physiological correlates of U/MEs (d'Aquili & Newberg, 2000; Newberg et al., 2003; Saver & Rabin, 1997, 1998). All of these approaches by established, traditional researchers increase understanding and also help to attain the credibility that is still lacking in this field of study. Ultimately, this work may result in validating the theory that mystical phenomena are a natural, rather than a supernatural, aspect of the human capacity.

Additional Considerations

The current study is unique in the sense that it focused exclusively on individuals who have had a specific type of transcendent experience and on the subsequent life changes reported by these individuals. The study also recruited participants from a wider demographic range than most previous studies. Results of prior research indicating that U/MEs are predominantly positive experiences resulting in a broad spectrum of beneficial changes in beliefs, behaviors, and philosophies were supported by the findings of the present study.

The present results also indicated that a prevailing image of the mystic as someone who retires from the world into a life of contemplation is not an accurate representation. Although participants in the current study reported decreased concern with achieving material success, they also reported an increased desire to care for the planet and a heightened sense of compassion and understanding for others. This finding supported many personal accounts of unitive/mystical experiences that resulted in a fervent desire to bring back into the world the insights gained during the experience.

But the ultimate question remains: What is a unitive/mystical experience and what does it mean, if anything? Poets, philosophers, scientists, and theologians have all suggested answers. The common core theorists maintain that mystical events have occurred with similar characteristics throughout history and across the boundaries of geography, beliefs, and ethnicities. The perennialists agree and further postulate that mysticism is nothing less than a direct encounter with the ultimate ground of being. Theologians add that this ultimate reality is God or a higher power. Some neuroscientists dismiss all but measurable physiological evidence and assert that U/MEs are simply

manifestations of self-generated activity from brains that have evolved to the level of complexity needed to produce them.

Those who have undergone a U/ME all have their own thoughts on its meaning. For some, it is enough to have had the experience. They are more interested in how to apply it to themselves and their world. Others regard the source of their encounter as an unknowable mystery, sublime and perhaps beyond the reach of human knowledge. Still others express a newly found deep insight into an ultimate reality. Finally, most of those who have experienced their consciousness transcending ordinary states of being in ways they never imagined join the scholars in wanting to know more.

The question of whether U/MEs are an internally generated physiological function of the brain, or an apperception of ultimate reality made possible by the receptive capacities of the brain, is of increasing interest to both researchers and the general public. Subjects such as U/MEs are emerging into popular culture in greater numbers as evidenced by recent books such as *The Secret* (Byrne, 2006) and *What the Bleep?* (Arntz, Chasse, & Vicente, 2007), both of which were also associated with highly successful films. Both deal with states of consciousness and how they may be self-regulated in order to create desired changes in life. In *What the Bleep?*, this concept is illustrated by interviews with theoretical quantum physicists and individuals from the fields of parapsychology and other alternative modalities. Ongoing study by several researchers regards the postulated connections between quantum physics and mysticism, how this relates to the exploration of reality, and how it may benefit human well-being (Amarasingam, 2009; Hunt, 2006; Satinover, 2006).

Interest in these subjects is not new. However, as previously discussed in Chapter II, some researchers believe its contemporary resurgence signifies the emergence of a new paradigm in mass consciousness (Amarasingam, 2009; Braud & Anderson, 1998; Radin, 2006). This hypothesis is also supported by research in theoretical physics. Researchers continue to discover phenomena that defy the laws of classical Newtonian mechanics and reflect a new view of reality that has more in common with the experience of mysticism than it does with classical Newtonian physics (Radin).

This interplay between science and mysticism is directly related to the present study. Several items in Hood's Scale (1975) pertain to one of the most significant characteristics of the mystical experience--a sense of unity and connectedness with all things. This phenomenon of unexpected connection is also the essence of many of the current findings in quantum physics. Hunt (2006) phrased the matter succinctly: "Can mystics intuit something of what modern physicists calculate?" (p. 5). The findings of this study indicated that the appreciation of unity and connection, as a primary feature of U/MEs, was associated with an increased sense of meaning and purpose in life, heightened compassion for self and others, and a greater interest in caring for the planet. These changes reflect the core concept of realizing that all things share a deep, core connection despite their apparent separateness.

Scientists and mystics share the same fundamental quest for answers: What is the nature of the universe, and what is our place in it? Is there a higher intelligence behind the mystery? Does consciousness continue after physical death? Perhaps the mystical experience can provide the same insights as the physics experiment. Ultimately, the

apparent disparity between science and mysticism may prove to be one of process, not content. Like spokes on a wheel, they lead to the same hub.

Summary

The purpose of this study was to explore life changes in beliefs, philosophy, and behavior in individuals who reported having a unitive/mystical experience. One hundred sixty adults from a broad range of demographic characteristics participated in a one-time, web-based survey. The concept of a U/ME was based on the mysticism theory of Stace (1960). Hood's Scale-Research Form D (1975, 2005) was used to assess the intensity and degree of reported U/MEs. Life changes were assessed using Greyson's Life Changes Inventory-Revised (Greyson & Ring, 2004). Participants also answered 10 demographic questions. The results of the study indicated that participants' lives changed significantly after experiencing a U/ME and these changes were perceived as positive and beneficial.

Conclusion

As psychologists, we have a responsibility and a unique opportunity to join in the quest for answers that will broaden the scope of our knowledge and allow us to better assist the clients who come to us with various existential concerns. Part of this quest involves acknowledging all facets of the human experience, not just those easily accessible through current methods of research and study. Unitive/mystical experiences are an aspect of being human that can apparently facilitate positive life change and encourage individuals to care for the planet and its people. Hopefully, continued exploration of unitive/mystical experiences and similar phenomena will provide ways for us to access the insights they provide and thus participate in the continuing evolution of human consciousness.

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APPENDIX A
DEMOGRAPHIC QUESTIONS

Demographic Questions

Please provide the following information about yourself. To maintain your confidentiality, this information will only be reported in aggregate form. No distinguishable individual information will be presented.

