

ELECTROMAGNETIC AFTEREFFECTS OF NEAR-DEATH EXPERIENCES

Farnoosh Massoudian Nouri, M.Ed.

Dissertation Prepared for the Degree of
DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2008

APPROVED:

Janice M. Holden, Major Professor and
Chair of the Department of
Counseling and Higher
Education

Casey Barrio, Committee Member
Carolyn Kern, Committee Member
Dee Ray, Counseling Program
Coordinator

Jerry R. Thomas, Dean of the College
of Education

Sandra L. Terrell, Dean of the Robert
B. Toulouse School of Graduate
Studies

Nouri, Farnoosh Massoudian, Electromagnetic aftereffects of near-death experiences. Doctor of Philosophy (Counseling), August 2008, 153 pp., 20 tables, references, 58 titles.

The purpose of this quantitative study was first to investigate the comparative incidence of electromagnetic aftereffects (EMEs) during the past year among near-death experiencers (NDErs), people who experienced a close brush with death without an NDE (CBrs), and people who reported never having experienced a close brush with death (LCERs). The second purpose was to investigate a possible change in EME incidence among the three groups before and after a critical life event. The third purpose was to investigate the relationship between the reported overall depth and specific components of the subjective experiences of people who have had a close brush with death -- NDErs and CBrs -- and their reported incidence of EMEs. I used the Near-Death Experience Scale (Greyson, 1983), and developed the Close Brush with Death Question form, Life Changing Event Question form, and Electromagnetic Effects Questionnaire for this study.

The final sample included 36 NDErs, 20 CBrs, and 46 LCERs. The results of this study firmly supported more reported problems with EM devices experienced by NDErs compared to CBrs or LCERs. Especially with respect to EM devices such as lights and cell phones, as well as the emotional state of individuals affecting EM devices, this study showed more reports of problems with these devices between before and after NDEs for NDErs compared to before and after a life changing event for LCERs. Moreover, findings of this study showed a correlation between the depth of NDEs and EMEs.

This study has important implications for counselors working with NDErs.

Findings from this study show that NDErs have a strong possibility of experiencing electromagnetic interferences when close to electromagnetic devices such as cell phones, computers, lights, and watches after their NDEs. This phenomenon can be a stressor in the lives of NDErs and their families and friends. As some participants in this study indicated, information about EMEs can reduce NDErs' stress. Thus, counselors can use information from this study to psychoeducate their NDEr clients and work with them to develop strategies to cope with EMEs, thereby hopefully reducing the stress of EME-related NDE aftereffects.

Copyright 2008

by

Farnoosh Massoudian Nouri

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Dr. Janice Holden, chair of my committee, for sharing her expertise and knowledge in the field of near-death experiences with me, and for her generous time and commitment. I like to thank Dr. Carolyn Kern, and Dr. Casey Barrio. I would also like to express my gratitude to all of the educators throughout the years who inspired and challenged me. While the list is endless, their contribution has been enormous.

Many thanks to Dr. Greyson for giving me permission to use his assessment tool, the NDE Scale, and providing me with the latest literature and updates. I would like to thank Dr. Richard Bonenfant for making his research on electromagnetic interferences and NDEs available to me.

I am grateful too to my parents, Effat and Mahmoud Nouri, for their endless love, guidance, support, and care. I want to thank my siblings for always being there to support me, and for sharing their love in their own unique and special ways.

My love and gratitude goes to my lovely husband, Fariborz Massoudian, and daughter, Sahar, whose help, patience, incredible love, care, forgiveness, and support brightened my days and energized, nurtured, and carried me through this research. Without their support, this study would not have been completed.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vi
Chapters	
1. INTRODUCTION	1
Statement of Problem	2
Review of Literature	5
NDErs in Counseling	6
Definitions of NDEs	8
Contents of NDEs.....	9
Explanatory Models of NDEs.....	14
Aftereffects of NDEs	15
Purpose of Study.....	25
2. METHOD AND PROCEDURES	27
Definition of Terms	27
Research Questions.....	28
Research Hypotheses.....	29
Participant Selection Process	29
Instruments	31
Established Instrument.....	31
Researcher-Developed Instruments.....	32
Other Questionnaires	34
Pilot Study.....	34
Data Collection	35
Main Study	35
Description of Participants.....	35
Participant Recruitment	36
Data Collection	37
Data Analysis Strategies	38
3. RESULTS AND DISCUSSION	41
Pilot Study Results	41

Main Study Results	42
Description of the Participants.....	42
Quantitative Results	49
Anecdotal Data.....	72
Discussion.....	75
Findings of Main Analysis.....	76
Anecdotal Data and Additional Analyses.....	80
Limitations of the Study	88
Implications for Counselors and Other Healthcare Providers...	91
Suggestions for Future Research.....	94
Conclusion	97

Appendices

A. RECRUITING LITERATURE	100
B. INFORMED CONSENT FORMS	110
C. QUESTIONNAIRES.....	114
D. ORIGINAL EMEQ BEFORE DELETIONS	141
REFERENCES.....	149

LIST OF TABLES

		Page
1.	NDE Scale Scores among Participants Reporting a Close Brush with Death	43
2.	NDE Scale Scores among Original NDEr Participants Who Met NDE Scale Criterion.....	44
3.	Participant Demographics	45
4.	Nature of Participants' Designated Events	47
5.	Time in Years since Participants' Designated Events.....	48
6.	Number of Transcendental and Mystical Experiences Reported by LCErs ...	49
7.	Internal Consistency Reliability in Cronbach's Alpha of the EMEQ	50
8.	Convergent and Discriminant Validity of the EMEQ for all Three Groups.....	51
9.	Descriptive Statistics of the EMEQ and Greyson Scores	53
10.	Descriptive Statistics of the EMEQ-L Scores by Group and Rating.....	55
11.	ANOVA Tables for the EMEQ-L	57
12.	Comparison of t-Tests of EMEQ Scores Before the Designated Event versus During the Last Year.....	61
13.	Descriptive Statistics of the EMEQ Gain Scores for All Participants Combined	63
14.	Descriptive Statistics of the EMEQ Gain Scores by Group.....	65
15.	ANOVA Tables for the EMEQ Gain Scores.....	68
16.	Correlations between the EMEQ-Last year and the NDE Scale.....	71
17.	Number of Participants' Reported Problems with EM Devices over the Last Year.....	73
18.	Descriptive Statistics of the EMEQ-B Scores for Entire Scale.....	85
19.	ANOVA Tables for the EMEQ-B.....	85
20.	Correlations between the EMEQ-Before a Close Brush with Death and the NDE Scale.....	86

CHAPTER 1

INTRODUCTION

Counselors are required to complete proper educational training in order to become qualified in their field. Clients who seek counseling come from many walks of life; therefore, the issues and concerns they bring with them are as diverse as the clients themselves. According to the American Counseling Association (ACA), counselors are required to be aware of current scientific and professional information in their field (2005). In addition, counselors are recommended to take steps to maintain competence in the skills they use, to be open to new procedures, and to stay up to date with the diverse populations and specific populations with which they work (ACA, 2005). Clients' motivations behind seeking counseling are typically to reduce stress and gain increased sense of contentment in life (Corey, 1991). A near-death experience is one of the issues that can cause stress in people's lives and provoke them to seek counseling (Greyson, 2000).

In 1975, psychiatrist Raymond Moody published the book *Life after Life* to address the question, "What is it like to die?" (p. 21). In this book, he introduced the term near-death experience (NDE) (Schwaninger, Eisenberg, Schechtman, & Weiss, 2002). Bruce Greyson (2000), a psychiatrist and a prominent researcher in the field of near-death studies, defined near-death experiences as "profound psychological events with transcendental and mystical elements, typically occurring to individuals close to death or in situations of intense physical or emotional danger" (p. 315-316). Jan Holden, a psychotherapist, counselor educator, near-death researcher, and three-year president of the International Association for Near-Death Studies, defined NDEs as "a person's

reported memory of psychological events of a paranormal and mystical nature that occurred during a close brush with death” (J. Holden, personal communication, February 13, 2007). Some examples of the paranormal and mystical events reported by Near-Death Experiencers (NDErs) are seeing their body from above, passing through a dark tunnel, experiencing a sense of unity with existence, and meeting with their deceased family members. Most NDErs report the NDE to have felt absolutely real or even hyper-real. However, most individuals who have experienced a close brush with death have not reported an NDE (Atwater, 1994; Greyson, 2000; Moody, 1975; Ring, 2000).

After an NDE, many people have reported a change in the quality of their lives (Atwater, 1994; Greyson, 2000; Ring, 2000). Near-death experiencers (NDErs) often reported a profoundly positive change in attitude, values, and spiritual beliefs (Fenwick & Fenwick, 1995; Greyson, 2000; Ring, 2000; Schwaninger et al., 2002). Nevertheless, some individuals reported stressful aftereffects. One such stressful aftereffect is electromagnetic phenomena. Electromagnetic effects (EMEs) include problems with the malfunction of wrist watches, computers, TVs, and lights in the vicinity of the NDEr (Atwater, 1994; Bonenfant, 2005; Ring, 2000). Despite many anecdotal reports, a thorough review of the professional literature revealed no publication of a scientifically based study of electromagnetic aftereffects experienced by NDErs.

Statement of Problem

Clients seek counseling services to find relief from psychosocial distress (Corey, 1991). One stressor that motivates clients to seek counseling is the aftereffects of NDEs (Greyson, 2000). Numerous researchers have reported aftereffects of NDEs that

influence NDErs' day to day functioning and view of life. Lack of awareness about the EMEs of NDErs can result in feelings of isolation and rejection. A craniosacral therapist, for example, after hearing about my dissertation in a personal conversation with me, related her childhood NDE to her problematic experiences with computers. She mentioned having been asked often to leave the computer room at a previous job (S. Arndholt, personal communication, October 11, 2006). It is crucial for counselors to be aware of the near-death phenomenon and its aftereffects on people's lives in order to better serve this population. Educating NDEr clients and their families and friends can have many positive effects on their psychological well-being (Greyson, 2000).

To gather more data about the experience of NDErs, Greyson (1983) developed the Near-Death Experience Scale (NDE Scale) that discriminates between different types and degrees of depth of NDEs (Bonenfant, 2004; Lange, Greyson, & Houran, 2004); Greyson included subscales for the four categories of cognitive, affective, paranormal, and transcendental features of an NDE. Greyson (2000) and others (Christian, 2005) have researched the psychological changes following an NDE that seem to contribute to family problems, divorce, and major career changes.

At least some NDErs report electromagnetic effects following their NDEs. These phenomena can take one or more forms and occur when an NDEr is near an electrical device. Some NDErs have reported recurring incidents of computers and appliances malfunctioning or having a short-out in their presence (Bonenfant, 2005; Ring, 2000). Some have reported a history of constantly needing to change cell phones because of malfunction and sending new ones out for repair (Bonenfant, 2005). Some have reported failure of wristwatches to keep accurate time and needing to change batteries

every few weeks (Atwater, 1994; Bonenfant, 2004; Ring, 2000). Some have reported lights dimming, flickering, or burning out when they come close to the light (Atwater, 1994; Bonenfant, 2004, 2005; Ring, 2000).

A thorough review of the professional literature did not reveal a systematic, quantitative study of the incidence or nature of EMEs. Thus, it was not known whether a systematic census of NDErs could substantiate a greater incidence of EMEs among them; if so, whether the higher incidence would be related to the NDE itself or might be reported by anyone who had come close to death with or without an NDE; if NDErs evidenced a higher incidence of EMEs, whether they had always experienced a higher incidence or had experienced an increase following their NDEs; or, if related specifically to the NDE, whether the extent of EMEs was related to the nature and/or depth of the NDEs. As a result, the following questions had yet to be answered:

1. What is the difference in recent incidence of EMEs between three groups: NDErs (people who reportedly had a close brush with death with an NDE), CBrS (people who reportedly had a close brush with death without an NDE), and LCERs (people who reportedly never had a close brush with death and who used their reportedly most life-changing event, rather than a close brush with death, as a before-and-after reference point of comparison)?

2. What is the difference between these three groups in reported change in EMEs before versus after a critical designated event that occurred at least one year ago: among NDErs, their NDE; among CBrS, their close brush with death; and among LCERs, their most life-changing event?

3. What is the relationship between the reported incidence of EMEs among NDErs and CBrS and their subjective experiences during their close brushes with death?

Review of Literature

Even though an exact count of the reported incidence of NDEs is not available, researchers have found NDEs in as many as one third of the people who have come close to death, which makes up 5% of the United States' population (Gallup & Proctor, 1982; Ring, 1984; Sabom, 1982). However, according to Greyson's reassessment in 1998, this estimate may be inflated.

As more and more NDEs became known, they stimulated the curiosity of physicians and other health care professionals about the validity of these recurring reports as well as their effects on the experiencers' physiological and psychological well-being. As a result, many researchers have investigated the NDE phenomenon and compiled a body of research on the topic (Green & Friedman, 1983; Greyson, 1983; 2000; Jourdan, 1994; Noyes, 1980; Ochsner, 1993; Parnia, 2006; Parnia & Fenwick, 2002; Ring, 2000; Sabom, 1982; Schwaninger et al., 2002; Sutherland, 1992; van Lommel, 2004; van Lommel, van Wees, Meyers, & Elfferich, 2001; Wilson, 1987).

In the following section, I will discuss the importance of educating counselors about NDEs, definitions of NDEs, contents of NDEs, explanatory models of NDEs, and aftereffects of NDEs. At the end of the literature review, I will focus on the electromagnetic aftereffects of NDEs.

NDErs in Counseling

Clients seek counseling due to some form of distress they are experiencing in life in an effort to make constructive changes and improve the quality of their lives (Corey, 1991). The underlying issues that have led to some form of distress for clients are as many as the unique backgrounds and personal experiences of each client. In order for counseling to be effective, counselors must receive proper education and develop effective skills (ACA, 2005). Experts in the field agree that basic counseling skills such as personal and professional development skills, communication skills, cognitive awareness, and affective awareness are essential for a therapeutic alliance between counselors and clients (Burns, 2001). Applying these skills requires a thorough understanding of the clients' experiences in life (Corey, 1991).

Another aspect of effectiveness of counseling is counselors' understanding and acceptance of their clients' world. According to Corey (1991) "counselors who are able to understand and accept the world of their clients are in a better position to patiently help these clients begin to speak" (p. 25). This understanding requires awareness about the issues clients are bringing into counseling. Counselors are also ethically recommended to maintain competence in the skills they use, to be open to new procedures, and to stay up to date with the diverse and specific populations with which they work (ACA, 2005; Corey, 1991).

Researchers in the field of counseling have found psychoeducation to be an effective tool in helping clients with their specific dilemmas (Sanford et al., 2006) and in improving the quality of their lives. In a pilot study of adjunctive family psychoeducation in the treatment of adolescent major depression, Sanford et al. reported positive

treatment effects of psychoeducation on family and social functioning processes and treatment of major depressive disorder. In another study of wellness outcomes of psychoeducation in the aftermath of trauma, Rice and Moller (2006) reported a decrease in interpersonal conflict, a stronger sense of spirituality, and improvement in environmental control and interpersonal relationships. Finally, Lukens and McFarlane (2006) stated that “psychoeducation has broad potential for many forms of illnesses and varied life challenges” (p. 440).

One stressor that may motivate clients to seek counseling is the aftereffects of an NDE. Limited awareness of the public about NDEs may make individuals who have had NDEs reluctant to share their experiences with others, even with their close relatives (Greyson, 2000; Parnia, 2006). NDErs typically mention an inability to find human words to adequately describe their experiences (Greyson, 2000; Parnia, 2006). Their resulting discomfort and reservation can lead to isolation, loneliness, and psychological distress. One example of the aftereffects of NDEs is the instability of pre-NDE marriages after an NDE. In a study of marital stability following an NDE, Christian (2005) found that “no other life-changing experience can affect a couple’s relationship like an NDE can” (p. 173).

As Greyson (2000) stated, when clients who have had an NDE find the courage to seek help from a counselor in order to cope with the related life changes, it is crucial for the counselor to be knowledgeable about this phenomenon in order to be therapeutically effective. Because NDEs occur in people who represent every demographic (Greyson, 2000) and occur in at least 10% of people who come close to death due to illness, injury, or suicide (van Lommel et al., 2001), counselors in every

setting have the potential for NDErs among their clientele. In a therapeutic setting, NDE clients have the potential to explore issues and normalize their experiences and, therefore, overcome their feelings of alienation (Greyson, 2000). However, counselors are currently limited by a dearth of information on this topic. With this study, I hope to enhance counselors' knowledge of EMEs and, thus, their potential to provide informed psychoeducation, thereby more effectively helping their NDEr clientele.

Definitions of NDEs

What is an NDE? Raymond Moody, a psychiatrist and investigator on the topic of death, introduced the term near-death experience (NDE) to describe the experience of some people who had died and returned to life (1975). In his book *Life after Life*, he described commonalities among various NDEs.

Researchers have not reached consensus on a definition of NDEs (Greyson, 2000). Bruce Greyson, a psychiatrist and prominent researcher in the field, defined NDEs as "profound psychological events with transcendental and mystical elements, typically occurring to individuals close to death or in situations of intense physical or emotional danger" (p. 315-316). Janice Holden, a psychotherapist and researcher in the field, defined an NDE as "a person's reported memory of psychological events of a paranormal and mystical nature that occurred during a close brush with death" (personal communication, March 6, 2007).

When Moody (1975) introduced the phenomenon of the NDE to the public and most professionals in the Western industrial world (Schwaninger et al., 2002), he included experiences of three groups of people. First were those people pronounced clinically dead by their physicians and later resuscitated; second were those who came

very close to physical death during an accident, illness, or severe injury; and third were those who reported their experiences as they were dying. For those who have experienced clinical death, even though the duration of clinical death seems to vary, the reported experiences have many similarities (Ring & Lawrence, 1993). In the following section, I will summarize research on the contents of NDEs.

Contents of NDEs

Many individuals who experienced clinical death have reported memory of psychological events that occurred while they were unconscious (Fenwick & Fenwick, 1995; Moody, 1975; Parnia, 2006; Ring, 2000). Although Moody identified 19 elements reported by NDErs, he specified that the order in which they appeared varied from one experience to another and that not all NDErs experienced all elements. He also presented his model as a rough theoretical model rather than a fixed definition (Greyson, 2000; Moody, 1975).

According to Moody, elements taking place during NDEs are ineffability, hearing oneself pronounced dead, feelings of peace and quiet, hearing unusual noises, seeing a dark tunnel, being out of the body, meeting spiritual beings, experiencing a bright light as a being of light, panoramic life review, experiencing a realm in which all knowledge exists, experiencing cities of light, experiencing a realm of bewildered spirits, experiencing a supernatural rescue, sensing a border or limit, and coming back into the body (1975). In the next section, I will discuss several of the most salient of these NDE features.

