INTENTION AS A TWO-DIRECTIONAL PROCESS:

DOES THE SUBJECT’S INTENTION MATTER?

by

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A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy in Integrative Holistic Health

Concentration: Energy Medicine

ENERGY MEDICINE UNIVERSITY

October 2015
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Abstract

Research in mind-matter interaction and direct mental influence has primarily examined intentionality as a one-way process in which the intender is active and the subject is passive. However, some distant healing studies suggested that the subject’s state of mind might have an impact on healing results. To expand on earlier research, this study explored direct mental influence as a bi-directional process between an active intendee and a subject with conscious volition. It posed three questions: Can a person embed an influential intention in an image in time to be retrieved later at a distance by another person? Can a person retrieve someone else’s intention if he/she intends to do so? Can a person retrieve someone else’s intention even if he/she does not intend to do so? A quantitative study was conducted to address the research questions and the two hypotheses—that the subjects would achieve higher “hit rates” when the sender has applied intention, and when the subjects themselves have applied intention. The data analysis uncovered no statistically significant difference in the hit rates when the sender applied and did not apply intention, and when the subject applied and did not apply intention. Hence, the results did not provide sufficient evidence to reject the null hypotheses for both hypotheses. Although the results did not provide evidence of direct mental influence between two people, the findings uncovered a larger subject effect when EMU (Energy Medicine University) students applied intention. Also, Females achieved a higher hit rate than Males when the sender had applied intention.
Dedication

I dedicate this study to my beloved mother, Mary Rose Lim, whose unconditional love of every one she touches made me want to be a better person. I am deeply grateful for her unfailing trust and belief, which has allowed me to be completely free in choosing my path in life.
Acknowledgements

I am eternally grateful for having my dissertation committee led by Dr. Dominique Surel, who has been an enduring mentor and a friend throughout this process. She made the daunting task of completing this dissertation viable, and the journey would have been impossible without her encouragement and unfailing support. I am particularly indebted to Dr. William Bengston and Dr. James Oschman who served on my committee. Dr. Bengston is a brilliant scientist who constantly challenged my thought process and encouraged me to push the limits of my thinking. Dr. Oschman made the most unattainable knowledge attainable by sharing his deep, integrative insights into energy medicine. I am especially indebted to my statistics mentor Chuck Laurenson, who tirelessly supported me through the research design and data analysis process. In addition, I would like to give my special thanks to Anna Haight who ensured compliance with every requirement to guide my dissertation across the finish line. My deepest appreciation and admiration go to Dr. Francesca McCartney, whom I consider a visionary and pioneer in integrating science and energy medicine. As founder and head of the Energy Medicine University, she made it possible for me to explore metaphysics, science, alternative medicine, and energy theories as an integrative whole. Last but not least, my appreciation goes to everyone who participated in the experiment.
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Chapter 1: Introduction

Intention is a subject that has been explored across many disciplines, notably in philosophy and psychology. In recent years, it is a topic of growing interest in healing, biology, personal development, business, and parapsychology. Some of this interest stemmed from the premise that if intention can influence one’s environment and other people, it can be used as a lever to gain increased control over one’s career, relationships, finances, business endeavors, and health. Researchers have reviewed mind-matter interaction experiments that were conducted as early as 1935 (Radin & Ferrari, 1991; Radin & Nelson, 2000). The Princeton Engineering Anomalies Research (PEAR) laboratory pioneered laboratory studies from 1979 to 2005 to understand how intention as a mental phenomenon interacts with random physical matter (Jahn & Dunne, 2005). These experimental studies are broadly categorized into two main types: Mind-matter interaction (MMI) studies, which explore how intention interacts with physical matter, and Direct Mental Interaction on Living Systems (DMILS) studies, which explore the effects of intention on biological systems. In a typical MMI study, a human subject attempts to use intention to change an inanimate object or influence the output of a random physical system, such as the fall of a dice or a random number generator. DMILS studies examine whether a human can focus the mind to influence objectively measured processes in biological systems, such as plants, animals, bacteria, cells in vitro, and other humans.

The past 60 years of experimental research on MMI and DMILS have primarily focused on exploring intention as a one-way process—where the intender is active and subject is reactive, even when some researchers opted for the term
“interaction” to describe the process (Braud, 2003). DMILS studies typically measure biological or physiological variables that do not require active participation or conscious engagement by the living target. For example, in human studies, the subjects are often put in a state where the conscious mind is disengaged, e.g., in relaxation, meditation, hypnotization, or in the ganzfeld condition (Thalbourne, 2003; Storm, Tressoldi, Risio, 2010). In remote staring experiments, the staree is in a conscious but reactive state (Braud & Schlitz, 1991; Schlitz & Braud 1997; Schlitz & LaBerge, 1994; Sheldrake, 1998, 2003; Wiseman & Schlitz, 1996, 1997).

This research study expanded upon previous DMILS studies by exploring intention as a bi-directional process to uncover whether there are significant effects with an active intendee—a human subject in a conscious state of mind with conscious volition. Further understanding of intention and direct mental influence between people in normal states of consciousness will contribute towards expanding our understanding of human consciousness interactions. The study addressed the following questions: Can a person embed an influential intention in an image in time to be retrieved later at a distance by another person? Can a person retrieve someone else’s intention if they intended to do so? Can a person retrieve someone else’s intention even if they did not intend to do so?

Chapter 1 presents a background on the history and development of research on mind-matter interaction and distant mental influence, as well as other relevant studies on psi and anomalous consciousness interaction. Chapter 1 includes the problem statement, the purpose, the significance of the study, the nature of the study, hypothesis/research questions, and the conceptual or theoretical framework for the research. It also includes the definitions and assumptions, as well as discusses the
scope and limitations of the study. Chapter 2 presents a review of literature that has been published in the relevant area of research. Chapter 3 describes the research methodology and design employed in this study. Chapter 4 discusses the results and findings from the data analysis. Chapter 5 presents the conclusions, implications of the study, and recommendations for future research.

**Background**

Intention has played a significant role in human history in prayer, affirmation, meditation, healing, intuition, hypnotism, out-of-body experiences, and mystical phenomenon. There have been a large number of anecdotal accounts throughout history that indicate intention has a direct influence on the physical world. Pamela Heath (2011) conducted research on reported experiences of mind-matter interaction throughout history and across cultures. These include levitation, stigmata, inedia, teleportation, bilocation, fire-immunity, luminosity, materialization/transformation of matter, hemography, deliberately caused bodily damage phenomenon, weather mind-matter interaction, physical mediums, anomalous healers, martial artists and athletes, poltergeists, and spontaneous non-recurrent mind-matter interaction (Heath, 2011). Heath observed that these experiences are often accompanied by altered states of consciousness, a goal-oriented intention, and that the unconscious mind appears capable of achieving the intended goal with or without the engagement of the conscious mind.

The interest in intention and its effects extended to the scientific community in the late 1950s, when research was expanded from anecdotal and phenomenological reports in the field to experimental studies in controlled settings. Researchers began
conducting experiments on whether focusing the mind can cause changes in physical matter under the category of mind-matter interaction (MMI) studies (Radin & Nelson, 2000). MMI research essentially explores the interaction of human intention with physical matter. In a typical MMI study, a human subject attempts to influence the output of an inanimate object. MMI studies are broadly categorized into macro-MMI or macro-PK (macro-psychokinesis) and micro-MMI or micro-PK. Macro-MMI studies involve effects that one can immediately observe, such as metal bending, levitation, or moving of objects. The major limitations of these studies are that the results were not true random events and they typically relied on “star” performers, so are not easy to replicate on a larger scale. Micro-PK studies involve very small effects, such as the fall of dice, which require the use of statistics to evaluate results over a large number of trials (Radin, Taft, & Yount, 2004).

In 1969, physicist Helmut Schmidt created a random device called the random event generator (REG) to address target bias using dice and spheres, as they are not considered truly random events and there is the potential for human errors in recording results (Heath, 2011). REG uses the beta emission radioactive decay of Strontium 90 as its truly random source. With the advent of computerization, the REG was gradually replaced by the random number generator (RNG). RNGs are electronic circuits designed to produce a sequence of random bits, either in “1” or “0” (similar to the heads or tails of a coin), that can be stored on a computer. RNGs were considered as truly random, providing better control over the experimental conditions (Schmidt, 1992). One of the most prolific and renowned research facilities studying mind-matter interaction with random events was the PEAR Lab, which conducted hundreds of controlled experiments to study the ability of individuals to mentally influence the
results of RNGs (Radin, 1997). Radin and Nelson conducted a meta-analysis of a wide body of MMI experiments and concluded that there is evidence that intention can directly influence inanimate objects (Radin & Nelson, 2000).

In the past half-century, other researchers have developed techniques that focus on measuring the effects of mental intention on animate objects at a distance. These studies typically look to influence an objectively measured process in a biological system, including plants, animals, bacteria, cells, and humans under the category of Direct Mental Interaction on Living Systems (DMILS) research. In DMILS studies that involve human subjects, researchers explore whether one individual can influence another distant individual’s behavior or physiological processes through mental intention. These studies usually assume that the subject is unconscious of the influence, and measure biological or physiological variables that do not require active engagement or conscious choice by the subject.

Transpersonal Psychology professor and researcher William Braud (2003) conducted extensive studies on DMILS and explored a broad spectrum of influencing techniques including mental imagery and intention, distant mental suggestion, remote starting and attention, prayer, etc. He concluded that one individual could directly influence the biological and psychological activities of another individual under controlled conditions where all sensory, informational, and energetic influences are shielded. He believed that these influences even bridge time and space constraints as the influencer and influencee may be separated from one another by up to 25 meters in distance, and the influence may be recorded as many as 7 days prior to the influence attempts. Also, Braud held that intention, visualization of the desired results, and specific focus on the target of influence create greater effects, and these
effects are direct and unmediated (Braud, 2003). Further, his research has demonstrated that an individual holding mental images of another individual can modify the activity of their autonomic nervous system from a distance, even when the receiver is not aware of the attempt (Braud & Schlitz, 1991).

Braud emphasized his preference for the use of the term interactions, rather than influence in DMILS, as he believed that psi interaction—such as telepathy, clairvoyance, and precognition—are involved in the process. Therefore, in his own DMILS research, Braud explored a broad spectrum of influencing techniques including mental imagery and intention, distant mental suggestion, remote starting and attention, and prayer (Braud, 2003). Hence, relevant to direct mental influence studies is a category of research in the area of parapsychology that explores whether there are anomalous, or psi interactions and effects between people who are separated physically, sensorially, and without known energetic connection. Parapsychological research explores anomalous interactions between a mind and its environment that are not mediated by physical or sensory means. These studies cover the phenomenon of psychokinesis (PK)—using only mental intention to cause changes in physical systems, and extrasensory perception (ESP)—the obtaining of information without sensory means; and Both ESP and PK are considered “psi” phenomena (Delanoy, 1996).

In addition, there were many distant healing studies that explore the effects of non-local healing intention on human subjects. In distant intentional healing the practitioner directs healing thoughts or intentions to a patient at a distance. Most of these studies are conducted unidirectionally where the healer knows he/she attempts to influence the health of the subject but the subject may not know he/she is being
sent healing intention (Schlitz & Braud, 1997; Schlitz et al., 2012). Many researchers have attempted to validate the effects of distant intentional healing. These studies generally involve a healer sending an intention to a second person to induce a specific physiological change, which is measured by variations in latter’s autonomic nervous system activities such as electrodermal activity or skin resistance responses (Schlitz & Braud, 1997).

**Problem Statement**

The problem is there is a limited understanding of the role and impact of a subject’s intention in the mental influencing process between a human intender and intendee. Past studies have mostly focused on examining direct mental influence as a one-directional process where the intender is active and the intendee is passive, even though in social and psychological studies, human relationships are almost always explored as an interactive process. Continuing on the conventional course of study may provide further insights on intentionality between people, but does not serve to elucidate us on how the process works in real life, when the intender and intendee are likely to be both engaged in the act of intending.

**Purpose**

This research study explored the effects of intentionality between two people. Its aim is to uncover whether one person (the sender) can use intention to influence another person (the subject) in the direction of the intention, and whether the intention of the subject affects the results. This study employed a quantitative study with data collected from a series of experimental sessions conducted with a human sender and 56 human subjects. The experiment was conducted in two phases. In the first phase, a
sender applied intention to a set of images. These “target images” were then randomly assigned by the researcher to sets of four images and randomly placed in quadrants along with other images. These images were then uploaded to a website. In the second phase, subjects were invited to visit the website to participate in an online intuition test. Upon reading the instructions and submitting consent statements, the subject viewed sets of images that either contained or did not contain the target images to which the sender had previously applied intention. The subject then applied or did not apply intention to choose the target image in each set. This study then assessed to what extent the subject can, with intention, correctly choose the target images.

There are two hypotheses in this study: The proportion of instances where the subject selects the target images to which the sender has applied intention is greater than the proportion of instances where the subject selects the other images to which the sender did not apply intention. Secondly, the proportion of instances where the subject selects the target images is greater when the subject applied intention than when the subject did not apply intention.

The study is an experimental study structured as a two-level factorial design with two factors or independent variables, and one dependent variable. The two independent variables (factors) include “Sender” (with two levels: whether the sender applied or did not apply intention), and “Subject” (also with two levels: whether the subject applied or did not apply intention). The dependent variable is the proportion of correctly selected target images (or “hit rate”) within a set of 20 independent trials.
Significance of the Study

Human-human interaction poses special interest in terms of exploring the possibilities of human potential, and understanding human interaction beyond conventional approaches may enable us to gain insights into how we can find creative breakthrough solutions in the areas of health and healing, cognitive and physical performance, creativity and intuition, and spirituality.

There are several reasons why this study is important. First, it expanded upon DMILS studies that primarily focused on exploring whether one person can use intention to influence another person in a one-directional process. This study investigated intentionality within the context of an active intender and an active intendee. MMI and DMILS studies have primarily focused on a “dumb” subject, either by using an inanimate object or a random number generator as the target, or by studying the unconscious physiological processes of a living system. There may be good reasons for why a presumed inactive percipient or receiver is often used in DMILS and psi studies. Heath (2011) observed that mind-matter interaction experiences are often accompanied by altered states of consciousness and a goal-oriented intention. It appears that the unconscious mind can achieve the intended goal with or without the engagement of the conscious mind. Also, based on PK and psi experiments, researchers have developed a lability/inertia model of psychic functioning (Braud, 2003). Lability is defined as the ability to freely change and is often called free variability. Inertia, on the other hand, is structured and tends to continue along the present path, and hence more resistant to change. Braud observed that experiments that explore telepathy, clairvoyance, and precognition appear more
successful when the percipient has high lability and the agent or event has high inertia. On the other hand, PK experiments tend to have better results when there is high lability in the target and high inertia in the influencer. In both cases, it seems as if experiments are more successful if the animate or inanimate object on the receiving end has high lability.

There is some evidence that the subject’s intention may affect results. Braud and Schlitz (1983) conducted an experiment to discover whether subjects with a greater need for possible calming influence would result in greater effects than those who do not show such a need. In one group of influencees, they recruited subjects who self-report symptoms of greater than usual sympathetic autonomic activation who were also screened in an initial electrodermal activity (EDA) recording session. A significant calming effect was observed for this group (Braud & Schlitz, 1983). This study shows that a human subject’s intention may also influence the effects of a sender’s intention. Hence, understanding the effects of intention when a human subject also has volition may provide different insights and applications than in a situation when the subject is in an inactive or subconscious state. It is hoped that this understanding will contribute to increasing our knowledge of the potential of the human mind when consciousness and free will are present.

Secondly, there is some evidence that intention has nonlocal effects (Byrd, 1988; Schlitz & Braud, 1997; Astin, Harkness & Ernst, 2000; Targ, 2002; Schlitz et al., 2012; Schmidt, 2012); however, these nonlocal studies were conducted in the context of distant healing which tends to have one person taking more of an active role, and another person taking more of a passive role.
Finally, the ability of one person to influence another has important implications that may be either positive or negative. If intention can help or harm, it is important to understand whether a person can use volition to fend off someone else’s negative intentions. From the results of three surveys, Tart found that professional parapsychologists (Tart, 1979), Californian students and townspeople (Tart & Labore, 1986), and trainee psychics (Tart, 1986), all expressed fears about possible harmful effects of psi.

Most intention studies were framed in a neutral or positive light as conducting such research in a negative context poses ethical challenges. In telekinesis studies, the influencer intended to produce a certain outcome, such as to move a physical object, which has neither a positive or negative intent. Healing intention was studied in the form of intercessory prayer, spiritual healing, non-directed prayer, intentional energy healing, pranic healing, nonlocal healing, noncontact Therapeutic Touch, level III Reiki, external qigong, and Johrei (Schlitz et al., 2003). In these studies, the healer usually took on a positive intent to return the person to a state of health (Schlitz & Braud, 1997). Qigong research provided some evidence that external qi could either facilitate or inhibit cell functions, depending on the sender’s intention (Chien, Tsuei, Lee, Huang, & Wei, 1991). External qi sent with negative intention was also shown to inhibit cell functions (Chien et al., 1991), reduce E.coli proliferation, produce cytotoxic effects on cancer cells, thwart the growth of lymphoma cells (Ooi, Sim, & Tan, 2013), and decrease tumor formation and size (Muehsam et al., 1994).

Given the ethical considerations, this study attempted to explore intention in a neutral context with the specific aim of developing an objective understanding of the potential effects and applications of both positive and negative intention.
Nature of the Study

This study aims to explore, describe, and analyze data collected from a series of experimental sessions in order to understand whether one person (the sender) can use intention to influence another person (the subject) in the direction of the intention, and whether the intention of the subject affects the results. This is a quantitative, experimental research study that aims to assess the effects of distant and time-lapsed intentionality in a forced-choice setting, where one person either sent or did not send intention to a target, and where a second person either applied or did not apply intention to choose the target that the first person intended for him/her to select. The quantitative research method is appropriate for this study as it aims to uncover a cause-and-effect relationship, uses specific variables and hypotheses, observation, test of theories, employs experiment as the strategy of inquiry, and collects data for statistical analysis (Creswell, 2003).