1. What gender do you identify with?

- Female
- Male
- Other _____

2. What is your age? _____ years

3. What ethnicity do you most identify with?

- White/Caucasian
- Black/African-American
- Asian/Pacific Islander
- Native American/Alaskan Native
- Hispanic/Latino(a)
- Other _____

4. What is the highest level of education you have completed?

- Some high school
- High school graduate
- Some college
- Trade/technical/vocational training
- College graduate
- Some postgraduate work

Post graduate degree

5. How would you describe your political views?

Very conservative

Conservative

Moderate

Liberal

Very liberal

No political views

6. What is your employment status?

Full time

Part time

Not employed

Retired

Self-employed

7. How would you describe your spiritual/religious beliefs?

Protestant

Catholic

Orthodox church, such as the Greek or Russian Orthodox Church

Jewish

Muslim

Other

Spiritual but not religious

Neither spiritual nor religious

8. Have you had just one U/M experience, or more than one?

___ One

___ More than one

9. What is your total annual household income before taxes?

___ Less than \$10,000

___ \$10,000 to \$19,999

___ \$20,000 to \$29,999

___ \$30,000 to \$39,999

___ \$40,000 to \$49,999

___ \$50,000 to \$59,999

___ \$60,000 to \$69,999

___ \$70,000 to \$79,999

___ \$80,000 to \$89,999

___ \$90,000 to \$99,999

___ \$100,000 to \$149,999

___ \$150,000 or more

10. How would you describe your diet or eating habits?

___ Omnivorous, I eat most everything

___ Vegetarian

___ Vegan

___ Other _____

APPENDIX B

HOOD'S SCALE-RESEARCH FORM D

HOOD'S SCALE-RESEARCH FORM D

Instructions: This survey contains 32 brief descriptions of a number of experiences. Some descriptions refer to phenomena that you may **not** have experienced. In each case note the description carefully and then place a mark in the left margin according to how much the description applies to your own experience. Write a +1, +2, or -1, -2, depending on how you feel in each case.

+1 means: This description is probably true of my own experience or experiences.

-1 means: This description is probably not true of my own experience or experiences.

+2 means: This description is definitely true of my own experience or experiences.

-2 means: This description is definitely not true of my own experience or experiences.

1. I have had an experience which was both timeless and spaceless.
2. I have never had an experience which was incapable of being expressed in words.
3. I have had an experience in which something greater than myself seemed to absorb me.
4. I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void.
5. I have experienced profound joy.
6. I have never had an experience in which I felt myself to be absorbed as one with all things.
7. I have never experienced a perfectly peaceful state.
8. I have never had an experience in which I felt as if all things were alive.
9. I have never had an experience which seemed holy to me.
10. I have never had an experience in which all things seemed to be aware.
11. I have had an experience in which I had no sense of time or space.
12. I have had an experience in which I realized the oneness of myself with all things.
13. I have had an experience in which a new view of reality was revealed to me.
14. I have never experienced anything to be divine.

15. I have never had an experience in which time and space were nonexistent.
16. I have never experienced anything that I could call ultimate reality.
17. I have had an experience in which ultimate reality was revealed to me.
18. I have had an experience in which I felt that all was perfection at that time.
19. I have had an experience in which I felt everything in the world to be part of the same whole.
20. I have had an experience which I knew to be sacred.
21. I have never had an experience which I was unable to express adequately through language.
22. I have had an experience which left me with a feeling of awe.
23. I have had an experience that is impossible to communicate.
24. I have never had an experience in which my own self seemed to merge into something greater.
25. I have never had an experience which left me with a feeling of wonder.
26. I have never had an experience in which deeper aspects of reality were revealed to me.
27. I have never had an experience in which time, place, and distance were meaningless.
28. I have never had an experience in which I became aware of the unity of all things.
29. I have had an experience in which all things seemed to be conscious.
30. I have never had an experience in which all things seemed to be unified into a single whole.
31. I have had an experience in which I felt nothing is ever really dead.
32. I have had an experience that cannot be expressed in words.

APPENDIX C

THE LIFE CHANGES INVENTORY-REVISED

Life Changes Inventory-Revised

One or more unitive experiences may or may not bring about certain changes in an individual's life. We would like to know in what ways, if any, your life has been affected by your unitive experience(s). In responding to the following items, please circle the appropriate alternative according to the instructions given below. Each statement should be understood as beginning with the phrase, "Since my unitive experience(s)."

For example, consider the following statement:

(Since my unitive or experience(s)), my interest in the field of medicine has . . .

If you felt your interest had Strongly Increased, you would circle SI in the row following this statement. If you felt your interest had Increased Somewhat, you would circle I next to the statement. If your interest had Not Changed, you would circle NC. If your interest had Decreased Somewhat, you would circle D. Finally, if your interest had Strongly Decreased, you would circle SD. To summarize:

Strongly Increased = SI

Increased Somewhat = I

Not Changed = NC

Decreased Somewhat = D

Strongly Decreased = SD

Since my unitive experience(s), . . .

- | | | | | | |
|-------------------------------------------------------------|----|---|----|---|----|
| 1. my desire to help others has | SI | I | NC | D | SD |
| 2. my compassion for others has | SI | I | NC | D | SD |
| 3. my appreciation for the "ordinary things
of life" has | SI | I | NC | D | SD |
| 4. my ability to listen patiently to others has | SI | I | NC | D | SD |
| 5. my feelings of self-worth have | SI | I | NC | D | SD |
| 6. my interest in psychic phenomena has | SI | I | NC | D | SD |
| 7. my interest in organized religion has | SI | I | NC | D | SD |
| 8. my reverence for all forms of life has | SI | I | NC | D | SD |

9. my concern with the material things of life has	SI I NC D SD
10. my tolerance for others has	SI I NC D SD
11. my sensitivity to the suffering of others has	SI I NC D SD
12. my interest in creating a “good impression” has	SI I NC D SD
13. my concern with spiritual matters has	SI I NC D SD
14. my desire to achieve a higher consciousness has	SI I NC D SD
15. my ability to express love for others openly has	SI I NC D SD
16. my insight into the problems of others has	SI I NC D SD
17. my appreciation of nature has	SI I NC D SD
18. my competitive tendencies have	SI I NC D SD
19. my religious feelings have	SI I NC D SD
20. my spiritual feelings have	SI I NC D SD
21. my concern with the welfare of the planet has	SI I NC D SD
22. my understanding of “what life is all about” has	SI I NC D SD
23. my personal sense of purpose in life has	SI I NC D SD
24. my belief in a higher power has	SI I NC D SD
25. my understanding of others has	SI I NC D SD
26. my sense of the sacred aspect of life has	SI I NC D SD
27. my ambition to achieve a higher standard of living has	SI I NC D SD
28. my self-acceptance has	SI I NC D SD
29. my desire for solitude has	SI I NC D SD

30. my sense that there is some inner meaning to my life has	SI I NC D SD
31. my involvement in family life has	SI I NC D SD
32. my fear of death has	SI I NC D SD
33. my concern with the threat of nuclear weapons has	SI I NC D SD
34. my desire to become a well-known person has	SI I NC D SD
35. my tendency to pray has	SI I NC D SD
36. my openness to the idea of reincarnation has	SI I NC D SD
37. my empathy with others has	SI I NC D SD
38. my concern with ecological matters has	SI I NC D SD
39. my involvement with my church/religious community has	SI I NC D SD
40. my interest in self-understanding has	SI I NC D SD
41. my inner sense of God's presence has	SI I NC D SD
42. my feelings of personal vulnerability have	SI I NC D SD
43. my conviction that there is a life after death has	SI I NC D SD
44. my interest in what others think of me has	SI I NC D SD
45. my concern with political affairs has	SI I NC D SD
46. my interest in achieving material success in life has	SI I NC D SD
47. my acceptance of others has	SI I NC D SD
48. my search for personal meaning has	SI I NC D SD

