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A Three Part Study Exploring Psi-Conduciveness And Psi-Defensiveness In Groups

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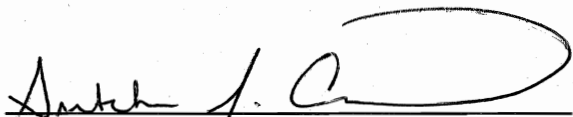
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A Three Part Study Exploring Psi-Conduciveness and

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Gretchen M. Conner

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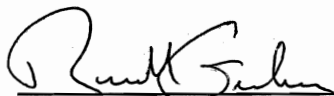
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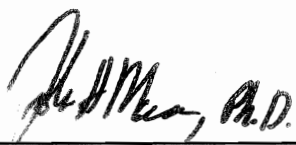
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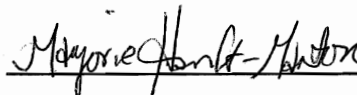
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A Three Part Study Exploring Psi-Conduciveness and Psi-Defensiveness in Groups

Clinical Psychology Master's Thesis 2009

Gretchen M. Conner

Eastern Illinois University

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Abstract

The current study examined three separate experiments, conducted during the Spring semester of 2006, designed to explore variables related to telepathy performance. The common theme which runs through all studies in the parapsychology laboratory including the three experiments covered in this document is the exploration of variables related to psi-defensiveness and psi-conduciveness within groups of participants. In Part I, groups of participants were rated by research assistants on the dimensions of friendliness and enthusiasm. It was hypothesized that as friendliness and enthusiasm ratings increased or decreased for a session, hit rates would correspondingly increase or decrease. Results indicated that as friendliness ratings increased for a session, overall hit rates for that session also increased. During Part II, the main focus revolved around instructions to miss targets. More specifically, it was hypothesized that certain subgroups would hit targets when instructed to miss and miss targets when instructed to hit. Indeed, results indicated that low belief participants had significantly higher scores than would be expected by chance while high belief participants scored significantly below chance when instructed to miss. In Part III, a large group was divided into four subsets with each subset acting as receivers once and senders three times, with a final run in which a group of men acted as senders while women constituted the receivers. In turn, women acted as senders while men acted as receivers. It was predicted that a difference in hit rates would be apparent between the sexes. It was found that women obtained higher hit rates than men in all sets. Results also indicated that men scored significantly below chance expectation when women were acting as senders.

A Three Part Study Exploring Psi-Conduciveness and Psi-Defensiveness in Groups

There is a long history of studies on anomalous cognition that fall under the term of psi phenomena. Bem & Honorton (1994) define psi as “anomalous processes of information or energy transfer, processes such as telepathy or other forms of extrasensory perception that are currently unexplained in terms of known physical or biological mechanisms” (p. 4). They go on to state that the term psi does not imply that the anomalous phenomena are paranormal nor does it explain how they come to be or operate. Radin, a physicist and prominent parapsychology researcher, (1997) defines the term “psi” as a neutral term used to represent all extrasensory perception (ESP) and psychokinetic phenomena. He goes on to explain that psi phenomena fall into two general categories: 1) perceiving objects or events by means other than through the ordinary senses, and 2) mentally causing action at a distance. Central to these two categories is the idea of the use of will or intention, in which the mind can do things that are unexplainable according to mainstream scientific theory.

Louisa Rhine, wife of J. B. Rhine who was a pioneer in the parapsychology field, (1961) distinguishes between three types of ESP: information received from other minds (telepathy), from mindless objects (clairvoyance), and from the future (precognition). All three are types of ESP that often appear to overlap and thus can be called general ESP or GESP. Rhine (1961) goes on to explain that ESP often takes one of four forms: 1) realistic dreams which consist of pictorial, accurate representations of events, 2) unrealistic dreams which are symbolic representations of events, 3) hallucinations in which people are awake and believe that their senses are working although there is no stimulus present to excite them, and 4) intuition in which individuals “know” things

without knowing how or why. They often report having no mental picture or sense qualities that are described as being present in dreams and hallucinations. In addition to telepathy, clairvoyance, and precognition, Radin (1997) adds the term psychokinesis (PK) which is defined as mental interactions with animate or inanimate matter.