Hypotheses/Research Questions

This study investigates the following research questions:

- Can a person embed an influential intention in an image in time to be retrieved later at a distance by another person?
- Can a person retrieve someone else’s intention if he/she intends to do so?
- Can a person retrieve someone else’s intention even if he/she does not intend to do so?

There are two hypotheses:

- H1: The proportion of instances where the subject selected the target images, to which the sender has applied intention is greater than the
proportion of instances where the subject selected the other images to which the sender did not apply intention.

- **H2**: The proportion of instances where the subject selected the target images is greater when the subject applied intention than when the subject did not apply intention.

In this study, the use of “intention” on the part of the sender and subject is specifically defined as below:

- In the condition where the sender applied intention, the sender was asked to focus on the subject and hold a strong intention for the subject to select a target image.
- In the condition where the sender did not apply intention, the sender was asked not to focus on the subject and not hold any intention to select any image.
- In the condition when the subject applied intention, the subject was asked to focus on the sender and hold an intention to choose the target image intended by the sender.
- In the condition when the subject did not apply intention, the subject was asked not to focus on the sender and not to hold any intention to choose a target image.

**Conceptual or Theoretical Framework**

**The question of mind and matter.** The concept that one’s intention can influence the outside world has not yet been accepted by mainstream science as it poses a challenge to the mechanistic view of physical reality. Distant mental influence
is founded on the idea that the mind can extend beyond the physical body and influence the outside world. This departs from established theories of mainstream science and poses challenges to the mechanistic model proposed by philosopher Rene Descartes over 300 years ago, which holds that the mind is merely a by-product of a machine called the human body, and hence mental events cannot influence or interact with matter.

Although the mechanistic model prevails in mainstream science, some scientists disagree with it. British astronomer Sir James Jeans (1932) said:

Stream of knowledge is heading towards a non-mechanical reality; the universe begins to look more like a great thought than like a great machine. Mind no longer appears as an accidental intruder into the realm of matter; we are beginning to suspect that we ought rather to hail it as the creator and governor of the realm of matter--not of course our individual minds, but the mind in which the atoms out of which our individual minds have grown exist as thoughts (Jeans, 1932, p. 186).

Other scientists have also challenged the mechanistic model with their own views on what constitutes the underlying nature of reality and the universe. Physicist David Bohm (1986) believed the universe existed in an implicate and explicate order. The explicate order was the structure of the physical world, and the implicate order was the underlying source out of which the physical world constantly unfolds and enfolds back into.

**Spooky action at a distance.** An underlying postulation in distant mental influence is that there is some form of unknown informational or energetic connection between people at a distance. Albert Einstein did not believe this type of interaction
could be reconciled with the theory of physics and called this “spooky actions at a
distance” (Born, 1971). However, more than 50 years of mind-matter interaction
research has provided evidence that some form of distant mental influence is in fact
possible. Several models have been proposed to explain this phenomenon.

**Conformance theory.** Proposed by Rex Standard (1974), the conformance
theory suggests that the universe is malleable and will change itself to match the
desires of the mind. This theory is an extension of Stanford’s previous theory called
Psi Mediated Instrumental Response (PMIR), which proposes that organisms use psi
to scan their environment to look for objects and events relevant to their needs. The
key features of this model are that mind-matter interaction is goal-oriented, uses extra
sensory perception as part of its data gathering process, and can occur on an entirely
unconscious level of awareness (Stanford, 1974).

**Observational theory.** This concept is founded on key insights in quantum
physics. In quantum theory, the quantum state is a state of virtually unlimited
possibilities, with a probability specified for observing each state (Heath, 2001).
According to Radin, the process by which a definite state is selected is called
“collapse of the wave function,” and this selection is determined only by
measurement. Furthermore, the collapse of the wave function can only occur when a
conscious observer is involved, otherwise the state will remain with infinite
possibilities. The observational theory posits that the mind is informed of the right
time or place to get its desired response by collapsing a probability wave. The concept
of the wave function has led to theories of psi in which it is not just the act of
observation but the consciousness of the human observer that plays an active role in
what will be observed (Radin, 2006).
The transmission model. According to Braud, this theory posits that distant influence is caused by a physical or quasi-physical force that carries information or energy from a transmitter to a receiving target through a medium. He noted that there are many unanswered questions with this model, including what is mediating force, what is the medium of transmission, and how the information is coded and decoded. Also, this model does not explain how information is transmitted beyond time and space constraints (Braud, 2003).

The reorganization model. This model assumes that noise, randomness, or disorder is present in the target of influence, and the influence entails reorganizing the disorder into order. In his words: “Perhaps there are basic, axiomatic laws of the universe through which, under certain conditions, disorder in one area automatically becomes organized to match a strong, ordered pattern elsewhere” (Braud, 2003, Introduction, Section 9, paragraph 5). This dovetails with what out-of-body researcher William Buhlman (1996) calls a nonconsensus or natural environment, even breaching time and space constraints. Under this model, when intention is directed at a less coherent body or field, it can reorganize the disorder inherent in the target. Radin and Atwater (2009) surmised that distant mental influence might cause changes in the local environment, which in turn changes physical matter within it. That is, when the “mind” side becomes coherent or ordered, the “matter” side also becomes more coherent or orderly through modulation by the mind.

The holonomic or correspondence model. This theory maintains that nothing is transmitted or reorganized, and that all information is already stored in an implicate or potential form – perhaps as a hologram. The effects occur because the influencer intends and manifests a desired outcome. The holonomic model holds that
all information is already stored in an implicate form as holograms but the intender only manifests a certain outcome (Braud, 2003). According to Erno Laszlo (2008), holograms are the results of interference patterns created by individual and collective thought waves in the universal energy field. One can access the holographic information through adaptive resonance—attuning one’s frequency to another’s frequency. This explains why intentions can only create specific effects.

**Nonlocality.** The phenomenon of nonlocality is at the forefront of research in quantum physics, and is increasingly adopted as a plausible concept by researchers of psi and parapsychology to explain anomalous consciousness interaction. This concept, however, is not new. The suggestion that the human mind may express nonlocal properties has its roots in Indian philosophy. In the sacred texts of the Advaita Vedanta philosophical tradition, the physical universe is seen as an undivided whole in which everything is interconnected and the plurality of empirical phenomena is the expression of a unitive and underlying principle of existence and consciousness called Brahman (Satprakashananda, 2005). More recently, psychology professor Max Velmans (2009) proposes that the universe evolved from an undifferentiated to a differentiated state with physical entities, with humans developing the potential for conscious experience. Although composed of the same fundamental substance, humans have the faculty to be conscious of the universe and of her/himself. Hence, each human being participates in a process whereby the universe differentiates into parts and becomes conscious of itself in manifold ways, making the entire process reflexive. This is similar to the aforementioned Bohm’s theory, that the universe exists in an implicate and explicate order, constantly enfolding into each other.
**Entanglement.** One theory sees the mind as having quantum characteristics, similar to the phenomenon of entanglement or interaction at distance in physics (Radin, 2006; Clarke, 1995). Entanglement describes the phenomenon where particles that have once interacted can become entangled so that even when they are later separated, an observation made on one of the particles will be correlated with what will be observed on the other without any known signal being transmitted between them (Cushing & McMullin, 1989; Herbert, 1987; Radin, 2006). Based on the entanglement phenomenon, perhaps distant mental influence is not a transmission of information but rather only correlations between two entangled minds. Perhaps people, like particles, can become entangled so they behave as one system with instantaneous and unmediated correlations across a distance. Therefore suggestion at distance does not transmit anything. It may be, rather, a result of focusing one’s attention on another person, because we are already and continuously connected to that person all the time (and to everything else). Philosopher of science Ervin Laszlo (2008) offered this analogy: If we had a radio that transmitted everyone’s speech in the universe to us simultaneously, all we would hear would be noise. But if we tuned the radio to one specific frequency, we would hear one specific person. Perhaps mental connection at distance is the act of attention tuning the radio (Laszlo, 2008). This dovetails with postulations in other cultures. Some qigong researchers postulate that the external qi that is sent originates from a “qigong state” that is formed when the practitioner achieved a holistic connection with the target, and that there is a unique brain wave pattern generated in the qigong state (Ooi et al., 2013). Radin posits that most of the fundamental assumptions about the fabric of physical reality
have been revised in the direction predicted by genuine psi, and proposed that psi is the human experience of the entangled universe (Radin, 2006).

**The PEAR perspective.** Based on the outcomes of more than two decades of experiments, PEAR Lab researchers Dunne and Jahn (2005) developed a conceptual framework to explain mind-matter interaction. The model postulates that the mind-matter effects are not a result of direct connection between the mind and the physical world, but are due to interactions between the unconscious mind and the intangible substrate of physical events, which is a domain of pure potentiality. When intentionality drives us to choose one out of many available options, the probabilities collapse into specified events and experiences. The researchers further propose that the normal interactions of consciousness with its environment are relatively superficial and limited by unconscious “filters”—physiological, psychological, social, and cultural influences—which condition perception and conscious experience. When these filters are brought into conscious awareness, they may be re-tuned, changing our experiences considerably (Dunne & Jahn, 2005). Other researchers have converging views, postulating that mind and matter may be complementary aspects of a deeper, underlying reality (Radin & Ferrari, 1991; Radin & Nelson, 1989, 2003). When mind becomes ordered through concentration, meditation, healing practice, or highly focused attention, matter appears to reflect this ordering at another facet.

**The morphic field theory.** The theory of formative causation by Rupert Sheldrake (2009) may provide an explanation as to how mind-matter interaction works. Highly coherent waves produce a morphic resonance and create a morphic field that causes matter to form. Sheldrake proposed that the physical body is organized into morphogenetic fields; habits are organized into behavioral morphic
fields; and thoughts and ideas are organized into mental morphic fields. Sheldrake defined a morphic field as “all kinds of fields that have an inherent memory given by morphic resonance from previous similar systems” (Sheldrake, 2009, p.162). He believed that when the same thing repeats itself, a morphic field is formed, and the resonance with this morphic field increases the likelihood that the event will happen again. Hence, intention may linger and create a morphic field if the intention is reinforced by the creator and the receiver. Sheldrake posited that morphic resonance reinforces similarity and makes available the forms of past systems to subsequent similar systems, so a present system can be influenced by all past systems with a similar form and pattern of vibration. As time progresses, the cumulative effects of past systems will increasingly stabilize and reinforce the morphic field. He used the analogy of a rut to illustrate this process: “Through repetition the form will get into a rut, and the more often it is repeated, the deeper will this rut become” (Sheldrake, 2009, p.88).

Sheldrake believes that morphic resonance carries information rather than energy; hence, a morphic field is not energy—but information-based. Because of this, a morphic field does not have mass and does not need to follow physical space and time constraints. “It could be just as effective over 10,000 miles as over an inch, and over a century as over an hour” (Sheldrake, 2009, p. 86). He therefore held that morphic resonance could have an instantaneous impact on all other locations, resulting in an instantaneous worldwide change.

**The conscious field theory.** A number of scholars from various disciplines have proposed the presence of a consciousness field (Basham, 1959; Durkheim, 1961; James, 1977; Sheldrake, 1981). From his experiment on interaction between human
intention and RNGs, Roger Nelson, director of the Global Consciousness Project and former PEAR researcher also postulate the existence of a pervasive a consciousness information field that may, under certain circumstances, exhibit detectable modulations generated by individuals or groups. More specifically, it is proposed that via this field, human consciousness can act as a radiating source of information, capable of affecting otherwise random processes by inserting some degree of order and making them slightly more predictable. Since the environmental aspects that seem to correlate most strongly with such anomalous effects are subjective in character, this structuring influence, which might be labeled subjective information, involves the attribution of meaning to situations or events. In the field experiments reported here, as in the intention-based laboratory experiments, this modification of the consciousness information field appears to manifest through alterations of statistical distributions generated by suitably prepared physical systems that have random or undetermined components. In the laboratory experiments, these alterations appear to be driven by operator intention, wishing, or purpose, and seem to be amplified by some form of emotional or spiritual resonance. In the field experiments, resonance seems to play the primary role, supplemented by some less conscious state of intention (Nelson et al., 1998).

Nelson believes that there are specific conditions in which anomalous effects tend to occur:

- Group resonance, particularly in emotionally meaningful contexts
- High ratios of subjective to objective, or emotional to intellectual contents
- Relatively profound personal involvement, especially if shared in a group
• Deeply engrossing, fully interactive communication
• Situations or sites that are spiritually engaging
• Circumstances that evokes a sense of fun and humor
• Activities that are intensely creative
• Freshness or novelty for participant

Definitions

Intention is defined as “a determination to act in a certain way: resolve,” and the act of intending as “to direct the mind on” (Merriam-Webster, 2013). This study utilized definitions used by Schlitz, Radin, Malle, Schmidt, Utts, and Yount (2003):

• Distant: Shielded from ordinary physical and psychological influences by means of spatial, temporal, and/or sensory shielding, i.e., exclusion of all known causal pathways of human interaction.

• Intention: Schlitz uses the definition from Malle and Knobe, who defined intention as a mental state directed toward achieving a goal (Malle & Knobe, 1997). A distinction can be drawn between two related mental states directed goals – desire and intention. These two states differ in three aspects (Malle & Knobe, 2001):

  • Intention is directed at the intender’s action, whereas desire can be directed at anything. Thus, we can desire what we consider to be impossible, but we cannot intend to do what we consider to be impossible.

  • Intentions are based on a certain amount of reasoning whereas desires
are typically the input to such reasoning. A desire can be triggered simply by the presence of an attractive object; an intention often involves some deliberation and decision-making.

- Intentions often come with a commitment to perform the intended action, whereas desires often do not carry such commitments.

According to Schlitz, distant mental influence has two experimental paradigms: Distant Mental Interactions with Living Systems (DMILS) and remote staring. The former assesses whether there are significant changes in sympathetic autonomic nervous system activity as measured by electrodermal activity (usually skin conductance) in subjects toward whom an unseen “influencer” in another room was sending intention for relaxation for physiological excitation at random intervals. A meta-analysis of these studies yielded a small but highly significant overall effect size for more than 1,000 blinded and randomized sessions (Schlitz et al., 2003).

Assumptions

There are several assumptions in this study: First, that the sender and subject knew how to mentally intend and not intend, and were both capable of following and executing on the instructions for the different experimental conditions. For the sender, this included applying and not applying intention to any image in Phase 1 of the experiment. For the subject, this included not focusing on the contents, being able to apply intention to choose the target image as well as not applying intention to choose a target image. Second, the subjects followed the instructions without supervision and in-person explanation. Third, the subjects did not attempt to purposefully block or
make choices that went against the intention. Fourth, that the images selected were sufficiently culturally/aesthetically neutral and did not cause bias that swayed the choice of the subjects outside of the parameters of the experiment. Fifth, that there were no cultural, religious, or personal beliefs that injected an attribute that was not within the parameters of the study. Sixth, that the specific intention of one person can be embedded in an object and retrieved by another person at a different time and at a distance.

Scope, Limitations, and Delimitations

This study aims to explore direct mental influence between people. Within this context, it also explored psi effects. According to Radin and his team, there are several ways that psi has been reported to manifest its effects. One way is when information, often in the form of emotion or attention, appears to transfer between people's minds, a phenomenon traditionally termed telepathy (Radin, Taft, & Yount, 2004). A second way is when information appears to transfer from a person to the environment, an effect known as psychokinesis or PK. A third way is when objects or events at a distant appear in a person’s perceptions, an effect known as clairvoyance. When clairvoyance occurs after an event it is known as retrocognition; when it occurs before an event it is termed precognition. Radin observed that all of these effects involve anomalous flows of information that do not go through the ordinary senses and transcend the boundaries of time and space (Radin, Taft, & Yount, 2004).

Although significant effects from the experiment may be interpreted as the result of any one of these mechanisms—telepathy, PK, precognition—the main focus of the analysis of this study was on distant mental influence, which refers to any type of
nonlocal correlations between distant individuals. Schmidt’s experiments suggested that PK and precognition are so intricately related that a distinction between different "mechanisms" becomes meaningless (Schmidt, 1990).

This study confined itself to exploring the effects of intention using a quantitative approach. There are specific limitations associated with quantitative methods: Quantitative data are efficient and can be used to test the hypotheses, but may miss contextual detail such as the subject’s perceptions, feelings, attitudes, etc. With only numerical descriptions without detailed narrative, quantitative studies generally provide less elaborate accounts of human perception.

There are several limitations to this study. First, this study aims to establish a causal relationship between the independent and dependent variables. An effort is made to standardize and scale the experiment at the same time by using an online experiment that could be conducted by the subjects anywhere, anytime; however, because it is designed as an online experiment that can be carried out by subjects at a time and place of their own choice, there was limited control over the real-life environment of the subject at the time of the experiment, as it was not chosen or moderated by the researcher. Secondly, subjects may vary in their ability to apply or not apply intention, as it is a mental process that cannot be readily and objectively observed and moderated by the researcher. Also, there may be other variables that affected the results, including the attitude, belief, thoughts, and volition of both the intender and the subject.

Expectancy effect is another consideration. There is evidence that there is experimenter expectancy effect in distant mental influence research (Wiseman & Schlitz, 1997, 1999). Rosenthal (1976) suggested that the attitude and beliefs of
experimenters could be primary influencers of experimental outcomes, even beyond well-known psychological expectancy effects. This effect may be mediated through the experimenter’s intention, or it may be a psychosocial influence whereby the experimenter’s beliefs and goals are conveyed to the subjects in the study. A related observation, dubbed the “sheep/goal” effect (Lawrence, 1993), suggests that the beliefs of the subjects are related to observed outcomes, even when proper controls against expectation effects are in place.