APPENDIX D

INTRODUCTION AND CONSENT FOR PARTICIPATION

Introduction and Consent for Participation in Research

Project Title: *Unitive/Mystical Experiences and Life Changes*

Introduction:

My name is Susan Schneeberger and I am a doctoral student in the Counseling Psychology program, School of Applied Psychology and Counselor Education, University of Northern Colorado. I am conducting research to explore life changes in persons who have experienced one or more unitive or mystical states of consciousness (U/MEs). If you are at least 18 years of age, and have had such an experience, you qualify for participation in this study. Research has shown that many people have had one or more such experiences, which are characterized by a usually sudden feeling of unity or oneness that transcends ordinary consciousness and is difficult to describe in words. This may be accompanied or followed by feelings of joy, bliss or love. There is often a certainty that one has sensed a basic truth or ultimate reality. These events are usually fairly brief and spontaneous, and can occur in a variety of circumstances. Just a few examples of the countless situations that may involve such an experience include being in nature, meditating, praying, undergoing a near-death experience, sexual activity, athletic activities, observing children or animals, being relaxed and just being engrossed in a daily activity. If you have had one or more such experiences, you are invited to participate in a study designed to explore them. If you do not believe you have had an experience like this, thank you for your time and please exit the survey at this point. If you know others who may be interested in this study, please forward the link to the survey to them: <http://www.surveymonkey.com/s/P7CYRHY>

Thank you!

Explanation and Consent:

This study is being conducted at the University of Northern Colorado by Susan Schneeberger, R.N., M.A., and is being supervised by Lia Softas-Nall, Ph.D. Your participation will involve completing a web survey consisting of two questionnaires, and answering ten demographic questions, and will only take about 15-20 minutes of your time. Though not anticipated, should any of the questions be upsetting to you, please consult a local mental health agency, such as North Range Behavioral Health at 970-346-2120, or consider using other resources that are available to you. The survey is anonymous and there are no foreseeable risks to participants beyond those that are normally encountered while taking a survey. No identifying information will be collected, and with the exception of the researcher conducting this study, no one will be permitted to see any of the individual responses. If the results of this study were to be published, all responses will be presented in aggregate form. If you have any questions about this research project, please feel free to email me at schn9524@bears.unco.edu.

Having read the above and having had an opportunity to ask any questions, completion of the survey indicates consent to participate in the study.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1907.

Thank you very much for your consideration in assisting me with my research!

APPENDIX E

MANUSCRIPT

UNITIVE/MYSTICAL EXPERIENCES AND LIFE CHANGES

Introduction

Unitive or mystical states of consciousness are often mistakenly associated only with religious mysticism or psychophysiological pathology or dismissed as a topic not amenable or relevant to scientific study. Yet as many as 60% of Americans report having at least one experience in which they felt a sense of unity with all things, a feeling that time and space were no longer relevant, and a positive, ineffable insight into a reality or truth that appeared “higher” in some way than their usual perceptions (Greeley, 1975; Hagerty, 2009; Hood, 2005). Other studies indicate that unitive or mystical experiences (U/MEs) occur in all cultures, transcend geographic and religious categories, and share a common experiential core (Hood, 2006; Stace, 1960).

Part of the challenge involved in conducting empirical research related to U/MEs stems directly from the experiential nature of the subject and its ineffability (Hood, 2006). In addition to this aspect is the frequently spontaneous occurrence of U/MEs and the uncertainty of possible predisposing factors. These characteristics make controlled studies in any kind of laboratory setting next to impossible. If empirical research is to succeed in helping to validate concepts such as U/MEs, researchers must continue to develop new approaches which acknowledge the validity of experiential data, while incorporating established scientific methodology (Braud & Anderson, 1998).

Despite the challenges involved, several trends in research from a variety of disciplines suggest a growing interest in exploring and understanding U/MEs. Scholars in the fields of psychology, neurophysiology, and philosophy continue to produce an increasing body of empirical and theoretical data. In addition to contributing to a more

comprehensive understanding of U/MEs and similar phenomena, researchers have studied the effects and applications of them. Many of those who reported unitive/mystical experiences described a heightened sense of meaning in their lives, deeper levels of happiness, increased compassion for others, better relationships, and other effects reflecting an improved quality of existence (Braud, 2009; Byrd, Lear, & Schwenka, 2000.)

Greeley (1975) found that individuals reporting one or more U/M states of consciousness frequently experienced a greater sense of direction and meaning in their lives. Such experiences also seem to correlate with qualities such as increased creativity, tolerance of ambiguity, and openness to new situations (Cardena, Lynn, & Krippner, 2000). Insights gained during U/MEs were associated with more purposeful living, and did not necessarily require a relationship with any kind of personal deity (Byrd et al., 2000). Hunt (1995) theorized that mystical and related states represent an emerging cognitive capacity relating to higher development.

The purpose of the current study was to explore life changes in beliefs, philosophy, and behavior in individuals who reported having a unitive/mystical experience. Therapists can play a significant role in assisting these individuals, and their friends and families, to adjust to the changes that may occur in association with a mystical experience. Several practitioners and researchers report benefits to clients resulting from therapy, and other methods of processing and incorporating U/M experiences (Greyson, 2000; Palmer & Braud, 2002).

Research to further explore and verify the beneficial effects of U/M events is needed not just to expand the basic pool of knowledge, but also to begin to investigate the

possibility of facilitating the experience in safe and dependable ways. Their effects could then be applied to all fields of human service in which healing and general well-being are sought. Eventually, the insights gained during a U/ME may become an integral part of sustained human awareness as the evolution of consciousness continues.

Review of the Literature

The word “mysticism” has its roots in the word “mystery,” having originated with the Greek “mysterion.” Depending on the context, the word mystery may denote something unknown, a secret or secret rite, or a truth that is accessible only through direct experience or revelation (Anderson, Fortson, Kleinedler, & Schonthal, 2008). Certainly the concept of mysticism is often misunderstood and erroneously seen as being a philosophy, a religion, an opinion, a study of the occult, or a symptom of psychopathology (Underhill, 1999).

In the most basic sense a unitive/mystical experience (U/ME) is essentially a definitive, ineffable experience of union with something larger than, or beyond, the self, usually accompanied by feelings of peace, bliss, love, and certainty (Coxhead, 1985; Newberg, 2001). A U/M (unitive/mystical) experience is also distinctly different from usual states of consciousness, and leaves an impression of having encountered a different, and in some way “higher” reality. Despite its usual brevity, a U/M event is often regarded as a transformative milestone in the lives of those reporting them (Cardena et al., 2000).