Carpenter (2004) believes that psi phenomena are always occurring, but that they are generally unconscious and implicit. He goes on to explain that from this view, psi is not unordinary. Psi is an everyday phenomenon and forms the basis out of which all experience is made possible. Carpenter (2004) states:

I posit that the occasional psychic eruptions into everyday life are hints of a constant preconscious mental activity, one function of which is to prepare the mind for its incipient experiences and choices. This model of psi as a seamlessly functioning component of normal preconscious processes normalizes parapsychology inasmuch as it suggests how psi phenomena function in everyday experience in an unconscious and implicit way. It also suggests the reason that we are not flooded with extrasensory awareness all the time (p. 228).

Sheldrake, a biologist turned parapsychologist, (2003) provides a brief history of the direction that research on telepathy has taken over the years. First, he suggests that interest in telepathy began over one-hundred years ago with "parlor games" such as a group concentrating on a particular object, with an individual guessing what the item was and bringing it into the room to the others. Later on, groups often concentrated on a particular card in a deck and the subject was asked to guess the card. Still later, diagrams and pictures were drawn by one person and the subject or "receiver" was asked to draw the image without knowing what the target was.

Psi-Elusiveness

Many researchers (Freeman, 1966; Kennedy, 2001 & 2003a; Osis, 1952; Stanford 2003; White, 1993) have commented on the topic of psi-elusiveness which continues to

both frustrate researchers and complicates efforts to better understand psi processes.

Stanford (2003) states that some psi researchers have suggested that no psi studies are repeatable in the long term or that "Psi is intrinsically elusive" (p.17).

Kennedy (2001) proposes eleven hypotheses which might explain why psi is such an elusive phenomenon. The eleven hypotheses include: 1) alleged psi results are actually due to methodological artifacts and oversights, 2) few people have psi, 3) psi depends on precarious psychological conditions, 4) psi occurs frequently without notice, 5) psi is an efficient goal-oriented process subject to shifting goals, 6) fear of psi suppresses psi, 7) evolution has inhibited psi, 8) psi serves ecological rather than personal purposes, 9) the purpose of psi is personal or spiritual growth, 10) psi effects are influenced by many people in the future, and 11) psi is controlled by non-physical beings (p. 219). Although Kennedy does not feel that many of these hypotheses are solid explanations for the elusive nature of psi, he does believe that hypotheses 6 (fear of psi suppresses psi), 9 (the purpose of psi is personal or spiritual growth), and 11 (psi is controlled by non-physical beings) may have some merit.

Kennedy (2001) suggests the following reasons for fearing psi: 1) loss of privacy for one's inner thoughts, hopes, and fantasies, 2) information overload from psychic information, 3) distress from being aware of the negative thoughts and emotions of others, and 4) harming others through paranormal expression of one's tendencies for aggression and competition (p. 229). Hypothesis 9 states that the main function of psi may be to create a more interconnected, spiritual, or purposeful worldview and psi is only considered elusive because it does not do what people want it to do. Hypothesis 11 states that psi may be controlled by spirits and thus appears elusive because it conforms to the

will of these beings. Kennedy realizes that hypotheses 9 and 11 cannot be scientifically proven or disproved, but believes that further research of individual beliefs on these topics will be helpful.

In a later work by Kennedy (2003a), he uses several terms such as “actively evasive”, “self-obscuring”, “capricious”, and “unsustainable” to describe the elusive nature of psi. He suggests evidence from specific research studies for the elusive nature of psi such as: 1) a shift from intended effects of a study to unintended secondary effects that still provide evidence for psi, 2) diminished psi effects with improved methodology, and 3) lack of a practical application of psi. Furthermore, he suggests that psi may be oppressed by human motivation, the physical or biological properties of nature, or a higher consciousness. Likewise, Rhine (1961) states: “ESP, as parapsychologists know now, is fleeting, spontaneous, evanescent, easily disturbed. Like humor or writing poetry or painting pictures, it functions better if not analyzed too much as it is being expressed” (p. 142).