The phenomenon of emotional bonding may also affect the results of DMILS research. A variable that could positively moderate direct mental influence may be the degree of emotional bonding between the sender and the receiver. Sheldrake and colleagues for example, observed an increase of correct hits when the sender was a parent or a close friend in a task where the receiver had to guess who had rung or emailed them (Sheldrake & Smart, 2005; Sheldrake & Beharee, 2009). A plausible explanation is that people who had prior communication and/or shares emotional bonds for a long time, find communication easier whether using classical or non-local means (Tressoldi Massaccesi, Martinelli, & Cappato, 2011). The intender and subjects in this experiment were not selected based on their relationship, but since they came from the researcher’s own social circle, and an expanded social circle through word of mouth, there may be cases where the subjects were acquainted with the intender, even though the subjects did not know who she was.

Finally, generalizations based on the results of this study must be made with caution, as the sample studied was not randomly selected or assigned and was not a representative of a general population. The subjects in the sample represent a select
group of people who volunteered to participate and were recruited from the social circle of the researcher or by word of mouth.

**Chapter Summary**

Research on intention can be broadly categorized into MMI and DMILS studies. Both types of studies primarily involve an active intender and a passive target, such as physical objects, humans, and other biological systems, even when some researchers asserted that this should be an interactive process (Braud, 2003). As a result, there is a limited understanding of the role and impact of the subject’s intention in the distant mental influence process between a human intender and intendee. This study examined whether one person (the sender) can use intention to influence another person (the subject) in the direction of the intention, and whether the intention of the subject affected the results. The study is an experimental study that employed a quantitative research method to address two hypotheses: The proportion of instances where the subject selected the target images, to which the sender has applied intention, is greater than the proportion of instances where the subject selected the other images, to which the sender did not apply intention. Secondly, the proportion of instances where the subject selected the target images was greater when the subject applied intention than when the subject did not apply intention. Chapter 2 will contain a review of literature relevant to the study of intention and its effects.

**Chapter 2: Literary Review**

The purpose of this study is to discover whether there is evidence of distant mental influence between two people, to the extent that one person can use intention
to affect another person’s conscious choice without sensorial communication. Distant mental influence was not defined precisely in any of the literature reviewed, but is usually alluded to as a type of mental intentionality with the aim to influence a target without contact or sensory communication. An attempt is used to cover a broad range of studies that explore how mental intention is used in the attempt to cause changes in targets in ways that the influence can be observed or measured. Hence, this review includes research that explores three aspects of distant mental influence: intention, influence, and nonlocality.

The review covers studies on the topics of mind-matter interaction (MMI), and intention and its effects on water and a diversity of biological systems, including cells, plants, animals, and bacteria. It explores studies on intention-host devices and space conditioning which explore how intention may be imprinted onto a device or impressed upon a location. It also covers studies on distant mental influence on human subjects, including those performed with healing intention. In addition, it includes explorations into force-choice and psi studies. This literary review focuses mostly on peer-reviewed articles, some books, and a few academic Internet sources. Most references except for books and Internet sources are peer-reviewed, and many were based on meta-analysis, “a quantitative statistical analysis of several separate but similar experiments or studies in order to test the pooled data for statistical significance” (Merriam-Webster Online Dictionary, 2014).

**MMI Studies**

MMI studies investigate the possibility of a causal relationship between the mental processes of living systems and external physical systems, mediated by
mechanisms beyond physical contact and sensory communication. Uri Geller generated much public interest in psychokinesis in the 1970s from his demonstrations of allegedly using only the power of his mind to cause spoons to bend (Targ & Puthoff, 1977; Wilson, 1976). The key proposition of MMI is distant mental influence results from the mind modulating matter. When the mind becomes more coherent, it causes physical matter to also become more coherent through modulating changes in the local environment (Radin & Atwater, 2009). As early as the 1930s, researchers conducted MMI studies to test the hypothesis of direct connection between the human mind and the physical world. Two classes of experiments were reported most frequently: Tossing of the dice while maintaining the intention for specific die faces to appear, and mental influence of random number generators (Radin & Nelson, 2000).

**Dice experiments.** These experiments entail tossing a series of dice while a participant mentally intends a certain die face to land face-up in each session. Radin and Ferrari conducted a meta-analysis of 148 experimental studies and 31 control studies published between 1935 and 1987, involving more than 2 million dice tosses contributed by 2,569 subjects. In the experimental studies, 2,592,817 dice were tossed with an aim to have a predefined die face to land face-up. In the control studies, a total of 153,288 dice were tossed either without a specific aim or as control runs. They found that the estimated effect size for the full database lies more than 19 standard deviations from chance while the effect size for the subset of balanced, homogeneous studies lies 2.6 standard deviations from chance, providing evidence of significant effects of direct mental influence on dice tossing results. However, it
should be noted that the researchers also discovered die bias, with the effect size of the die face of six being significantly larger than the effect size of any other die face. Hence, they concluded that there is a question on the quality of the database and the meta-analysis cannot prove that there is a true relationship between intention and dice toss results (Radin & Ferrari, 1991).

**RNG experiments.** RNG studies with human subjects investigate whether mental intention can influence random numbers generated by RNG devices. In a typical RNG study, a participant attempts to mentally influence a RNG to generate, in two successive button presses, a high number where the number of “1” bits was greater than chance expectation of 50, and then a low number where the number of “1” bits was lower than chance expectation of 50. This may be followed by a control run in which no mental intention is applied (Radin & Nelson, 2000).

Radin and Nelson conducted a meta-analysis of RNG experiments from 1959 to 2000, which included 515 experiments published in 216 articles by 91 different first authors, of whom 423 were published through 1987, and 92 published after 1987. They concluded that the magnitude of the overall effect size per experiment is small but the overall effect is more than 16 standard errors from chance, providing evidence that there is a small-magnitude but a statistically highly significant effect (Radin & Nelson, 2000). A few years later, Bosch and Steinkamp, (2006) conducted another meta-analysis covering 380 RNG studies. They found a very small overall effect, which, when the three largest studies were omitted, was significant. There was also a large variability of effect size and a small-study effect. The researchers concluded that the statistical significance of the overall meta-analysis is inconsistent and distant.
mental influence on RNGs is not proven (Bosch et al., 2006).

**PEAR Lab experiments.** The PEAR program at the Princeton University was established in 1979 and continued for 26 years, with a focus on studying how human consciousness interacts with random events (Jahn, 2006). There were a total of 258 experiments conducted (Radin & Nelson, 2000), which consistently yielded small but statistically significant MMI effects (Jahn et al., 1997).

The researchers conducted extensive experiments on spheres, which involved dropping 9,000 three-quarter inch polystyrene balls through a matrix of pegs and dispersed into 19 compartments at the bottom. Participants were situated at a remote distance from the targets. The researchers found that from a set of 87 studies involving a total of 1131 format sets (for a total of 3393 runs), the overall result was highly significant, with less than 1 in 10,000 that the results happened by chance (Jahn & Dunne, 2005). Many PEAR Lab studies used specific feedback modalities to enhance emotional resonance between the participant and target devices. The experiments uncovered variability in the observable abilities of the human operators. Some can shift the random output of the RNG in either direction of their intention, some in only a positive direction, some in only a negative direction, and some in neither direction. Some operators actually shifted the output in the direction opposite to their intention. All in all, the results of these intentions are relatively consistent, such that RNG patterns can be discerned by analyzing the results of the intentions of individual operators (Jahn & Dunne, 1988).

From over two decades of laboratory experiments, the PEAR Lab researchers made several observations: First, it appears that physical factors such as machine
type, distance, and speed of operation had little influence on the results of the experiments. Second, gender is a key parameter in virtually all experiments conducted. Female operators produced larger effect sizes but had weaker correlations with intention and large distribution variances than males. Third, effect size seems to be related to the length of time spent in the effort. Prolific operators are defined as those that have conducted many experiments and accumulated large datasets. They had smaller effect sizes but achieved high statistical significance over large databases. Finally, emotionally bonded pairs scored higher in terms of significant effects. Operators of opposite sex tend to produce effects that are more significant; also, these effects are substantially more significant than individual operators working alone. Furthermore, if the opposite-sex partners are emotionally connected (‘‘bonded pairs’’), their collective effect sizes are nearly seven times larger than those achieved by the same operators working alone (Jahn & Dunne, 2005).

ArtREG is a special type of RNG experiments where two pictures are presented on a Cathode-Ray Tube (CRT) screen. From the RNG studies conducted at PEAR Lab, researchers uncovered secondary correlations that are more subjective in nature, relating to operator gender, preferences, strategies, reactions to the feedback, and feelings of resonance with the devices (Jahn, 2000). To further understand these correlations, the PEAR Lab researchers designed a group of experiments that use aesthetically engaging visual or auditory feedback. This was based on the hypothesis that aesthetic appeal would enhance the operators’ sense of resonance, which would result in larger deviations from chance behaviors. Examples of aesthetically engaging visual feedback used included a large crystal pendulum, a bubbling water fountain, a randomly impacted Native American drum, a mobile robot, and a display of two
competing pictures superimposed on a CRT screen. Although the researchers did not find that aesthetically engaging feedback yielded significant effects, they discovered more variability in studies that used mystical or symbolic images. They hypothesized that the more specific the image, the more associative constraint experienced by the operator, which is believed to inhibit the resonance of the operator with the feedback. They postulated that personalized meaning of the feedback is crucial in creating the human/machine bond, and that symbolic and mystical imagery creates the opportunity to build personalized meaning (Jahn et al., 2006).

**Space Conditioning Studies**

Radin, Taft, and Yount (year) researched the effects of healing intention and intentional space conditioning on the growth of cultured human brain cells and on RNGs. The researchers used two different targets—cells and RNGs—to explore whether effects in one target would be observed in the other. This study also explored whether healing intention applied repeatedly in the same site would cause those intentions to be “impressed” into the physical substrate of the site itself. A key assumption of space conditioning research is that with sufficient exposure to positive intention, a physical site can generate healing properties. The experiment took place inside an electromagnetically and acoustically shielded chamber over three days. Each day, flasks of cultured human brain cells were exposed to healing treatments, with other flasks serving as controls. Intentional meditations were held inside the chamber over the course of the experiment. Three RNGs operated during the experiment. The researchers found that both the treated cell cultures and the RNGs showed significant deviations from chance expectation within hours of each other. The researchers
believed there is a genuine physical phenomenon associated with intention. They suggested that this is due to a field effect with possible negentropic properties. The researchers concluded that healing intention, applied repeatedly in a location, might alter or condition that site so as to enhance the growth of treated cell cultures. The researchers also hypothesized that repeated intentions might be associated with a general increase in order (Radin et al., 2004).

**Group Consciousness Studies**

These studies explore how coherence in groups produces MMI effects (Nelson & Apostol, 1996; Nelson et al., 1998; Radin, 1997, 2006). It is often reported that during religious rituals, emotionally stirring speeches, and team sports, there is a sense that individual thoughts and actions merge into a single group thought or action (Csikszentmihalyi, 1990, 1997).

RNGs are used in many group consciousness studies since researchers found that under certain circumstances, RNG devices demonstrated effects that depart from theoretical expectations. These effects seem to correlate with major events that are considered collectively important to the human race. To further understand these correlations, Nelson and a team of researchers deployed a global network of RNG devices in 1998 to collect standardized data from around the world on a continuous basis. This initiative, known as the Global Consciousness Project, operates a global network of RNGs at 65 global sites. The hypothesis is that data from this RNG network will deviate from expectation during times of global events, which are considered episodes of widespread mental and emotional reaction to major world events (Nelson & Bancel, 2011).
Nelson’s team conducted a total of 109 experiments between 1998 and June 2002, and found evidence for a small but replicable effect that is correlated with periods of intense collective human activity or engagement without an observable source of physical influence. Hence, there seems to be evidence for correlations between entrained mental coherence and physical systems (Nelson, Radin, Shoup, & Bancel, 2002). In 2011, Nelson and Bancel conducted another review of GCP experiments and found that the results from over 345 tests vary significantly from expectation. Based on the experiments, the researchers postulate that some aspect of human consciousness is involved as a source of the effects (Nelson & Bancel, 2011).

Other researchers had similar postulations. Radin and Atwater (year) attempted to understand whether mental coherence from entrained groups would affect RNGs in the vicinity of those groups. The researchers hypothesized that fluctuations in entrained mental coherence would modulate RNG results. The researchers had groups of participants listen to a prescribed series of binaural beat rhythms during a six-day workshop. Two RNGs were deployed in the building where the workshops took place. Random data were continually collected from these RNGs during 14 workshops. As controls, the same RNGs generated data in the same locations and times but during 8 weeks when no workshops took place. Other RNGs in two distant locations were run as additional controls. The hypothesis is supported by the experimental results: During the workshops, the overall correlation was positive. However, only chance results were produced during control periods and in locations that are at a distance from the workshops (Radin & Atwater, 2009).
**Water Crystal Experiments**

Masaru Emoto (2005) postulated that distant intentions on water samples affect the aesthetic appeal of ice crystals formed from that water. His pioneering studies on water crystals inspired a series of controlled laboratory experiments to test the hypothesis that intention can influence how water crystals are formed. Radin et al. (year) conducted a study in which 1,900 participants in Austria and Germany focused their intentions on water samples located inside an electromagnetically shielded room in California over a three-day period. Unknown to participants, water samples located near the target water samples were used as proximal controls, and other water samples located outside the shielded room were used as distant controls. Water crystals formed from water samples in the different conditions were photographed and assessed for aesthetic beauty by over 2,500 independent judges. The data were then analyzed by individuals without knowledge of the treatment conditions. The results suggested that the images of water crystals formed from target water samples were rated as aesthetically more beautiful than proximal control crystals (Radin, Lund, Emoto, & Kizu, 2008).

**Distant Mental Influence on Biological Systems and Healing Intention**

As early as the 1960s, researchers have studied the effects of intention on plants (Backster, 1968; Grad, 1964), animals (Grad, Cadoret, & Paul, 1961), bacteria (Nash, 1982), leukemia cells (Snel, 1980), and red blood cells (Braud, 1990). Braud and Schlitz (1991) reviewed studies conducted over a 13-year period, which demonstrated that there are distant mental influence effects on biological systems even when all conventional informational and energetic influences are shielded.
between the influencer and target. Daniel Benor (1990) reviewed 131 studies of intentional influence on biological systems, out of which 77 had positive and significant results.

In recent years, researchers have studied the effects of distant mental influence on cellular growth and activities using healing intention. Healing intention is a special type of intention that is defined as “a compassionate mental act intended to improve the health and well-being of another person at a distance” (Schlitz et al, 2012, p. 223). According to Schlitz et al., distant healing intentions are applied in intercessory prayer, spiritual healing, non-directed prayer, intentionality, energy healing, shamanic healing, nonlocal healing, noncontact therapeutic touch, and Reiki. Underlying the concept of distant healing intention is an assumption that some form of direct mental influence using healing intention happens at a distance (Schlitz et al, 2012).

**Distant mental influence on tumor growth.** Four experiments are reported in which professional healers treated groups of rats with an implanted malignant tumor. The results of three of the four experiments demonstrated significant healing effects. In the third experiment healer 1 was significantly more successful than healers 2 and 4 combined when treating female rats (Snel & Van der Sidje, 1995).

**Distant mental influence on hemolysis of red blood cell.** The Mind Science Foundation investigated the relationship between the intention to influence from a distance and observable changes in the target. In one such study, 32 participants attempt to retard the rate of hemolysis (destruction) of red blood cells that had been placed into a tube of distilled water and saline in a distant room. Each session was broken into four sessions, two as control and two as treatment session. During the treatment period, subjects used intention to protect the blood cells. During the control
periods, subjects were instructed to think of other matters. Results showed that 9 of the 32 participants were able to achieve a significant difference in the rate of hemolysis for the experiment periods versus the control periods (Hubbard, Utts, & Braud, 1987).

**Distant mental influence on pepsin enzyme activity.** Bunnell (1999) conducted a study to investigate whether intention can alter the activity of the enzyme pepsin, and hence the rate at which it breaks down egg albumen. The hypothesis is that intention will alter the activity of the enzyme molecule by affecting the state of ionization of the side-chains of amino acid residues at the active site. In 20 separate trials, the reaction rate of the enzyme sample that was sent intention was found to be significantly greater than the control sample (Bunnell, 1999).

**Intentional healing of cultured breast cancer cells.** Smith and Laskow studied a type of intention they called “healing with love.” They conducted five experiments with a healer who sends the intent to reduce the number of cancer cells growing in tissue culture dishes. Averaging the results from their experiments, they found that the dishes that were sent healing intention had less cancer cells compared with control dishes which were not sent healing intention. Although the effect size at 3.3% and significance level at p<.0001 is relatively large, the researchers noted that there was a large variability among the five experiments which made it difficult to predict whether there would be significant effects in a given experiment (Smith & Laskow, 2000).

**Biofield treatment on cancer cells.** Yount and his research team studied the influence of biofield treatment on cultured human cancer cells. Biofield treatments were delivered by a highly acclaimed biofield practitioner with the intention of
inhibiting cell growth or inducing cell death. The researchers found that the experiments on the whole were not statistically significant, and postulated that this may be due to the inability to reproduce the cellular response in a replicate experiment (Yount et al., 2013).

**Modulation of DNA.** Cell biologist Glen Rein conceived of the idea that DNA would make a good target for testing healers’ ability to affect biological systems, since well established quantitative measures of DNA’s conformational state existed and it potentially offered a more stable and reliable system than cell or bacterial cultures. He tested this model system with several healers by having them hold test tubes containing DNA while they attempted to create a healing environment, and obtained some positive indicators that the conformational state of DNA changed when exposed to these environments (McCraty, 2003)

**Distant healing of human targets.** In the past 20 years, there has been a proliferation of research studies exploring the possible effects of distant healing intention on human targets. The basic question raised by these studies is whether a positive distant intention can be related to some outcome in a target person. There is a specific simple experimental setup that tests such a basic assumption. The task is to focus attention and to indicate unwanted mind wandering by a button press while at the same time a second remote person is either supporting this performance or not according to a randomized schedule.