Out-of-Body Experience. One of the characteristics of an NDE is disassociation from the physical body, or out-of-body experience (OBE) (Greyson, 1983; Jourdan, 1994). An OBE refers to a state of awareness in which one feels fully conscious, often hyper-conscious, yet does not feel connected to the body. One perceives one's consciousness or "self" to be completely outside one's body, and one can view the body and/or surrounding area just as any other outsider may be able to (Moody, 1976). Often, one can also move away from the presence of the physical body and visit other places.

During most of these incidents, individuals report feeling elevated from the ground. Therefore, their reports of the observed events have often been from an elevated part of the room such as the ceiling (Parnia, 2006; Ring, 2000). In some cases during surgeries, individuals have been able to observe their bodies on the surgery table, hear nurses and doctors talk, and even report the dust on the top of the light in the surgery room above their bodies (Parnia, 2006; Ring, 2000).

While purportedly out-of-body, individuals have reported a higher sense of awareness and increased sensitivity in their senses, even though they were pronounced dead or were alive but unconscious (Jourdan, 1994). Blind individuals have reported being able to see without the limitations of the dysfunction of the physical visual system (Ring & Cooper, 1997). Deaf individuals have reported being able to hear beyond the limitations of their physical ears (Ring, 2000). Individuals have also reported hearing unusual noises during this state without being able to identify the source of the noise. During the OBE and the state of clinical death, some individuals have reported hearing others pronounce them dead (Ring, 2000).

Peace Instead of Fear. Most NDErs report a memory of an extraordinary state of peace and tranquility. Moody (1975) described this experience through the words of some NDErs: “I just had a nice, great feeling of solitude and peace... It was beautiful, and I was at such peace in my mind” (p. 21). Another NDEr described this state as “a great attitude of relief. There was no pain, and I’ve never felt so relaxed. I was at ease and it was all good” (p. 21).

Although most NDEs are reportedly peaceful, calm, pain free, and beautiful, others involve encounters with unfriendly, hurtful, ugly, and frightening beings (Angha, 1978; Ring, 2000). These distressing NDEs appear to be a small minority compared to the much more commonly reported pleasurable NDEs (Greyson, 2000).

Dark Tunnel. Many NDErs have reported “being pulled very rapidly through a dark space of some kind” (Moody, 1975, p. 38). This experience has been referred to as a dark tunnel in most NDE literature (Moody, 1988; Ring, 2000; Wilson, 1987). According to Moody (1975), this space has been described in many ways such as a cave, a well, a trough, a vacuum, a cylinder, an enclosure, a funnel, a tunnel, a void, a sewer, and a valley. Despite the varying descriptions, the experiences described by NDErs have many similarities (Moody, 1975).

In most cases the tunnel has led the NDEr to light and has been described as a vivid and real experience that is hard to forget. In one description the tunnel has been referred to as a void tunnel that led to a luminous world (Gallagher, 1982). Moving through a dark tunnel has been reported mostly by NDErs from Buddhist and Christian backgrounds (Greyson, 2000).

Meeting with a Being of Light. Many NDErs recall meeting with, receiving messages from, or actually dialoging with a being of light. NDErs have described this communication not in verbal form but through a means of understanding different from the form of physical communication, a kind of “mind to mind” communication (Ring, 2000).

NDErs describe this being as all-knowing and all-loving. They often describe the experience of presence with/in the being of light as “coming Home” (Ring, 2000).

Experience of Infinite Knowledge. Another common experience is the experience of infinite knowledge. Individuals report a state of knowing in the absolute form during their NDEs. Some have mentioned instantaneous, and even simultaneous, answers to any questions they thought (Ring, 2000).

Ring dedicated a chapter of his book *Lessons from the Light* to NDEs among the blind (2000). In this chapter he discussed the NDErs’ ability to see and know even though their eyes could not see in the material world. He referred to this state as “a distinctive state of transcendental awareness that I would like to call mindsight” (p. 93).

Holographic Life Review. One of the experiences during NDEs is the holographic life review. Individuals have described this phenomenon as if their whole memory was replaying (Ring, 2000). This experience has been explained as a reliving of the past experiences with the full spectrum of emotions associated with the events, both pleasant and unpleasant emotions.

Some NDErs, for example, have reported viewing their past, including traumatic and previously forgotten experiences, and feeling their own emotions while simultaneously feeling emotions of other people with whom they interacted. Similar

reports reflect this reliving process to be necessary for the NDEr to understand the full effects of their actions committed during life, especially those that may have harmed another being (Ring, 2000).

Encountering Deceased Loved Ones and Beautiful Scenery. NDErs have repeatedly reported meeting their deceased loved ones and communicating with them nonverbally (Fenwick & Fenwick, 1995; Moody, 1975; Ring, 2000). In the case of pediatrics, some child NDErs reported contact with deceased dogs instead of family members (Angha, 1978; Serdahely, 1989-1990).

Some NDErs found themselves in natural surroundings of indescribable beauty. The description of beautiful scenery included beautiful gardens, bright and comforting lights, high ornamental golden gates, and flowers of every kind (Fenwick & Fenwick, 1995).

Return to the body. NDErs have commonly reported encountering a boundary beyond which one cannot go. At this point, either the being of light has informed the person of the need to return to one's body, or the NDEr has simply come to know that it was time to return (Ring, 2000). In other cases individuals have reported being pulled back into their bodies (Moody, 1976).

Some individuals have reported being non-verbally given a reason or a mission as to the purpose of their return to their bodies (Ring, 2000). Upon return, many of those who were suffering from physical pain before their NDEs, and had found themselves pain free during their NDEs, experienced pain again after their perceived return to their bodies (Ring, 2000).

Some NDErs claim to have been told to return to earth and continue their lives because it was not yet time for them to enter the other realm (Ring, 2000). Others were told to return and were given the reasons for their return which included duty to family, taking care of a loved one, completing an important task, completing an unfinished education, or other meaningful purposes for the NDErs (Moody, 1975; Ring, 2000). Yet others' NDEs ended abruptly when, with no forewarning, they suddenly found themselves back in their bodies.

Explanatory Models of NDEs

In addition to psychological aspects of NDEs, researchers have been investigating the physiological aspects and explanations of NDEs (Fenwick & Fenwick, 1995; Parnia, 2006). Sam Parnia, a physician from the United Kingdom, addressed the physiological aspects of NDEs in his book *What Happens When We Die: A Groundbreaking Study into the Nature of Life and Death* (2006). Some theorists have related experience of NDErs to the effects of drugs, hypoxia, hypercarbia, or electrolyte disturbances during times of physical crises. However, a one year prospective study of cardiac arrest survivors in hospitals showed otherwise (Parnia & Fenwick, 2002). Interviewing each survivor over the course of a year, Parnia and Fenwick (2002) "did not find any evidence to support the role of drugs, hypoxia, hypercarbia, or electrolyte disturbances in the causation of NDE" (p. 7).

According to Peter Fenwick, a neuropsychiatrist and a Fellow of the Royal College of Psychiatrists in Britain, many NDErs have their out-of-body experiences when they are actually on the operating table, under anesthesia, or being resuscitated. Because their bodies -- and brains -- are unconscious, they should not be able to

experience anything -- yet they do report experiences. In their book, *The Truth in the Light*, Fenwick and Fenwick (1995) discussed the role of consciousness. In regard to having memories of events during a time one is unconscious or brain inactive, Fenwick and Fenwick stated, "if we are really unconscious, we are not building mental models, and we can experience nothing" (p. 204). Yet many, NDErs report memories that apparently occurred during the time they seemed to be unconscious. The fact that some NDEs started during states of anesthesia and unconsciousness may support the idea that NDEs are not merely a result of uncontrolled activity in the brain but perhaps a distinct experience of consciousness beyond the capacity of the brain's functioning.

The possibility of a pattern of psychopathology has been another topic of investigation. Several retrospective studies (Gabbard & Twemlow, 1982; Greyson, 1991, 2000) on measures of mental health have shown most NDErs to be as psychologically healthy as non-NDEr control groups.

In a recent review of all explanatory models of NDEs offered so far, Greyson, Kelly, and Kelly, (2006) concluded that none is adequate to explain all features of NDEs. Whatever the nature of the experience itself, researchers have clearly revealed a pattern of profound aftereffects following NDEs. This pattern involves both an array of features and far-reaching influence on NDErs' lives.

Aftereffects of NDEs

In addition to the similarity of the reported experiences during NDEs, investigators (Atwater, 1994; Bonenfant, 2005; Greyson, 2000; Moody, 1975 Ring, 2000; van Lommel, 2004) have also found that NDErs report similar aftereffects. After an NDE, many NDErs have reported changes in psychological and physiological

aspects of their lives (Atwater, 1994; Fenwick & Fenwick, 1995; Ring, 2000; Schwaninger et al., 2002). In addition, many have reported changes in paranormal functioning (Jourdan, 1994; Moody, 1976; Ring, 2000), such as precognition of future events-- knowing about future events in advance -- and telepathy -- knowing what someone else is thinking and/or experiencing.

In a prospective study in The Netherlands, van Lommel et al. (2001) included 344 consecutive patients who were resuscitated after cardiac arrest; 62 patients (18%) reported an NDE. In an eight year follow up, all patients, including those without an NDE, had gone through positive changes and were more socially aware and self assured than before. Non-NDErs had become more emotionally affected, and their interest in spirituality had strongly decreased. The two groups also evidenced some significant differences. Most non-NDErs did not believe in a life after death at two year or eight year follow-ups, whereas NDErs strongly believed in an afterlife. NDErs had also become more emotionally vulnerable and empathic. Moreover, NDErs showed evidence of increased intuitive feelings. As a result of this study, any future research should compare NDErs, people who have come close to death without an NDE, and people who have never come close to death, to determine whether any difference in the focus of investigation is associated generally with a close brush with death or specifically with an NDE (van Lommel et al., 2001).

Aftereffects of NDEs can have pleasing and/or distressing impact on an NDErs' lives. As Holden (1996) stated, "the aftermath of even a pleasant NDE has sometimes involved psychological difficulties that range from relatively mild adjustment disorders to profoundly distressing and disorienting spiritual emergencies" (p. 273). NDErs who seek

counseling may not even be aware of the relationship between their NDEs and the distress they are experiencing. In the next section, I will discuss the aftereffects of NDEs in two categories of psychological and physiological-paranormal functioning followed by a description of electromagnetic aftereffects.

Psychological Aftereffects.

One category of changes for NDErs is psychological aftereffects. These include changes in personal values and perceptions as well as social values and interactions. NDErs have reported positive and negative aspects of personal and social aftereffects (Christian, 2005; Greyson, 2000; Holden, 1996; Ring, 2000).

One stressful psychological change on a personal level that NDErs report in the wake of their NDEs is difficulty finding corroboration of the witnessed events while out of body (Ring, 2000). Positive psychological changes on a personal level reported by NDErs include increased quest for knowledge (Ring, 2000), increased self acceptance (Ring, 2000; Schwaninger et al., 2002), and respect toward self (Sutherland, 1992).

NDErs have reported stressful psychological changes on a social level in relation to others, including frustration in relating the experience to others (Moody, 1975). Atwater (1994) reported difficulty with staying committed to pre-NDE relationships and vocations as some of the common stressors after an NDE. Investigating one type of pre-NDE relationship, marriage, Christian (2005) found increased divorce rate after an NDE.

Other changes include a decrease in competitiveness (Ring, 2000), transformation in personal and social values, and a need to contribute more to society (Ring, 2000). Increased sense of empathy (Moody, 1976; van Lommel et al., 2001),

applying insight in relationship with others (Moody, 1976), concern for others (Ring, 2000), and a greater desire to help others and to express love (Schwaninger et al., 2002; Sutherland, 1992; van Lommel et al., 2001) can be categorized as positive social aftereffects.

Another common aftereffect is psychological changes related to attitudes toward life (Noyes, 1980). Some examples are gaining a sense of purpose (Sutherland, 1992), a deepening and appreciation for life (Ring, 2000; van Lommel et al., 2001), reverence for life (Ring, 2000), anti-materialism (Ring, 2000), and a reduction of suicidal thoughts (Fenwick & Fenwick, 1995), despite a reduced fear of death (Parnia & Fenwick, 2002; Ring, 2000; van Lommel et al., 2001). NDErs also have evidenced increased belief in life after death – a result of their direct experience of death (Ring, 2000; Sabom 1982; Sutherland, 1992), increased belief in God, and increased spiritual awareness (Green & Friedman, 1983; Noyes, 1980; Ring, 1984; Sabom, 1982; van Lommel et al., 2001).

Other Aftereffects: Physiological and Paranormal.

Physiological changes after an NDE can lead to changes in one's personal preferences and old habits and, therefore, have noticeable effects on one's life. NDErs have reported such physiological changes as metabolic alterations, reduction in meat consumption, inability to tolerate loud noises, preference for open doors and windows, reversal of body clocks, absorption – the ability to focus exclusively on an object of attention, and ability to merge into things, as well as maintaining less distinct psychological boundaries with others (Atwater, 1994). Other reported changes were heightened sensations of taste, touch, texture, and odors; increased sensitivity to

meteorological phenomena such as temperature and barometric pressure, expanded mental awareness, and increased creativity (Atwater 1994; Ring, 2000).

Some NDErs have experienced paranormal sensitivities, supernatural rescues, psychic abilities, extrasensory perception, and healing gifts (Ring, 2000). As one NDEr noted, “I am more in tune with people now, that I can pick up things about them faster” (Moody, 1976, p. 85). In one study, Ring (2000) found that 42 percent of NDErs “reported an increase of healing abilities following their experience” (p. 218). As one NDEr stated, “I develop more and more my capacity as a healing channel; divine energy uses me as its channel” (Jourdan, 1994, p. 180). According to Jourdan (1994), the healing techniques that NDErs use vary and include laying on of hands, a sensation of acting upon the subtle body, Shamanic techniques, and accompanying the dying. Some NDErs reported abatement of physiological symptoms such as tumors that have disappeared soon after their NDEs without any medical intervention (Moody, 1975). Another NDEr reported his surgeons’ confirmation of his unusual healing of broken bones within 24 hours after a surgery in which he had an NDE (Nasiri & Aavini, 2007).

Electromagnetic Effects Following NDEs.

One distinct area of physiological aftereffects that NDErs report is electromagnetic effects (EMEs). EMEs include malfunctions of electrical devices, both alternating current and direct current (battery-operated), including wrist watches, lights, TV’s, radios, computers, appliances, cars, and cell phones in close proximity to the NDEr (Atwater, 1994; Bonenfant, 2005; Ring, 2000). Even though researchers did not mention EMEs among major early studies on the aftereffects of NDEs (Kason, 1994; Moody, 1976; Ring, 1980), they have reported EMEs much more consistently in recent

literature (Atwater, 1994; Bonenfant, 2005; Ring 2000). According to the present body of literature, NDErs have reported EMEs to be a major stressor in the aftermaths of their NDEs (Atwater, 1994; Bonenfant, 2005; Ring 2000).

One reason for more recent reports of EMEs may be the years these devices became widely used among people in the West, who have been the primary population for NDE research. For example quartz watches became available in the early 1970's (Silva, 2007). Computers became available to the public during the mid 1980's, and cell phones gained widespread use during the mid 1990's.

Even though watches were around since the 1650's, only around 1850 did Americans pioneered the use of automated machines to mass produce high quality watches with interchangeable parts. By the 1950's, the Swiss had perfected machine made wrist watches such as chronographs, automatic winding watches, and day-date watches. Finally, by the 1970's the Japanese perfected the battery operated – electromagnetic -- quartz watch (Silva, 2007).

Similarly, the first electric machine was built in 1660 that later led to the first mass-produced calculator in 1820. In 1868, the first commercial typewriter was invented, and the first calculator with keys was made in 1886. This development led to invention of the electric logic machine in 1936 and then the first programmable calculator in 1994. In the late 1960s, IBM sold over 30,000 mainframe computers. In 1976, the 5.25 inch floppy disk was introduced, and in 1978 IBM introduced its personal computer. Finally in 1981, the first portable computer was introduced (Boeree, 2008).

Moreover, even though research about the possibility that space can conduct electricity began in 1843, the first trans-Atlantic telegraph did not begin until 1866.

Around 1921, Police Departments began using mobile radios. Then, the first radio-car-phones became available around 1956. Later in 1973, the first personal handset was created. Finally, 1988 was one of the most important years in cell phone evolution, and cell phones became available to the public in 1991(Keith, 2004). Therefore, it is no surprise that NDErs did not report EMEs a few decades ago.

Atwater (1994) provided some preliminary information about possible incidence of EMEs. In her book, *Beyond the Light*, she dedicated an entire chapter to physiological changes and aftereffects of NDEs based on interviews with NDErs. Following are some comments she reported from NDErs regarding EMEs.

...Watches do not keep time for me. But mechanical things seem to work, even for no reason.... If I get too close to FM radio frequencies I raise cain with reception.... Recording equipment won't work for me. I can hear energy change on tapes such as a 'door opening,' frequency shift.... Electronic equipment functions strangely around me.... I touch electrical appliances to make them work. They start up with my energy.... I blew my computer terminal when I got excited. Have burned up three cassette recorders, one overhead projector, and brought down the power in a ten-block area-all because of my energy. This is costly! ... I started dead car batteries with my energy. But as the years go by, my energy field has diminished. Things that were once true are no longer. I lost a lot in order to live in this world. (Atwater, 1994, p. 139-140)

Because Atwater's description of her methodology lacked specifics, it can not be known how representative her participants were of the population of NDErs. In addition,

her findings did not, from a scientific perspective, answer the question of whether NDErs' EMEs are significantly more frequent than those of people who have had a close brush with death without an NDE or who have not had a close brush with death, or whether depth of NDE might be related to extent of EMEs.

Knittweis conducted an informal study (1997) to see whether a detectable difference between electrical fields of NDErs and non-NDErs existed. He employed two devices in his tests: a thermistor for testing heat from the participants' fingers and an electronic electroscope to measure the electron flow. Knittweis tentatively concluded that most NDErs do not show differences in heat or electron flow from their hands compared to non-NDErs; however, NDErs who have gained healing abilities from their NDEs seem to have more overall heat and electron flow from both hands compared to non-NDErs. Because of the absence of masking in the research design, the absence of a CB comparison group, and other factors that either were not controlled or were not explained in detail, these results can be considered only suggestive. However, these admittedly suggestive findings do point in the direction of justifying further investigation of EMEs.

The most extensive testimony currently available is probably that of Dr. Rebecca Stephens, a physician and director of the Leaseburg Hospital in Gainesville, Florida. Dr. Stephens was featured as a case study in a presentation by psychologist Richard Bonenfant, Ph.D., at the International Association for Near Death Studies conference on September, 2005, titled "Electromagnetic Sensitivity: A Physician's Experience Following a Childhood NDE". Dr. Stephens, who had an NDE as a child, described her experience with her wrist watches: "They either go backwards, they stop, or the watch

man knows me that he just has to put a new battery in every couple of months.” In regard to cell phones, Dr. Stephens reported, “I have had lots of problems with cell phones not working. I have to have them constantly changed out...after I had touched the cell phone which is just the borrowed cell phone for right now, because I had to send mine into shop to get it repaired, it just beeps all day long if I touch it until I turn it off.” She also described her experience with computers: “They [technology specialists at work] would tell me I had too much static; so, I actually used static mats, I actually have something on my keyboard before I even touch my computer. So, [having] gone through 6 hard drives in 5 years, [my employers] have spent some money on me to make sure I’m not full of EM energy; but in the same sense it affects everything that I do” (Bonenfant, 2005).