Sheep and Goats

Both experimenter and participant level of belief in psi may be related to psi-elusiveness. Several questionnaires have been developed to measure subject belief in and experience of psi phenomena (Bhadra, 1966; Blackmore, 1984; Kennedy, 2003b; Randall & Desrosiers, 1980; Sebastian & Mathew, 2003; Thalbourne & Haraldsson, 1980; Tobacyk & Milford, 1983). One questionnaire (Thalbourne & Haraldsson, 1980) consists of 10 statements intended to cover belief issues and personal experiences related to psi. Examples of statements on the questionnaire include “I believe in the existence of ESP”, “I believe I have had personal experience of ESP” and “I have had at least one vision that

was not a hallucination and from which I received information that I could not have otherwise gained at that time and place” (p. 181). Subjects were asked to respond to each statement with either (a) true, (b) uncertain, or (c) false. However, some researchers such as Bem and Honorton (1994) elect to use a Likert scale to assess the degree to which someone believes in ESP. Blackmore (1984) conducted a randomized survey in England to assess the extent to which people in the general public believed in various paranormal events. Results indicated that 25% of people in the sample had experienced telepathy and 36% believed in ESP.

After becoming convinced that ESP was indeed a phenomenon that was real and could in fact be studied, Schneider and McConnell (1973) began to conduct research on ESP and coined the terms “sheep” and “goats” to differentiate between believers and non-believers of ESP. They found that in both individual and group tests of sheep (believers) and goats (non-believers), sheep score higher than goats on ESP tasks. Additionally, both sheep and goats exhibit average scores that depart significantly from chance expectation. Radin (1997) states that people who accept that ESP exists will typically score higher than people who do not and that this trend “turns out to be one of the most consistent experimental effects in psi research” (p. 108).

Schneider and McConnell (1973) suggest that some people fall into the sheep category because they believe that they can score well, they believe that others can score well, and others are open to seeing what happens. They go on to suggest that some people fall into the goat category because they think the whole idea of ESP is ridiculous, have never given it serious consideration, or express a genuine interest in ESP, but do not think it is possible under laboratory conditions. Contrary to what one might expect, some

sheep may score low because of boredom or fear of the unknown and some goats may score high because they feel as if the experiment is a "fun game." Schmeidler and McConnell (1973) state: "In most cases the subjects whose attitudes were most favorable to ESP had higher ESP scores than the subjects whose attitudes were least favorable to ESP" (p. 54). However, in a study conducted by Bevan, (1947) results indicated that subjects who were classified as "indecisive" obtained the highest ESP scores followed by "emphatically positive" subjects and lastly "emphatically negative" subjects. Similar to Bevan's findings, Nash and Nash (1967) found that participants who were "conflicted" had more scores above chance expectation than both nonbelievers and believers.

Palmer (1971) conducted a review of sheep/goat studies published in the leading parapsychological journals from the years 1947-1970. He found that a positive relationship did in fact exist between belief in ESP and ESP test scores. Additionally, Lawrence (1993) conducted a meta-analysis on forced-choice sheep/goat experiments carried out between 1943 and 1993. A total of seventy-three studies conducted by thirty-seven experimenters were included in the analysis. The analysis included more than 685,000 guesses by 4,500 subjects. Results were strongly in favor of the sheep/goat effect with believers (sheep) performing better than disbelievers (goats) at odds greater than a trillion to one. Lawrence stated that it would take 1,726 unpublished, nonsignificant studies for each study included in the analysis (the file drawer effect) to void the results.

After running a series of "sheep/goat" studies, Schmeidler and Murphy (1946) concluded that negative attitudes towards psi do more than simply block positive scoring; they appear to lead to significant negative scoring or "psi-missing". Later on, Schmeidler

and McConnell (1973) attempted to manipulate the sheep-goat effect. In one condition, the sheep environment was made "more agreeable" by the subjects being provided with cigarettes, candy, and sodas while the goat environment was made less desirable by the subjects being given dull pencils and placed in a poorly lit room.

In a meta-analysis performed by Haraldsson and Houtkooper (1995), the sheep-goat effect was the main area of interest. Ten experiments were included in the analysis which looked at the relationships between ESP belief, performance, and subjects' area of study while in college. Results indicated that subjects who studied humanities, theology, and economics received above average ESP scores and subjects who studied social science, medicine, law, and physical science obtained below average ESP scores.