Randolph Byrd (1988) studied the effect of prayer in a double blind study of 393 patients admitted to a cardiac care unit. Patients were randomly assigned to either a group that received prayer healing or to a control group. It was found that there was no difference in overall mortality, but patients in the prayer group had a significant
lower incidence of respiratory failure, pneumonia, and congestive heart failure. Sicher, Targ, Moore, & Smith (1998) studied the effect of distant intentional healing using distant prayer on AIDS patients and found that patients in the prayer healing group experienced a lower illness severity, less hospitalization, and fewer complicating illnesses compared to controls who did not receive healing.

Schlitz and Braud conducted a meta-analysis of 30 healing experiments and found that the experiments yield significant evidence for distant intentionality effects although these effects did not occur in all experiments. In addition, the researchers assert that the effect is relatively large as it compares favorably with the effect observed when one uses relaxing imagery upon oneself (Schlitz & Braud, 1997).

Astin, Harkness, and Ernst reviewed randomized trials on distant healing, covering 23 trials involving 2774 patients. Of the trials, 5 examined prayer as the distant healing intervention, 11 assessed noncontact Therapeutic Touch, and 7 examined other forms of distant healing. Of the 23 studies, 13 (57%) yielded statistically significant treatment effects; 9 showed no effect over control interventions; and 1 showed a negative effect. The researchers concluded that the methodological limitations of several studies make it difficult to draw definitive conclusions about the efficacy of distant healing. However, given that approximately 57% of trials showed a positive treatment effect, the evidence thus far merits further study (Astin et al., 2000).

In 2002, Elisabeth Targ (2002) examined more than 150 controlled studies dealing with human and/or biological systems, with two-thirds of the studies producing a statistically significant effect. In the same year, she examined distant healing effects for 181 women with breast cancer randomized to either a 12-week
standard group support or a 12-week complementary and alternative medicine (CAM) support intervention. Participants in the CAM group were taught the use of meditation, affirmation, imagery and ritual. The standard group combined cognitive-behavioral approaches with group sharing and support. Both interventions were found to be associated with improved quality of life, decreased depression, decreased anxiety, and increased “spiritual well-being.” Only the CAM group showed increased measures of Spiritual Integration, which were also significant between groups. The Standard group was associated with decreased confusion and decreased helplessness/hopelessness, while the CAM group was associated with decreased avoidance. None of these latter changes were significant between groups. At baseline, very high correlations were noted between measures of quality of life, mood, and spiritual integration. At the end of the intervention, the CAM group showed higher satisfaction and fewer dropouts compared to the standard group. Better outcomes in quality of life in the CAM group were associated with lower initial fighting spirit (Targ, 2002).

Two recent meta-analyses were conducted on distant healing in 2012. Schlitz, Hopf, Eskenazi, Vieten, and Radin (2012) studied distant healing of surgical wounds in 72 women undergoing plastic surgery. Participants were randomly assigned to one of three groups: blinded and receiving distant healing intention, blinded and not receiving intention (control), and knowing that they were receiving intention (expectancy). Outcome measures included collagen deposition in a surrogate wound and several self-reported measures. Experienced healers were assigned as senders of distant healing intention. The researchers found no difference in the main measures across the three groups. Participants’ previous belief in the efficacy of distant healing
intention was negatively correlated with the status of their mental health at the end of the study, and healers’ perceptions of the quality of their subjective “contact” with the participants were negatively correlated both with change in mood and with collagen deposition. A post-hoc analysis found that among participants assigned to receive distant healing intention under blinded conditions, those undergoing reconstructive surgery after breast cancer treatment reported significantly better change in mood than those who were undergoing purely elective cosmetic surgery. The researchers believe that if future experiments confirm their post-hoc observations, then some of the ambiguity observed in earlier studies may be attributable to interactions among participants’ and healers’ beliefs, their expectations, and their motivations (Schlitz et al., 2012).

**Resonant bonding.** William Bengston (2007) postulates the presence of “resonant bonds” between distant objects, which he believes is the reason why healing given to the experimental animals can result in an unintended treatment to the control animals, producing unexplainable healing that resembles placebo effects. He conducted a study in which 30 mice were injected with mammary cancer, with 15 randomly assigned as experimental group and 15 as control. A second group of age-matched controls was left uninjected. Bengston found that there were few differences between treated and untreated mice from the first group, but there were significant differences between the first group and the age-matched controls. Based on these results, he proposed that resonant bonds are created and sustained by more interaction among subjects, more emotional engagement of the subjects in the research, and greater emotional connection of the experimenter to the subjects (Bengston, 2007).
Transpersonal and DMILS Studies

Stefan Schmidt (2012) conducted a meta-analysis on distant mental influence on human targets, focusing on a specific type of studies, known as Attention Focusing Facilitation Experiment (AFFE), which is designed to test the assumption that positive distant intention can affect the behavior or physiology of a human subject. He reviewed 11 studies with 576 sessions that were conducted on three different continents, and found an overall effect size that is small but significant. Interestingly, there were cultural Western (United States and United Kingdom) and Eastern (Indonesia) differences in operator performance. Schmidt concluded that intention does yield positive effects, and that the finding may have implications for distant healing research and health care as well as for meditation performance (Schmidt, 2012).

AFFE studies are part of a larger group of distant intentionality studies, known as DMILS. This is a specific category of distant mental influence research using human subjects that explores the effects of intention at the transpersonal level, where mind-body events are initiated between individuals remotely without sensory communication (Achterberg, 1985, 1992). In a typical transpersonal experiment, the human subject is isolated, usually at a distance, from all conventional sensori-motor or energetic influences of the "influencer." The experiment would monitor a predefined aspect of the subject’s physiological activity over a period of time. An "influencer" then attempts to influence the subject’s activity, mentally and at a distance, in a prescribed fashion and according to a predetermined (and, ideally, random) schedule. The researcher would then compare the organism's activity during
periods of attempted mental influence with activity levels during comparable non-influence, control periods (Braud, n.d.).

Braud was a pioneer of DMILS studies and conducted extensive studies that explored a broad spectrum of influencing techniques including mental imagery and intention, distant mental suggestion, remote starting and attention, prayer, etc. He concluded that one individual could directly influence the biological and psychological activities of another individual under controlled conditions where all sensory, informational, and energetic influences are shielded. He believed that these influences even bridge time and space constraints as the influencer and influenced may be separated from one another by up to 25 meters in distance, and the influence may be recorded as many as 7 days prior to the influence attempts (Braud, 2003). Also, Braud held that intention, visualization of the desired results, and specific focus on the target of influence create greater effects, and these effects are direct and unmediated (Braud, 2003). Even further, his research has demonstrated that an individual holding mental images of another individual can modify the activity of their autonomic nervous system from a distance, even when the receiver is not aware of the attempt (Braud & Schlitz, 1991). Schlitz conducted a review of 19 DMILS experiments and concluded that distant intentionality effects did not occur in all experiments, but that across experiments there is a relatively consistent and significant effect size that appears replicable and robust (Schlitz, 1997).

**Bio-PK experiments.** Braud and Schlitz coined the term “bio-PK” to describe a category of experiments that explores direct mental influence on human targets (Braud & Schlitz, 1983). Bio-PK experiments follow a typical protocol: A selected behavior or physiological activity of a freely responding target person is monitored
over a period of time. This period is divided into an equal number of influence and control epochs. During the influence epochs, an influencer attempts to remotely influence the ongoing activity of the organism in a predetermined direction. The influencer receives instantaneous and continuous feedback on the state of the target. During the control epochs, no such attempts are made. The researchers conducted a “bio-PK” experiment to determine whether target persons with a relatively strong need to be influenced (calmed) would evidence a greater psi effect than would persons without such a need. Serving as the influencers, the researchers attempted to psychokinetically decrease the electrodermal activity of distant target persons during certain pre-specified periods as compared to an equal number of control epochs in which PK attempts were not made. Sixteen target persons had relatively high sympathetic nervous system activity and thus had a need to be calmed. Sixteen other target persons had moderate or low activity and no particular need to be calmed. A significant PK-calming effect occurred for the active (needy) persons, but not for the inactive persons. The PK-calming effect was significantly greater for active than for inactive persons (Braud & Schlitz, 1983).

**Blocking and cooperating strategies.** Watt, Ravenscroft, and McDermott (1997) conducted research on direct mental influences with the purpose of exploring whether there are any limiting conditions of its effects. Two studies are conducted, where an influencer attempts to affect the EDA of a distant influencee. The influencee is asked to either cooperate with or block the influence attempt. The researchers concluded that they found no evidence that influencee’s mental strategy affects remote mental influence attempts. Thus there is as yet no indication as to the limiting conditions of direct mental influence on living systems.
However, both studies found that influence effects were higher (but not statistically significantly higher) when the influencees were blocking vs. co-operating, which is in the opposite direction of the prediction. One observation is the influencers did not seem to have received any prior training or instructions, so it is unclear whether they were all “effective” in sending distant mental influence. It may be beneficial to ensure there was a level of consistency in the methods and effectiveness of the mental influencing efforts. Also, the influencees were encouraged to use whatever strategy that they preferred, thus potentially introducing a wide variance in the blocking and cooperating strategies employed. Based on reports from the influencees, they tend to use visual imagery for blocking and relaxation/passivity or visual imagery for co-operating. Hence, there is a question as to whether results in the two scenarios may be due to the different strategies used, rather than to the effectiveness of blocking. Hence, it seems that further studies are needed to help validate the conclusion of this research.

**Study of subjects with front-lobe damage.** Freedman and his research team (2003) conducted a unique study using patients with frontal lobe lesions to study the effects of direct mental influence. The rationale for studying patients with damage to the frontal lobes is that decreased self-awareness may follow frontal brain damage, and a decreased self-awareness is thought to facilitate the effects of mind-matter interaction, based on the concept that the potential to influence physical events may be optimized when attention is diverted from self-awareness (i.e., such as when self-awareness is reduced). The researchers found significant effects of direct mental influence for subjects with left frontal brain damage in the direction of the intention. However, there were no significant effects in the other groups (i.e., bilateral frontal,
right frontal, pooled frontal, or normal subjects). Hence, the null hypothesis is rejected only following damage to the left frontal region and not after bilateral or right frontal lesions. The researchers speculate that the effect of direct mental influence may require reduced self-awareness combined with intact attentional mechanisms. This means that frontal lobe lesions accompanied by impaired attention may reduce the effects (Freedman, Jeffers, Saeger, Binns, Black, 2003).

**Remote attention and remote staring experiments.** In remote staring experiments (Braud & Schlitz, 1989, 1991; Schlitz & Braud 1997; Schlitz & LaBerge, 1994; Wiseman & Schlitz, 1996, 1997), the distant “influencer” or “starer” gazes at other subjects during randomized intervals by means of a closed circuit video system. Braud, Shafer, and Andrews reviewed prior research which provided evidence that people were able to discriminate staring and nonstaring periods by means of deliberate, conscious guesses. The researchers hypothesized that stronger effects might be obtained if relatively unconscious autonomic nervous system activity were used as the indicator of staring detection, rather than conscious guessing. The reason is they believe autonomic reactions might be distorted by higher cognitive processes and therefore might be a purer and more sensitive measure.

To test their hypothesis, the researchers conducted an experiment to determine whether staring and nonstaring periods could be differentiated by their electrodermal activity (measured by skin resistance reactions). Phase 1 findings suggest that the starees were more activated during the staring than during the nonstaring epochs. Phase 2 findings suggest that those starees were calmer during staring than nonstaring periods. Also, the relatively large effect sizes suggest that autonomic detection may be a more powerful method than conscious guessing for the detection of staring effects.
(Braud, Shafer, & Andrews, 1993). To expand from their earlier study, the researchers replicated their experiment but introduced a new personality assessment for the stares that tests their social anxiety or discomfort in a social situation, using a Social Avoidance and Distress scale. The researchers continued to find evidence for autonomic discrimination of staring versus nonstaring periods. They also discovered that the magnitude of the remote autonomic staring detection effect was significantly related to the starees’ degree of introversion (Myers-Briggs Type Indicator) and to their degree of social anxiety (Braud, Shafer, & Andrews, 1993b).

Radin, Taylor, and Braud (year) replicated Braud’s 1993 experiment to test the hypothesis that mental intention can influence a remote person’s autonomous nervous system as measured by changes in electrodermal activity. Overall there was less electrodermal activity in calm periods compared to activate periods. In a post-hoc test, evidence was found that remote attention alone, independent of the assigned direction to calm or activate, tended to raise autonomic activity over baseline levels (Radin et al., 1995). A meta-analysis by Schmidt and team (2012) reports a significant effect size for an updated set of remote staring experiments in which the receiver’s skin conductance was targeted.

**Anomalous Consciousness Interactions or Psi Studies**

Parapsychological research explores anomalous interactions between mind and its environment that are not mediated by physical or sensory means. These studies cover the phenomenon of PK, referring to the usage of only mental intention to cause changes in physical systems, and extrasensory perception (ESP), which refers to the
obtaining of information without sensory means; and both ESP and PK are considered “psi” phenomena (Delanoy, 1996).

**Free-response studies.** Free response is a term that “describes any test of ESP in which the range of possible targets is relatively unlimited and is unknown to the percipient [perceiver/receiver]” (Thalbourne, 2003, p. 44). A type of free-response study is picture guessing, in which the perceiver is usually presented with four randomly selected pictures, comprising of the target and three decoys. Although the perceiver is restricted to four pictures, the free-response component manifests in the “mentation” (i.e., the stream of images, thoughts, and ideas in the mind of the perceiver that are recorded to assist the judging process) (Storm et al., 2010).

There are three types of free-response studies: (a) ganzfeld, a technique that enhances a communication anomaly referred to as “psi”); (b) non-ganzfeld noise reduction using alleged psi-enhancing techniques such as dream psi, meditation, relaxation, or hypnosis; and (c) standard free response (nonganzfeld, no noise reduction). Ganzfeld, German for “total field,” is a “special type of environment (or the technique for producing it) consisting of homogenous [sic], unpatterned sensory stimulation” to the eyes and ears of the participant, who is usually in “a state of bodily comfort” (Thalbourne, 2003, p. 45). In a ganzfeld study, a percipient is presented with homogenous, unpatterned visual and auditory stimuli, which assists in increasing the mental imagery experienced by the percipient. While receiving this stimulus, the percipients verbalize all their experiences, their goal being to gain impressions, which will relate to a sensorially isolated and remote target picture or short video clip. The “target” is being watched frequently by another person (a “sender” or “agent”) who is attempting mentally to convey impressions of the target to the percipient or
“receiver.” These studies utilize a “free-response” methodology, in which the contents of the target material are unknown to the receiver (i.e., the percipient is “free” to respond with whatever impressions they generate, as he or she has no information regarding the specific contents of the possible target).

Storm, Tressoldi, and Di Risio (2010) conducted a meta-analysis of free-response studies from 1992 to 2008, involving three types of free-response studies, including ganzfeld, non-ganzfeld, and standard free response. For the period 1997–2008, they found that the mean effect size value of the ganzfeld database was significantly higher than the mean effect size of the nonganzfeld noise reduction and the standard free-response databases. The researchers also found that selected participants (believers in the paranormal, meditators, etc.) had a performance advantage over unselected participants, but only if they were in the ganzfeld condition. The meta-analysis found that selected participants (believers in the paranormal, meditators, etc.) had a performance advantage over unselected participants, but only if they were in the ganzfeld condition. In summary it appears that the noise reduction condition tends to produce stronger effects compared with standard free-response studies (Storm et al., 2010).

**Non-locality studies.** These studies explore the possibility of people connecting at a distance without using conventional communication channels. Schmidt and his colleagues conducted a meta-analysis of studies on two non-local phenomena: Direct mental psychophysiological interaction and the trigger of the feeling of being stared at. The review discovered a small significant effect size in the studies on "direct mental psychophysiological interaction,” while remote staring studies yielded a much larger effect size (Schmidt, Schneider, Utts, & Walsch, 2004).
Tressoldi, Massaccesi, Martinelli, and Cappato (2011) conducted a recent study to explore the non-local property of the human mind to connect at distance, that is, without the classical means of communication. Forty participants were requested to identify in two separate sessions, 10 real and 10 false Chinese ideograms presented randomly, trying to connect mentally with the research assistant sending correct suggestions at a distance from which it would be impossible to communicate with them by conventional means. The results provide support for mental connection at distance and the possibility that the mind has non-local properties (Tressoldi, Massaccesi, Martinelli, & Cappato, 2011).

**Intention and Mood**

Rock, Permezel, and Storm conducted a study on the effects of distant Quantum BioEnergetics (QBE) healing and paranormal belief/experience, on mood. Profile of Mood States–Short Form was used to quantify positive and negative mood states. The researchers found that QBE condition was associated with (1) significantly less Tension-Anxiety compared with the placebo and control condition, and (2) significantly less Anger-Hostility and Total Mood Disturbance compared with the control condition (but not the placebo condition). Furthermore, there was an interaction of condition and paranormal belief/experience with regard to Depression-Dejection, with believers assigned to the placebo condition scoring lowest on this Mood variable. Findings suggest that the use of QBE by an experienced practitioner reduces mood disturbance. In addition, the placebo condition may have evoked suggestibility effects in believers, which would mean that they may be more likely
than nonbelievers to believe that they were receiving healing, thus resulting in lower Depression-Dejection scores (Rock et al., 2012).