Dr. Stephens’s competency as a well educated, capable, and well-achieved physician in the role of hospital director makes her a credible source regarding EMEs of NDErs. Although she did not explicitly say that she did not have these problems before her NDE, she clearly related the problems to her NDE. Like other NDErs, Dr. Stephens reported increased EMEs when she was emotionally aroused, such as frightened or angry.

Similarly, Ring (2000) mentioned an increase in electrical aftereffects among NDErs he interviewed. According to Ring, sensitivity to light, sound, and humidity increased among many NDErs. He also addressed problems with digital wrist watches and short-out of electrical systems in cars, computers, and appliances “...for no apparent reason...” (p. 129).

In systematic studies, various researchers and theoreticians have reported changes in NDEs that may be related to EMEs (Atwater, 1994; Bonenfant, 2004). Ring (2000) reported that 50 percent of his NDEs indicated that their nervous systems were functioning differently than before their NDEs. In addition, he reported that one-third of his NDE respondents “felt their brains were actually physically altered by their experience” (p. 131). According to Ring (2000), NDEs sleep less and get along well with less sleep. Some researchers have related an energy shift after NDEs to describe these energy changes. Bonenfant (2004), Greyson (1993), Jourdan (1994), Kason (1994), and Ring (2000) have found the energy shift and its aftermath are similar to the kundalini experience described by meditators in Eastern traditions. In his 2004 presentation, Bonenfant stated,

...spine tingling is a symptom commonly reported in association with arousal of kundalini, a form of spiritual energy believed to reside in the base of spine and to rise from there through the chakras, eventually leading to a state of enlightenment...

Although various authors have offered the above possible explanations, NDE scholars have not concurred on any single explanation. Whatever the possible dynamics, EMEs have been problematic in NDEs’ lives (Atwater, 1994; Bonenfant, 2004; Greyson, 2000; Ring 2000). In the current human era of high technology, one can easily imagine how much stress can be added to one’s life if electronic equipment malfunctions in one’s presence. These emotionally distressing circumstances can range from minor inconvenience to life threatening situations. For example, a malfunction of car dash dials can give false information to the driver, or an electrical short-out may

cause a serious electrical accident. As one NDEr stated, "Things that were once true are no longer. I lost a lot in order to live in this world' (Atwater, 1994, p. 139-140).

Unfortunately, many NDErs may not be aware of the anecdotal reports of other NDErs about EMEs and may find themselves lonely in their experience. In her monthly group for NDErs, Dr. Janice Holden has witnessed more than one NDEr who realized their own EMEs were shared by other NDErs only after those others reported their own EMEs (personal communication, May 12, 2007).

As stated earlier, Greyson (2000) mentioned the beneficial effect of psychoeducation on NDErs and the impact of the limited knowledge of counselors about NDEs in helping these clients. But counselors can educate clients only to the extent that counselors are armed with reliable information. Therefore, it is not only helpful but perhaps necessary for health care professionals, especially counselors, to educate themselves about this phenomenon and, through psychoeducation, help their clients understand and learn to cope with these often stressful circumstances.

Purpose of Study

Although much research has been conducted to study NDEs and their aftereffects, only very limited literature and research on electromagnetic effects (EMEs) is available. One way to investigate EMEs is to find NDErs who report numerous and strong EMEs and conduct studies of the possible nature of the EM phenomenon. Few such individuals are known (Bonenfant, 2004). In addition, researchers have not yet systematically addressed basic questions about EMEs. For example, despite anecdotal support, it has not yet been established scientifically that NDErs do, indeed, have more EM experiences than do people who experienced a close brush with death without an

NDE or people who have never been close to death. Nor has the possible relationship between EMEs and the depth and various components of NDEs been investigated.

The first purpose of this study was to investigate the comparative incidence of EMEs during the past year among NDErs whose NDEs occurred at least one year before participation in the study, people who experienced a close brush with death without an NDE at least one year before the study (CBrs), and people who reported never having experienced a close brush with death (LCERs). The second purpose was to investigate the comparative change in EME incidence between the three groups before and after a critical life event: among NDErs, their NDE; among CBrs, their close brush with death; and among LCERs, their most life changing event. The third purpose was to investigate the relationship between the reported overall depth and specific components of the subjective experiences of people who have had a close brush with death -- NDErs and CBrs -- and their reported incidence of EMEs.

The resulting information is valuable for counselors and other health care professionals in helping clients who have been affected by their own NDEs or the NDEs of people close to them. This information will also provide a more credible basis upon which EME NDErs can normalize their experience. This information can help counselors determine whether EMEs are a stressor in their NDE clients' lives and, if so, provide psychoeducation in an effort to help their clients gain a better understanding about the phenomenon. In turn, this understanding might help clients implement effective coping skills.

CHAPTER 2

METHOD AND PROCEDURES

The professional near-death literature contains anecdotal reports of near-death experiencers (NDErs) experiencing electromagnetic effects (EMEs) following their NDEs. The electrical devices that seem to malfunction in the presence of an NDEr include, but are not limited to, lights, computers, cell phones, wrist watches, and televisions. According to NDErs, lights flicker or automatically turn on and/or off, computers either crash or malfunction, cell phones often lose reception and malfunction, wrist watches quickly lose battery power or run faster or slower than the proper time, and televisions automatically change channels in their presence.

Basic questions about EMEs have not yet been addressed through systematic, quantitative research. Therefore, the following questions were the focus of the proposed study. An assumption was that if this study yielded affirmative answers, a worthy pursuit for future investigators would be to measure the EMEs in the aftermath of an NDE through the use of electromagnetic measuring devices and speculate about its mechanism.

Definition of Terms

To investigate the extent of EMEs among NDErs, I identified three participant comparison groups: NDErs, CBrS, and LCERs. Following are the descriptions of each group:

1. NDErs were individuals who “[reported] memory of psychological events of a paranormal and mystical nature that occurred during a close brush with death” (J. Holden, personal communication, March 6, 2007) -- that happened at least

one year before participating in the study, and scored 7 points or higher on the NDE Scale.

2. CBrS were individuals who reported no memory of psychological events during a close brush with death that occurred at least one year before participating in the study, and scored 6 points or lower on the NDE Scale.
3. LCERs were people who reportedly had never experienced a close brush with death but who, for the purpose of comparison, use a self-identified “most life-changing event” that occurred at least one year before participating in the study as a before-and-after referent.
4. The term electromagnetic effect (EME) refers to distortion or malfunctioning of electromagnetic devices in the close proximity of an individual. For the purpose of this study, electromagnetic devices included computers, cell phones, wrist watches, and lights.

Research Questions

As discussed earlier, researchers have not yet systematically studied many basic questions about EMEs. These questions include:

1. What is the difference in incidence of EMEs among NDErs, CBrS, and LCERs during the most recent year?
2. What is the difference between three groups in reported change in incidence of EMEs before and after certain designated events: among NDErs, their NDEs; among CBrS, their close brushes with death; and among LCERs, their most life-changing events?

3. Among people who report having experienced a close brush with death -- NDErs and CBrS --, what is the relationship between the reported incidence of EM phenomena and the depth of their subjective experiences during their close brushes with death?

Research Hypotheses

Although research indicated a possibility of directional hypotheses, because this study is the first of its kind, hence exploratory, I approached questions and hypotheses from a null perspective.

1. There is no difference between NDErs, CBrS, and LCErs in their total scores on the Electromagnetic Effects Questionnaire reflecting incidence of EMEs in the year prior to the study.
2. With reference to a designated event -- an NDE, a close brush with death, or a reportedly most life-changing event -- there is no difference between NDErs, CBrS, and LCErs, respectively, in the changes in their total Electromagnetic Effects Questionnaire scores with respect to before versus after the event.
3. There is no relationship between the incidence of EMEs, as measured by total Electromagnetic Effects Questionnaire -- Last year scores, and the reported depth of subjective experience during a close brush with death as measured by NDE Scale scores, among NDErs and CBrS combined.

Participant Selection Process

Once my advisory committee accepted my proposal, I submitted it to the University of North Texas Institutional Review Board (IRB) for approval. Upon approval, I contacted the International Association for Near-Death Studies (IANDS) and asked for

a call for participants to be distributed among members. IANDS has 50 local groups across the United States and Canada that many people -- NDErs and others -- attend, many of whom are not IANDS members but are interested in NDEs and related phenomena. I asked the national coordinator of the local groups to send an announcement to the leaders of these groups to announce the call for participants in their monthly meetings and forward the announcements to their e-mail lists of members. I also contacted physicians to call for participants among their patients and left survey packets for those who were willing to participate in the research. In addition, I contacted organizations such as the Association for Death Education and Counseling (ADEC), the International Society for the Study of Subtle Energies and Energy Medicine (ISSSEEM), and the Institute of Noetic Sciences (IONS) and asked them to distribute the call for participants. I also sent a bulk mail message to undergraduate and graduate students in the counseling program of a large southwestern public university. Finally, I asked for volunteers to participate through word of mouth -- such as known NDErs and CBRs not included in the above groups.

I rewarded three participants through a drawing at the end of data collection with a Sony MP3 player. I provided the following forms to each participant.

1. Recruiting Letter (Appendix A).
2. Informed consent form (Appendix B).
3. Close Brush with Death Question Form (Appendix C).
4. Life Changing Event Question Form (Appendix C).
5. NDE Scale (Greyson, 1983); (Appendix C).
6. Electromagnetic Effects Questionnaire -- Last Year (EMEQ-L); (Appendix

- C).
7. Electromagnetic Effects Questionnaire – Before Event (EMEQ-B);
(Appendix C).
 8. Demographics Form (Appendix C).
 9. A stamped, pre-addressed envelope for those who received the hard copies of the surveys.

Completed packages returned by 115 participants -- at least 20 in each of the three categories of NDEr, CBr, and LCER -- were used for analysis. Once I received all responses, I secured the informed consent forms in a confidential location and proceeded with statistical analysis.

Instruments

I used responses from two instruments to test hypotheses: the NDE Scale (Greyson, 1983) and the EMEQ. The former was an established questionnaire that numerous NDE researchers had used, and the latter was a researcher-developed instrument.

Established Instrument

The NDE Scale that Bruce Greyson developed is “clinically useful in differentiating NDEs from organic brain syndromes and nonspecific stress responses, and can standardize further research into mechanisms and effects of NDEs” (Greyson, 1983, p. 369). The Scale consists of 16 questions, grouped into four clusters of cognitive, affective, paranormal, and transcendental features of the experience.

According to Greyson (1983), the Scale has high internal consistency, split-half reliability, and test-retest reliability. “Mean scores and standard deviations on the two

halves were 7.64 ± 4.22 and 7.38 ± 3.94 ; the resultant Pearson product-moment reliability coefficient between the two halves was .84, Spearman-Brown corrected to .92” (p. 373). Internal consistency of this scale using Cronbach’s Coefficient Alpha for the entire NDE Scale was .88. Reliabilities for subscales were .75 for the cognitive component, .86 for the affective component, .66 for the paranormal component, and .76 for the transcendental component. Alpha values of 0.7 and 0.8 are generally considered satisfactory (Nunally, 1978).

According to Greyson, the criterion score of 7 (one standard deviation below the mean) or higher seems a valid cut-off point for determining the presence of an NDE (Greyson, 1983; Lange, Greyson, & Houran, 2004). A copy of this instrument is reprinted by permission in Appendix C.

Researcher-Developed Instruments

I developed the EMEQ with the consultation of my dissertation committee chair, an established scholar with 20 years of research experience in the field of near-death studies. As reviewed in Chapter I, many NDErs have reported malfunction of electromagnetic equipment in their presence for no apparent reason. In order to research the difference in incidences of EMEs among NDErs, CBrS, and LCERs, my committee chair and I first compiled a list of equipment reported by NDErs that malfunction in their presence. We then narrowed the list to the four categories most frequently reported in the literature: lights, watches, computers, and cell phones. We added a fifth category addressing how functioning of all devices was influenced by the respondent’s emotional state. Next, we developed a set of 20 items that address the malfunctioning of these five categories (see Appendix C).

Each of the five categories included two to five items with both positive statement, indicating malfunction of electronic devices, and negative statements, indicating normal function. I used a 6-point Likert scale: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree Nor Agree*, 4 = *Agree*, 5 = *Strongly Agree*, and 6 = *I have reduced or stopped my use of [specific devices] because I have had so many problems with them*.

Technically, in data processing, I treated anchor point 6 as anchor point 5 (*Strongly Agree*) for the positive statements and as anchor point 1 (*Strongly Disagree*) for the negative statements. As explained in the section titled Results for the Pilot Study, I eliminated four items due to their low correlations with other items in their respective categories, leaving 16 items for the final version of the survey (see Appendix C).

In computing the factor means and the internal consistency reliability of the EMEQ, I reverse coded all of the negative items so that, for all items, high scores indicated malfunction. In addition, in calculating the factor means in the case of missing data, I used a 75/25 rule; that is, if a respondent missed over 25% of the items for a factor, I did not compute the factor mean.

I pilot tested the survey for language clarity with five adult readers: two native English speakers and three who spoke English as their second language. I made some wording changes based on their recommendations. Two experts in the field examined face validity: One was my dissertation committee chair, and the other was a psychologist and a prominent researcher and presenter in the area of EMEs among NDErs, Richard Bonenfant, Ph.D. Both of them confirmed the survey had face validity with several minor wording recommendations, many of which I implemented in the final questionnaire.

Other Questionnaires

I designed the Close Brush with Death Questionnaire to collect information about the circumstances and time of NDEs and CBs. I also designed the Life Changing Event Questionnaire to collect information from non-NDErs about their significant life changing events and about their transcendental and mystical experiences – the latter to enable follow-up analysis if indicated for participants who reported numerous intense transcendental and mystical experiences as a result of various spiritual and meditation practices (Jourdan, 1994). In addition, I developed the Demographics Questionnaire to collect information about age, gender, ethnicity, and education levels of participants.

Pilot Study

After the EMEQ was finalized, I conducted a pilot study to examine its psychometric properties. My consulting statistician recommended that I collect data from a minimum of 15 participants for each of the three groups. Once I realized I was not able to meet this standard within the designated time frame, I consulted with the statistician again to determine the minimum number of participants for the pilot study. According to the statistician, I should identify as many participants as possible. My major professor agreed with the recommendation.

I informally recruited volunteers to complete the survey. They included friends, colleagues, and some members of the International Association for Near Death Studies (IANDS). I offered to hold a drawing at the end of data collection to offer MP3 players to three participants as an incentive to participate. Literature used to recruit volunteers is included in Appendix A.

Data Collection

Instructions on how to access the survey was provided in all announcements. The survey was available online as well as in a paper and pencil format. Both options were presented in all announcements that were distributed. The online survey was available through a link from my website. A direct link to Survey Monkey was also available on e-mail announcements.

After reading the Informed Consent, participants were able to complete the questionnaires. At the end of the survey, participants were instructed to send an e-mail to me with only their first name and e-mail address or phone number if they were interested in participating in the drawing for prizes.

Then, I printed all completed surveys and entered all quantitative data into an Excel spreadsheet. I also typed the open-ended questions in the same Excel file in a separate worksheet.

Main Study

Description of Participants

After completion of the pilot study, with the help of my dissertation committee chair, I made the survey available to the potential populations. As previously stated, the study include the following three groups:

1. NDErs are individuals who “report memory of psychological events of a paranormal and mystical nature that occurred during a close brush with death” (J. Holden, personal communication, March 6, 2007) that happened at least one year before participating in the study and who scored 7 or higher on the NDE Scale.

2. CBrS are individuals who report no memory of psychological events during a close brush with death that happened at least one year before participating in the study and who scored 6 points or lower on the NDE Scale.
3. LCERS were participants who reportedly had never experienced a close brush with death but who, for purpose of comparison, self-identified a “most life-changing event” that happened at least one year before participating in the study to use as a before-and-after referent.

Participant Recruitment

I sent announcement e-mails to individuals and organizations (IANDS, ADEC, ISSSEEM, and IONS). I also sent announcement letters to 40 cardiologists in the area. My dissertation committee chair mailed a bulk message to the e-mail list of a large southwestern public university as well as to the people she knew personally or through IANDS. In the announcements, I indicated two ways of completing the survey: online and paper format. I mailed the paper format to participants who preferred this format.

Many LCERS responded to the survey immediately, and later through IANDS, many NDErs completed the survey. CBrS, however, were the slowest group to respond. As I approached individuals about having had a close brush with death, most people with whom I spoke were not interested in the subject. I found the word “death” to be a stigma from which most people recoiled. Therefore, I started approaching individuals personally and spending time to describe what a close brush with death means. I had to remove the word “death” and replace it with “having encountered a dangerous and life threatening situation”. After this explanation, the number of participants in the CB group slowly increased.

Data Collection

Participants completed the survey online or on paper. Each participant completed five questionnaires.

NDErs and CBrS completed the following:

1. Consent form (Appendix B): Participants read and signed this form on paper format or only read and clicked “next” on online format indicating agreement with the consent form.
2. Electromagnetic Effects Questionnaire – Last Year (Appendix C).
3. Close Brush with Death Question Form (Appendix C).
4. NDE Scale (Greyson, 1983), (Appendix C).
5. Electromagnetic Effects Questionnaire – Before-Event (Appendix C).
6. Demographics Form (Appendix C).

LCERs completed the following:

1. Consent form (Appendix B): Participants read and signed this form on paper format or only read and clicked “next” on online format indicating agreement with the consent form.
2. Electromagnetic Effects Questionnaire – Last Year (Appendix C).
3. Close Brush with Death Question Form (Appendix C).
4. Life Changing Event Question Form (Appendix C).
5. Electromagnetic Effects Questionnaire – Before-Event (Appendix C).
6. Demographics Form (Appendix C).

Eventually, 40 NDErs, 22 CBrS (one of whom had experienced their CB 11 months rather than one year prior), and 48 LCERs returned the surveys. Four NDErs

and one LCEr returned a hard copy of the survey, whereas others completed the survey online. Three NDErs left some sections blank in the questionnaires, two CBrS, and two LCErs missed the demographic information. These participants were excluded, leaving 37 NDErs, 20 CBrS, and 46 LCErs in the final sample.