Jung (1935/1966) approached the subject from the perspective of analytical psychology. He regarded mystical states of consciousness as part of the human spectrum of capabilities and argued that no study of the human psyche would be complete without taking them into account. Maslow (1973) agreed with Jung’s appraisal of U/MEs as being

normal and essential aspects of human psychology. In his theory of actualization, Maslow referred to them as “peak experiences” and believed they were at the apex of his hierarchy of needs. He also described the transformative effects that peak experiences could have on the lives of those who reported them (Cardena et al., 2000). This humanistic, or third force, psychology introduced much of the theory that laid the foundation for transpersonal, or fourth force, psychology.

Wilber (1996) and Washburn (2003) developed the two fundamental transpersonal approaches to human development. Both agree that U/M states of consciousness are aspects of the evolutionary capabilities of the human psyche. Wilber’s approach is a hierarchical model in which each developmental stage is attained in a chronological progression, and any reversion to a previous stage is considered pathological. Washburn’s developmental model is based on a spiral conceptualization in which stages are generally attained in a sequential manner. However, during the course of normal development, individuals may temporarily revert to some aspect of a previous stage without this being necessarily pathological. The most important distinction between Wilber and Washburn is that Washburn postulated a spiral-like revisiting of a non-egoic union as a manifestation of highest development. Wilber asserted that this represents the “pre-trans fallacy” which is a concept equating the prepersonal stage of development with the transpersonal stage (Wilber). However, Washburn made a clear distinction between the earliest developmental stage, the infantile stage, in which the individual experiences the primary parent figure as indistinguishable from itself, and the transpersonal highest developmental stage. Washburn suggested that this transpersonal state of unity represents

a completely transformed experience of being, achieved only as a result of successfully navigating previous stages.

The beginning and end of the spiral path share the same deep foundations.... however, the beginning and end of the spiral path are otherwise maximally different; for the ego at the beginning... is only starting to emerge from the ground, whereas the ego at the end of the path is mature and established in the world....At the beginning of the spiral path the unity of consciousness and life is only a primitive prepersonal unity; at the end...this unity is a completely actualized transpersonal unity. (Washburn, 2003, p. 36)

Hunt (1995) approached U/MEs using a holistic -phenomenological cognitive theory. He considered these states of consciousness to be an indication of higher mental capabilities and evolving cognitive processes. Hunt believed that the mind is normally focused on the concrete aspects of existence, which blocks the abstraction processes necessary to experience U/MEs.

One of the newest avenues of research into the characteristics of U/MEs involves the rapidly expanding field of neurophysiology and its associated technology. Researchers using this line of inquiry attempt to capture the activity of the brain during U/M states of consciousness. Again, the difficulty lies in the intrinsic unpredictability of these occurrences and the uncertainty regarding any triggering factors that may be involved. However, results of current studies are beginning to reveal some of the possible neurological correlates that may accompany unitive/mystical experiences (Wulff, 2000).

Newberg (2001) used single photon emission computerized tomography (SPECT) to study contemplative nuns, monks, and meditators. He found that when they were

engaged in deep meditation or prayer, there was decreased activity in the parietal lobes and increased activity in the frontal lobes. Some participants later reported U/MEs during these states, though this was by no means always the case. Saver and Rabin (1997) hypothesized that U/M events are primarily mediated by the limbic system and described them as unique neural processes involving emotional intensity not ordinarily experienced during everyday occurrences.

Researchers and theoreticians are also exploring the significance of U/MEs. To some investigators these states of consciousness are complex neurophysiological processes which originate within the brain as part of its response to environmental stimuli (Blackmore, 1999). To others, U/M events are not generated within the brain, but are encounters with an external, ultimate reality which the brain's evolved capacity allows it to apprehend (Huxley, 1945; Smith, 2003). These scholars argue that the "common core" (Hood, 2006; Stace, 1960) characteristic of U/MEs, which points to the similarity of the event across all cultures and belief systems, is evidence of a universal and common reality. Other theoreticians, while agreeing with the basic phenomenon of the common core, do not necessarily interpret it as meaning that U/MEs are a direct encounter with an ultimate reality (Wulff, 2000).

Prevalence and Predisposing Factors of Unitive/Mystical Experiences

Any statistics on the incidence of U/M experiences clearly are influenced by how the term is defined, and how the respondents interpret this definition. However, several studies suggest that U/M experiences are more common than might be generally expected. The distinguishing feature of ineffability may contribute to the fact that those who have had such an experience may find it difficult to describe, so it may not be a

usual topic of conversation. Research done by Greeley (1975) and his associates is one of the most well-known studies. It involved a national sample of 1,460 Americans who were asked “Have you ever felt as though you were very close to a powerful, spiritual force that seemed to lift you out of yourself?” Answer choices were “never in my life,” “once or twice,” “several times,” “often,” and “I cannot answer this question” (Thalbourne, 2004). Results of the Greeley study indicated that as many as 60% of respondents reported having at least one U/M experience.

A British study involving 1,865 participants indicated that 36.4 % of them reported having an experience in which they were aware of a presence or power that was distinctly different from their usual state of consciousness (Hay & Morisy, 1978). Subsequent studies done in the United States using Greeley’s (1975) question showed that between 30.9% and 39.3% of respondents reported having at least one U/ME (Cardena et al., 2000). National polls conducted in the 1960s showed that 21 - 41% of those responding affirmed having a mystical insight or awakening (Back & Bourque, 1970).

Results of two Gallup polls in 1990 each showed that 53% of respondents reported such an experience (Levin, 1993; Yamane & Polzer, 1994). Two studies showed a significant, though small, positive correlation between the incidence of U/MEs and increased age, education, and socioeconomic status (Greeley, 1975; Hay & Morisy, 1978).

The experiences of U/M phenomena appeared to be similar despite the variety of circumstances, or predisposing factors, with which they may be associated. This is an area in which further discussion and study are needed. The primary distinction is between

spontaneous mystical events, which may occur even in individuals who may have little or no knowledge or belief related to them, and experiences which are desired or sought as a result of various practices or facilitators, such as meditation, holotropic breath work (Grof & Grof, 1989) and entheogens (formerly referred to as “psychedelic” or “hallucinogenic” substances; Doblin, 1991; Pahnke, 1966).

Rhea White: Exceptional Human Experiences

The work of White (1997, 2000) is also relevant to a consideration of U/MEs and possible predisposing factors to them. In 1952, White had a near death experience (NDE) during an auto accident in which her friend was killed. She subsequently devoted herself to studying these and other transpersonal life-changing occurrences, exploring their meanings and etiologies, and working with individuals who reported having them. She coined the term “exceptional human experiences” (EHEs) to describe them, and classified EHEs into five categories, the first of which is unitive/mystical experiences.