In a study of tea ceremony, Shiah and Radin (2013) explored whether drinking tea infused with good intentions would enhance mood more than drinking ordinary tea, under double blind, randomized conditions. Tea treated with good intentions improved mood more than ordinary tea derived from the same source. Belief that one was drinking treated tea produced a large improvement in mood, but only if one was actually drinking the treated tea, indicating that belief and intentional enhancement interact. This also suggests that the esthetic and intentional qualities associated with the traditional tea ceremony may have subtle influences that extend beyond the ritual itself (Shiah & Radin, 2013).

A similar experiment involved the role of intention in food. Radin, Hayssen, and Walsh (2007) were interested in studying whether intention during cooking affects people who eat the food. They used a double blind, randomized, placebo-controlled protocol to see if chocolate exposed to good intentions would enhance mood more than unexposed chocolate. They assigned volunteers to one of four blinded and matched groups, three of which would eat intentionally treated chocolate and one which would eat the same but untreated chocolate as a placebo control. The participants were asked to record their mood each day for a week using a standard questionnaire; on three of those days, each person ate a half-ounce of dark chocolate twice a day at prescribed times. The intentions were applied by Tibetan Buddhist monks, a Mongolian shaman, and an intention-imprinted device similar to that used by Tiller and his research team (Tiller, Dibble, Nunley, & Shealy, 2004a, 2004b). Measurements focused on changes in participants’ sense of energy, vigor, and
wellbeing. The results showed that on the third day of chocolate eating, the average mood reported by the intention groups had improved significantly more than the same measure in the control group, with odds against chance of 25 to 1 and a rise in absolute mood of 67 percent. Analysis of a planned subset of study participants who on average eat less than 3 ounces of chocolate a week, and were thus more likely to be psychoactively sensitive to this food, showed a stronger improvement, with odds against chance of 10,000 to 1 and an improvement in mood of about 1,000 percent (Radin et al., 2007).

**Distant Healing Studies**

Healing studies explore the effects of prayer, noncontact Therapeutic Touch, and other forms of healing at a distance by one person or a group of people, on a second person or a second group of people. In 1988, Byrd conducted a study of the effects of prayer on patients, and found that patients in the prayer healing group experienced a lower illness severity, less hospitalization, and fewer complicating illnesses compared to controls who did not receive healing (Byrd, 1988).

Schlitz and Braud conducted a distant healing meta-analysis and found evidence for distant intentionality effects, although they observed that these effects did not occur in all experiments. In addition, the researchers assert that the effect is relatively large as it compares favorably with the effect observed when one uses relaxing imagery upon oneself (Schlitz & Braud, 1997). Astin et al. found that 57% of distant healing trials showed a positive treatment effect. These include prayer, noncontact Therapeutic Touch, and other forms of distant healing (Astin et al., 2000). Cancer researcher Elisabeth Targ (2002) noted that two-thirds of distant healing
studies produced a statistically significant effect. In another study, she uncovered that self-healing using patients using meditation, affirmation, imagery and ritual, had increases in measures of Spiritual Integration, higher satisfaction, and fewer dropouts compared to the standard group. In addition, better outcomes in quality of life in the CAM group were associated with lower initial fighting spirit (Targ & Levine, 2002).

Schlitz and her colleagues conducted a study on healing of surgical wounds where she found the participants’ previous belief in the efficacy of distant healing intention was negatively correlated with the status of their mental health at the end of the study, and healers’ perceptions of the quality of their subjective “contact” with the participants were negatively correlated both with change in mood and with collagen deposition. The researchers believe that if future experiments confirm their post-hoc observations, then some of the ambiguity observed in earlier studies may be attributable to interactions among participants’ and healers’ beliefs, their expectations, and their motivations (Schlitz et al., 2012).

Meta-analyses that were used to explore whether positive distant intention can affect the behavior or physiology of a human subject found an overall effect size that is small but significant. Schmidt concluded that intention does yield positive effects, and that the finding may have implications for distant healing research and health care as well as for meditation performance. Interestingly, there were cultural Western (United States and United Kingdom) and Eastern (Indonesia) differences in operator performance (Schmidt, 2012).
**Distant Intentionality and Brain Activities**

Several research projects tested the correlation of brain activities of two subjects that were isolated from each other. Wackermann and colleagues recorded electroencephalogram (EEG) simultaneously from pairs of human subjects separated in acoustically and electromagnetically shielded rooms. Brain electric responses to visual pattern-reversal stimuli were stimulated in the first subject while the second subject relaxed without stimulation. The results indicate that there are correlations between brain activities of two separated subjects (Wackermann, Seiter, Keibel, & Walach, 2003).

Radin, Taft, and Yount (year) used a slightly different research approach to test the same hypothesis. One subject is placed in an electromagnetically and acoustically shielded room while the other is in another room. The second person is stimulated at random times by the live video image of the first person. The researchers found that under certain conditions, the EEG of a human subject can become correlated with event-related potentials in the EEG of the other person. This suggests the presence of an interaction between two isolated subjects (Radin et al., 2004). This was confirmed by Standish Kozak, Johnson, & Clark in a similar research study (2004).

Achterberg et al. conducted a study using functional magnetic resonance imaging (fMRI) technology to demonstrate that distant intentionality, defined as sending thoughts at a distance, is correlated with an activation of certain brain functions in the recipients. Eleven healers who espoused some form of connecting or healing at a distance were recruited from the island of Hawaii. Each healer selected a
person with whom they felt a special connection as a recipient for distant intentionality. The recipient was placed in the fMRI scanner and isolated from all forms of sensory contact from the healer. The healers sent forms of distant intentionality that related to their own healing practices at random 2-minute intervals that were unknown to the recipient. Significant differences between experimental (send) and control (no send) procedures were found. Areas activated during the experimental procedures included the anterior and middle cingulate area, precuneus, and frontal area. It was concluded that instructions to a healer to make an intentional connection with a sensory isolated person can be correlated to changes in brain function of that individual (Achterberg et al., 2005).

**Negative Intention and Qigong Studies**

Negative intention refers to the intent to inhibit or harm. If positive intention has positive influence, it follows that negative intention may have harmful effects; hence, it is important to understand the potential impact of distant mental influence within the context of negative intention. It should be noted that negative intention might not originate from malefic intent to harm a person. It is often used in healing; for example, the intent to harm a cancer cell or destroy a kidney stone is a form of healing based on negative intentions. Larry Dossey (2011) cited studies that show negative intention in the form of emitted qi can destroy cancer cells. He observed that negative intention is the foundation of most healing. For example, cancer healing may require an intention to harm a rogue cell.

Research on negative intention has been mostly focused on the use of external qi (life energy) by qigong practitioners since they do not seem to have an issue about
using negatively charged energies (Benor, 2001). Qigong is based on a belief that intention, in the form of qi, can enhance or destroy. Sending positive qi is known as “peaceful mind,” and sending negative qi is referred to as “destroying mind” (Dossey, 2011). Others use the term "lethal Qi" or "health-promoting Qi" (Eisenberg, 1985, p. 213). A review of qigong studies on intentional influence found that facilitating qigong could accelerate bone healing, elevate T-lymphocyte counts, raise hemoglobin levels (Muehsam et al, 1994). On the other hand, negative qi was shown to reduce E. coli proliferation, produced cytotoxic effects on cancer cells, thwarted the growth of lymphoma cells (Ooi et al., 2013). However, these experiments show that negative qi may also have negative effects on the target; for example, decreasing tumor formation and size (Muehsam et al., 1994).

In one qigong study, a practitioner was asked to send negative qi to injure a spiderwort plant’s self-destruct mechanism, which resulted in the plant living longer than normal (Sun & Tao, 1988). In another study, a qigong practitioner sent positive and negative intention alternatively to boar sperm cells and human fibroblast cells. After negative intention was sent, the growth rates and protein synthesis of the cells decreased 22 to 53 percent. After positive intention was sent, all the activity of the cell increased by 5 to 28 percent (Dossey, 2011). Kenneth Sancier (1991) explored the effects of emitted qi on cell cultures. The study showed that “peaceful mind qi” increased the growth and respiration of cultured cells, but had a minimal effect on the rate of protein synthesis. In contrast, “destroying mind qi” decreased growth, respiration, and protein synthesis. The researchers suggested that “peaceful mind qi” is a signal to stimulate cell functions, whereas “destroying mind qi” affects cytoplasm fluidity, the nuclear matrix, or the cell membrane, resulting in decreased cell
functions. This study provided support that intention, in the form of qi, can affect the metabolism of living cells.

Chien, Tsuei, Lee, Huang, and Wei (1991) conducted a study that measured the output of external qi and explored its effects on biochemical functions of cells. The researchers measured electromagnetic pulses in the 3 to 5 microns infrared spectrum projected from the palm of a qigong practitioner while emitting external qi. When the qigong practitioner applied external qi with facilitating intent, infrared radiation was detected and the air temperature around the subject increased. When the qigong practitioner applied external qi with inhibiting intent, infrared radiation was absorbed from the environment, resulting in decreased air temperature. The two types of intention also had opposite effects on cell functions. External qi with facilitating intent increased cell growth by 1.8% within a 24-hour period, as well as increased DNA synthesis by 10-15% and protein synthesis by 3-5% within a two-hour period. External qi with inhibiting intent decreased cell growth by 6%, DNA synthesis by 20-23%, and protein synthesis by 35-48% within the same period. In addition, respiration rate of boar sperm increased 12.5-13.0% after exposure to external qi with facilitating intent and decreased 45-48% after exposure to external qi with inhibiting intent. The research demonstrated that external qi could either facilitate or inhibit cell functions, depending on the sender’s intention (Chien et al., 1991).

Gaps in the Literature

From the literary review, MMI and DMILS have mostly focused on exploring intention as a one-way process in which the intender is active and the subject is passive (Thalbourne, 2003; Storm et al., 2010; Braud & Schlitz, 1989, 1991; Schlitz
Researchers studying MMI and DMILS, perhaps in an attempt to control extraneous variables, have mostly designed studies around an active intender and a subject who does not assert his/her own volition, even when some researchers preferred to use the term “interaction” to describe the process (Braud, 2003).

In addition, most healing studies were conducted on a one-way basis where the healer knew he/she is attempting to influence the health of the subject but the subject may not know he/she is being sent healing intention (Schlitz & Braud, 1997; Schlitz et al., 2012). However, some studies offered insights on the relevance of the subject’s state of mind or activity in a direct mental influence process. Braud and Schlitz found that when participants attempted to psychokinetically decrease the electrodermal activity of distant target persons, a significant PK-calming effect occurred for the active (needy) persons, but not for the inactive persons. The PK-calming effect was significantly greater for active than for inactive persons (Braud & Schlitz, 1983). Freedman et al. (2003) speculate that the effect of direct mental influence may require reduced self-awareness combined with intact attentional mechanisms in a frontal lobe study. This means frontal lobe lesions associated with impaired attention may reduce the influence effects. These studies suggest that the receiver of intention may have an impact on the effects of the direct mental influencing process.

Conclusion

The literary review uncovered a wide body of research that covered an interesting spectrum of intentional interaction between humans, humans and
inanimate objects, humans and the environment, and humans and other biological systems. The results of MMI experiments were inconsistent; these include experiments on dice (Radin & Ferrari, 1991) and RNGs (Radin & Nelson, 2000; Bosch et al., 2006). The extensive PEAR Lab experiments yielded small but statistically significant MMI effects (Jahn et al., 1997). However, later researchers were unable to replicate the PEAR experiments; hence, the results remained inconclusive due to non-replicability (Jahn & Dunne, 2005).

For DMILS studies, there are more significant effects in studies that used inanimate objects (Benor, 1990), including water crystals (Radin et al., 2008), rats (Snel & Van der Sidje, 1995), and pepsin enzyme (Bunnell, 1999). However, there were also a number of biological studies that did not find significant effects or produced a large variability of results that raised the question of predictability (Hubbard et al., 1987; Smith & Laskow, 2000; Yount et al., 2013).

Space conditioning research seems to indicate a physical effect associated with intention. The researchers hypothesized that repeated intentions might be associated with a general increase in order (Radin et al., 2004). Group consciousness studies also provided evidence for correlations between human consciousness and physical systems (Nelson & Bencel, 2011; Radin & Atwater, 2009), and that entrained mental coherence has physical effects (Nelson et al., 2002).

Regarding research on human subjects, there were four broad types of studies: healing studies, DMILS, remote staring, and anomalous consciousness interactions or psi studies. There is some evidence that intention has a small but significant effect that does not depend on the specificity of task (i.e., helping, activating, or staring), but the involvement of a directed mental intention. Schlitz (1997) conducted a review of
19 DMILS experiments and concluded that distant intentionality effects did not occur in all experiments, but that across experiments there is a relatively consistent and significant effect size that appears replicable and robust.

Chapter 3 discusses the research method and design appropriateness, participants, population, and sampling, risks and benefits, confidentiality and privacy, data collection procedures and the types of data collected, appropriateness and reliability of the instrument as well as the results of a pilot test used to test the instrument, the internal and external validity, and data analysis process.
Chapter 3: Research Methods

Introduction

This study explored, described, and analyzed data collected from a series of experimental sessions in order to understand whether one person can use intention to influence another person in the direction of the intention, and whether the intention of the subject affected the results. This chapter reiterates the research hypotheses and discusses the research design, subjects, research ethics, research procedures, and data collection.

Research Method and Design Appropriateness

The problem that this study addressed is the limited understanding of the role and impact of the subject’s intention in the influencing process between a human intender and intendee. The focus was on exploring whether a human sender can use intention to influence a human subject in the direction of the intention, and whether the intention of the subject has significant impact on the results. A quantitative, experimental study was designed to assess the effects of distant mental influence through observing the behavior of two people where the sender either applied or did not apply intention to influence the subject to select a target, and the subject either applied or did not apply intention to choose a target intended by the sender.

This study presented two hypotheses:

• H1: The proportion of instances where the subject selected the target images, to which the sender has applied intention, is greater than the
proportion of instances where the subject selected the other images, to which the sender did not apply intention.

- H2: The proportion of instances where the subject selected the target images is greater when the subject applied intention than when the subject did not apply intention.

Using statistical notation, research hypotheses H1 and H2 are repeated below, where “p” represents a population “hit rate” proportion, “Yes” represents intention applied, and “No” represents no intention applied.

- Hypothesis H1

\[ H_0: \ p_{Sender-Yes} - p_{Sender-No} = 0 \quad \text{(no difference)} \]
\[ H_A: \ p_{Sender-Yes} - p_{Sender-No} > 0 \quad \text{("Yes" proportion Greater Than "No" proportion)} \]

- Hypothesis H2

\[ H_0: \ p_{Subject-Yes} - p_{Subject-No} = 0 \quad \text{(no difference)} \]
\[ H_A: \ p_{Subject-Yes} - p_{Subject-No} > 0 \quad \text{("Yes" proportion Greater Than "No" proportion)} \]

The experimental design used for this study was a two-level factorial design, with two independent variables (“Sender” and “Subject”) and one dependent variable (proportion of target images selected). Figure 1 diagrams the experimental design, showing the two levels (“Yes” and ”No”) for each of the two independent variables (“Sender” and “Subject”). Consequently, there were four experimental conditions tested, and each subject went through 20 trials in each of the four conditions, totaling 80 trials per subject.
There were four experimental conditions:

- Experiment 1 condition: The sender applied intention to one of the images (target image) and the subject applied intention to select the target image (“Sender Yes,” “Subject Yes”).

- Experiment 2 condition: The sender applied intention to one of the images (target image) and the subject did not apply intention to select the target image (“Sender Yes,” “Subject No”).

- Experiment 3 condition: The sender did not apply intention to any image and the subject applied intention to select a target image (“Sender No,” “Subject Yes”).

- Experiment 4 condition: The sender did not apply intention to any image and subject did not apply intention to select the target image (“Sender No,” “Subject No”).

Under the different conditions, the application of intention on the part of the sender and subject is specifically defined as below:
• In the condition where the sender applied intention, the sender was asked to focus on the image and hold a strong intention for the subject to select the target image.

• In the condition where the sender did not apply intention, the sender was asked not to focus on any image and not to hold any intention for the subject to select any image.

• In the condition when the subject applied intention, the subject was asked to focus on the sender and hold an intention to choose the target image intended by the sender.

• In the condition when the subject did not apply intention, the subject was asked not to focus on the sender and not hold any intention to choose a target image.

This study employed a forced-choice experimental protocol in a sequence of trials in which the subject, on each trial, attempted to correctly identify a target image from four images. If the target image was chosen, a direct "hit" was scored. If the target image was not chosen, the result is considered a "miss." A forced-choice protocol limits the options available to the subject so variability and human judgment is minimized in determining the results. Hence, the analysis of forced-choice experiments is simpler and arguably more objective than free-response experiments. It should be noted, however, that free-response protocol has other advantages. It allows the participant to freely articulate a stream of images, thoughts, and ideas that may offer more context and contents for researchers to gain deeper insights.
Participants, Population, and Sampling

The parties who were involved in this study include the researcher, an intention sender and 56 subjects. Below are the parties involved in the study:

- Researcher: Female, PhD student in integrated and holistic health, Master of Business Administration, Bachelor of Arts in Psychology, worked in technology business for over 20 years.
- Sender: Female, Bachelor of Science in Nutritional Science, worked in consumer business for over 20 years. She is a friend of the researcher.
- Subjects: The subjects participated in the experiment via a self-administered online test. This online test was promoted in the researcher’s own social circles through social media, email, and word-of-mouth. Participants were selected and recruited from the following sources: Friends of researcher who included those recruited through direct email and Facebook and referrals from friends of researcher (“Friends”); and students and alumni at the Energy Medicine University (EMU) who were recruited through an email sent on behalf of the researcher by the founder of the university (“EMU”). There were a total of 81 participants but 25 did not complete the entire test. The results of participants who completed the entire test were accepted, but the results of participants who did not complete the entire test were rejected. Hence, the final number of subjects was n=56, which included 45 female and 11 males subjects, and 20 (36%) students from EMU (“EMU”) and 36 (64%) friends from the social circle of the researcher (“Friends”).
A statement of consent (Appendix A) and instructions (Appendix B) were provided on the website and presented to research participants.