Data Analysis Strategies

For Hypothesis 1 on the difference in incidence of EMEs among NDErs, CBrS, and LCErs during the most recent year, I used one-way ANOVA because it is a better option than t-test to control for Type I false positive error for mean difference among three or more groups (Hinkle, Wiersma, & Jurs, 2003). The recommended minimum sample size is 20 observations per group (Hair, Black, Babin, Anderson, & Tatham, 2005), which was met in the present study.

For Hypothesis 2 on the differences between three groups in the reported change in incidence of EMEs before their designated events versus the past year, although repeated measures pre-post ANOVA was a possible statistical method, my consulting statistician recommended using t-test and one-way ANOVA for better accuracy. I used paired sample t-test to assess the EMEQ changing score for each of the three groups, and one-way ANOVA involving the gain score -- that is, the difference between EMEQ-L and EMEQ-B scores -- as the dependent variable was used to compare the changed EMEQ scores across the three groups. Although other options, such as ANCOVA, the univariate mixed-model approach, and the multivariate 2 x 3 split-design may be used to address a hypothesis such as this, I rejected these methods due to their strict assumption requirements.

Because Hypothesis 2 required participants to have used the specified EM device prior to their designated event, only certain participants' data were used in this analysis. To establish a cutoff year for designated event, I 1) determined the year the device came into general use, and b) added four years to account for time for the device to come into popular use; I included in the analysis the data for any participant whose designated event occurred this year or later. I established a cutoff year for quartz watches as 1973 (Silva, 2007), for computers 1985 (Boeree, 2008), and for cell phones 1995 (Keith, 2004).

For Hypothesis 3 on the relationship between the reported incidence of EMEs during the last year and the depth of respondents' subjective experiences during their close brushes with death, I used the bivariate Pearson product-moment correlation to examine the relationship between nature of subjective experience during a close brush with death (NDEs and CBrS), as revealed in NDE Scale scores, and incidence of EMEs, as revealed in EMEQ-L scores, among participants who experienced a close brush with death.

Because of the preliminary and exploratory nature of this study, I could have justified a significance probability level of .10. However, I chose to be more conservative; thus, throughout the study, I used the conventional two-tail .05 alpha level to test statistical significance.

For quantitative analysis, I recoded EMEQ responses. Number one was strongly disagree, number two was disagree, number 3 was neither agree nor disagree, number 4 was agree, number 5 was strongly agree and number 6 was "I have reduced or stopped my use of [specific devices] because I have had so many problems with them"

(see Appendix C). I recoded responses for all questions except 1, 11, 12, and 14. I reverse coded negatively worded items 5, 6, 7, 8, 9, 15, and 16. Among these negatively worded questions, only 6, 8, 9, and 15 had a 6th option to choose from, which I recoded to 5. In addition, positively worded items 2, 3, 4, 10, and 13 had a 6th option to choose from which I also changed to 5.

For anecdotal data, I used responses to questions 17 through 21 of the EMEQ -L (see Appendix C). First, I read all of the responses. Second, I recoded the number of times respondents reported experiencing problems with each device. Third, I recoded statements that provided extra information about the respondents' experiences with EM devices. Fourth, I grouped the key words or phrases into common themes and reported results.

CHAPTER 3

RESULTS AND DISCUSSION

In this chapter, the results of the pilot and main studies are provided. Information in this chapter is divided into pilot study results, main study results, discussion, implications for counselors, limitations of the study, suggestions for future research, and conclusion.

Pilot Study Results

The ideal analysis to assess the self-developed Electromagnetic Effects Questionnaire (EMEQ) would be factor analysis. However, due to the difficulty of obtaining a sufficient sample size, I used only internal consistency reliability to guide the improvement of the scale. Cronbach's coefficient alpha remains the most widely used measure of scale reliability (Peterson, 1994). Because Cronbach's alpha can be calculated with as few as 10 sets of responses (Pett, Lackey, & Sullivan, 2003), I collected responses from 12 participants in the pilot study -- one NDEr, three CBrS, and eight LCERs -- to test reliability of the EMEQ. Each participant completed all questionnaires related to that group: NDErs and CBrS completed the EMEQ-Last year (EMEQ-L), Close Brush with Death Question form (CBDQ), NDE Scale, EMEQ-Before the designated event (EMEQ-B), and Demographics Form; and LCERs completed the EMEQ-L, CBDQ, Life Changing Event Question Form (LCEQ), EMEQ-B, and Demographics Form. I evaluated internal consistency of the EMEQ by the determination of Cronbach's coefficient alpha for each subcategory and the overall instrument for the EMEQ-L.

Cronbach's alpha for the 20-item EMEQ-L was .87 for the four items on watches, .96 for the four items on computers, .76 for the four items on lights, .67 for the six items on cell phones, .85 for the two items on emotional arousal, and .94 for the entire scale. Further analysis revealed that one item in the lights category and three items in the cell phone category had low inter-item correlations in their respective categories. These four items were candidates for deletion to improve the reliability of the scale (Hair, Black, Babin, Anderson, & Tatham, 2005). After deletions, the Cronbach's alpha for the lights subtest increased to .85, for the cell phone subtest increased to .79, and for the entire scale increased to .95 (see Appendix D). Because an alpha of .8 or higher is considered to represent very good reliability (Nunally, 1978), I used the 16-item EMEQ in the main study (see Appendix C).

Main Study Results

The following section contains these main parts. First, I describe participants. Then, I provide the quantitative results pertaining to each hypothesis. Finally, I present anecdotal data that participants provided.

Description of the Participants

Originally, 110 participants returned usable data sets. I had used Greyson's (1983) definition of NDEs -- report of "profound psychological events with transcendental and mystical elements, typically occurring to individuals close to death or in situations of intense physical or emotional danger" (p. 315-316) -- to assign participants into groups of NDErs and CBrS. That is, if participants answered yes to the question, "I have experienced a close brush with death; for example a life threatening illness or injury in which I either was resuscitated, was expected to die, or was very likely to die" as well as

the question, “During my close brush with death, I remember a distinct experience of profound psychological events with transcendental features (such as profound peace, out-of-body experience, and/ or encountering deceased loved ones) and/or mystical features (such as encountering spiritual entities and/or an all-knowing being of light), I assigned them to the NDE group. Those who answered “yes” to only the first question I assigned to the CB group.

To establish the validity of these categorizations, I examined total NDE Scale scores for these two groups of participants. The scores are reported in Table 1.

Table 1

NDE Scale Scores among Participants Reporting a Close Brush with Death

	Range	Mean	SD
NDErs	3 - 30	16.73	8.23
CBrs	0 – 2	1.00	1.21

Note: n= 44 NDErs and 20 CBrS

Greyson (1983) indicated a total score of 7 or higher as the criterion for identifying someone as having had an NDE, with higher scores indicating deeper, more intense experiences. Although all 20 CBrS scored below 7, only 37 (86%) of the participants originally categorized as NDErs scored 7 or higher. In alignment with Greyson’s criterion, which has been used consistently as a standard for research in the field of near-death studies, I retained for further analysis as NDErs only those 37 participants. Their NDE Scale data appear in Table 2.

Table 2

NDE Scale Scores among Original NDEr Participants Who Met NDE Scale Criterion

	Range	Mean	SD
NDErs	7 - 30	18.97	6.67

Note: n= 37 NDErs

The demographic characteristics of all participants by group are presented in Table 3. I ran chi square tests to determine the similarity/difference of the groups. Due to many empty or low frequency cells, I recoded ethnicity, country of birth, and religion for the χ^2 tests. For ethnicity, I collapsed all non-Caucasian ethnicities into one group. For country of birth, I combined all non-U.S.-born countries into one group. Similarly, for religion, I combined mixed religions and other religions including atheist into one group. For residence, all participants except for one in the LCE group resided in the U.S. The χ^2 test was inappropriate for this variable.

Over half of the participants were female Caucasian, Christian, in the age range of 35 to 64 years-old, with higher education backgrounds, born and residing in the U. S. Chi Square tests on these seven demographic variables indicated no significant differences on the data distributions in the three groups; thus, the three groups were demographically similar regarding these variables.

Table 3

Participant Demographics

Demographics	NDErs	CBrs	LCErs	χ^2
Gender	n = 37	n = 20	n = 46	$\chi^2(2) = 1.37(p > .05)$
Male	24%	25%	15%	
Female	76%	75%	85%	
Age	n = 37	n = 20	n = 46	$\chi^2(4) = 6.37 (p > .05)$
18-34	8%	30%	26%	
35-64	76%	65%	61%	
65+	16%	5%	13%	
Education	n = 36	n = 20	n = 45	$\chi^2(8) = 7.40 (p > .05)$
HS Diploma	19%	10%	9%	
Associate Degree	14%	10%	9%	
Bachelor Degree	28%	35%	29%	
Master Degree	22%	35%	40%	
Doctoral Degree	17%	10%	18%	
Ethnicity	n = 37	n = 20	n = 46	$\chi^2(2) = .08 (p > .05)$
Caucasian	84%	85%	85%	
Hispanic	3%	5%	0%	
Native American	0%	0%	2%	

(Table continues)

Table 3 (continued)

Demographics	NDErs	CBrs	LCErs	χ^2
Black	3%	0%	4%	
Asian	8%	0%	0%	
Other	3%	10%	9%	
Residence ^b	n = 36	n = 20	n = 45	
USA	100%	95%	98%	
Other countries	0%	5%	2%	
Country of Birth	n=35	n=19	n=45	$\chi^2(2) = 2.13 (p > .05)$
USA	76%	68%	73%	
UK	15%	0%	0%	
Canada	3%	0%	0%	
Sweden	3%	0%	0%	
Mexico	3%	0%	0%	
Philippine	3%	0%	0%	
Iran	0%	32%	20%	
Taiwan	0%	0%	2%	
Australia	0%	0%	2%	
Syria	0%	0%	2%	

(Table continues)

Table 3 (continued)

Demographics	NDErs	CBrs	LCErs	χ^2
Religion	n = 37	n = 20	n = 46	$\chi^2(2) = .03 (p > .05)$
Christian	43%	45%	48%	
Islam	0%	25%	11%	
Atheist	5%	10%	11%	
Buddhism	5%	0%	7%	
Judaism	0%	5%	2%	
Other	41%	0%	22%	
Mixed (Christian & others)	5%	20%	0%	

The nature of participants' designated events is summarized in Table 4. Thirteen of the 46 LCErs and one of the 37 NDErs did not respond to this question. Their data are included in the "not specified" category.

Table 4

Nature of Participants' Designated Events

Event	NDErs	CBrs	LCErs	Total
Serious Illness	46%	50%	2%	2%
Accident Related Injury	43%	20%	0%	0%
Profound Loss	0%	0%	22%	22%

(Table continues)

Table 4 (continued)

Life Threatening Event - Without Injury	0%	30%	4%	4%
Child Birth/Adoption	0%	0%	15%	15%
Cardiac Arrest	8%	0%	0%	0%
Social Adjustment (wedding, divorce, or move)	0%	0%	26%	26%
Spiritual Transformation	0%	0%	2%	2%
Not specified	3%	0%	28%	28%
Total	100%	100%	100%	100%

Note: n=37 NDErs, 20 CBrS, and 46 LCErs.

Time since participants' designated events is summarized in Table 5. The largest single group of participants -- in all groups -- experienced their reported designated event over 20 years ago.

Table 5

Time in Years since Participants' Designated Events

Lapsed Time	NDErs	CBrS	LCErs	Total
1-5 years	11%	25%	24%	19%
6-10 years	14%	20%	22%	17%
11-15 years	5%	0%	9%	5%
16-20 years	3%	5%	7%	5%
20 years +	68%	50%	39%	54%
Total	100%	100%	100%	100%

Note: n=37 NDErs, 20 CBrS, and 46 LCErs.

Table 6 shows the number of transcendental and mystical experiences that LCErs reported. Because Jourdan (1994) had reported increased EMEs in non-NDErs who practiced meditation or other spiritual practices, or who had had other types of spiritual experiences, I assessed these experiences in case results from original hypotheses warranted follow-up analysis involving LCErs' experiences of these types.

Table 6

Number of Transcendental and Mystical Experiences Reported by LCErs

Reported Number of Experiences	LCErs
0	43%
1	17%
2	9%
3	2%
4	20%
5	4%
6	4%
TOTAL	100%

Note: n= 46 LCErs.

Quantitative Results

Psychometric Properties of the EMEQ.

Prior to any data analyses of the EMEQ, I assessed its psychometric properties regarding internal consistency reliability and convergent and discriminant validity. Table

7 shows the internal consistency reliability results for the subscales and the entire scale based on the years of the devices' popular use. Based on Nunnally's (1978) rule of thumb of .70 as acceptable, .80 as satisfactory, and .90 as adequate, with the exception of the Computer EMEQ-L, all other subscales and both entire scales yielded at least acceptable internal reliability.

Table 7

Internal Consistency Reliability in Cronbach's Alpha of the EMEQ

Scale	Number of items	Last Year (-L)		Before the Event (-B)	
		N	Alpha	N	Alpha
Light	3	103	.88	102***	.86
Watch	4	103	.93	102	.90
Computer	4	103	.64	102	.76
Cell phone	3	103	.89	102	.81
Emotional state	2	103	.94	102	.78
Entire scale	16	103	.94	102	.94

*Note: *** One participant completed only the EMEQ-L and left the rest of the questionnaire blank.*

Table 8 shows the subscale correlations for the two ratings. The results indicated all of the Last year and Before the event subscales were significantly correlated at the .001 level, implying all of the subscales measured something similar. Thus, the convergent validity of both versions of the EMEQ seemed to be supported. The magnitudes of the correlations ranged from .46 to .75. Although these correlations were large (Cohen, 1988), their separate variances were larger than the shared variances

except for the correlations between the light and watch subscales, suggesting these subscales addressed different domains of EMEs, thus supporting the discriminant validity of both versions of the EMEQ. In summary, the internal consistency reliability and construct validity of the EMEQ seemed to be supported in the present sample for the two measurements.

Table 8

Convergent and Discriminant Validity of the EMEQ for all Three Groups

	1	2	3	4	5
1. Light	–	.76*** ^b	.66***	.62***	.68***
2. Watch	.75*** ^a	–	.67***	.65***	.56***
3. Computer	.61***	.70***	–	.63***	.56***
4. Cell phone	.53***	.62***	.63***	–	.60***
5. Emotional State	.67***	.74***	.68***	.61***	–

Note: a. Data below the diagonal pertain to the EMEQ-L; n = 103.

b. Data above the diagonal pertain to the EMEQ-B; n = 102.

*** $p < .001$.

Data Analysis for Hypothesis 1.

Hypothesis 1 was: There is no difference between NDErs, CBrS, and LCErs in their total scores on the Electromagnetic Effects Questionnaire reflecting incidence of EMEs in the year before the study. I used one-way ANOVA to examine the group differences on the six EMEQ-L scores: four EME subscale scores, one emotional arousal subscale score, and one total score.

ANOVA rests on three major assumptions: (a) random and independent observations, (b) normal distribution of the dependent variables, and (c) homogeneity of the error variances (Hinkle, Wiersma, & Jurs, 2003).

For the first assumption in the present study, although random sampling was not possible, the requirement of independent observation was met because no obvious evidence indicated the respondents were linked. For the second assumption, I assessed normality with the z-scores of skewness and kurtosis of the six scores of the EMEQ. Hair, Black, Babin, Anderson, and Tatham (2005) recommended using ± 2.58 , at the .01 level, as the cutoff criterion for a sample of 80 and more, which I used in the present study. I assessed the third assumption of the homogeneity of the error variance with Levene's test at the .05 level.

Table 9 shows the basic descriptive statistics including the computed z-scores of skewness and kurtosis for the EMEQ subscale scores in the two ratings (Last year and Before the designated event) and the NDE Scale score. A majority of the EMEQ subscales had z-scores for the skewness and kurtosis in the range of ± 2.58 . The skewness for the EMEQ-B scores on the watch and emotional state subscales were beyond 2.58. However, these departures were not serious, suggesting the distributions of the EMEQ were fairly normal (Hair et al., 2005). Therefore, I performed no data transformation on the EMEQ subscale mean scores. The means on the NDE Scale also met the normality assumption. For these reasons, I retained all data without any outliers removed and/or data transformation. I considered the second assumption on normality to have been met. I addressed the third assumption in each individual ANOVA separately.

Table 9

Descriptive Statistics of the EMEQ and Greyson Scores

	N	M	SD	Min	Max	Skewness	Kurtosis	Z _{skewness}	Z _{kurtosis}
EMEQ-L									
Light	103	2.63	1.22	1.00	5.00	.32	-1.05	1.31	-2.17
Watch	103	2.65	1.29	1.00	5.00	.52	-.93	2.16	-1.93
Computer	103	2.40	0.84	1.00	4.75	.16	-.44	.68	-.92
Cell phone	103	2.75	1.16	1.00	5.00	.17	-1.09	.71	-2.25
Emotional State	103	2.45	1.21	1.00	5.00	.48	-.87	1.97	-1.80
Total	103	2.58	0.97	1.00	4.56	.26	-.92	1.06	-1.91
EMEQ-B									
Light	102	2.29	1.00	1.00	5.00	.56	-.49	2.32	-1.02
Watch	102	2.22	0.98	1.00	5.00	.74	.46	3.04	.94
Computer	102	2.23	0.78	1.00	4.00	-.04	-.76	-.15	-1.58
Cell phone	102	2.34	0.90	1.00	5.00	.40	.18	1.65	.37
Emotional State	102	2.23	0.94	1.00	5.00	.70	.41	2.88	.84
Total	102	2.26	0.78	1.00	4.50	.33	-.37	1.35	-0.77
Greyson	57	.79	0.64	.00	1.88	.16	-1.36	.65	-2.80

Table 10 displays the EMEQ-L scores by group and measurement occasions. A higher score on the EMEQ-L indicates more reported malfunction of the EM device -- light, watch, computer, cell phone -- and more reported malfunction of EM devices

during greater emotional arousal. Results were that, for the last year: (a) The NDE group had average scores of 2.91 and above, whereas the other two groups had average scores 2.43 and below; and (b) the predominant trend was highest scores among NDErs, next highest among CBrS, and lowest among LCERs, with a greater difference between NDErs and CBrS than between CBrS and LCERs.

Table 10

Descriptive Statistics of the EMEQ-L Scores by Group and Rating

	NDErs			CBrs			LCErs		
	M	SD	<i>Diff.</i> <i>NDE-CB</i>	M	SD	<i>Diff.</i> <i>CB-LCE</i>	M	SD	<i>Diff.</i> <i>NDE-LCE</i>
Light	3.52	1.09	1.09	2.43	.94	.43	2.00	.98	1.52
Watch	3.62	1.20	1.21	2.41	1.25	.43	1.98	.84	1.64
Computer	2.91	.76	.62	2.29	.79	.25	2.04	.73	.87
Cell Phone	3.53	1.02	1.13	2.40	1.10	.12	2.28	.97	1.25
Emotional State	3.39	1.09	1.49	1.90	.91	-.03	1.93	.93	1.46
Entire Scale	3.38	0.81	1.06	2.32	.80	.27	2.05	.69	1.33
Average	3.39		1.10	2.29		.25	2.05		1.35

Note: n=37 NDErs, 20 CBrs, and 46 LCErs.