White (1997) made an important distinction between “exceptional experiences” and “exceptional human experiences” (EHEs). She stated that EHEs usually begin as exceptional experiences, events that seem impossible or questionable according to Western theories of reality. Some individuals were frightened by such occurrences, or dismissed them as one-time happenings. However, for many, the experience catalyzed a process that eventually resulted in the realization of their highest human potential and the transformation of their lives in a variety of ways. White classified the experiences of these individuals as EHEs since they resulted in lasting life transformations. Hence, all EHEs are exceptional experiences, but not all exceptional experiences are EHEs (Brown, O’Connor, & Barkatsas, 2009).

The criteria developed by Stace (1960), Hood (1975, 2001), and White (1997, 2000) to describe U/M experiences are very similar, though White adds the stipulation that in order to be considered an “exceptional human experience” as opposed to simply an “exceptional experience,” the event must be associated with significant and lasting life changes by the experiencer. This is also an important aspect of the current study.

Understanding Unitive/Mystical Experiences

Theoretical and empirical efforts to understand U/M experiences have primarily involved the disciplines of psychology, neurophysiology, theology, and philosophy. Freud (1961) regarded U/MEs as a regression to a pre-egoic state in which separation from the external world has not yet occurred. This is not unlike Wilber’s (1996) conceptualization of the pre-trans fallacy discussed previously. Other psychologists of Freud’s era agreed with his analysis of the U/M experience as primarily one of pathological regression. However, there were also psychoanalysts in the “adaptive school” (Parsons, 1999) of interpretation who believed U/M states of consciousness could be a transformative process, having positive effects similar to psychotherapy or various types of creative experiences.

The influence of Eastern philosophy and its conceptualization of mysticism has also enriched psychological theory. Jung (1935/1966) incorporated elements of Eastern mysticism into his analytical theory. He considered mystical states of consciousness to be encounters with the archetypes of the collective unconscious, hence outside the self and requiring ego-transcendent processes. Neumann (1989) stated that U/M experiences begin when consciousness is not focused on the ego. Encountering the nonego requires the ego to suspend its struggle for supremacy over unconscious forces and transcend the

binary division of world and self. This results in a mystical encounter of ego and nonego, in which both are transformed. There is little extant research on this analytical interpretation of U/M events and it remains an area for future work (Cardena et al., 2000).

The contribution of contemporary humanistic psychologists to U/M theory is best represented by Maslow (1973) and his exploration of peak experiences. He believed peak experiences could be transformative and have lasting effects on the lives of those who had them. He agreed with the perennialists that these events were a direct encounter with a universal reality (Cardena et al., 2000). Transpersonal, or fourth force psychology, is represented primarily by Washburn (2003) and Wilber (1996) as previously discussed. Both believed that U/MEs were a manifestation of a higher state of consciousness evolution, though they differed in their theoretical conceptualizations of how this stage was reached developmentally.

Another ongoing approach to the study of mysticism involves exploring the neurophysiological correlates to mystical or unitive experiences. Technological advances in brain imaging have allowed researchers to attempt to capture some of the physiological manifestations of mystical phenomena. One obvious limitation to this work is that such experiences rarely appear on cue, and are virtually impossible to reproduce in the laboratory. Nevertheless, some interesting results have been obtained that represent the beginning of a new era of exploration that will grow as the field of brain technology is advanced (Newberg, 2001; Newberg, Pourdehnad, Alavi, & d'Aquili, 2003; Saver & Rabin, 1997).

Methods

The current study was a correlational, online survey-based study that examined life changes in beliefs, philosophy, and behavior among participants who reported experiencing one or more unitive or mystical states of consciousness. The independent variable was unitive/mystical experiences reported by participants. The dependent variables were reported life changes in eight value clusters.

The population targeted for the study was adults 18 years of age and older who reported having had one or more unitive/mystical experiences. Purposive non-probability sampling methodology was used to recruit participants from a variety of sampling sources. Since participation in the study required respondents to meet the qualification of having had one or more unitive/mystical experiences, permission was obtained from two sampling frames that might logically be expected to have a higher incidence of such experiences and be open to acknowledging them. These sampling frames were the members of the Association for Transpersonal Psychology, and the students of the Institute of Transpersonal Psychology.

Permission was also obtained to recruit participants via the listservs of the student population of the School of Applied Psychology and Counselor Education (APCE) of the University of Northern Colorado (UNC), and the UNC School of Psychological Sciences participant pool.

In the present study, the estimate of 40-60% of individuals who reported having one or more UM/Es was incorporated, and sample size was calculated for multiple regression. There were eight explanatory variables, and one criterion variable. Cohen's (1992) power analysis and Green's (1991) multiple regression analysis formula for

sample size were used for this calculation with the objective of achieving a desired power of .80, sufficient for detecting a medium effect size of .15. Results of this calculation indicated that a minimum sample size of 122 was needed.

Instruments

Hood's Scale-Research Form D was developed by Hood (1975) and was constructed to operationalize Stace's (1960) theory of mysticism. It is the most widely used instrument for the study of mysticism (Burris, 1999), and is used to measure the extent and type of unitive/mystical experiences reported by respondents. The scale consists of 32 statements which respondents indicate are *definitely true*, *probably true*, *probably not true* or *definitely not true* for them. Examples of items included "I have had an experience in which I realized the oneness of myself with all things" and "I have never experienced anything I could call ultimate reality." Half of the items are negatively stated (beginning with "I have never") and are reverse scored.

Previous factor analysis on Hood's Scale (1975) usually indicated three factors, representing introvertive, extrovertive, and interpretive aspects of mystical experience (Caird, 1988; Hill & Hood, 1999; Hood). Originally I planned to use these three subscales of the Hood Scale; however, the factor analysis conducted for the current study did not support this structure. Therefore, a decision was made to use the mean total scores of the scale for the current study, based on a Cronbach's alpha value of .89 for the total score reliability estimate. A decision was then made to use only data in which participants completed at least 90% of the 32 scale items, which meant that up to three items could be omitted. Failure to demonstrate three factors in the present study may have been partially due to a broader demographic spectrum of the current participants,

and to the fact that participation in the study was purposely limited to those who previously had unitive/mystical experiences.

The Life Changes Inventory-Revised (LCI-R) was developed by Greyson and Ring (2004) and was originally created to study changes in nine areas of life subsequent to near-death experiences (NDEs). The experiential descriptions of individuals reporting NDEs are strikingly similar to accounts of U/M experiences and include a sense of ineffability, ego transcendence, a heightened sense of reality, and a certainty that a higher reality or divine authority has been encountered (Greyson & Ring). This has led to general acknowledgment that most NDEs meet Stace's (1960) criteria for U/M experiences and can be considered a subset of U/MEs. Thus, the LCI-R was uniquely appropriate for the purposes of the current study due to the specificity with which it addresses the concept of life changes associated with U/M events.