The research design was randomized and single blind. The sender knew to which images she applied intention. The subjects, however, did not know if the sender applied or did not apply intention in each set. There was no physical contact between the researcher and the subjects, and between the sender and the subjects. The researcher was not present in the first phase of the experience when the sender applied intention to the target images.

This study utilized some of the experimental procedures set out by Schlitz et al. (2003) with respect to blinding procedures, including the following:

- Sender and subject do not know each other’s identity at the time of their respective involvement in the experiment.
- The conditions under which the researcher chose the target images were not known by any subject.
- The randomization process by which target images were embedded into the set of images was not known to the subjects.
- Each subject was out of sensory contact with the researcher, sender, and other subjects at the time that they were conducting the experiment.
- The subjects were not in contact with the researcher or sender or anyone else who knew the target images.

As the sender and the subjects were separated in time and space, the shielding guidelines outlined in Schlitz et al.’s procedures were not applied.
The principles of the American Psychological Association (APA) guidelines for the ethical treatment of subjects was followed (see Appendix C). Before the experiment, the subjects were taken to a webpage that has an online informed consent form indicating that they understood the procedures, their right to confidentiality, and their right to withdraw from the testing sessions at any time, followed by a webpage containing instructions (Appendix B).

**Risks and Benefits**

The potential risk for the subject was he/she may be influenced in some form or another by the sender’s intention. However, this risk is believed to have been minimized by the fact that the sender was not in a position to deliberately or inadvertently send an intention directly to a subject. As an online test that can be conducted by any subject at any time and place, there was no physical contact and communication between the sender and subject; hence, the sender was prevented from attempting to exert direct influence over the subject as she would not have known who was taking the test, and when and where the test was taken. Also, the study was designed so that the sender did not directly apply intention to a subject, but only to target images that were later presented to the subject. The subject was then asked to apply or not apply intention to select the target image, and did not receive a direct intention from the sender. The potential benefit for the subject was he/she may become more aware of his/her intention and how to apply or not apply it, which may help develop the subject’s awareness and intuition.
Confidentiality and Privacy

The identity and test results of each subject were kept confidential throughout the study and the subject was not required to provide a name on the online consent form. The results from the online test can only be accessed with an administrative password, which is known only by the researcher and the website developer. The data was compiled by the researcher and shared (without the names) with the statistics mentor appointed by the Energy Medicine University for the purpose of data analysis.

Data Collection

Type of data collected. This study collected data from a series of trials. Any deviation from chance in the dependent variable, whether above or below, was evidence of anomalous effects if it occurred consistently over a series of trials. The data collected consisted of two independent variables and one dependent variable within four conditions. The independent variables include whether the sender applied intention (“Sender Yes” and “Sender No”), and whether the subject applied intention (“Subject Yes” and “Subject No”). Secondary variables were also collected as part of the experiment for exploratory purposes; these include gender (“Female” and “Male”), where the subjects were recruited (“EMU” and “Friends), age range, and time taken to complete the experiment.

The dependent variable was the proportion of correctly selected target images within each set of 20 trials. Each subject completed four sets of 20 trials each (at each of the four experimental conditions), so there were four proportions calculated and collected for each subject.

The four conditions are described as follows:
• Experiment 1 condition: The sender applied intention to one of the images (target image) and the subject applied intention to select the target image.
  o The subject was shown images with target images to which the sender previously sent intention.
  o The subject was asked to focus on the sender and hold an intention to choose the target image intended by the sender. On the instructions, the subject was encouraged to not focus on the contents of the image and to be free to do whatever comes natural in the process of “intending to receive intuitive information,” including closing eyes, or engaging in slow and even breathing.

• Experiment 2 condition: The sender applied intention to one of the images (target image) and the subject did not apply intention to select the target image.
  o The subject was shown images with target images to which the sender previously sent intention.
  o The subject was asked not to focus on the sender and not to hold any intention to choose a target image. The instructions suggested that the subject think of thoughts like: “I don’t care,” “I don’t want to pick the right one,” etc.

• Experiment 3 condition: The sender did not apply intention to any image and the subject applied intention to select a target image.
  o The subject was shown images without target images to which the sender previously sent intention.
The subject was asked to focus on the sender and hold an intention to choose the target image intended by the sender.

- **Experimental 4 condition**: The sender did not apply intention to any image and subject did not apply intention to select the target image.
  - The subject was shown images without target images to which the sender previously sent intention.
  - The subject was asked not to focus on the sender and not hold any intention to choose a target image.

**Data collection procedures.** The study was conducted in two phases with the first phase involving the sender and the second phase involving the subjects.

In Phase 1, the sender sat in front of a computer with 40 target images pre-loaded on a PowerPoint document. She went through each of the 40 images and held an intention for the subject to select each image.

In Phase 2 the subjects assess a website with 80 sets of images with 4 different images in each set, totaling 320 images. These images were selected from digitized photographs sourced from online image banks, and were primarily photographs of landscapes around the world. The subjects were to read the consent form, instructions, and go through 80 webpages, each containing four images displayed on a quadrant. Each of the images was marked as 1, 2, 3, or 4, based on its position on the quadrant. On each page, there was also the word “intend” or “do not intend” displayed on the top of the page. The subject was told that when he/she sees the word “intend,” he/she should focus on the sender and hold an intention to select the target image intended by the sender. And when the subject sees the word “do not intend,” he/she should not focus on the sender but should casually select any image. In addition, on each page,
there were four radio buttons beneath the images on which the subject can click to indicate which image he/she chooses. The subjects were asked to advance through the webpages by pressing “next.”

**Instrument: Selection Appropriateness**

The instrument used in this study was an online experimental tool that was specifically designed to meet the needs and rigor of this study. The use of visual images was inspired by a device called ArtREG, which was designed to assess the importance of pictorial feedback (Jahn, Dunne, Dobyns, Nelson, & Bradish, 2000). ArtREG is founded on the premise that aesthetic appeal may enhance the sense of resonance, which might result in effects that show larger deviations from chance.

The online experimental tool comprised a website with consent statements, instructions, and 80 webpages of images, each of which has four images displayed on a quadrant. This instrument was designed with the aim of standardizing the experience of the subjects, while at the same time extending the experiment to a larger sample than what may be feasible if it were conducted on a one-to-one basis. This tool may be used by the researcher to replicate the experiment with different samples in the future, or offered to other researchers who are interested in replicating or validating the experiment.

The images selected were deemed to be emotionally/culturally/socially neutral, to minimize pre-selection bias either for or against a particular image by both the sender and the subjects. According to the PEAR Lab researchers, personalized meaning of the feedback is crucial in creating the human/machine bond, and symbolic and mystical imagery creates the opportunity to build personalized meaning (Jahn et
al., 2006). Hence, a higher sense of resonance may result in larger deviations from chance behaviors. This may be interesting for studies that explore the relationship between resonance and the interaction between human operators and machines or objects. However, since the purpose of this study was to assess the effects of distant intentionality between two people using images as an assessment tool, the researcher opted to select images that were more neutral to minimize the creation of personalized meaning between human and object.

**Instrument: Reliability**

**Target selection and randomization.** The 320 images were randomly assigned a number from 1 to 320. Using an online randomizing tool (www.random.org), the researcher generated 40 numbers between 1 and 320, and the tool randomly assigned the generated numbers to two columns. The images with numbers corresponding to the numbers on the first column were assigned as the target images in Experiment 1 Condition, and the images with numbers corresponding to the numbers on the second column were assigned as the target images in Experiment 2 Condition.

Using the randomizing tool, the images were randomly placed in one of four quadrants on a screen. The whole website contained 80 pages with 4 images on each page, totaling 320 images.

**Pilot test.** A pilot test was conducted to validate the instrument and obtain feedback on the experimental experience. One subject was chosen to review 80 sets of images to choose one target image out of four images (25% chance). The results were as follows:
Using the pilot results, hypothesis H1 was tested by combining the results from experimental conditions 1 and 2 (where the sender applied intention) and comparing them with the combined results from experimental conditions 3 and 4 (where the sender did not apply intention). Experimental conditions 1 and 2 had a combined hit rate of 27.5% (sender applied intention) compared with experimental conditions 3 and 4, which had a combined hit rate of 22.5% (sender did not apply intention), yielding a difference of 5%. Since the sample size was very small for the pilot test, this difference of 5% is not statistically significant, but a larger sample size from the full experiment may yield different results.

Again, using only the pilot results, hypothesis H2 was tested by combining the results from experimental conditions 1 and 3 (where the subject applied intention) and comparing them with the combined results from experimental conditions 2 and 4 (where the subject did not apply intention). Experimental conditions 1 and 3 had a combined hit rate of 27.5% (subject applied intention), compared with experimental conditions 2 and 4, which had a combined hit rate of 22.5% (subject did not apply intention), yielding a difference of 5%. Again, since the sample size was small for the pilot test, this difference of 5% was not statistically significant, but a larger sample size from the full experiment may yield different results.

The pilot test yielded six hits (30% hit rate, or 6/20) for experimental condition 1, and four hits (20% hit rate, or 4/20) for experimental condition 4. But
since the sample size is very small (only one subject, and 20 tests for each experimental condition), the differences were not statistically significant for this pilot.

This pilot test was used to test the procedure and protocol of the experiment and to address some concerns the researcher had about the experiment design. As a result, the researcher made the following revisions:

- Revisions were made to the instructions to the subject to not focus too much on the contents of the images, as the pilot subject mentioned she liked the images very much and was sometimes drawn into appreciating the beauty of the subject in the image. Hence, she admitted she might have chosen an image she liked rather than what came intuitively after applying intention.

- The subject commented that the time between automatic slide advances might be shortened as she felt she had ample time to review each set. This was shortened from 20 to 15 seconds.

The researcher was initially concerned about whether the sender and subject would be able to apply and not apply intention through 80 slides without fatigue. The comment from the subject was that the photos were quite engaging so it didn’t seem like a chore.

**Validity – Internal and External**

**Internal validity.** This validates whether there is a causal relationship between the independent and dependent variables. Internal validity may be affected by the procedures of the experiment or experiences of the participants, which affect the researcher’s ability to draw correct conclusions from the data (Creswell, 2003). To
address potential internal validity threats, an attempt has been made to standardize the experimental experience by designing the experiment as an online experiment that offers the same instructions and same images in the same order to each subject, in an effort to standardize the participant’s experience. The instrument draws on ArtREG, which follows the rigor of PEAR experimental designs. A randomization process was used for both selecting the target images as well as assigning the images to the image sets. However, it should be noted that because the online experiment can be carried out anywhere and any time, the subject’s immediate environment while conducting the experiment was not known or controlled.

**External validity.** This addresses whether a causal relationship can be generalized to other persons, settings, and situations (Creswell, 2003). It should be noted that the sample of the study comprises volunteers who were neither randomly selected nor assigned, and therefore was not representative of a general population. The key question is whether the sample closely mirrors and shares similar characteristics to the population. An attempt was made to recruit a diverse group of volunteers from the researcher’s immediate and extended social circle rather than limiting to participation within a specific gender, age, or other pre-defined group.

**Data Analysis**

Referring to the two-level factorial design structure (Figure 1), the sender, subject, and interaction effects were calculated by comparing the appropriate average hit rate proportions using comparison of population proportions analyses. The sender effect is the difference in the hit rate proportions between when the sender applied intention and when she did not apply intention. It was calculated by subtracting the
average proportion of experimental conditions 3 and 4 from the average proportion of experimental conditions 1 and 2. This was used to test research hypothesis H1. The subject effect was the difference in the hit rate proportions between when the subject applied intention and when he/she did not apply intention. It was calculated by subtracting the average proportion of experimental conditions 2 and 4 from the average proportion of experimental conditions 1 and 3. This was used to test research hypothesis H2. The interaction effect assessed if the effect due to sender was dependent on whether the subject was applying intention. It was calculated by subtracting the average proportion of experimental conditions 2 and 3 from the average proportion of experimental conditions 1 and 4.

Chapter Summary

This was a quantitative study that examined whether a person can use intention to influence another person in the direction of the intention, and whether the intention of the second person has significant impact on effects of the influencing attempt. Subjects were asked to go through a sequence of trials in which they were instructed to either intend or not intend to choose a target image from four images using an online experimental tool that was specifically designed for this study. A sender had previously applied intention to the target images. The objective of the study was to examine whether there are significant differences in the results of four experimental conditions where intention was either applied or not applied by the sender, and by the subject. The data collected was used to examine the relationship between the independent variables and the dependent variables to address the two hypotheses of the study. The study used a two-level factorial design, with two
independent variables (whether the sender and subject applied intention) and one
dependent variable (proportion of target images selected). Chapter 4 discusses the
process and results of the experiments and presents the findings with an analysis of
the data collected, implications, recommendations, and conclusions.
Chapter 4: Research Results and Findings

This study explored the effects of intentionality between two people, the sender and the subject. This chapter presents the research findings and data analyses, discussing the results of testing of each hypothesis and addressing each of the research questions.

Application of Research Methods

An online, quantitative experiment using a series of images was designed where the sender either applied or did not apply intention to influence the subject to select a set of target images, and the subject either applied or did not apply intention to choose the target images intended by the sender. As such, the experimental design used for this study was a two-level factorial design, with two independent variables (“Sender” and “Subject”) and two levels (“Yes” and ”No”) for each of the two independent variables. There was one dependent variable, which is the proportion of target images selected by the sender. There were four secondary independent variables explored in this study. These include where the subject came from (EMU and Friends), gender (Females and Males), the time it took the subject to complete the online experiment (Time), and age range (Age).

In accordance with the two-level factorial design, with two independent variables, each at two levels, there were four experimental conditions tested:

- Experiment 1 condition: The sender applied intention to one of the images (target image) and the subject applied intention to select the target image (“Sender Yes,” “Subject Yes”).
• Experiment 2 condition: The sender applied intention to one of the images (target image) and the subject did not apply intention to select the target image (“Sender Yes,” “Subject No”).

• Experiment 3 condition: The sender did not apply intention to any image and the subject applied intention to select a target image (“Sender No,” “Subject Yes”).

• Experiment 4 condition: The sender did not apply intention to any image and subject did not apply intention to select the target image (“Sender No,” “Subject No”).

Each subject went through 20 trials in each of the four conditions, totaling 80 trials per subject. Any deviation from chance in the dependent variable, whether above or below, is evidence of anomalous effects if it occurred consistently over a series of trials.

Results of Testing of Hypotheses

There were two hypotheses in this study: Hypothesis H1 stated that the proportion of instances where the subject selects the target images, to which the sender has applied intention, is greater than the proportion of instances where the subject selects the other images, to which the sender did not apply intention. Hypothesis H2 stated that the proportion of instances where the subject selects the target images is greater when the subject applied intention than when the subject did not apply intention.

The sender effect, calculated from the experimental results, was used to test hypothesis H1, and the subject effect was used to test research hypothesis H2. The
interaction effect assessed if the effect attributed to the sender was dependent on whether the subject applied intention or not.

Hypotheses H1 and H2 are reiterated below in statistical notation, where “p” represents a population “hit rate” proportion, “Yes” represents intention applied, and “No” represents no intention applied.

Hypothesis H1

\[ H_0: \; p_{\text{Sender-Yes}} - p_{\text{Sender-No}} = 0 \quad \text{(no difference)} \]
\[ H_A: \; p_{\text{Sender-Yes}} - p_{\text{Sender-No}} > 0 \quad \text{("Yes" proportion Greater Than "No" proportion)} \]

Hypothesis H2

\[ H_0: \; p_{\text{Subject-Yes}} - p_{\text{Subject-No}} = 0 \quad \text{(no difference)} \]
\[ H_A: \; p_{\text{Subject-Yes}} - p_{\text{Subject-No}} > 0 \quad \text{("Yes" proportion Greater Than "No" proportion)} \]

A summary table of the sender, subject and interaction effects, together with their respective standard errors and p-values is illustrated in Figure 2. The sender effect equaled -0.0076, meaning that the hit rate proportion when the sender did not apply intention (“No” condition) was greater than the hit rate proportion when the sender did apply intention (“Yes” condition), by 0.0076 (or 0.76%). As this result is not statistically significant (p-value = 0.721), hypothesis H1 was not supported. The subject effect equaled 0.0112, meaning that the hit rate proportion when the subject did apply intention (“Yes” condition) was greater than the hit rate proportion when the subject did not apply intention (“No” condition), by 0.0112 (or 1.12%). Whereas these experimental results did support hypothesis H2, the subject effect was not statistically significant (p-value = 0.184). Lastly, as shown in Figure 1, the interaction effect (-0.0094) was not statistically significant (p-value = 0.766), suggesting that the
difference between the sender “Yes” intention hit rates and sender “No” intention hit rates were not dependent on whether the subject did or did not apply intention.

<table>
<thead>
<tr>
<th></th>
<th>Est. Propor. Difference (&quot;Yes&quot; - &quot;No&quot;)</th>
<th>Std. Error</th>
<th>p-Value (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sender Effect</td>
<td>-0.0076</td>
<td>0.0129</td>
<td>0.721</td>
</tr>
<tr>
<td>Subject Effect</td>
<td>0.0112</td>
<td>0.0129</td>
<td>0.184</td>
</tr>
<tr>
<td>Interaction of Sender - Subject</td>
<td>-0.0094</td>
<td>0.0129</td>
<td>0.766</td>
</tr>
</tbody>
</table>

*Figure 2.* Sender, subject and interaction effects with their respective standard errors and p-values.

Figure 3 is a graphical representation of the sender, subject and interaction effects, with their respective 95% confidence intervals. All three 95% confidence intervals include the “no difference” value of “0,” again implying that there was no significant difference between the hit rate proportions when the sender applied and did not apply intention, and when the subject applied and did not apply intention.