To test the significance of these trends, I ran ANOVA for the five EMEQ-L subscales and the total score. First, it showed the assumption of the homogeneity of error variance was met on all of the six scores except on watch. Second, the null hypothesis of no difference among the three groups was rejected on all of the six dependent variables. In addition, I computed the practical significance in η^2 . The explained portions of variance on the dependent variable by the group membership ranged from 21% to 38%. Cohen (1988) suggested 1% as the minimum threshold of a small effect, 9% as the minimum threshold of a medium effect, and 25% as the minimum threshold of a large effect size. Based on these guidelines, these effect sizes ranged from upper moderate to large.

To determine where the group differences were, I conducted post-hoc tests. Maxwell and Delaney (2004) proposed that the appropriate statistical procedure is Tukey's HSD, as it controls the alpha level at the .05 level for all pair wise comparisons on a dependent variable. Table 11 shows the significant group differences were between the NDE group and the other two groups, whereas there were no significant differences between the LCE and CB groups. Thus, Hypothesis 1 was rejected. Although CBRs' and LCERs' reports of malfunctions of EM devices during the last year before study were not significantly different from each other, NDErs reported significantly more malfunctions than did both CBRs and LCERs.

Table 11

ANOVA Tables for the EMEQ-L

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Light							$p = .510$	NDE>LCE ($p < .001$) NDE>CB ($p < .001$) CB>LCE ($p = .265$)
Group	48.09	2	24.04	23.31	.000	.32		
Error	103.14	100	1.03					
Total	151.23	102						
Watch							$p < .001$	NDE>LCE ($p < .001$) NDE>CB ($p < .001$) CB>LCE ($p = .284$)
Group	56.81	2	28.41	25.09	.000	.33		
Error	113.22	100	1.13					
Total	170.03	102						

(Table continues)

Table 11 (continued)

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Computer							p = .588	NDE>LCE ($p < .001$) NDE>CB ($p = .010$) CB>LCE ($p = .449$)
Group	15.80	2	7.90	13.99	.000	.22		
Error	56.47	100	.56					
Total	72.28	102						
Cell phone							p = .762	NDE>LCE ($p < .001$) NDE>CB ($p < .001$) CB>LCE ($p = .890$)
Group	35.41	2	17.71	17.27	.000	.26		
Error	102.53	100	1.03					
Total	137.94	102						
Emotional State							p = .763	NDE>LCE ($p < .001$) NDE>CB ($p < .001$) LCE>CB ($p = .991$)
Group	51.09	2	25.54	26.02	.000	.34		
Error	98.17	100	.98					
Total	149.26	102						

(Table continues)

Table 11 (*continued*)

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Entire scale							p = .520	NDE>LCE ($p < .001$) NDE>CB ($p < .001$) CB>LCE ($p = .385$)
Group	37.96	2	18.98	33.13	.000	.40		
Error	57.29	100	.57					
Total	95.25	102						

Note: Bolded text indicates significance at the .05 level.

Data Analysis for Hypothesis 2.

Hypothesis 2 was: With reference to a designated event that occurred at least one year before participation in the study -- an NDE, a close brush with death without an NDE, or a reportedly most life-changing event -- there is no difference between NDErs, CBrS, and LCERs, respectively, in the changes in their total Electromagnetic Effects Questionnaire scores with respect to EMEs reported retrospectively before the event versus those reported during the last (most recent) year. I used paired sample t-test to examine the within-group change scores on the EMEQ before the designated events versus during the last year. Furthermore, I used one-way ANOVA to assess the change scores -- that is, gain scores -- across the three groups. Where I found significant omnibus effects, I used Tukey's (2005) method for post-hoc analysis.

As described in Chapters 1 and 2, I established cutoff years related to specific devices for analysis of Question 2. Thus, I excluded the data of participants who designated events before the following years: watches, 1973; computers, 1985; and cell phones, 1995. Resulting numbers of participants in each of these groups is summarized in Table 12.

Table 12 also shows the results of the paired-sample t-test on the EMEQ subscales by group for the change scores before the designated event versus during the last year for each subscale and the entire scale. Results indicate that: (a) NDErs scored significantly higher on all subscales except computer for last year compared to before their NDE, (b) CBrS scored significantly higher on the watch subscale and entire scale, and (c) LCERs did not score significantly differently on any of the subscales or the entire scale.

Table 12

T-test Comparison of EMEQ Scores Before the Designated Event versus During the Last Year

Scales	NDErs				CBrs				LCERs			
	<i>n</i>	t	df	p	<i>n</i>	t	df	p	<i>n</i>	t	df	p
Light	37	4.40	36	.000	20	1.05	19	.309	45	.08	44	.934
Watch	25	3.28	24	.003	14	2.21	13	.046	32	.74	31	.467
Computer	13	1.24	12	.239	10	.000	9	1.00	29	.96	28	.345
Cell phone	11	3.99	10	.003	9	-1.21	8	.261	21	.83	20	.414
Emotional state	37	3.73	36	.001	20	-1.92	19	.069	45	-.34	44	.733
Entire scale	37	4.03	36	.000	20	2.66	19	.015	45	.55	44	.583

Note: Bolded text indicates significance at the .05 level.

To assess group differences in change scores, I used the gain score approach (Maxwell & Delaney, 2004). First, Table 13 lists the overall descriptive statistics of the EMEQ gain scores for all participants combined and the z-scores for skewness and kurtosis. The gain scores on all subscales except for watch met the normality assumption. The departure from normality on the watch subscale was not serious, within acceptable range, suggesting the distributions of the EMEQ were fairly normal (Hair et al., 2005). Therefore, I performed no data transformation on the EMEQ subscale mean scores.

Table 13

Descriptive Statistics of the EMEQ Gain Scores for All Participants Combined

Subscales	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis	Z_{skewness}	Z_{kurtosis}
Light	102	0.34	1.15	-2.00	3.67	0.41	0.26	1.70	0.53
Watch	71	0.48	1.28	-2.00	4.00	0.83	1.05	3.41	2.16
Computer	52	0.20	0.98	-2.00	2.00	-0.29	-0.47	-1.18	-0.98
Cell phone	41	0.51	1.48	-2.00	3.67	0.29	-0.70	1.19	-1.44
Emotional State	102	0.22	1.24	-3.00	4.00	0.19	0.35	0.79	0.71
Entire Scale	102	0.32	0.94	-1.94	3.00	0.26	0.48	1.08	0.99

Table 14 further lists the gain scores by group. It shows that: (a) the NDE group scored higher on all subscales during the last year than before the event, (b) the CB group scored higher on all subscales during the last year except cell phone and emotional state, and (c) the LCE group scored higher on all subscales during the last year except emotional state. However, the magnitude of any CBRs' or LCEs' gains appeared substantially lower than NDEs' gains: (a) whereas NDEs' change scores ranged from .37 to 1.64, CBRs' change scores ranged from -.30 to .27, and LCEs' change scores ranged from -.07 to .27, and b) the difference in entire scale change scores between NDEs and CBRs at .88 was greater than that between CBRs and LCEs at -.10. Both of these latter findings suggest a trend of the greatest change scores among NDEs.

Table 14

Descriptive Statistics of the EMEQ Gain Scores by Group

	NDErs				CBrs				LCErs			
	<i>n</i>	M	SD	<i>Diff.</i>	<i>n</i>	M	SD	<i>Diff.</i>	<i>n</i>	M	SD	<i>Diff.</i>
	<i>NDE-CB</i>				<i>CB-LCE</i>				<i>NDE-LCE</i>			
Light	37	.86	1.19	.74	20	.12	.50	.11	45	.01	1.19	.85
Watch	25	1.01	1.54	.74	14	.27	.45	.11	32	.16	1.20	.85
Computer	13	.37	1.06	.37	10	.00	.59	-.19	29	.19	1.06	.18
Cell Phone	11	1.64	1.36	1.94	9	-.30	.73	-.57	21	.27	1.48	1.37
Emotional State	37	.78	1.28	.96	20	-.18	.41	-.11	45	-.07	1.30	.85
Entire Scale	37	.70	1.05	.54	20	.16	.27	.08	45	.08	.94	.62
Average		.89		.88		.01		-.10		.11		.79

To test the significance of difference in change scores between the three groups, I calculated ANOVA; results appear in Table 15. It should be noted first that the homogeneity assumption of the error variance was rejected on all subscales except computer and cell phones. Glass, Peckham, and Sanders (1972) stated that there may be a serious possibility of Type I error if the equal variance assumption is violated when sample sizes in the group sizes are unequal. More specifically, they argued the *F* test tends to be too conservative when the larger cell sample has the larger variance and tends to be liberal if the smaller cell sample has the smaller variance. Based on this guideline and the variance information in Table 15, I changed the alpha level to .01 to reduce the risk of Type I false positive error.

Four gain scores turned out to be statistically significant: for light, cell phone, emotional state, and the entire scale. Therefore, the null hypothesis for the change scores before and after the events was rejected on light, cell phone, emotional state, and the entire scale, but was supported on watch, and computer subscales. The practical significances were either small or trivial for non-significant gain scores, whereas they were medium or approaching large for the four statistically significant change scores: light= .12, cell phone=.24, emotional state=.12 and entire scale=.09. Further examinations using Tukey's method for the post-hoc tests of the three omnibus significant effects showed that: (a) the NDE group gained more than the LCE group on light, emotional state, and entire scale; (b) the NDE group gained more than the CB group on cell phone; and (c) the LCE and the CB group did not differ for the change scores either on the individual subscales or on the entire scale.

Thus, Hypothesis 2 was partially retained and partially rejected. Specifically, regarding lights, NDErs reported a significantly greater increase in EMEs than LCERs reported but not than CBRs reported; regarding watches and computers, NDErs did not report significantly greater increases in EMEs than either LCERs or CBRs; regarding cell phones, NDErs reported a significantly greater increase in EMEs than CBRs but not LCERs; regarding effect of emotional arousal on EMEs, NDErs reported a significantly greater increase than LCERs but not CBRs; and overall, NDErs reported a significantly greater increase in EMEs than LCERs but not CBRs.

Table 15

ANOVA Tables for the EMEQ Gain Scores

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Light							<i>p</i> = .000	NDE>LCE (<i>p</i> = .002) NDE>CB (<i>p</i> = .040) CB>LCE (<i>p</i> = .936)
Group	15.95	2.00	7.97	6.67	.002	.12		
Error	118.38	99.00	1.20					
Total	134.32	101.00						
Watch							<i>p</i> = .007	NDE>LCE (<i>p</i> = .031) NDE>CB (<i>p</i> = .178) CB>LCE (<i>p</i> = .957)
Group	11.01	2.00	5.50	3.60	.033	.10		
Error	104.09	68.00	1.53					
Total	115.09	70.00						

(Table continues)

(Table 15 continued)

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Computer							$p = .084$	NDE>LCE ($p = .857$) NDE>CB ($p = .659$) CB>LCE ($p = .862$)
Group	.76	2.00	.38	.38	.683	.02		
Error	48.41	49.00	.99					
Total	49.17	51.00						
Cell phone							$p = .072$	NDE>LCE ($p = .023$) NDE>CB ($p = .007$) LCE>CB ($p = .537$)
Group	21.02	2.00	10.51	5.98	.006	.24		
Error	66.78	38.00	1.76					
Total	87.80	40.00						
Emotional State							$p = .000$	NDE>LCE ($p = .004$) NDE>CB ($p = .011$) LCE>CB ($p = .937$)
Group	18.58	2.00	9.29	6.73	.002	.12		
Error	136.71	99.00	1.38					
Total	155.29	101.00						

(Table continues)

(Table 15 continued)

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Entire scale							<i>p</i> = .000	NDE>LCE (<i>p</i> = .007) NDE>CB (<i>p</i> = .085) CB>LCE (<i>p</i> = .939)
Group	8.43	2.00	4.22	5.19	.007	.09		
Error	80.45	99.00	.81					
Total	88.88	101.00						

Note: Bolded text indicates significance at the .01 level.

Data Analysis for Hypothesis 3.

Hypothesis 3 was: There is no relationship between the incidence of EMEs, as measured by total EMEQ-Last year scores, and the reported depth of subjective experience during a close brush with death as measured by NDE Scale scores, among NDErs and CBrS combined. I used Bivariate Pearson product-moment correlation to examine the relationship. Table 16 shows a significant positive correlation between total EMEQ-L scores and total NDE Scale scores for NDErs and CBrS combined. Thus, Hypothesis 3 was rejected. Among all participants who had experienced a close brush with death, those who reported the most EMEs overall tended also to report deeper NDEs, and those who reported the least EMEs tended also to report an absence of NDEs.

Further analysis of the correlation of EMEQ-L scores with the cognitive, affective, paranormal, and transcendental component scores of the NDE Scale is also shown in Table 16. Reported frequency of EMEs during the last year was significantly, positively related to reported depth of each of the four components. Thus, participants who reported the most EMEs tended also to report deeper cognitive, affective, paranormal, and transcendental components of their NDEs, and those who reported the least EMEs tended also to report an absence of each component in their subjective experience during their close brush with death.

Table 16

Correlations between the EMEQ-Last year and the NDE Scale

r

p

(Table continues)

(Table 16 continued)

Total Scale	.595	.000
Cognitive Component	.536	.000
Affective Component	.577	.000
Paranormal Component	.552	.000
Transcendental Component	.453	.000

Notes: Bold text indicates significance at the $p < .05$ level.

n = 57

Anecdotal Data

The EMEQ included five open-ended questions about participants' experiences with EM devices. I asked participants to state how often they had experienced problems with each of the devices (lights, watches, computers, and cell phones) in the past year. I also asked them to state additional comments about their experiences with EM devices. Table 17 presents participants' reported frequency of problems with each device. The "other" category includes responses in which the participant stated having a problem with the device but did not indicate the number of times.

Table 17

*Number of participants' reported problems with EM devices over the last year**

	NDErs				CBrs				LCERs			
	L	W	C	CP	L	W	C	CP	L	W	C	CP
Not recently, but in the past	5%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
None	32%	30%	30%	30%	90%	80%	90%	80%	93%	100%	89%	91%
1-5 times	27%	24%	19%	0%	0%	10%	0%	0%	0%	0%	0%	0%
6-10 times	5%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10+ times	11%	0%	24%	3%	5%	0%	0%	0%	0%	0%	0%	2%
All the time	16%	32%	22%	57%	5%	10%	10%	20%	7%	0%	11%	7%
Other	3%	11%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: n=37 NDErs, 20 CBrS, and 46 LCERs.

“L” stands for light, “W” for watch, “C” for computer, and “CP” for cell phone.

Overall, 70% of NDErs reported at least one EME during the year prior to participation in the study, compared to only 20% of CBrS and 11% of LCErs. Depending on the device, the range of EMEs was 68%-70% for NDErs, compared to 10%-20% for CBrS and 0-11% for LCErs. In other words, only 30% of NDErs reported no problems with EM devices, compared to 80% of CBrS and 89% of LCErs. Conversely, NDErs' reports of EMEs "all the time" during the last year ranged from 16-57%, depending on the device, whereas non-NDErs' reports ranged from 0-20%. In no case – overall or regarding any individual device -- did non-NDErs report more EMEs than NDErs.

NDErs provided the following additional information.

- Two NDErs indicated noticing a difference in types of lights that cause EM problems.
- Five NDErs (14%) stated their uncertainty about the source of their problems with cell phones and considered poor service as a possible explanation; and two NDErs (6%) expressed uncertainty about the source of their problems with computers.
- Some NDErs reported noticing a relationship between their EM experiences and their physical and emotional state. Examples included being tired, physically ill, stressed, and even being happier. On the other hand, five NDErs (14%) reported having positive effects on computers and other EM devices.
- A few NDErs reported addressing their EM problems through use of other EM devices or through psychological techniques. For instance, two NDErs

(4%) mentioned using spring wound watches due to many problems they had with battery operated watches. Another NDEr indicated wearing “cheap watches with plastic band that does not touch the skin”. Other NDErs reported using devices such as a “Teslar [*sic*; *Tesla*] Coil”, a chip intended to neutralize harmful electromagnetic emanations (“Tools for”, 2008); “grounding wristband”; and “a small device that balances the EMF.” Another NDEr reported “focusing on getting centered” as a helpful technique.

- One NDEr reported not ever having related the NDE and EM effects together and expressed relief from this knowledge.
- Some NDErs also reported other EM devices that have been problematic for them. These devices were radio, satellite radio, TV, VCR, intercom, vacuum cleaner, fax machine, toaster, airplane, and car battery. In addition, one NDEr reported sensitivity to other people’s negative energy.
- One NDEr reported a decrease in problems with watches and computers, and two reported a decrease in problems with lights over time since their NDEs.

I will report more specifics regarding these latter responses in the Discussion section.

Discussion

In this section I will discuss the implications of the results presented in the previous section. First, I will discuss the findings of the main analysis for each hypothesis along with possible explanations of the findings and their convergence with

and divergence from previous literature. Then, I will provide additional analyses of data beyond those I reported above—data that suggest alternate explanations for some findings. Following these topics, I will discuss limitations of the study, implications for counselors and other mental health professionals, and suggestions for further research.

Findings of Main Analysis

Discussion of the main findings of this study is presented in this section. The professional near-death literature of the past three decades includes numerous anecdotal and case study references to an increase in electromagnetic effects (EMEs)—problems with the malfunctioning of electromagnetic devices such as lights, watches, computers, and cell phones—in the presence of near-death experiencers (NDErs), effects that, many NDErs reported, began soon after their NDEs. In addition, NDErs reported that these EMEs were exacerbated when they were emotionally aroused (Atwater, 1994; Bonenfant, 2005; Ring, 2000). However, no researcher had, as yet, conducted a systematic study of these possible phenomena.

In this study, I surveyed people who belonged to one of three groups based on their experience of a designated life event: NDErs, who had reportedly experienced a close brush with death with an NDE and whose scores on an assessment instrument met the professional standard of having experienced an NDE; CBrers, who had reportedly experienced a close brush with death without an NDE and whose scores met the professional standard of not having experienced an NDE; and LCERs, who had reportedly never experienced a close brush with death but who used what they considered their most life changing event as a past event referent. The survey focused

on participants' reported EME experiences during the last year just prior to participating in the study and in the time before their designated life event.

The first finding involved a comparison of EMEs between the three groups during the last year alone. Indeed, NDErs reported more EMEs than did either CBrS or LCERs.

This finding alone represents a tremendous leap forward in the professional understanding of the relationship between EMEs and NDEs and adds to Knittweis's (1997) tentative conclusion from his informal study that NDErs who gained healing powers seem to have more overall heat and electron flow coming from their hands compared to non-NDErs. Until now, despite NDErs' claims of greater EMEs, the question remained whether those claims were valid. In other words, if asked, might non-NDErs report just as many EMEs as NDErs? And even if NDErs did report more EMEs, the question remained whether the greater incidence was related specifically to their having had an NDE or more generally to their having experienced a close brush with death. In other words, if asked, might other people who had come close to death without an NDE report just as many EMEs as NDErs?