Factor analysis done on the LCI-R for the current study did not clearly support nine factors; therefore a decision was made to conduct reliability analysis using Cronbach's alpha on each of the hypothesized clusters. This analysis resulted in demonstrating good cluster reliability scores after dropping items 33 and 45 from the fifth cluster (Concern with Social/Planetary Values) and dropping item 3 in the ninth cluster (Appreciation of Death). Since I was interested in exploring the direction of change as well as the magnitude of change, response options were re-coded on a 1 to 5 scale in order to reflect both direction and magnitude of change within each cluster.

Data Analysis and Results

Participants for the current study were recruited from The Association for Transpersonal Psychology, the Institute of Transpersonal Psychology, the student

population of the School of Applied Psychology and Counselor Education of the University of Northern Colorado (UNC), and from the UNC School of Psychological Sciences participant pool. Participants were also asked to refer others who might be eligible and willing to participate. This resulted in 223 participants who accessed the survey and approximately 160 who completed all or most of the requested information.

Approximately 73% were female, 26% were male, and 89% were of White/Caucasian ethnicity. The ages of the participants ranged from 20 to 67 years and 49% of the participants were between 40 and 59 years of age. Approximately 90% had at least some college and 94% reported having more than one U/ME. The majority of the participants were employed either full-time (38.4%) or part-time (23.3%); 22.6% indicated they were self-employed (see Table 1). Over half of the respondents described themselves as being spiritual but not religious (57.9%) and 17.6% designated “other” as the most appropriate response in the spiritual/religious category (see Table 1). Some respondents reported eating fewer animal products after their U/MEs (see Table 1). Slightly more than 50% of the participants had a household income of \$60,000 or more annually. About half of the respondents indicated their political views were liberal or very liberal, while almost a fourth of the sample reported being conservative or very conservative.

Table 14(1)

Demographics of Participants by Employment Status, Spiritual/Religious Beliefs, and Dietary Practices

Variable	<i>N</i>	<i>p</i>
<u>Employment Status</u>		
Full Time	61	38.4
Part Time	37	23.3
Retired	10	6.3
Self-employed	36	22.6
Unemployed	15	9.4
Total	159	
<u>Spiritual/Religious Beliefs</u>		
Catholic	12	7.5
Jewish	2	1.3
Orthodox Church	2	1.3
Protestant	16	10.1
Other	28	17.6
Spiritual but not religious	92	57.9
Neither spiritual nor religious	7	4.4
Total	159	
<u>Dietary Practices</u>		
I eat fewer animal products	46	29.1
I eat more animal products	3	1.9
No Change	109	9.0
Total	158	

The first research question addressed in the current study examined the type and degree of changes in beliefs and behavior reported by individuals who reported having a unitive/mystical experience. A repeated measures analysis of variance (also known as a within-subjects analysis) was conducted using the mean scores of each of the eight clusters of the LCI-R. The results were then assessed to determine the direction and

magnitude of change for each cluster, with a mean of 3.0 indicating no change. The assumption of normality was evaluated using a histogram and skewness and kurtosis statistics. As seen in Table 2, participants' Concern with Worldly Achievement decreased after their unitive/mystical experiences, their Religiousness remained the same, and the remaining clusters showed increases in the value being measured.

Table 15(2)

Mean, Standard Deviation, Skewness, and Kurtosis for the LCI-R Clusters

Cluster	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Concern with Worldly Achievement	2.52	0.53	- 0.25	- 0.36
Religiousness	3.01	0.92	0.23	- 0.24
Concern with Social and Planetary Values	3.81	0.67	- 0.34	0.93
Self-acceptance	4.14	0.63	- 0.45	- 0.37
Spirituality	4.16	0.70	- 0.83	0.76
Quest for Meaning and Sense of Purpose	4.17	0.63	- 0.41	- 0.55
Concern for Others	4.22	0.53	- 0.47	- 0.32
Appreciation for Life	4.28	0.38	-0.30	-0.32

Results of the analysis also indicated that at least two pairs of life change clusters differed significantly in their degree of post-U/ME change and that approximately 83% of

the variance was explained by differences among the eight areas of life change. Seven post hoc paired-samples *t*-tests were then conducted on selected pairs of clusters to provide more information on which pairs differed significantly in their degree of change (see Table 3). The two clusters in which the most change since the U/ME was reported were Appreciation for Life and Concern for Others; this pair did not differ significantly in the degree of post U/ME change.

The second research question examined the relationship between the degree or intensity of U/ME and reported life changes as measured by Hood's Scale (1975). Descriptives and simultaneous entry multiple regression analyses were conducted to address this question. The mean total Hood score and the mean scores of the eight LCI-R clusters were used to examine data. There were 158 participants who answered all items in the LCI-R clusters and at least 90% of the Hood items.

Results of the analysis indicated that more intense U/MEs were significantly correlated with a greater degree of change in the eight value clusters collectively. The R^2 value of .229 indicated that approximately 23% of the variance in the Hood score was explained collectively by the eight LCI-R cluster scores. This represents a statistically significant proportion of explained variance.

Table 16(3)

Paired Samples T-tests

Pair	<i>t</i>	<i>df</i>	<i>p</i>
Concern with Worldly Achievement and Concern with Social/Planetary Values	17.898	159	< .007*
Concern with Worldly Achievement and Appreciation for Life	-26.196	160	< .007*
Appreciation for Life and Concern for Others	1.788	162	.076
Self-Acceptance and Concern for Others	-1.830	161	.069
Appreciation for Life and Quest for Meaning and Sense of Purpose	2.949	159	<.007*
Concern with Worldly Achievement and Religiousness	-6.217	160	<.007*
Spirituality and Quest for Meaning and Sense of Purpose	-.027	160	.979

* Statistically significant at a Bonferroni-adjusted alpha = .00.

Table 4 indicates the relationship between the total Hood score and each individual LCI-R cluster score, and the correlations between the eight clusters. Scores for all life change areas, except Religiousness, and Concern with Social/Planetary Values,

showed a significant correlation with the Hood Scale (1975) scores when each was considered separately. However, the only area uniquely sharing variance with the Hood score in the regression analysis was Appreciation for Life (see Table 5).