The results show that there was no statistically significant difference between the “Yes” (where intention was applied) proportion and the “No” (where intention was not applied) proportion for both the sender and the subject, at a 5% level of significance. In addition, there was no statistically significant interaction effect between the sender and subject at a 5% level of significance. Consequently, the null hypotheses for both research hypotheses were accepted. The experimental evidence did not support the hypothesis H1 that the proportion of instances in which the sender has applied intention is greater than the proportion of instances in which the sender did not apply intention. The experimental evidence was also insufficient to support hypothesis H2 that the proportion of instances in which subject has applied intention
was greater than the proportion of instances in which the subject did not apply intention.

Based on the above, there was no statistically significant difference in the hit rates when the sender applied and did not apply intention, and when the subject applied and did not apply intention.

Figure 3. Sender, subject and interaction effects with 95% confidence intervals

Figure 4 descriptively depicts the interaction effect between the sender and the subject. The plot suggests that when the subject did not apply intention (blue line), the proportion of hits increased slightly when the sender did apply intention (compared to when the sender did not apply intention). However, when the subject applied intention (green line), the opposite occurred; that is, the proportion of hits decreased when the sender applied intention, compared to when the sender did not apply intention.
**Figure 4.** Plot showing sender and subject interaction effect, with 95% confidence intervals.

The average hit rates for all 56 subjects at each of the four experimental conditions were assessed to determine if they were significantly different from chance, and therefore provide evidence of direct mental influence effects. During each of the 80 trials completed by each of the subjects, there were four images shown to the subject. Only one of the four images was the target image, giving the subjects a 25% chance of selecting the target image. Therefore, if any of the average hit rates of the four experimental conditions were significantly different from 0.25, it would suggest that direct mental influence effects have occurred.

Below summarizes the average hit rate for each of the four experimental conditions with their respective standard errors and p-values (Figure 5), and 95% confidence intervals (Figure 6). The line shown in red is the 0.25 chance proportion line. All of the 95% confidence intervals included (cross) the 0.25 line, which shows
that the hit rates for the four experimental conditions were no different from chance.

Note also the large p-values in Figure 4 for each of the four conditions. Hence, there was no evidence supporting the occurrence of direct mental influence effects.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Estimated Hit Proportion (Chance = 0.25)</th>
<th>Std. Error</th>
<th>p-Value (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cond. 1, Send = Y, Subj. = Y</td>
<td>0.2473</td>
<td>0.0129</td>
<td>0.836</td>
</tr>
<tr>
<td>Cond. 2, Send = Y, Subj. = N</td>
<td>0.2455</td>
<td>0.0129</td>
<td>0.730</td>
</tr>
<tr>
<td>Cond. 3, Send = N, Subj. = Y</td>
<td>0.2643</td>
<td>0.0132</td>
<td>0.270</td>
</tr>
<tr>
<td>Cond. 4, Send = N, Subj. = N</td>
<td>0.2438</td>
<td>0.0128</td>
<td>0.629</td>
</tr>
</tbody>
</table>

**Figure 5.** Average hit rate for each of the four experimental conditions with their respective standard errors and p-values

**Figure 6.** Average "Hit" proportions for the four experimental conditions with 95% confidence intervals

**Secondary Independent Variables**

**EMU and Friends comparison.** The subjects who participated in the experiment comprised 20 (36%) students from Energy Medicine University (“EMU”)
and 36 (64%) individuals who were friends of the researcher or who were recruited from the social circles of the researcher’s friends (“Friends”). The results indicate a larger subject effect for EMU as compared to Friends. This means that where EMU students applied intention, they had a 2.5% higher hit rate than when they did not apply intention. For Friends, there was no difference in the hit rate when they applied intention compared to when they did not apply intention. The effect was not statistically significant for either EMU or Friends and therefore cannot be inferred to a general population.

A summary table of the sender, subject and interaction effects of EMU and Friends, together with their respective standard errors and p-values, is illustrated in Figure 7. Figure 8 illustrates the average hit rate of EMU and Friends for each of the four experimental conditions with their respective standard errors and p-values.

<table>
<thead>
<tr>
<th></th>
<th>Est. Proportion Difference (“Yes” - “No”)</th>
<th>Std. Error</th>
<th>p-Value (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sender Effect - EMU</td>
<td>-0.0076</td>
<td>0.0204</td>
<td>0.645</td>
</tr>
<tr>
<td>Sender Effect - Friend</td>
<td>-0.0076</td>
<td>0.0167</td>
<td>0.675</td>
</tr>
<tr>
<td>Subject Effect - EMU</td>
<td>0.0250</td>
<td>0.0204</td>
<td>0.110</td>
</tr>
<tr>
<td>Subject Effect - Friend</td>
<td>0.0015</td>
<td>0.0167</td>
<td>0.464</td>
</tr>
<tr>
<td>Interaction Effect - EMU</td>
<td>-0.0141</td>
<td>0.0204</td>
<td>0.755</td>
</tr>
<tr>
<td>Interaction Effect - Friend</td>
<td>-0.0061</td>
<td>0.0167</td>
<td>0.642</td>
</tr>
</tbody>
</table>

*Figure 7. Sender, subject and interaction effects of EMU and Friends with their respective standard errors and p-values*
Figure 8. Average hit rate of EMU and Friends in each of the four experimental conditions with their respective standard errors and p-values

Figure 9 graphically displays sender, subject and interaction effects of EMU and Friends with 95% confidence intervals. Figure 10 compares the hit rates between EMU and Friends in the four experimental conditions.

Figure 9. Average hit rate for EMU and Friends with 95% confidence intervals
Gender comparison. There were 45 (80%) female and 11 (20%) male subjects who participated in the experiment. A summary table of the sender, subject and interaction effects of Females and Males, together with their respective standard errors and p-values, is illustrated in Figure 11. Figure 12 illustrates the average hit rates of Females and Males for each of the four experimental conditions with their respective standard errors and p-values.

<table>
<thead>
<tr>
<th></th>
<th>Est. Proportion Difference (&quot;Yes&quot; - &quot;No&quot;)</th>
<th>Std. Error</th>
<th>p-Value (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sender Effect - Female</strong></td>
<td>0.0056</td>
<td>0.0145</td>
<td>0.351</td>
</tr>
<tr>
<td><strong>Sender Effect - Male</strong></td>
<td>-0.0614</td>
<td>0.0283</td>
<td>0.985 (0.015)</td>
</tr>
<tr>
<td><strong>Subject Effect - Female</strong></td>
<td>0.0100</td>
<td>0.0145</td>
<td>0.246</td>
</tr>
<tr>
<td><strong>Subject Effect - Male</strong></td>
<td>0.0159</td>
<td>0.0283</td>
<td>0.288</td>
</tr>
<tr>
<td><strong>Interaction Effect - Female</strong></td>
<td>-0.0078</td>
<td>0.0145</td>
<td>0.704</td>
</tr>
<tr>
<td><strong>Interaction Effect - Male</strong></td>
<td>-0.0159</td>
<td>0.0283</td>
<td>0.712</td>
</tr>
</tbody>
</table>
Figure 12. Average hit rate of Females and Males in each of the four experimental conditions with their respective standard errors and p-values.

Figure 13 graphically displays sender, subject and interaction effects of Females and Males with 95% confidence intervals. There was a statistically significant negative sender effect for Males, such that whenever the sender applied intention, the hit rate of Males was significantly lower than when the sender did not apply intention. There were no significant effects for Females.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Send</th>
<th>Subject</th>
<th>Sex</th>
<th>Estimated Hit Proportion</th>
<th>Std. Error</th>
<th>p-Value (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cond. 1, Send = Y, Subj. = Y, Female</td>
<td>0.2589</td>
<td>0.0146</td>
<td>0.538</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 1, Send = Y, Subj. = Y, Male</td>
<td>0.2000</td>
<td>0.0270</td>
<td>0.087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 2, Send = Y, Subj. = N, Female</td>
<td>0.2567</td>
<td>0.0146</td>
<td>0.644</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 2, Send = Y, Subj. = N, Male</td>
<td>0.2000</td>
<td>0.0270</td>
<td>0.087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 3, Send = N, Subj. = Y, Female</td>
<td>0.2611</td>
<td>0.0146</td>
<td>0.441</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 3, Send = N, Subj. = Y, Male</td>
<td>0.2773</td>
<td>0.0302</td>
<td>0.436</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 4, Send = N, Subj. = N, Female</td>
<td>0.2433</td>
<td>0.0143</td>
<td>0.644</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cond. 4, Send = N, Subj. = N, Male</td>
<td>0.2455</td>
<td>0.0290</td>
<td>0.876</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 13. Sender, subject and interaction effects comparing Females and Males with 95% confidence intervals.
Figure 14 compares the hit rates of Females and Males in the four experimental conditions. There was a difference in hit rates between the Females and Males whenever the sender applied intention. As shown for experimental conditions 1 and 2, the hit rate of Males (20%) was lower than the hit rate of Females by about 5.5% whenever the sender applied intention. The difference was not statistically significant at the 95% level of significance (p-value = 0.0868).

The data collected also included time taken to complete the online experiment (Time) and the age range (Age) of the subjects. Shown below are the sender, subject and interaction effects, together with the standard errors and p-values, for Age (Figure 15) and Time (Figure 16). For both Age and Time, there were no statistically significant subject, sender, or interaction effects.
<table>
<thead>
<tr>
<th></th>
<th>Est. Propor. Difference</th>
<th>Std. Error</th>
<th>p-Value (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sender Effect - Age 26-30</strong></td>
<td>-0.0812</td>
<td>0.0484</td>
<td>0.953</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 31-35</strong></td>
<td>-0.1000</td>
<td>0.0791</td>
<td>0.897</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 36-40</strong></td>
<td>0.0417</td>
<td>0.0549</td>
<td>0.224</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 41-45</strong></td>
<td>-0.0083</td>
<td>0.0326</td>
<td>0.601</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 46-50</strong></td>
<td>0.0357</td>
<td>0.0259</td>
<td>0.084</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 51-55</strong></td>
<td>0.0333</td>
<td>0.0323</td>
<td>0.151</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 56-60</strong></td>
<td>-0.0344</td>
<td>0.0352</td>
<td>0.836</td>
</tr>
<tr>
<td><strong>Sender Effect - Age 61-65</strong></td>
<td>-0.1313</td>
<td>0.0485</td>
<td>0.997</td>
</tr>
<tr>
<td><strong>Sender Effect - Age Over 65</strong></td>
<td>-0.0125</td>
<td>0.0452</td>
<td>0.609</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 26-30</strong></td>
<td>0.0187</td>
<td>0.0486</td>
<td>0.350</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 31-35</strong></td>
<td>0.0500</td>
<td>0.0796</td>
<td>0.265</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 36-40</strong></td>
<td>0.0250</td>
<td>0.0549</td>
<td>0.324</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 41-45</strong></td>
<td>0.0083</td>
<td>0.0326</td>
<td>0.399</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 46-50</strong></td>
<td>-0.0143</td>
<td>0.0259</td>
<td>0.709</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 51-55</strong></td>
<td>0.0000</td>
<td>0.0323</td>
<td>0.500</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 56-60</strong></td>
<td>0.0594</td>
<td>0.0352</td>
<td>0.046</td>
</tr>
<tr>
<td><strong>Subject Effect - Age 61-65</strong></td>
<td>-0.0188</td>
<td>0.0490</td>
<td>0.649</td>
</tr>
<tr>
<td><strong>Subject Effect - Age Over 65</strong></td>
<td>0.0375</td>
<td>0.0452</td>
<td>0.203</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 26-30</strong></td>
<td>-0.0438</td>
<td>0.0486</td>
<td>0.816</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 31-35</strong></td>
<td>-0.0500</td>
<td>0.0796</td>
<td>0.735</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 36-40</strong></td>
<td>-0.0083</td>
<td>0.0549</td>
<td>0.560</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 41-45</strong></td>
<td>-0.0139</td>
<td>0.0326</td>
<td>0.665</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 46-50</strong></td>
<td>0.0250</td>
<td>0.0259</td>
<td>0.167</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 51-55</strong></td>
<td>0.0111</td>
<td>0.0323</td>
<td>0.365</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 56-60</strong></td>
<td>-0.0469</td>
<td>0.0352</td>
<td>0.909</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age 61-65</strong></td>
<td>-0.0188</td>
<td>0.0490</td>
<td>0.649</td>
</tr>
<tr>
<td><strong>Interaction Effect - Age Over 65</strong></td>
<td>-0.0375</td>
<td>0.0452</td>
<td>0.797</td>
</tr>
</tbody>
</table>

*Figure 15.* Sender, subject and interaction effects comparing Age with 95% confidence intervals
Chapter Summary

Overall, there was no statistically significant difference in the hit rates when the sender applied and did not apply intention, and when the subject applied and did not apply intention. Hence, the results did not provide sufficient evidence to support the hypotheses, the first being that the proportion of instances in which the sender has applied intention is greater than the proportion of instances in which the sender did not apply intention, and the second being that the proportion of instances in which the subject has applied intention was greater than the proportion of instances in which the subject did not apply intention. There was a larger subject effect for EMU compared to the other conditions.

![Table with experimental data](image)

*Figure 16. Sender, subject and interaction effects compared with 95% confidence intervals*
to Friends, and a relatively large difference in hit rates between Females and Males, with the hit rate of Males below that of Females whenever the sender applied intention.

TRANSITION PARAGRAPH INTO CHAPTER 5
Chapter 5: Conclusions, Implications, and Recommendations

This chapter summarizes and addresses the research problem and the hypotheses and includes the conclusions, implications of the research finding, and recommendations for future research.

Research Study Questions and Hypotheses

This study explored whether a human sender can use intention to influence the subject in the direction of the intention, and whether the intention of the subject has effect on the results. Hypothesis H1 stated that the proportion of instances where the subject selects the target images, to which the sender has applied intention, is greater than the proportion of instances where the subject selects the other images, to which the sender did not apply intention. Hypothesis H2 stated that the proportion of instances where the subject selects the target images is greater when the subject applied intention than when the subject did not apply intention.

The study also addressed three research questions:

1. Can a person embed an influential intention in an image in time to be retrieved later at a distance by another person?
2. Can a person retrieve someone else’s intention if he/she intends to do so?
3. Can a person retrieve someone else’s intention even if he/she does not intend to do so?

Conclusions

The research results did not find evidence for bi-directional mental influence between two people and did not provide evidence to support either research
hypothesis. To address the research questions, an instrument comprising a website with 80 sets of images, 20 of which were target images to which the sender has applied intention was used. The subjects assessed the 80 sets of images online and either applied or did not apply intention to choose the target image in each set. To answer the first research question, the sender and interaction effects were analyzed to assess whether there were significant differences in the target image selection rates when the sender or the subject applied intention. The analysis did not uncover any significant sender or interaction effect; hence, there was no evidence that a person can embed an influential intention on an image to be retrieved later at a distance by another person at a later time.

The second question asked whether a person can retrieve someone else’s intention if he/she intends to do so. To answer this question, the study examined the subject effect, which assesses if there are significant differences in the target image selection rate when the subject applied intention. The results did not provide evidence of any subject effect; hence, there is no evidence that a person can retrieve another’s intention even if he/she had the intention to do so.

The third research question asked whether a person can retrieve someone else’s intention if he/she does not intend to do so. The data analysis did not provide evidence that the lack of application of intention by the subject has any effect on the hit rate. Hence, there was no evidence that a person can receive another person’s intention, if the former did not have the intention to receive it.
Implications of the Findings

The study uncovered two areas of interest that were not specifically called out in the research questions or hypotheses. First, there was a larger effect when EMU students, as subjects, applied intention. Even though we cannot infer this to the population, as the difference was not statistically significant, this is a notable finding.

Energy Medicine University is an educational institute whose mission is “the development, cultivation, education and enrichment of the human mind and spirit” (Energy Medicine University, 2014). Subjects recruited from EMU either graduated or participated in the Academy of Intuition Medicine™ certification program called Master Certification in Intuition Medicine™ (MIM), which provides thirteen months of intuition training to students. Evaluating the effectiveness of this training program is beyond the scope of this study; however, one might assume that subjects who completed the EMU MIM Program are more intuitively attuned, either because intuitive people are self-selected to join such a program or because the subjects acquired and/or developed more intuitive capabilities upon completion of the MIM program. Hence, the larger EMU subject effect may indicate that intuition ability increases distance mental influence effects. Another assumption may be that this group, as a result of intuition training, has a higher level of awareness of what “applying intention” means. A key assumption of the experiment is that the subjects are able to apply intention. The researcher did not prescribe a set of instructions on the act of intending, and only provided suggestions as to what the thought process may entail. This is based on the researcher’s assumption that mental intentionality is an individualized experience; however, since there were no instructions given and no
training provided as part of the study, the researcher had no knowledge of whether the subject was effective in applying intention or whether he/she actually knew what that meant within the context of the study. Another consideration is the subject’s belief. Other researchers have found that meditators and believers in the paranormal produced higher psi effects in the ganzfeld condition (Storm et al., 2010). It is possible that EMU students have a higher belief in paranormal phenomenon than Friends, and can more readily enter a meditative state that may approximate the ganzfeld condition when conducting the online experiment.

Another observation is Females achieved a higher hit rate than Males whenever the sender has applied intention. Studies on whether there are gender differences in intention and intuition capabilities have yielded inconclusive results. According to PEAR Lab, female operators produced larger effect sizes but had weaker correlations with intention and large distribution variances than males. Male participants were able to produce results that have stronger connections with their intentions than females (Dunne, 1998). However, in a recent study using MRI to study the brains of almost 1,000 subjects, the researchers proposed that men are more logical and better at coordination and spatial awareness, and women are more intuitive, have greater emotional intelligence and better memories for words and faces (Ingalhalikar, et al., 2013). However, RNG studies with a human operator interacting with a machine are more designed to assess the ability of the participant to send intention rather than to receive intention. The results of this study indicate that female subjects are more capable of receiving intention than male subjects.