According to the first finding of this study, the answer to both questions is a clear "no." This finding provides the first systematic support to the notion that NDErs do, indeed, report more EMEs than do people who have not had an NDE—whether or not those people have experienced a close brush with death.

The second finding involved a comparison between the three groups of the retrospectively reported change in EMEs during the last year compared to before participants' designated life events. On all devices combined—lights, watches, computers, and cell phones—including greater EMEs when emotionally aroused, NDErs

reported a greater increase in EMEs than did either CBrS or LCERs. Further analysis yielded more detailed information about EMEs with specific devices and the condition of emotional arousal. Specifically regarding EMEs with lights and EMEs during emotional arousal, NDErs reported a greater increase than did LCERs but not CBrS. Specifically regarding EMEs with cell phones, NDErs reported a greater increase than did CBrS but not LCERs. Specifically regarding EMEs with watches and computers, NDErs did not report any greater increase than did either CBrS or LCERs.

These findings provide additional information about whether increased EMEs seem to be the result specifically of the NDE, that is, whether the NDE marks a point in time after which EMEs increase. In other words, it helped answer the question of whether NDErs remember *a/ways* having experienced as many EMEs as they experienced after their NDEs. Though not quite as clear as the answer to the previous question, the answer to this question appeared also to be “no.” NDErs’ reported greater EMEs as a whole—with lights, watches, cell phones, and especially during emotional arousal—during the last year than before their NDEs, and their increase in this regard was greater than any change in EMEs as a whole than either CBrS or LCERs reported. The equivocal results arose with analysis of each device and the question of increased EMEs with emotional arousal: In some cases NDErs’ increased incidence of EMEs after their NDEs was significantly greater, and in other cases it was not.

Regarding this latter finding, it is noteworthy that, in every case, NDErs reported more—though not always significantly more—EMEs in the last year compared to before their NDEs than did either of the other two groups in relation to their designated events. The reason that the difference did not always reach significance may have been sample

size and other confounding factors. Regarding sample size, because digital watches, cell phones, and computers have come into existence only very recently, only participants whose designated events occurred fairly recently could be included in the comparison, and statistical significance is more difficult to achieve with a smaller sample. The fact that every finding of statistical significance was matched by practical significance that was medium or approaching large, strengthens the likelihood of a greater relationship between increased EMEs and NDEs than other designated events without an NDE, whether or not those events include a close brush with death. Thus, all factors considered, the findings of this study provide some, but not unequivocal, support for the idea that an increase in EMEs is related specifically to an NDE.

The third finding involved the relationship between the presence and depth of an NDE among participants who had experienced a close brush with death and their reported incidence of EMEs during the last year. Those who reported no NDE or very few NDE features tended to report no or fewer EMEs, and the deeper the NDE, the more EMEs the participant was likely to report.

NDErs had previously reported perceived changes in the functioning of their brains and entire nervous systems as well as a decreased need for sleep after their NDEs (Ring, 2000). NDE researchers had speculated that EM changes reflect an energy shift or transformation that occurs during NDEs (Bonenfant, 2004; Greyson, 1993; Jourdan, 1994; Kason, 1994; Ring 2000). If this were the case, deeper NDEs might be expected to be associated with greater energetic changes—including EMEs, However, until now, the relationship between the depth of an NDE and reported incidence of EMEs had not been studied. According to the findings in this study, indeed,

those who reported memory of deeper NDEs also reported more post-NDE EMEs. This finding provides support to NDErs' perceptions of altered nervous system functioning and NDE researchers' speculations of a relationship between those alterations and NDEs.

Biophysicists have extensively studied the electromagnetic properties of living organisms. Becker and Selden (1985), for example, produced anesthetic effects on salamanders by running EM current through the brain, questioning the relationship between EM currents, shifts in brain waves, and body awareness. However, physicists have been trying to solve the mysteries of electromagnetism, and no one has yet succeeded (Becker & Selden, 1985). The human body's nervous system functioning involves electrical impulses. In addition, an electric field forms around any electric charge, and any flow of electrons sets up a combined electric and magnetic field around the current. EM changes are a result of altering the current's field. Considering this definition of EM changes, if running EM current through the brain produces anesthetic effects on salamanders, and if the same EM laws apply to a salamander's body and the human body, a relationship may exist between consciousness and the body's electromagnetic properties. Moreover, considering the last findings of this study on relationship between reported depth of NDEs and reported EM aftereffects of NDEs, an electromagnetic shift might occur during an NDE. The findings of this study provide qualified support that clearly justifies further investigation by future researchers.

Anecdotal Data and Additional Analyses

In this section, I will discuss anecdotal findings, their convergence with and divergence from quantitative findings as well as previous literature, and additional

analyses. I collected anecdotal findings from participants' responses to open ended questions at the end of the EMEQ-L and EMEQ-B regarding their frequency of problems with specific EM devices.

In response to open-ended questions about EMEs over the last year, NDErs reported a noticeably higher range, both overall and in the case of each device, than did non-NDErs. These findings support the quantitative results of this study. They also support previous literature on anecdotes of NDErs' EMEs (Atwater, 1994; Bonenfant, 2005; Ring, 2000).

In their anecdotal responses, some participants (8% of NDErs, 10% of CBrS, and 4% of LCERs) expressed doubt as to the origin of their EMEs, especially regarding cell phone use in which EMEs might be the result of poor quality of device and/or service. Similarity between the three groups' anecdotal response about the origin of their EMEs seems to confirm the assumption of equivalence, but future researchers would still be safest to assess the dimensions of quality of service and user expertise more explicitly. These comments raised my awareness of an assumption with which I undertook this study: that several factors would be equal or equivalent between the three groups. These factors include the quality of products they use, the quality of cell phone service such as the frequency with which a call is dropped due to cell phone tower overload (Jenson, 2004), the frequency and duration with which participants use the various devices, and the level of participants' expertise in using computers. The three groups may have differed in one or more of these factors of product/service quality, frequency of use, and expertise in use. Specifically, NDErs may have reported more EMEs simply because they used less reliable devices than the other two groups; because they use

EM devices more than the other two groups—more use, more likelihood of problems; and/or because, in the case of computers, they had less expertise than did the participants in the other two groups—a factor I, in my own former work as an IBM technician, found to be related to frequency of operator problems—rather than because they were more prone to EMEs following their NDEs. I consider this possibility unlikely. However, to determine clearly the equivalency of these factors, future researchers could ask participants about the brand of, make of, frequency with which they use, and level of experience/competence in their use of devices, especially cell phones and computers. Of course, these responses would be subject to the same limitations as all self-reported data.

Moreover, some NDErs reported noticing a relationship between their physical and emotional state and their EM experiences. For instance, they mentioned having negative effects on EM devices when they were tired, physically ill, stressed, and even happier than usual. This information also supports the quantitative data about effects of emotional state on the functioning of EM devices. Some NDErs reported having a positive effect on broken EM devices but did not relate their experience with emotional state. The ability to have a reparative effect on EM devices, as well as a possible relationship between that reparative effects and emotional state, are both topics worthy of further investigation.

In their written responses, some NDErs—but no CBrS or LCERs—mentioned strategies they had found to reduce or eliminate EMEs. Three NDErs mentioned other EM devices: one a “Teslar [*sic*; *Tesla*] Coil”, a chip intended to neutralize harmful electromagnetic emanations (“Tools for”, 2008); one a “grounding wristband;” and one

“a small device that balances the EMF [presumably a reference to electromagnetic frequencies or field].” Another NDEr reported a psychological strategy: “focusing on getting centered.” These findings support Dr. Stephens’s claim of using other EM balancing devices before touching a computer -- in her case static mats -- that can assist NDErs in reducing the problems they experience with EM devices (Bonenfant, 2005). Therefore, based on previous literature and findings in this study, at least some NDErs might be able to find strategies—physical and/or psychological—to reduce their EMEs.

Another point that emerged from the anecdotal data was related to changes in EMEs in the years following an NDE. Unlike NDErs in Ring’s (2000) study who reported an increase in electrical aftereffects over time, NDErs in this study did not mention any increase. Instead, 3% reported a decrease in problems with watches and computers, and 5% reported a decrease in problems with lights over time since their NDEs. This question of how EMEs might change in the long-term aftermath of an NDE clearly deserves future investigators’ attention.

Upon first studying the quantitative data, I noticed what appeared to be a difference in EMEs *before* the designated event, so I ran an ANOVA to test the significance of difference (see Tables 18 and 19). Indeed, I found that NDErs retrospectively reported more EMEs even before their NDEs than either of the other two groups did. Wondering what the relationship might be between this finding and the nature of experiences respondents had had who had been through a close brush with death, I took a step further and ran a correlation between the EMEQ-B and NDE Scale scores for NDErs and CBrS combined (see Table 20). Indeed, I found that the greater

the retrospectively reported EMEs *before* the close brush with death, the reportedly deeper an NDE overall and its affective and transcendental components *during* a close brush with death.

Table 18

Descriptive Statistics of the EMEQ-B Scores for Entire Scale

	NDErs			CBrs			LCErs		
	M	SD	Diff.	M	SD	Diff.	M	SD	Diff.
	<i>NDE-CB</i>			<i>CB-LCE</i>			<i>NDE-LCE</i>		
Entire Scale	2.68	.73	.52	2.16	.69	.21	1.95	.70	.52

Note: n=37 NDErs, 20 CBrS, and 46 LCErs.

Table 19

ANOVA Tables for the EMEQ-B

EME Subscales	SS	df	MS	F	p	η^2	Homogeneity	Post-hoc test
Entire scale							p = .978	NDE>LCE (<i>p</i> < .001) NDE>CB (<i>p</i> = .025) CB>LCE (<i>p</i> = .532)
Group	11.01	2	5.51	10.91	.000	.18		
Error	49.63	99	.51					
Total	60.98	101						

Note: Bolded text indicates significance at the .05 level.

Table 20

Correlations between the EMEQ-Before a Close Brush with Death and the NDE Scale

	r	p
Total Scale	.361	.006
Cognitive Component	.226	.091
Affective Component	.387	.003
Paranormal Component	.215	.108
Transcendental Component	.428	.001

Notes: Bold text indicates significance at the $p < .05$ level.

n = 57

Several possible dynamics might be at work regarding this finding. First, as previously discussed, NDErs might, as a group, be exaggerators of phenomena such as NDEs and EMEs. However, also as previously discussed, research on NDErs' mental health and other characteristics compared to non-NDErs has failed to yield differences. Nevertheless, the possibility remains that this particular study may have attracted a non-representative group of NDErs prone to exaggeration. I think this explanation unlikely, as I will discuss below.

Two other possible dynamics may be at work. Buehlman, Gottman, and Katz (1992) conducted longitudinal research from which they learned that couples who become distressed later in their relationships unknowingly reconstruct their earlier relationships as more distressed than they actually reported or evidenced it to be at the earlier time. Similarly, NDErs who have been plagued with EMEs since their NDEs may unknowingly perceive and report their pre-NDE EMEs to be more frequent than they actually were at the time. Alternatively, it may be that the more EME-prone a person is to begin with, if the person has a close brush with death, the more likely the person is to have an NDE—and the more EME-prone they were, the deeper that NDE is likely to be.

This question of causal factors in the dynamics of NDEs and their aftereffects is an important one for future investigators to clarify. If the “reconstruction” hypothesis is supported, EMEs actually are not greater prior to the NDE, indicating that something about the NDE itself causes the person to become more EME-prone. Conversely, if the “preexisting sensitivity” hypothesis is supported, some underlying factor is causing all the observed phenomena: the pre-NDE EME proneness, the NDE and its depth during the close brush with death, and the even greater post-NDE EME-proneness. In any

case, only longitudinal research is likely to resolve this question, and in the case of NDEs, which are relatively rare and, as yet, entirely unpredictable, longitudinal research is challenging at best and requires substantial funding at least. An alternative might be to question intimates of the NDEr whose memory of the NDErs' EMEs prior to their NDEs might – or might not – be more objective and might – or might not – support one or the other hypothesis.

Limitations of the Study

As with any research, this study involves certain limitations. In this section, I will discuss factors that may limit the validity or generalizability of the results. These factors include the self-selected nature of the participants, the self-report nature of the data, the retrospective nature of the “before” data, the alpha levels used to test statistical significance, the exclusion of self-identified NDErs who did not meet the NDE Scale criterion and who scored similarly to self-identified non-NDErs, and the small sample size for subtest analysis of Hypothesis 2.

It is important to address the self-selected nature of the sample in this study. It is a possible source of two forms of bias.

The surveys were made available to the public through organizations such as IANDS as well as through physicians, university electronic bulk mail, and word of mouth. Individuals, then, participated in the survey based on personal choice. The sample that chose to participate may not be representative of the populations of which they are a part. In particular, NDErs who are more willing to participate in research might also somehow be those who have disproportionately high EMEs. Although there

is no reason to think that NDErs more willing to participate in research differ in their EMEs from those presumably less willing, the possibility remains.

In addition, announcements about the study indicated reference to the electromagnetic (EM) nature of the research, and some NDErs may have been informed of its nature by other participants. Therefore, a disproportionate number of NDErs who have had EM experiences may have chosen to participate in the research, and a disproportionate number who have not may have chosen not to participate, a possibility that would have biased the sample and contributed unduly to the findings. The facts that nearly 1/3 of NDErs reported no problems with EM devices, and that a relationship existed in this sample between reported depth of NDE and frequency of EMEs, suggest that a full and representative range of NDErs participated in the study. In addition, mention of the EM nature of the study would presumably also have attracted CBRs and LCERs with higher EMEs, making the bias equivalent across groups. Together, these considerations indicate that differences in EMEs between the three groups were not the result of this form of self-selection bias. However, at this point this potential bias cannot be assessed and remains a possibility.

Self-reports could be prone to inaccuracies such as error, exaggeration, or misrepresentation, any of which could compromise the validity of the results. Though concern about these inaccuracies cannot be eliminated entirely, at least the concern can be reduced that these possibilities are any greater among NDErs than other subgroups of participants. For example, several researchers have found that NDErs' mental health and cognitive abilities do not differ from those conditions in the general population (Gabbard & Twemlow, 1982; Greyson, 1991; 2000). Thus, NDErs appear no

more likely than non-NDErs to make errors in, to exaggerate, or to misrepresent their experiences. Nevertheless, future researchers might include assessment of participants' intimates and coworkers regarding the extent to which these associates have witnessed participants experiencing EMEs. An interesting possibility would be for those associates to report their own NDE-related statuses (NDEr, CBr, LCEr) and their own EM experiences as well as the EM experiences of their associated NDEr participants, and for NDEr participants to do the same regarding themselves and their associates, for the purpose of comparing those data; if both parties reported consistently that NDErs experienced more EMEs, the validity of the finding would be enhanced.

Another limitation is the retrospective nature of the "before" data. Quality of memory may deteriorate over time. However, at least in the case of NDErs, research indicates that memory of NDEs does not degrade over time (Greyson, 2007; van Lommel et al., 2001).

Self-identified NDErs who did not meet the NDE Scale criterion of 7 or higher and who scored similar to self-identified non-NDErs were eliminated from the NDE group and the study. Thus, I eliminated six participants from the self identified NDErs. This phenomenon of individuals who recall an NDE but do not meet the assessment criterion represents a challenge for researchers. Future investigators may want to examine such a group separately and compare their EMEs to those of participants who scored similarly on the NDE Scale but identified themselves as non-NDErs.

In the process of analysis, I realized that using data from participants who had their designated LCEs before a device was in use by the general public did not make any sense. As previously stated, Hypothesis 2 required participants to have used the

specified EM device before their designated events; therefore, only certain participants' data were used in this analysis. To establish a cutoff year for designated event, I added four years to the year the device became available for general public, and in the analysis I used only the data from participants whose designated event occurred after the cutoff year. The cutoff year for quartz watches was 1973 (Silva, 2007), for computers 1985 (Boeree, 2008), and for cell phones 1995 (Keith, 2004). This process resulted in a smaller sample size that may have yielded a false negative finding of non-significance. Fortunately for future researchers, as lapsed time since cutoff years increases, and people continue to have NDEs, this population will increase, thereby increasing potential sample size and making any EME phenomenon that does exist more detectable through statistical analysis.

As is the case with many other studies, factors such as those described in this section may limit the external validity of the findings, that is, the extent to which those findings can be generalized to NDErs, CBrS, and LCERs at large. Except for the issue of small sample size in testing Hypothesis 2, I consider the other threat to validity possible but unlikely. Because of factors such as the reports of anecdotes in the previous literature and previous research on the qualities of NDErs compared to non-NDErs, I believe it most likely that my research participants represented their respective populations at least fairly well and that the results of this study warrant generalization to the population at large.

Implications for Counselors and Other Healthcare Providers

The effect of stress in an individual's quality of and satisfaction in life has been well documented. One form of stress is environmental factors such as weather, noise,

traffic, and pollution (Davis, Eshelman, & McKay, 1995). Many NDErs have reported stressful electromagnetic aftereffects of their NDEs that challenge or reduce the quality of their day-to-day lives. It is crucial for health care providers to be aware of these effects and to help clients and patients learn about, understand possible problems arising from, and learn to cope with these effects.

Counselors and other healthcare providers are recommended to help clients and patients normalize their experiences through psychoeducation. Specifically, as a result of this study, healthcare providers working with clients and patients who report a history of one or more NDEs and who report EMEs with watches, lights, cell phones, and computers are justified in reporting the results of the study. Specifically, they may confirm that, according to research, such EMEs appear to be a commonly reported aftereffect of NDEs that seem to be associated with the NDE itself, not just coming close to death; that EMEs often increase when NDErs are emotionally aroused; and that frequency of EMEs seems related to depth of NDE. From anecdotal reports of researchers, every indication is that NDErs are likely to find this information alone a source of relief, though this assertion awaits confirmation through targeted research.

In the open-ended response portion of the questionnaire used in this study, one NDEr stated not having previously recognized the relationship between her NDE and her EMEs and that this recognition provided her some relief. This report paralleled the experience of at least one counselor and NDE researcher who had worked with several NDErs who had reported similar relief upon recognition of that relationship. Neither any respondent in this study nor the clinical experience of that counselor indicated that discovery of the relationship between NDErs' NDEs and their EMEs resulted in

increased distress. Thus, what little information is available indicates that this discovery is beneficial and not harmful to NDErs. Consequently, healthcare providers working with clients or patients who have reported NDErs but who have not specifically reported EMEs will probably serve their constituents well to mention the results of this study in case the NDEr either did not think to report EMEs or had not recognized a relationship between their NDEs and EMEs. Every indication is that the discovery of this relationship will benefit NDErs, and, again, this effect is a fruitful focus for future research. It also is important for providers to normalize the absence of EMEs among NDErs who report none, as did nearly 1/3 of NDErs in this study.