Table 17(4)

Bivariate Correlations for Relationship of Each Cluster Score to Hood Score (U/MEs)

	1	2	3	4	5	6	7	8	9
1. Hood (U/ME)s									
2. Appreciation for Life	4.34								
3. Self Acceptance	2.85*	.457*							
4. Concern for Others	.288	.621	.570						
5. Concern with Worldly Achievement	-.192	.210	-.219	.325					
6. Concern with Social And Planetary Values	.120	.535	.199	.400	-.144				
7. Quest for Meaning/ Sense of Purpose	.307*	.657	.623	.620	-.158	.348			
8. Spirituality	.274*	.513	.399	.424	-.222	.303	.611		
9. Religiousness	.011	.098	.117	.144	.118	-.059	.220	.362	

* Significant shared variance with Hood score at $< .05$

Table 5 shows the results of the regression analysis indicating the relationship of each of the LCI-R cluster scores separately to the Hood score after controlling for the other seven clusters, i.e., it indicates the unique shared variance between a particular cluster and the Hood score. This illustrates that the only cluster significantly related to the Hood score was Appreciation for Life.

Table 18(5)

Summary of Multiple Regression Analysis

Variables	Unstandardized Coefficients		Standardized Coefficients		
	<i>B</i>	<i>SE(B)</i>	β	<i>t</i>	<i>P</i>
Constant	2.874	.466		6.171	<.05
Appreciation for Life	.419	.102	.459	4.104	<.05
Self-acceptance	.080	.081	.096	.982	.327
Concern for Others	-.014	.107	-.015	-.136	.892
Concern with Worldly Achievement	-.081	.079	-.082	-1.03	.303
Concern with Social/ Planetary Values	-.130	.068	-.168	-1.91	.057
Quest for Meaning and Sense of Purpose	-.031	.099	-.038	-.316	.752
Spirituality	.064	.074	.086	.859	.392
Religiousness	-.037	.046	-.066	-.815	.416

The third research question explored whether and how the perceived overall quality of life changed since the participants' unitive/mystical experience.

This question was addressed by observing descriptives and by conducting single sample *t*-tests for the eight LCI-R clusters to determine whether participants reported statistically significant changes in any of the eight areas after their U/M experiences. A value of 3 indicated no change.

The results of the analysis indicated that respondents did report significant changes in seven of the eight value clusters (see Table 6). There was no significant

change in the area of religiousness. Participants reported experiencing a significant decrease in the area of concern with worldly achievement, and a significant increase in the other six areas. Thus, there was a significant change in the life qualities assessed by the LCI-R in all areas except religiousness. To maintain a familywise error rate at .05, statistical significance was assessed at a Bonferroni adjusted alpha of .00625.

Table 19(6)

One-Sample Statistics

Cluster	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
Concern with Worldly Achievement	161	2.52*	0.53	0.04
Religiousness	161	3.01	0.92	0.07
Concern with Social and Planetary Value	160	3.81*	0.67	0.05
Self-acceptance	162	4.14*	0.63	0.05
Spirituality	161	4.16*	0.70	0.06
Quest for Meaning and Sense of Purpose	160	4.17*	0.63	0.05
Concern for Others	163	4.22*	0.52	0.04
Appreciation for Life	163	4.28	0.58	0.05

* Difference from a mean of 3.0 based on Bonferroni-adjusted alpha = .00625

The fourth research question considered the possible relationship between the demographic variables of gender, age, income, and education to reported life changes.

This question was addressed by conducting eight simultaneous entry regressions with the eight LCI-R clusters being the dependent variables and the demographic variables of gender, age, income, and education being the independent variables. The results of these analyses indicated no statistically significant relationships between any of the eight clusters and the four demographic variables. To maintain a familywise error rate at .05, statistical significance was assessed at a Bonferroni adjusted alpha of .00625. The variable of age explained approximately 15% of the variance in the category of Concern with Worldly Achievement despite lack of statistical significance.

Limitations of the Study

One limitation of the study is that it was conducted exclusively in an online format. This limited participation to individuals who had access to computers and were able to navigate the survey successfully. This format also prevented respondents from being able to get immediate answers to any questions they may have had about the survey procedure. As with most anonymous studies there is always the possibility that participants will falsify their responses, or misinterpret survey items despite their intention to answer honestly.

There was also no way to determine the exact response rate for the study. This was due partly to the fact that although recruitment did target several specific groups, there was no way to determine either the number of respondents from any specific group, or the number who received the invitation. Also, participants were asked at the beginning and end of the survey to contact others whom they believed might qualify and be willing to participate. Again, there was no way to track these referrals, or determine what percent of those contacted actually completed the survey. Data from the demographic questions

did compensate partially for some of these limitations by providing some basic information about respondents. Also, the total number of individuals who accessed the survey was known. Some of these individuals may have read the explanatory introduction, determined that they did not qualify to participate, and exited the survey. Finally, the exploratory factor analysis for this study failed to confirm the introvertive/extrovertive/interpretive structure of Hood's Scale (Hood, 1975) found in much of the literature. This could be considered a possible limitation in terms of measurement.

Discussion, Applications, and Future Research

The purpose of this study was to explore the effects of unitive/mystical experiences (U/MEs) on the subsequent lives of those who have had one or more such events. Unlike other studies reported in the literature, this study focused exclusively on individuals who had already experienced this specific type of occurrence. In addition, participants were recruited with the intention of obtaining a more heterogeneous sample than most of the existing studies, which often focused on particular populations such as college students or religious groups (Carpenter, 1994; Doblin, 1991; Hood, 2001; Newberg, 2001).

As expected, participants reported significant changes in their values, beliefs, and behaviors after their unitive/mystical experiences. The most striking changes involved an increased appreciation for life and a greater concern for others. Participants reported a decrease in their interest in worldly achievement. The intensity or degree of U/ME was positively correlated with more life change overall. All life change areas, except Religiousness, also indicated significant change after the U/ME when considered

separately in relation to the intensity of the experience. As expected, there was no statistically significant relationship between the demographic variables of gender, age, income, and education to selected areas of life change.

Almost half of the respondents reported being associated with a mainstream religion; this was the only area in which essentially no change was reported. This finding suggests that having a U/ME did not result in becoming any more involved in traditional religious practices. Analysis of the data also indicated some interesting differences in the degree of change in the other seven life areas. Participants' Appreciation for Life increased significantly more than any area except that of Concern for Others. These two areas did not differ significantly in their degree of change.

Concern for Others and Self-acceptance also increased to the same extent statistically. The increased compassion and acceptance for oneself reported by respondents was apparently also expressed outwardly in their relationships. Two other areas which increased to the same extent were Spirituality and Quest for Meaning and Purpose. Interestingly, findings for these areas contrasted with those from the area of Religiousness, for which respondents reported no change after their U/MEs. Previous studies on well-being, which associated religious involvement with increased well-being, often did not distinguish between the concepts of religion and spirituality (Diener, Suh, Lucas, & Smith, 1999). Results of the current study indicated that assessing these concepts separately may provide more specific information.