One finding from this study was the small effect size. The overall effect sizes were -0.0076 (sender effect), 0.0112 (subject effect), and 0.0094 (interaction effect).
These effect sizes are too small to be considered significant, but it should be noted that small effect sizes are not uncommon in psi research. The experiments conducted at the PEAR Lab over 26 years yielded small but statistically significant effects (Jahn et al., 1997). The PEAR researchers believe that effect size seems to be related to the length of time spent in the effort, in that operators who have conducted more experiments produced smaller effect sizes but achieved higher statistical significance over a large number of trials (Jahn & Dunne, 2005). Other researchers also found that individual psi experiments tend to produce small effect sizes and inconsistent results, but across experiments and with a large number of trials, there was a relatively consistent and significant effect size (Schlitz, 1997; Schlitz & Braud, 1997; Radin & Nelson, 2000; Schmidt et al., 2004; Bosch, et al., 2006; Schmidt, 2012). This reaffirms the opinion of some researchers that relatively large numbers of trials are needed to yield significant results in psi research (Jinks, 2011).

**Future Recommendations**

Although the results of the study did not provide evidence that there was direct mental influence between people, or that the application of intention by the sender and/or the subject affected the results, it should be noted that this study did not include an attempt to assess the intuitive ability of the subjects, nor their ability to apply intention. Further studies comparing a control group and an experimental group that is qualified as “more intuitive” and “more able to apply intention” may yield different results. The experimental group should include subjects who either have achieved a prescribed level in an intuition test, or who have completed specific
standardized intuition training. In addition, they should be trained on how to apply intention.

Another important consideration is that there was only one sender. The sender did not have intuition training and her ability and effectiveness in the application of intention was not specifically validated. Many previous mind-matter interaction studies have used known psychics, or people who identified themselves as having special intuitive powers. It may be interesting for future researchers to explore whether larger effects are achieved with one or more talented or trained senders. These experiments can further compare the results of the different groups using a “more intuitive” sender and a “normal” sender.

Another aspect is the instrument used in this study. The experiment utilized an online tool, which has both pros and cons that the researcher was well aware of in the course of research design. The advantage of using an online tool is it allowed for more standardization of subject experience, and enabled the researcher to scale the study to a larger sample than may be viable with an instrument that is conducted in-person, one subject at a time. The disadvantage is the instrument, being online, may have been subject to electromagnetic influence that interfered with the sending and receiving of intention by reducing overall psi effects. A second disadvantage is the online experiment was conducted by the subject at his/her own choice of time and place, so there was no moderation by the researcher and no control and knowledge of whether there were extraneous variables that may have affected the results before, after, or during the experiment, or whether the subject read or understood the instructions. It may be worthwhile for future studies to employ in-person experiments to minimize electromagnetic influence effects as well as to better control the
experimental environment. Storm et al. (2010) found that the overall effect size of ganzfeld experiments were significantly higher than that of the nonganzfeld and free-response experiments. These researchers also found that selected participants (believers in the paranormal, meditators, etc.) had a performance advantage over unselected participants, but only if they were in the ganzfeld condition. The meta-analysis found that selected participants (believers in the paranormal, meditators, etc.) had a performance advantage over unselected participants, but only if they were in the ganzfeld condition. In summary it appears that the noise reduction condition tends to produce stronger effects compared with standard free-response studies (Storm et al., 2010).

Additionally, consideration should be given as to whether the selected images were appropriate for the experiment. There were two subjects who volunteered the comment that they chose images they liked rather than what they intuited to be the target images. Images of nature were selected in order to minimize the cultural or religious context; however, there can still be personal preferences at play as the images differ in color, form, and aesthetics. On the other hand, from a series of ArtREG research, PEAR researchers found more variability in studies that used mystical or symbolic images. They hypothesized that these types of images create the opportunity to build personalized meaning and resonance (Jahn et al., 2000, 2006). Future studies can explore both directions: Using colors and numbers as more neutral targets to minimize personal preference; and using mystical or symbolic images that provide both senders and subjects with an opportunity to create a higher personal resonance with the target.
This study utilized a force-choice protocol to minimize variability and human judgment. This approach, however, did not give the subject an opportunity to freely articulate perception, thoughts, and ideas that may provide qualitative insights. Future studies may uncover additional insights by incorporating a qualitative survey after the quantitative experiment.

Another variable that could moderate direct mental influence may be the degree of emotional bonding between the sender and the receiver. The PEAR researchers observed that bonded pairs produce collective effect sizes that were nearly seven times larger than those produced by the same operators working alone (Jahn & Dunne, 2005). The intender and subjects in this experiment were not selected based on their relationship, but since they came from the researcher’s own social circle, and an expanded social circle through word of mouth, there may be cases where the subjects were acquainted with the intender, even though the subjects did not know who she was. Further studies may consider comparing bonded pairs with non-bonded pairs to assess whether there are significant differences between the two groups.
References


Tart, C. T. (1979). A survey of expert opinion on potentially negative uses of psi, United States government interest in psi, and the level of research funding of the


Appendix A

Information Sheet with Consent Form

(Please view on a computer as it may not display properly on a phone or tablet.)

Thank you for participating in this study.

TITLE OF RESEARCH STUDY
Intention as a Two-Directional Process: Does the Subject’s Intention Matter?

PARTIES INVOLVED IN THIS STUDY
The parties who will be involved in this study include the researcher, an intention sender, and subjects.

1. Researcher: Female, PhD student in integrated and holistic health, Master of Business Administration in psychology, worked in technology business for over 20 years.
2. Sender: Female, Bachelor of Science in Nutritional Science, worked in consumer business for over 20 years. She is a friend of the researcher.
3. Subjects: There will be a target of 50 subjects selected and recruited from the following sources: Friends of researcher (recruited via direct email and Facebook); referrals from friends of researcher; students and alumni at the Academy of Intuition Medicine who will be recruited through email sent on behalf of the researcher by the founder of the Academy. All those who complete the entire test will be accepted, and those who did not complete the entire test will be rejected.

INVITATION
You are being asked to take part in a research study to explore the effects of intentionality between two people. It aims to uncover whether one person (the sender) can use intention to influence another person (the subject) in the direction of the intention, and whether the intention of the subject affects the results. The experiment is conducted in two phases. The first phase has already been completed where a sender applied intention to a set of “target images” which were randomly assigned by the researcher to 80 sets of images and randomly placed in quadrants along with 3 other images. All the images were then uploaded to a website. This experiment constitutes the second phase where subjects are invited to visit the website to go through the 80 sets of images.

WHAT WILL HAPPEN
You will be asked to visit a website. Upon reading the instructions and consent statements, you will be asked to review the 80 sets of images that either contain or not contain the target images to which a sender has previously applied intention. You will then be asked to apply or not apply intention to choose the target image in each set.
This study will assess to what extent you can, with intention, correctly choose the target image.

TIME COMMITMENT
The study typically takes 10 minutes (to go through all 80 sets of images).

PARTICIPANTS’ RIGHTS
You may decide to stop being a part of the research study at any time without explanation. You have the right to ask that any data you have supplied to that point be withdrawn/destroyed. You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study’s outcome). If you have any questions as a result of reading this information page, you should contact the researcher before the study begins.

BENEFITS AND RISKS
The potential benefit for you is an opportunity for you to become more aware of your intention and how to apply or not apply it, which may help develop your awareness and intuition. The potential risk is you may be influenced in some form or another by the sender’s intention. However, this risk is believed is minimized by the fact that the sender is not in a position to deliberately or in advertently send an intention directly to you. As an online test that can be conducted at any time and place, there is no physical contact and communication between you and the sender; hence, the sender is prevented from attempting to exert direct influence over you as she would not know who is conducting the test, and when and where the test is being conducted. Also, the study is designed so that the sender does not directly apply intention to you, but only to target images that are later presented to you. You are then asked to apply or not apply intention to select the target image, and do not receive a direct intention from the sender.

COST, REIMBURSEMENT AND COMPENSATION
Your participation in this study is voluntary.

CONFIDENTIALITY/ANONYMITY
All personal information will be kept confidential throughout the study. It is not a requirement for you to provide personal identifying information (e.g., your name and email); if you do provide this information on a voluntary basis, it will not be linked to the test results during data analysis and in any write-up, publication, or presentation of the research study. The full data is stored on a secure online database and can only be accessed with an administrative password, which is known only by the researcher and the website developer.

FOR FURTHER INFORMATION
If you have any questions about this study at any time, or would like to have information about your test results or a copy of the research study, please contact the researcher.

Jeanne Lim
Email: yogajeanne@gmail.com
Mobile number: +852 90384443

If you have read this consent form and decided to participate in this study, please provide the information below. By providing the information, you confirm that you meet the following conditions:

• You can understand spoken English.
• You are at least 18 years old.
• You have read the above consent form, understood it and you agree to it.
• You want to participate in the above-mentioned experiment.

All information obtained from your online test will be kept in strict confidentiality. Please complete the form below to confirm your consent.

First Name

Last Name

Email address

Gender *This question is required.
   ○ Male
   ○ Female

Age *This question is required.
   ○ Under 16
   ○ 16-20
   ○ 21-25
   ○ 26-30
   ○ 31-35
   ○ 36-40
   ○ 41-45
   ○ 46-50
   ○ 51-55
   ○ 56-60
   ○ 61-65
   ○ over 65
How did you hear of this survey? (If more than one please select the closest/most relevant one) *This question is required.

- Direct email from researcher
- Through Energy Medicine University or the Academy of Intuition Medicine
- Saw it on Facebook
- Saw it on LinkedIn
- Referred by a friend
- Others: Please enter an 'other' value for this selection.

Date MM/DD/YYYY *This question is required.
Appendix B

Instructions

Please read the following information carefully:

You will be shown a series of images of which certain images have been pre-selected by another person (called “the intention sender”) as “target images”. This study will assess whether you can, with intention, choose the target images.

You will be viewing 80 sets of 4 images each on a series of webpages. Please view each set for as long as you wish and move to the next set by pressing “next”.

When viewing each set, you will intend, or not intend (depending on whether the instruction says Intend or Do Not Intend) to choose the target image. The point is not to select an image you like, but to hold an intention to choose the target image from the intention sender.

The instruction (either Intend, or Do Not Intend) will be displayed and is explained below. Please read these instructions carefully:

Intend: Focus on the sender and hold an intention to choose the target image intended by the sender. Do not focus on the contents of the image; feel free to do what comes natural to you when you feel “intuitive” or “creative”, e.g., closing your eyes, breathing slowly/deeply, feeling grounded and calm, being aware of your feelings, et

Do not intend: Do not focus on the sender and do not hold any intention to choose the target image from the intention sender. Do not focus on any images; feel free to do what comes natural to you when you do not have any specific intention, e.g., think: “I don’t care,” “I don’t feel like it,” or just focus on other thoughts.

After “intending” or “not intending”, select the image that you believe is the target image by selecting the option number that corresponds to the image number in the middle of the screen. Do not spend too much time considering your selection, just select the image based on your intuition.

Your participation will take approximately 10 minutes.

Please re-read the instructions if anything is unclear.

Thank you for your time and enjoy the test!
Appendix C

American Psychological Association

Ethical Principles of Psychologists and Code of Conduct

Effective date December 1, 1992

6.06 Planning Research.

(a) Psychologists design, conduct, and report research in accordance with recognized standards of scientific competence and ethical research.
(b) Psychologists plan their research so as to minimize the possibility that results will be misleading.
(c) In planning research, psychologists consider its ethical acceptability under the Ethics Code. If an ethical issue is unclear, psychologists seek to resolve the issue through consultation with institutional review boards, animal care and use committees, peer consultations, or other proper mechanisms,
(d) Psychologists take reasonable steps to implement appropriate protections for the rights and welfare of human participants, other persons affected by the research, and the welfare of animal subjects.

6.07 Responsibility.

(a) Psychologists conduct research competently and with due concern for the dignity and welfare of the participants.
(b) Psychologists are responsible for the ethical conduct of research conducted by them or by others under their supervision or control.
(c) Researchers and assistants are permitted to perform only those tasks for which they are appropriately trained and prepared.
(d) As part of the process of development and implementation of research projects, psychologists consult those with expertise concerning any special population under investigation or most likely to be affected.

6.08 Compliance With Law and Standards.
Psychologists plan and conduct research in a manner consistent with federal and state law and regulations, as well as professional standards governing the conduct of research, and particularly those standards governing research with human participants and animal subjects.

6.09 Institutional Approval.
Psychologists obtain from host institutions or organizations appropriate approval prior to conducting research, and they provide accurate information about their research proposals. They conduct the research in accordance with the approved research protocol.
6.10 Research Responsibilities.
Prior to conducting research (except research involving only anonymous surveys, naturalistic observations, or similar research), psychologists enter into an agreement with participants that clarifies the nature of the research and the responsibilities of each party.

6.11 Informed Consent to Research.
(a) Psychologists use language that is reasonably understandable to research participants in obtaining their appropriate informed consent (except as provided in Standard 6.12, Dispensing with Informed Consent). Such informed consent is appropriately documented.
(b) Using language that is reasonably understandable to participants, psychologists inform participants of the nature of the research; they inform participants that they are free to participate or to decline to participate or to withdraw from the research; they explain the foreseeable consequences of declining or withdrawing; they inform participants of significant factors that may be expected to influence their willingness to participate (such as risks, discomfort, adverse effects, or limitations on confidentiality, except as provided in Standard 6.15, Deception in Research); and they explain other aspects about which the prospective participants inquire.
(c) When psychologists conduct research with individuals such as students or subordinates, psychologists take special care to protect the prospective participants from adverse consequences of declining or withdrawing from participation.
(d) When research participation is a course requirement or opportunity for extra credit, the prospective participant is given the choice of equitable alternative activities.
(e) For persons who are legally incapable of giving informed consent, psychologists nevertheless (1) provide an appropriate explanation, (2) obtain the participant's assent, and (3) obtain appropriate permission from a legally authorized person, if such substitute consent is permitted by law.

6.12 Dispensing With Informed Consent
Before determining that planned research (such as research involving only anonymous questionnaires, naturalistic observations, or certain kinds of archival research) does not require the informed consent of research participants, psychologists consider applicable regulations and institutional review board requirements, and they consult with colleagues as appropriate.

6.13 Informed Consent in Research Filming or Recording.
Psychologists obtain informed consent from research participants prior to filming or recording them in any form, unless the research involves simply naturalistic observations in public places and it is not anticipated that the recording will be used in a manner that could cause personal identification or harm.

6.14 Offering Inducements for Research Participants.
(a) In offering professional services as an inducement to obtain research participants, psychologists make clear the nature of the services, as well as the risks, obligations, and limitations. (See also Standard 1.18, Barter [With Patients or Clients].)
(b) Psychologists do not offer excessive or inappropriate financial or other inducements to obtain research participants, particularly when it might tend to coerce participation.

6.15 Deception in Research.
(a) Psychologists do not conduct a study involving deception unless they have determined that the use of deceptive techniques is justified by the study's prospective scientific, educational, or applied value and that equally effective alternative procedures that do not use deception are not feasible.
(b) Psychologists never deceive research participants about significant aspects that would affect their willingness to participate, such as physical risks, discomfort, or unpleasant emotional experiences.
(c) Any other deception that is an integral feature of the design and conduct of an experiment must be explained to participants as early as is feasible, preferably at the conclusion of their participation, but no later than at the conclusion of the research. (See also Standard 6.18, Providing Participants With Information About the Study.)

6.16 Sharing and Utilizing Data.
Psychologists inform research participants of their anticipated sharing or further use of personally identifiable research data and of the possibility of unanticipated future uses.

6.17 Minimizing Invasiveness.
In conducting research, psychologists interfere with the participants or milieu from which data are collected only in a manner that is warranted by an appropriate research design and that is consistent with psychologists' roles as scientific investigators.

6.18 Providing Participants With Information About the Study.
(a) Psychologists provide a prompt opportunity for participants to obtain appropriate information about the nature, results, and conclusions of the research, and psychologists attempt to correct any misconceptions that participants may have.
(b) If scientific or humane values justify delaying or withholding this information, psychologists take reasonable measures to reduce the risk of harm.

6.19 Honoring Commitments.
Psychologists take reasonable measures to honor all commitments they have made to research participants.

6.20 Care and Use of Animals in Research.
(a) Psychologists who conduct research involving animals treat them humanely.
(b) Psychologists acquire, care for, use, and dispose of animals in compliance with current federal, state, and local laws and regulations, and with professional standards.
(c) Psychologists trained in research methods and experienced in the care of laboratory animals supervise all procedures involving animals and are responsible for ensuring appropriate consideration of their comfort, health, and humane treatment.
(d) Psychologists ensure that all individuals using animals under their supervision have received instruction in research methods and in the care, maintenance, and handling of the species being used, to the extent appropriate to their role.
(e) Responsibilities and activities of individuals assisting in a research project are consistent with their respective competencies.
(f) Psychologists make reasonable efforts to minimize the discomfort, infection, illness, and pain of animal subjects.
(g) A procedure subjecting animals to pain, stress, or privation is used only when an alternative procedure is unavailable and the goal is justified by its prospective scientific, educational, or applied value.
(h) Surgical procedures are performed under appropriate anesthesia; techniques to avoid infection and minimize pain are followed during and after surgery.
(i) When it is appropriate that the animal's life be terminated, it is done rapidly, with an effort to minimize pain, and in accordance with accepted procedures.

6.21 Reporting of Results.
(a) Psychologists do not fabricate data or falsify results in their publications.
(b) If psychologists discover significant errors in their published data, they take reasonable steps to correct such errors in a correction, retraction, erratum, or other appropriate publication means.