One NDEr mentioned purposely concealing her awareness that she was responsible for certain EMEs, such as “TV channels flipping as I enter a doctor’s office waiting room.” One NDEr echoed the experience of Dr. Stephens when she mentioned being constantly asked to leave the computer room at work due to the malfunction of computers in her presence. Thus, EMEs seem to be a source of secrecy, embarrassment, shame, and even rejection and isolation for at least some NDErs. By discussing EMEs and their resulting personal and social stress, healthcare providers may be able to help NDErs cope with EME-related stress and distress.

In addition, career counselors can use the results of this study to help clients choose realistic careers. For example, NDErs may find jobs involving a great deal of interaction with EM devices not to be suitable or may need to learn ways of coping with EM problems in order to be more effective at their work. Healthcare providers might mention to NDErs the few reports in this study of strategies to reduce EMEs, such as

crossing an anti-static mat before approaching EM devices—and also should assert that such strategies are, as yet, highly speculative and not yet researched.

During this study, I talked with NDErs who mentioned not having revealed their NDE for years out of the fear of being labeled insane. These revelations suggest that, as clients and patients, NDErs may not spontaneously report their NDEs and the resulting aftereffects, including EMEs, that may present these individuals with quality of life challenges. This possibility underscores the importance of healthcare providers making at least one question about possible NDEs an explicit part of their intake questionnaires and/or interviews.

In a world in which humans increasingly depend on EM devices, it must be stressful – perhaps sometimes extremely stressful -- to be hampered or limited in the use of these devices. Counselors and other healthcare providers are likely to benefit NDE clients and patients by helping them gain awareness of EMEs, cope with personal and social stressors that arise from them, and explore possible ways to reduce them.

Suggestions for Future Research

1. It is recommended that future researchers limit themselves to the population of NDErs who had their experiences since the time an electromagnetic device became widely used by the general public: for watches, after the mid 1970's; for computers, after the mid 1980's; and for cell phones, after the mid 1990's). There is a clear possibility that a larger sample size from that population would more consistently yield statistically significant differences between EMEs on various devices before versus after their NDEs.

2. To determine clearly the equivalency regarding the brand, make, frequency of use, and level of experience/competence in their use of devices, especially cell phones and computers, future investigators are recommended to ask participants about these factors.

3. Future investigation into the long-term aftermath of an NDE, as it relates to an increase or decrease in EM problems, is recommended due to the discrepancy between results of this study, that it decreased over time, and reports from previous literature, that it increased (Ring, 2000).

4. The question of a possible relationship between depth of an NDE and EM aftereffects, as it may be related to two possible dynamics of a “reconstruction hypothesis” and an “EME-proneness” hypothesis, is an important one for future investigators to clarify.

5. LCEs in this study were asked to report experiences of a transcendental and mystical nature. Fifty-seven percent of LCEs reported at least one such experience. In future research, it is recommended to collect more information on frequency, duration, and other details about these experiences and investigate any relationship of these experiences to incidence of EMEs.

6. In this study, I found it challenging to recruit CBrS. In the process, I discovered people’s general anxiety about and/or denial of death that seemed to make them unwilling or unable to acknowledge a close brush with death. Therefore, I learned not to refer to “a close brush with death” but, rather, to “any life threatening experience.” Even then, some CBrS recalled such an experience only after some conversation. I recommend future researchers to use the latter terminology to recruit CBrS and to be

prepared to explore with self-identified LCEs whether they actually might have survived some life threatening experience.

7. Based on the finding in this study of a significant difference between EMEs of NDEs compared to non-NDEs both with and without a close brush with death, it is recommended that future researchers hypothesize the nature of the energy NDEs appear to be emitting, identify appropriate instrumentation for measuring energy, and conduct research in which energy is directly measured. Specifically, a researcher could identify some number, perhaps 5, participants in each group—LCEs, CBRs, and deep NDEs—who are equivalent on imagery related characteristics such as level of psychological absorption. Each would go to a facility where controlled measurement of the hypothesized energy could be made.

8. Future researchers are encouraged to use research incentives other than electromagnetic devices. The irony of using MP3 players as incentives for a sample of research participants more prone to problems with electromagnetic devices dawned on me only after P. M. H. Atwater brought it to my attention. For example, a national chain book store gift certificate would be more appropriate.

The protocol could involve a masked design, whereby participants would be coached not to discuss their NDE-related status and neither the on-site research associate nor the technician(s) conducting the measurement would know participants' LCE/CB/NDE statuses. During measurement, the participant would hear a recorded instruction sequence in which the participant would spend 3 minutes each in the following sequence of unaroused and aroused emotions: calm, anxious, calm, frustrated/angry, calm, excited happy, calm. For the calm episodes, each participant

could be guided to use one's own image of a safest place. For the emotionally aroused conditions, the participant could be invited to think of a situation during the past year in which they felt the most intense target emotion. During these episodes, the recording would provide multisensory prompts to enhance emotional intensity, such as "Feel your [emotion] in your body; for these three minutes, seek to feel it as intensely as possible. See and hear the images related to this situation that most strongly intensify your feeling. Think the thoughts that most intensify the feeling."

Following the measurements, the data could be compared between the three groups. Based on the results of my study, NDErs should show a higher baseline emission of energy compared to the other two groups and/or should show a proportionately higher emission during emotional arousal, and lower during emotional calm, compared to the other two groups.

Conclusion

The results of this study indicated that, among people who, at least a year before, had experienced a close brush with death or, in the absence of a close brush, used a most life changing event as a past referent, NDErs reported more problems with electromagnetic devices in the last year than did non-NDErs with or without a close brush with death. Findings were more equivocal but still generally supportive of the notion that the NDE marked the point at which NDErs' problems with electromagnetic devices increased. Moreover, the deeper an NDE, the greater the problems with electromagnetic devices. It is crucial for health care providers, especially counselors and other mental health professionals, to be aware of such problems apparently

experienced by a majority of NDErs and to help these individuals in gaining awareness and coping with stress associated with this life changing phenomenon.

APPENDIX A
RECRUITING LITERATURE

Following is a list of the literature that I will use to recruit potential participants in the pilot and descriptive studies:

- Letter to Friends of IANDS (FOI) support group facilitators
- Letter to ADEC, ISSSEEM, or IONS Representatives
- Letter to potential participant
- Letter to potential participant via e-mail
- Letter to physicians
- Letter to clinic directors, hospital directors, church leaders
- Announcement flyer
- Research announcement in newsletters and web sites

[Date]

Dear Friends of IANDS Support Group Facilitator:

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would very much appreciate your help. I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences.

The purpose of my research is to measure the electromagnetic aftereffects of near-death experiences. Participants will spend approximately 10-15 minutes to complete 5 questionnaires either using the internet, or through paper and pencil format. You, as a Friends of IANDS (FOI) leader, can help me find potential volunteers to participate in my study. Attached, you will find a letter that describes the study in more detail. Please feel free to personalize the letter to your members. You can, then, help me in the following ways:

- Copy and paste the letter into an e-message and forward it to your FOI members via your e-list.
- Print and copy the letter and distribute it at your next two FOI meetings.
- Post and /or distribute the attached flyer.

If you are interested in participating in the study, of course, you can participate as well. I hope you do so!

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). If you have any questions regarding your rights as a research subject, you can contact the UNT IRB at 940-565-3940.

If you have any further questions about the study, you can contact me at 214-564-0512 or send me an e-mail at fmnouri@tx.rr.com. You can also contact my major professor, Dr. Janice Holden at 940-565-2919. Thank you for your support.

Regards,

Faith Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

[Date]

Dear [ADEC, ISSSEEM, or IONS Representative],

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would very much appreciate your help. I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences.

The purpose of my research is to measure the electromagnetic aftereffects of near-death experiences. Participants will spend approximately 10-15 minutes to complete 5 questionnaires either using the internet, or through paper and pencil format.

I would like to ask for your assistance in informing members of your organization who may be potential participants about my study. Attached, you will find a letter addressed to potential volunteers and a research announcement. You can choose any of the following ways:

- Copy and paste the letter into an e-message and forward it to your members via your e-list.
- Print and copy the letter and distribute it at your next two meetings.
- Post and /or distribute the attached flyer.
- Post research announcement on your website.

If you are interested in participating in the study, of course, your participation is highly appreciated. I hope you do!

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). If you have any questions regarding your rights as a research subject, you can contact the UNT IRB at 940-565-3940.

If you have any further questions about the study, you can contact me at 214-564-0512 or send me an e-mail at fmnouri@tx.rr.com. You can also contact my major professor, Dr. Janice Holden at 940-565-2919. Thank you for your support.

Regards,

Faith Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

[Date]

Dear [potential participant]:

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would very much appreciate your help. I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences.

I would like to ask you to complete a survey that will take approximately 10-15 minutes. You can take the survey online by visiting www.lifepulsecenter.com or on paper. If you prefer the paper and pencil style of completing the survey, please contact me at 214-564-0512 or e-mail me at fmnouri@tx.rr.com and I will gladly mail you a copy with a self addressed-stamped enveloped.

As a way of thanking you for your time, I am awarding an MP3 player to each of three participants. If you participate electronically, instructions for registration will appear after you submit your completed questionnaire. If you participate through paper and pencil format, instructions for registration will be included in the packet you receive. Thank you in advance for your willingness to participate.

Regards,

Farnoosh (Faith) Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

[Date]

Dear [potential participant via e-mail]:

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would very much appreciate your help. I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences.

I would like to ask you to complete a survey that will take approximately 10-15 minutes. You can take the survey online at <http://www.surveymonkey.com/s.aspx?sm=GvQI9HwZ%2bXFJa0IJEZmv7Q%3d%3d> or on paper. If you prefer the paper and pencil style of completing the survey, please contact me at 214-564-0512 or e-mail me at fmnouri@tx.rr.com and I will gladly mail you a copy with a self addressed-stamped enveloped.

As a way of thanking you for your time, I am awarding an MP3 player to each of three participants. If you participate electronically, instructions for registration will appear after you submit your completed questionnaire. If you participate through paper and pencil format, instructions for registration will be included in the packet you receive. Thank you in advance for your willingness to participate.

Regards,

Farnoosh (Faith) Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

[Date]

Dear Dr. [Physician]:

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would like to ask for your help. My study is on aftereffects of near-death experiences that have been repeatedly reported by many cardiac arrest patients.

I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences. You, as a physician, can help me find potential participants through your contact with patients. I have attached flyers you may hand out to patients at your office -- potential volunteers.

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). If you have any questions regarding your rights as a research subject, you can contact the UNT IRB at 940-565-3940.

If you have any further questions about the study, you can contact me at 214-564-0512 or send me an e-mail at fmnouri@tx.rr.com. You can also contact my major professor, Dr. Janice Holden at 940-565-2919. Thank you for your support.

Regards,

Faith Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

[Date]

Dear Mr./Ms. [clinic directors, hospital directors, church leaders]:

I am a licensed professional counselor and psychotherapist, who provides mental health services to clients across the lifespan, and a doctoral candidate at the University of North Texas. I am conducting a study for my doctoral dissertation and would like to ask for your help. My study is on aftereffects of near-death experiences that have been repeatedly reported by many near-death experiencers.

I am working under the supervision of Dr. Janice Holden, my major professor, a psychotherapist, and an expert and researcher in the field of near-death experiences. You can help me find potential participants through your contact with individuals who may be interested in participating in this research. I have attached flyers you may make available to individuals -- potential volunteers.

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). If you have any questions regarding your rights as a research subject, you can contact the UNT IRB at 940-565-3940.

If you have any further questions about the study, you can contact me at 214-564-0512 or send me an e-mail at fmnouri@tx.rr.com. You can also contact my major professor, Dr. Janice Holden at 940-565-2919. Thank you for your support.

Regards,

Faith Nouri, M.Ed., LPC-S
Doctoral Candidate
Counseling Program
University of North Texas

RESEARCH ANNOUNCEMENT

If you are 18 and over, you can contribute to a study which involves effects of various life experiences, including a close brush with death, on people's experiences with electromagnetic devices such as cell phones, TVs, watches, and computers.



I will need participants from all 3 of the following categories:

1. Never had a near death experience
2. Had a close brush with death / without near death experience
3. Near death experiencers

Participation will only take approximately **10-15 minutes** and is **confidential**. To participate, you can:

- Complete the survey online: www.lifepulsecenter.com
- E-mail your address to fmnouri@tx.rr.com to receive the survey by mail.
- Call 214-564-0512.

Thank you for your time and willingness to participate.

Research Announcement

Aftereffects of Near-Death Experiences

Participate in this research, contribute to science, you may also **win a Sony MP3 player!**

If you are 18 and over, you can contribute to a study which involves effects of various life experiences, including a close brush with death, on people's experiences with electromagnetic devices such as cell phones, TVs, watches, and computers.

My name is Faith Nouri and I am a doctoral candidate in the Counseling Program of University of North Texas. Your involvement in this research would require approximately 10-15 minutes completing 5 brief questionnaires. Your participation would remain confidential. If you are interested, please visit www.lifepulsecenter.com, or send me an e-mail at fmnouri@tx.rr.com, or contact me at 214-564-0512. I would greatly appreciate your participation!

APPENDIX B
INFORMED CONSENT FORMS

University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Title of Study: Electro-magnetic Aftereffects of Near-Death Experiences

Principal Investigator: Farnoosh (Faith) Nouri, University of North Texas (UNT) Department of Counseling, Development, & Higher Education

Purpose of the Study:

You are being asked to participate in a research study which involves the relationship between your experiences with electromagnetic devices such as cell phones, TVs, watches, computers, etc. and your most life changing experience.

Study Procedures:

You will be asked to fill out five brief questionnaires that will take approximately 10-15 minutes.

Foreseeable Risks:

No foreseeable risks are involved in this study.

Benefits to the Subjects or Others:

We expect the project to contribute to the body of research on experiences with electromagnetic devices among people who have and have not had a close brush with death.

Compensation for Participation:

You may also register for a drawing for a chance to win a Sony MP3 player. Your chances of winning can not be predicted exactly, but are expected to be somewhere between one out of 15 to one out of 30.

Procedures for Maintaining Confidentiality of Research Records:

The questionnaires are completely confidential. You will not be recording your name or any contact information on the forms. Because your identity will be anonymous, the confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study:

If you have any questions about the study, you may contact Faith (Farnoosh) Nouri at telephone number 214-564-0512.

Review for the Protection of Participants:

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

Faith (Farnoosh) Nouri has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.

You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.

You understand why the study is being conducted and how it will be performed.

You understand your rights as a research participant and you voluntarily consent to participate in this study. You have been told you will receive a copy of this form.

Printed Name of Participant

Signature of Participant

Date

For the Principal Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Principal Investigator or Designee

Date

Informed Consent Notice for Internet Surveys

University of North Texas Institutional Review Board

Informed Consent Form

The purpose of this research study is to investigate effects of life changing events on people's experiences with electromagnetic devices such as cell phones, TVs, watches, computers, etc.

You are being asked to complete a survey that will take about 10-15 minutes. Completion of the questionnaires involves no foreseeable risks. Participation is voluntary and you may stop at any time. You give consent by completing the questionnaires. No individual responses will be reported to anyone because data will be reported on a group basis. Although this study is not expected to be of any direct benefit to you, we hope to learn more about the effects of life changing events on people's experiences with electromagnetic devices such as cell phones, TVs, watches, computers, etc.

If you have any questions regarding this study, please contact Faith Nouri at 214-564-0512, Department of Counseling and Higher Education, UNT, or Dr. Janice Holden at 940-565-2910, Department of Counseling and Higher Education, UNT. This project has been reviewed and approved by the University of North Texas Institutional Review Board (940) 565-3940. You may keep a copy of this Informed Consent Notice for your records.

APPENDIX C
QUESTIONNAIRES

Following is a list of Questionnaires and permission letter I received from Dr. Bruce Greyson to use the NDE Scale.

- Electromagnetic Effects Questionnaire (Over the past year).
- Close Brush with Death Question Form.
- Life Changing Event Question Form.
- Life Changing Event Question Form (see Appendix C).
- Bruce Greyson letter of Permission to use the NDE Scale.
- NDE Scale (Greyson, 1983).
- Electromagnetic Effects Questionnaire (Before the event).
- Demographics Form.

Electromagnetic Effects Questionnaire (Past year)

Please answer the following questions based on your experiences **over the past year.**

1. Sometimes I notice that in my presence, lights flicker or go off or on by themselves.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

2. Cell phones function as reliably for me as for most other people.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- I have reduced or stopped my use of cell phones because I have had so many problems with them.

3. Sometimes I notice my watch or clock running too fast or too slow.

- Strongly disagree
- Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

4. I have never noticed the operation of lamp light, street lights, or other lights being effected by my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

5. Computers seem to malfunction when I am nearby.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of computers because I have had so many problems with them.

6. I usually do not have problems with cell phone functioning properly.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

7. I have to change my watch battery more frequently than most other people I know.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

8. Computers seem no more prone to malfunction in my presence than in the presence of others.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

9. My watch battery lasts about as long as most other people's.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

10. I have never experienced lights flickering or going on or off without manual intervention.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

11. I have not noticed any abnormal function of computers in my presence compared to others.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of computers because I have had so many problems with them.

12. I notice cell phones often malfunction in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

13. I have not noticed any unusual problems with watches or clocks in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

14. My cell phone calls involve static or cut off unexpectedly, more than other people I know with similar service.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

15. I try to avoid using computers because of problems I experience with them.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

16. If I am emotionally aroused, there is an increase in the malfunction of

electromagnetic devices such as lights, watches, computers, and cell phones in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

17. I have a difficult time talking on cell phones due to high static noise or interference or sudden loss of connection.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

18. When I get close to lights that should remain steady, they sometimes spontaneously dim, brighten, or turn on or off.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

19. I get as clear reception on my cell phone as most other people get on theirs.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

20. When I am close to electromagnetic devices such as lights, watches, computers, and cell phones, my emotional state does not influence their functioning.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

21. If you have experienced malfunction of lights in your presence more than

others, how often have you experienced this problem over the past year?

22. If you have experienced malfunction of watches in your presence more than others, how often have you experienced this problem over the past year?

23. If you have experienced malfunction of computers in your presence more than others, how often have you experienced this problem over the past year?

24. If you have experienced malfunction of cell phones in your presence more than others, how often have you experienced this problem over the past year?

25. Please use this space to describe any additional comments or experiences with electromagnetic devices.

Page 2
Close Brush with Death

Please answer the following questions.

1. I have experienced a close brush with death; for example a life threatening illness or injury in which I either was resuscitated, was expected to die, or was very likely to die.

- No (Skip the rest of the questions on this page, continue on page 3)
 Yes, briefly describe

2. My close brush with death was a result of an:

- Illness
 Injury (accident, suicide attempt, etc.)
 Other (please describe)

3. My close brush with death occurred on these years (begin from the first incident).

4. During my close brush with death , I remember a distinct experience of profound psychological events with transcendental features (such as profound peace, out-of-body experience, and/or encountering deceased loved ones) and/or mystical features (such as encountering spiritual entities and/or an all knowing, all-loving being of light).