Respondents in the current study reported a significant decrease in their Concern with Worldly Achievement. Whether a decrease in such characteristics is considered a positive quality is ultimately a subjective matter for each individual. Such qualities have

historically been valued in many facets of American society as being vital components for achieving success. Conversely, many researchers have found that beyond the assets necessary to provide for basic needs, increased material wealth is not associated with greater subjective well-being. Wealth and the qualities often required to attain it may, in fact, actually decrease subjective well-being, increase divorce rates, reduce ability to appreciate life, and increase stress in economically developed countries (Clydesdale, 1997; Diener, Suh, Lucas, & Smith., 1999).

The present results also indicated that a prevailing image of the mystic as someone who retires from the world into a life of contemplation is not an accurate representation. Although participants in the current study reported decreased concern with achieving material success, they also reported an increased desire to care for the planet and a heightened sense of compassion and understanding for others. This finding supported the many personal accounts of unitive/mystical experiences that resulted in a fervent desire to bring back into the world the insights gained during the experience.

Implications for Application and Future Research

Results of the current study indicated that having a U/ME led to significant life changes, and that these changes are generally regarded as positive. An increasing number of researchers and clinicians have acknowledged literature supporting the concept that U/MEs and other states of altered consciousness are a valid aspect of the human developmental spectrum (James, 1902/1958; Jung, 1935/1966; Maslow, 1973; Washburn, 2003). Several implications for the application of the study findings logically follow from these considerations.

First, the subject of unitive/mystical states of consciousness should be included in relevant courses of study in human development and human capacity. Second, prospective clinicians in mental health need to know how to recognize and assist individuals who have had such an event. Future research could assist in establishing the most effective way to promote this by surveying clinicians' attitudes toward the subject of U/MEs, their current levels of knowledge, and their ideas on implementing new understanding into their practices.

While most U/MEs are very positive experiences, individuals who have them are then faced with incorporating the experience, and the insights often gained from it, into their lives. Many individuals reported that having a U/ME significantly altered their view of the nature of life and their place in it. Friends and family members may fail to understand or validate the experience of someone who may suddenly express different values and behaviors. Psychotherapists can provide a safe, accepting environment in which to disclose, explore and process the unitive/mystical experience. This may involve using techniques such as embodied writing, journaling, and facilitating support groups (Anderson, 2001; Palmer & Braud, 2002).

A third implication of the results of the current study is intertwined with a suggestion for future research. Since experiencing a unitive/mystical event has been shown to be beneficial to most individuals who reported them, some future research could profitably focus on the possibility of facilitating these phenomena. Until there is much more evidence regarding what may facilitate U/MEs, it seems prudent for clinicians to suggest methods not associated with the potential for adverse effects. These would include such things as meditation, guided imagery, and relaxation techniques.

Most unitive/mystical experiences are positive, even blissful, experiences, and most of the literature has dealt with these positive effects. It is also necessary to achieve a better understanding of the possible negative consequences and challenges of the experience. This would extend the knowledge base, and provide clinicians with strategies for assisting clients to incorporate new insights into their lives.

Perhaps the most important area for future research involves the continued development and refinement of research methodology designed to investigate experiential phenomena such as U/MEs. Quantitative research, such as the current study, has provided valuable data that can be addressed with traditional statistical analyses. However, the richness of the mystical experience, and its effects on those who report them, are difficult aspects to capture solely with quantitative methods and instruments.

It would be interesting and informative to conduct in-depth, semi-structured interviews with individuals who have experienced unitive/mystical events. Relevant questions to ask would include: What were you doing when you experienced your U/ME? What specific changes in your life do you associate with the U/ME? What did you learn from it? What was most challenging for you after your U/ME? What is the meaning of your U/ME for you? What do you think U/MEs mean generally? This line of inquiry would add to the basic knowledge base and contribute to the understanding and possible facilitation of U/MEs.

The question of whether U/MEs are an internally generated physiological function of the brain or an apperception of ultimate reality made possible by the receptive capacities of the brain will continue to be an area for further research. Interest in these issues is also growing in the general public and is reflected in the increasing numbers of

popular books, films, and other media. While this interest has deep historical roots, some researchers believe that its contemporary resurgence signifies the emergence of a new paradigm in mass consciousness (Amarasingam, 2009; Braud & Anderson, 1998; Radin, 2006). This hypothesis is also supported by research in theoretical physics. Researchers continue to discover phenomena that defy the laws of classical Newtonian mechanics and reflect a new view of reality that has more in common with the experience of mysticism than it does with classical Newtonian physics.

This interplay between science and mysticism is directly related to the present study. Several items in Hood's Scale (1975) pertain to one of the most significant characteristics of the mystical experience, which is a sense of unity and connectedness with all things. This phenomenon of unexpected connection is also the essence of many of the current findings in quantum physics. Hunt (2006) phrased the matter succinctly: "Can mystics intuit something of what modern physicists calculate?" (p. 5). The findings of this study indicated that the appreciation of unity and connection, as a primary feature of U/MEs, was associated with an increased sense of meaning and purpose in life, heightened compassion for self and others, and a greater interest in caring for the planet. These changes all reflect the core concept of realizing that all things share a deep core connection despite their apparent separateness.

Summary

Results of the study indicated that there were significant increases in participants' concern with social and planetary values, self-acceptance, spirituality, quest for meaning and sense of purpose, concern for others, and appreciation for life after having a unitive/mystical experience. Respondents reported a significant decrease in concern with

worldly achievement. The area of religiousness showed no change. Results also indicated that a more intense U/ME was associated with a greater degree of change overall and with a significant increase in appreciation for life specifically. Participants indicated that their overall quality of life had changed significantly after their U/MEs in a direction perceived as beneficial. There was no significant relationship between reported changes and demographic variables. Limitations of the study, suggestions for future research, and implications of the findings were discussed.

Conclusion

Scientists and mystics share the same fundamental quest for answers: What is the nature of the universe, and what is our place in it? Is there a higher intelligence behind the mystery? Does consciousness continue after physical death? Perhaps the mystical experience can provide the same insights as the physics experiment. Ultimately, the apparent disparity between science and mysticism may prove to be one of process, not content. Like spokes on a wheel, they lead to the same hub.

As researcher clinicians, we have a responsibility and a unique opportunity to join in the quest for answers that will broaden the scope of our knowledge and allow us to better assist the clients who come to us in various states of existential pain. Part of this quest involves acknowledging all facets of the human experience, not just those easily accessible through current methods of research and study. Unitive/mystical experiences are an aspect of being human that can apparently facilitate positive life change and encourage individuals to care for the planet and its people. Hopefully, continued exploration of U/MEs and similar phenomena will provide ways for us to access the

insights they provide and thus participate in the continuing evolution of human consciousness.

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