- Yes (Go to page 4)
 No (Go to page 4)

Page 3
Life Changing Event Question Form

1. My most significant life changing event (this will be referred to as "the event" later in the survey) was (ie: divorce, combat, earthquake, illness, etc.)

2. What year did that event occur?

3. I have had one or more out of body experiences (perceiving from a subjective vantage point apart from the physical body).

- Yes
 No

4. I have had one or more mystical experiences of communion with a spiritual entity.

- Yes
 No

5. I have experienced clairvoyance (seeing events in the mind's eye that are out of physical visual range).

- Yes
 No

6. I have experienced clairaudience (hearing events out of normal physical auditory range).

- Yes
 No

7. I have experienced precognition (knowing in advance that an event will occur).

- Yes
 No

8. I have experienced psycho kinesis (causing action in the physical world through mental influence alone).

- Yes
 No

Continue on page 5.

Dear Farnoosh,

Thank you for your e-mail and your interest in the NDE Scale. I am very interested in your dissertation on electromagnetic aftereffects of NDEs. I have received many letters from near-death experiencers who complain of being unable to use electromagnetic devices from wrist watches to computers because their bodies seem to cause them to malfunction. As far as I know, however, no one has ever tested electromagnetic fields emanating from NDErs except for Jim Knitweis's informal study. I would be very interested in learning more about your proposal.

You have my permission to use the NDE Scale. There has been one change since the first publication of it in 1983; the responses to the question about the passage of time were changed because some experiencers found the original wording confusing. I am attaching a PDF file of a paper from the *Journal of Near-Death Studies* that explains the change and the rationale for it. I am also attaching a PDF file of a more recent article from the *British Journal of Psychology* describing a sophisticated statistical validation of the scale, which includes the revised scale as an appendix.

Please let me know some details of your study, and do not hesitate to ask if there is any way I can be of help.

Best wishes,

Bruce

Bruce Greyson, M.D.
Carlson Professor of Psychiatry & Neurobehavioral Sciences
Director, Division of Perceptual Studies
Department of Psychiatry & Neurobehavioral Sciences
University of Virginia Health System
P.O. Box 800152
Charlottesville, VA 22908-0152
Phone: 434-924-2281
Fax: 434-924-1712
E-mail: cbg4d@virginia.edu

**Bruce Greyson's NDE Scale
(Established Instrument)**

Please answer the following items based on what you remember during your close brush with death.

1. Did time seem to speed up or slow down?

- No
- Time seemed to go faster or slower than usual
- Everything seemed to be happening at once; or time stopped or lost all meaning

2. Were your thoughts speeded up?

- No
- Faster than usual
- Incredibly fast

3. Did scenes from your past come back to you?

- No
- I remembered many past events
- My past flashed before me, out of my control

4. Did you suddenly seem to understand everything?

- No
- Everything about myself or others
- Everything about the universe

5. Did you have a feeling of peace or pleasantness?

- No
- Relief or calmness
- Incredible peace or pleasantness

6. Did you have a feeling of joy?

- No
- Happiness
- Incredible joy

7. Did you feel a sense of harmony or unity with the universe?

- No
- I felt no longer in conflict with nature
- I felt united or one with the world

8. Did you see, or feel surrounded by, a brilliant light?

- No
- An unusually bright light

A light clearly of mystical or other-worldly origin

9. Were your senses more vivid than usual?

- No
 More vivid than usual
 Incredibly more vivid

10. Did you seem to be aware of things going on elsewhere, as if by ESP?

- No
 Yes, but the facts have not been checked out
 Yes, and the facts have been checked out

11. Did scenes from the future come to you?

- No
 Scenes from my personal future
 Scenes from the world's future

12. Did you feel separated from your body?

- No
 I lost awareness of my body
 I clearly left my body and existed outside it

13. Did you seem to enter some other, unearthly world?

- No
 Some unfamiliar and strange place
 A clearly mystical or unearthly realm

14. Did you seem to encounter a mystical being or presence, or hear an unidentifiable voice?

- No
 I heard a voice I could not identify
 I encountered a definite being, or a voice clearly of mystical or unearthly origin

15. Did you see deceased or religious spirits?

- No
 I sensed their presence
 I actually saw them

16. Did you come to a border or point of no return?

- No
 I came to a definite conscious decision to return to life
 I came to a barrier that I was not permitted to cross; or was sent back against my will

Continue on page 5.

Page 5
Electromagnetic Effects Questionnaire (Before the event).

Please answer the following questions based on your experiences **BEFORE** "the event". "The event" is either:

- a close brush with death, or
- if no close brush with death, your most life changing experience.

1. Sometimes I would notice that in my presence, lights flickered or went off or on by themselves.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

2. Cell phones functioned as reliably for me as for most other people.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

3. Sometimes I would notice my watch or clock running too fast or too slow.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of a wrist watch because I had so many problems with them.

4. I never noticed the operation of lamp light, street lights, or other lights being effected by my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

5. Computers seemed to malfunction when I was nearby.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of computers because I had so many problems with them.

6. I usually did not have problems with cell phone functioning properly.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

7. I had to change my watch battery more frequently than most other people I knew.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of a wrist watch because I had so many problems with them.

8. Computers seemed no more prone to malfunction in my presence than in the presence of others.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

9. My watch battery lasted about as long as most other people's.

- Strongly disagree
 - Disagree
 - Neither agree nor disagree
 - Agree
 - Strongly agree
- I reduced or stopped my use of a wrist watch because I had so many problems with them.

10. I had never experienced lights flickering or going on or off without manual intervention.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

11. I had not noticed any abnormal function of computers in my presence compared to others.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of computers because I had so many problems with them.

12. I noticed cell phones often malfunctioned in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

13. I had not noticed any unusual problems with watches or clocks in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of a wrist watch because I had so many problems with them.

14. My cell phone calls involved static or would cut off unexpectedly, more than other people I knew with similar service.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

15. I tried to avoid using computers because of problems I experienced with them.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

16. If I was emotionally aroused, there was an increase in the malfunction of electromagnetic devices such as lights, watches, computers, and cell phones in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

17. I had a difficult time talking on cell phones due to high static noise or interference or sudden loss of connection.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

18. When I got close to lights that should remain steady, they sometimes spontaneously dimmed, brightened, or turned on or off.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

19. I would get as clear reception on my cell phone as most other people get on theirs.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I reduced or stopped my use of cell phones because I had so many problems with them.

20. When I was close to electromagnetic devices such as lights, watches, computers, and cell phones, my emotional state did not influence their functioning.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

21. If you did experience malfunction of lights in your presence more than others, how often on the average would you experience this problem in a year?

22. If you did experience malfunction of watches in your presence more than others, how often on the average would you experience this problem in a year?

23. If you did experience malfunction of computers in your presence more than others, how often on the average would you experience this problem in a year?

24. If you had experienced malfunction of cell phones in your presence more than others, how often on the average would you experience this problem in a year?

25. Please use this space to describe any additional comments or experiences with electromagnetic devices.

1. Age:

18-34

35-64

65+

2. Gender:

Male

Female

3. Ethnicity:

Caucasian

Black

Hispanic

Asian

Native American

Other:

4. Education (highest level achieved):

Completed up to 11th grade

High school diploma

Associate's degree

Bachelor's degree

Master's degree

Doctoral degree

5. Your current country of residence:

6. Your country of birth:

7. Your specific religious faith or denomination; please indicate:

Christianity

Islam

Secular/Nonreligious/Agnostic/Atheist

Hinduism

Buddhism

Judaism

Other

Thank you for your submission. If you would like to register for the drawing, please send me an e-mail at fmnouri@tx.rr.com with the subject of "Register for Drawing" and include your first name, or mail me your preferred telephone number and first name to: 6643 Mimms Dr., Dallas, TX 75252 in order for me to contact you if you win.

APPENDIX D
ORIGINAL EMEQ BEFORE DELETIONS

EME Questionnaire for “the past year”

(Deleted items after pilot study are in italics)

Please answer the following questions based on your experiences OVER THE PAST YEAR.

1. Sometimes I notice that in my presence, lights flicker or go off or on by themselves.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

2. *Cell phones function as reliably for me as for most other people.*

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

3. Sometimes I notice my watch or clock running too fast or too slow.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

4. I have never noticed the operation of lamp light, street lights, or other lights being effected by my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

5. Computers seem to malfunction when I am nearby.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of computers because I have had so many problems with them.

6. I usually do not have problems with cell phone functioning properly.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

7. I have to change my watch battery more frequently than most other people I know.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

8. Computers seem no more prone to malfunction in my presence than in the presence of others.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

9. My watch battery lasts about as long as most other people's.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

10. I have never experienced lights flickering or going on or off without manual intervention.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

11. I have not noticed any abnormal function of computers in my presence compared to others.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of computers because I have had so many problems with them.

12. *I notice cell phones often malfunction in my presence.*

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

13. I have not noticed any unusual problems with watches or clocks in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of a wrist watch because I have had so many problems with them.

14. My cell phone calls involve static or cut off unexpectedly, more than other people I know with similar service.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

15. I try to avoid using computers because of problems I experience with them.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

16. If I am emotionally aroused, there is an increase in the malfunction of electromagnetic devices such as lights, watches, computers, and cell phones in my presence.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

17. I have a difficult time talking on cell phones due to high static noise or interference or sudden loss of connection.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

18. When I get close to lights that should remain steady, they sometimes spontaneously dim, brighten, or turn on or off.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

19. I get as clear reception on my cell phone as most other people get on theirs.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

I have reduced or stopped my use of cell phones because I have had so many problems with them.

20. When I am close to electromagnetic devices such as lights, watches, computers, and cell phones, my emotional state does not influence their functioning.

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

REFERENCES

- American Counseling Association. (2005). *ACA Code of Ethics*. Alexandria, VA: Author.
- Angha, M. (1978). *Az janin ta janan [From embryo to paradise]*. Tehran, Iran: M.T.O. Shahmaghsoudi.
- Atwater, P.M.H. (1994). *Beyond the light*. Secaucus, NJ: Carol.
- Becker, R., & Seldon, G. (1985). *The body electric*, New York: Quill.
- Boeree, G. *A computer timeline*. Retrieved June 25, 2008, from Shippensburg University web site: <http://webspace.ship.edu/cgboer/computertimeline.html>.
- Bonenfant, R. J. (2004). A comparative study of near-death experience and non-near-death experience outcomes in 56 survivors of clinical death. *Journal of Near-Death Studies*, 22(3), 155-178.
- Bonenfant, R. J. (2005, September). *Electromagnetic sensitivity: A physician's experience following a childhood NDE*. Paper presented at a conference of the International Association for Near Death Studies, Virginia Beach, VA.
- Buehlman, K. T., Gottman, J. M., & Katz, L. F. (1992). How a couple views their past predicts their future: Predicting divorce from an oral history interview. *Journal of Family Psychology*, 5, 295-318.
- Burns, D. (2001). *The feeling good handbook*. NY: Penguin Group.
- Christian, S. R. (2005). Marital satisfaction and stability following a near-death experience of one of the marital partners. *Dissertation Abstracts International*, A 66/11. (UMI No. 3196139).

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Corey, G. (1991). *Theory and practice of counseling and psychotherapy* (4th ed.). Pacific Grove, CA: Brooks/Cole.
- Davis, M., Robbins-Eshelman, E., & McKay, M. (1995). *The relaxation & stress reduction workbook*. Oakland, CA: New Harbinger Publications, Inc.
- Fenwick, P., & Fenwick, E. (1995). *The truth in the light*. New York: Berkley.
- Gabbard, G. O., Twemlow, S. W., & Fowler, C. J. (1982). Differential diagnosis of altered mind/body perception. *Psychiatry*, *45*, 361-369.
- Gallagher, P. (1982). Over easy: A cultural anthropologist's near-death experience. *Anabiosis - The Journal for Near-Death Studies*, *2*(2), 140-149.
- Gallup, G., & Proctor, W. (1982). *Adventures in immortality: A look beyond the threshold of death*. New York: McGraw-Hill.
- Glass, G. V., Peckham, P. D., and Sanders, J. R. (1972). Consequences of failure to meet assumptions underlying the fixed effects analyses of variance and covariance. *Review of Educational Research*, *42*, 237-288.
- Green, J. T., & Friedman, P. (1983). Near-death experiences in a Southern California population. *Journal of Near-Death Studies*, *3*(1), 77-95.
- Greyson, B. (1983). The NDE Scale: Construction, reliability, and validity. *Journal of Nervous and Mental Disease*, *171*(6), 369-375.
- Greyson, B. (1991). Near-death experiences precipitated by suicide attempt: Lack of influence of psychopathology, religion, and expectations. *Journal*

- of Near-Death Studies*, 9(3), 183-188.
- Greyson, B. (1993). Near-death experiences and the physio-kundalini syndrome. *Journal of Religion and Health*, 32, 277-290.
- Greyson, B. (2000). Near-death experiences. In E. Cardeña, S. J. Lynn, & S. Krippner (Eds.), *Varieties of anomalous experience: Examining the scientific evidence* (pp. 315-352). Washington, DC: American Psychological Association.
- Greyson, B. (2007). Consistency of near-death experience accounts over two decades: Are reports embellished over time? *Resuscitation*, 73, 407-411.
- Greyson, B., Kelly, E. W., Kelly, E. F., (2006, October). *Explanatory Models for Near-Death Experiences*. Paper presented at the meeting of the International Association for Near Death Studies, Houston, TX.
- Hair, J., Black, B., Babin, B., Anderson, R., Tatham, R. (2005). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hinkle, D., Wiersma, W., & Jurs, S. (2003). *Applied statistics for the behavioral sciences* (5th ed.). Boston: Houghton Mifflin.
- Holden, J. M. (1996). Effect on emotional well-being of hypnotic recall of the near-death experience. *Journal of Near-Death Studies*, 14(4), 273-280.
- Jensen, M. (2004). *Improving cell phones performance*, Retrieved January 30, 2008 from: Brigham Young University: http://www.et.byu.edu/news_jensen.htm.
- Jourdan, J. P. (1994). Near-death and transcendental experiences: Neurophysiological correlates of mystical traditions. *Journal of Near-Death Studies*, 12(3) 177-200.
- Kason, Y. (1994). Near-death experiences and Kundalini awakening: Exploring

- the link. *Journal of Near-Death Studies*, 12(3), 143-157.
- Keith, R. (2004). *History of the cell phone*. Retrieved June 25, 2008, from In the King of Telephones the Cell Phone Is King web site:
<http://iml.jou.ufl.edu/projects/Fall04/Keith/history1.htm>.
- Knittweis, J. (1997). Electrical sensitivity of near-death experiencers. *Journal of Near-Death Studies*, 15(3), 223-225.
- Lange, R., Greyson, B., & Houran, J. (2004). A Rasch scaling validation of a 'core' near-death experience. *British Journal of Psychology*, 95(2), 161-177.
- Lukens, E. & McFarlane, W. (2006) Psychoeducation as evidence-based practice: Considerations for practice, research and policy. In A.R. Roberts & K.R. Yeager (Eds.), *Foundations of evidence-based social work practice* (pp. 241-319).
- Moody, R. A. (1975). *Life after life*. Harrisburg, PA: Stackpole.
- Moody, R. A. (1976). *Reflections on life after life*. Covington, VA: Mockingbird.
- Moody, R. A. (1988). *The light beyond: New explorations by the author of Life after Life*. New York: Bantam.
- Nasiri, S., & Aavini, M. (Producer). (2007). *A breeze from the truth*. [Television series]. Tehran, Iran: IranSima.
- Noyes, R. (1980). Attitude change following near-death experiences. *Psychiatry*, 43, 234-242.
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Ochsner, A. (1993). Don't go back to sleep. A study in death, dying and shamanism (Doctoral dissertation, The Union Institute, 1992). *Dissertation Abstracts*

International, 53 (07), 3837. (UMI No. 9230582)

Parnia, S. (2006). *What happens when we die: A groundbreaking study into the nature of life and death*. Carlsbad, CA: Hay House.

Parnia, S., & Fenwick, P. (2002). Near death experiences in cardiac arrest: Visions of a dying rain or visions of a new science of consciousness. *Resuscitation*, 52, 5-11.

Peterson, R. A. (1994). A meta-analysis of Cronbach's coefficient alpha. *The Journal of Consumer Research*, 21, 381-391

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of subscale analysis*. Thousand Oaks, CA: Sage.

Rice, M. J., & Moller, M. D. (2006). Wellness outcomes of trauma psychoeducation. *Archives of Psychiatric Nursing*, 20(2), 94-102.

Ring, K. (1980). *Life at death: A scientific investigation of the near-death experience*. New York: Coward, McCann & Geoghegan.

Ring, K. (1984). *Heading toward omega: In search of meaning of the near-death experience*. New York: Quill.

Ring, K. (2000). *Lessons from the light*. Needham, MA: Moment Point Press.

Ring, K., & Cooper, S. (1997). Near-death and out-of-body experiences in the blind: A study of apparent eyeless vision. *Journal of Near-Death Studies*, 16(2), 101-147.

Ring, K., & Lawrence, M. (1993). Further evidence for veridical perception during near-death experiences. *Journal of Near-Death Studies*, 11(4), 223-229.

Sabom, M.B. (1982). *Recollections of death: A medical investigation*. New York.

Sanford, M., Boyle, M., McCleary, L., Miller, J., Steele, M., Duku, E., et al. (2006).

A pilot study of adjunctive family psychoeducation in adolescent major depression: Feasibility and treatment effect. *Journal of the American Academy of Child & Adolescent Psychiatry*, 45(4), 386-395.

Schwaninger, J., Eisenberg, P. R., Schechtman, K., & Weiss, A., (2002). A prospective analysis of near-death experiences in cardiac arrest patients. *Journal of Near-Death Studies*, 20, 215-232.

Serdahely, W. J. (1989-1990). A pediatric near-death experience: Tunnel variants. *Omega*, 20(1), 55-62.

Silva, R. (2007), *History of watch making*. Retrieved June 25, 2008, from Watches Corner web site:

<http://watchescorner.blogspot.com/2007/08/history-of-watch-making.html>

Sutherland, C. (1992). Reborn in the light: Life after near-death experiences: An Australian study. *Journal of Near-Death Studies*, 8(2), 92-102.

Tools for wellness. Retrieved February 27, 2008, from

<http://www.toolsforwellness.com/teslar.html>.

van Lommel, P., van Wees, R., Meyers, V., & Elfferich, I. (2001). NDE in survivors of cardiac arrest: A prospective study in The Netherlands. *Lancet*, 358, 2039-2045.

van Lommel, P. (2004). Brain death and disorders of consciousness. *Advances in Experimental Medicine and Biology*; 550, 115-132.

Wilson, I. (1987). *The after death experience: The physics of the non-physical*. New York: William Morrow.