Sheils and Berg (1977) concluded that belief in the paranormal may be suppressed by those holding traditional religious values. Furthermore, Kennedy (2003b) found that belief in ESP was highly associated with the importance that subjects placed on spirituality rather than on religion. Importance of spirituality and religion were assessed by asking participants to rate how important the two dimensions were to them by answering 1) Very important, 2) Somewhat important, 3) Not very important, and 4) Not important at all. Also, participants were asked how often they attended religious services per week. Finally, Sebastian and Mathew (2003) found that belief in psi relates positively to the personality characteristics of autonomy, flexibility, self-actualization, extraversion, and stability.

Psi-Conduciveness

Stanford (2003) states that if significant results are obtained with a certain procedure presumed to favor ESP task performance, researchers are inclined to call the

procedure “psi conducive” (p. 20). In addition to belief, several other factors have been shown to contribute to psi-conduciveness. Perhaps one of the biggest factors to influence psi-conduciveness is that of experimenter effects.

In a study conducted by Honorton, Ramsey, and Cabibbo (1975), it was hypothesized that subjects engaged in an ESP task would have higher ESP scores if they were exposed to a positive experimenter exchange as opposed to a negative experimenter exchange. The participants in the study ($N = 36$) were assigned to one of two groups. The positive group ($N = 18$) engaged in a 15 minute conversation with the experimenter which was described as “friendly, casual, and supportive” before the ESP task began. The negative group ($N = 18$) was immediately oriented to the ESP task and no conversation took place.

All participants completed 200 trials of the ESP task in which they were asked to pick which of two lights (red or green) would light up. The task was split up into four separate runs and after each run was completed, the experimenters gave the participants in the positive group positive feedback and the participants in the negative group negative feedback. Results indicated that participants in the positive group scored significantly above chance while participants in the negative group scored significantly below chance expectation. Thus, the initial hypothesis was confirmed that exposure to a positive experimenter interaction as opposed to a negative experimenter interaction resulted in higher ESP scores.

Along similar lines, a study conducted by Watt and Ramakers (2003) indicated that participants in an ESP study who were tested by high belief experimenters scored higher than participants tested by experimenters who were non-believers regardless of

their own belief scores or other questionnaire measures. Therefore, it seems that belief of the experimenter is an important aspect of psi-conduciveness in addition to other factors.

Schmeidler (1997) explains that factors such as the researcher's tone of voice or other non-verbal behaviors can influence subject performance in either a positive or negative way. Experimenters who create a warm environment cause participants to feel relaxed, interested, and cooperative and thus allow participants to perform well on ESP tasks. On the other hand, some experimenters create a cold environment in which subjects are likely to be inhibited and perform poorly on ESP tasks. Schmeidler (1997) goes on to differentiate between three types of psi experimenters: 1) psi-conductive experimenters who may actually transfer their ESP abilities to subjects during a task, 2) psi-permissive experimenters who create a warm environment in which psi is likely to occur, and 3) psi-inhibitory experimenters who create an environment in which psi is unlikely to occur. Schmeidler (1997) elaborates on what characteristics differentiate psi-conductive experimenters from psi-permissive experimenters. A psi-conductive experimenter likely has a history of producing extremely high or low scores in studies in which they participated, has had several significant outcomes in their own research, and has had "more frequent" and "more striking" non-laboratory ESP experiences such as anticipating the death of a close friend than an average individual.

In a series of ESP studies conducted by Anderson and White (1958) throughout 1957 and 1958, several important findings came to light with respect to ESP testing in classroom settings. The two researchers conducted nine separate studies in various classrooms across the United States. In each case, the teacher of the classroom received a set of instructions to become familiar with before conducting the experiment with the

students. The teacher then was asked to pass out a sealed manila envelope to each student in the class which contained a random order of 125 ESP symbols. Attached to the back of each envelope were blank record sheets and a questionnaire which assessed the student's attitude toward the teacher administering the test. The students were instructed to leave the envelopes sealed and attempt to predict the order of the enclosed symbols. The students were familiarized with the ESP symbols and told to record their responses on the blank record sheet at their own pace. The students put the record sheet and questionnaire containing attitudes toward the teacher in another envelope to hand to the teacher. Additionally, the teachers made a list with the names of all students in the classroom and beside each student's name wrote "yes" or "no" regarding whether the student would be included in the teacher's "ideal classroom." All materials were then sent to the two primary researchers by mail.

When the researchers had received all materials, they each wrote up a master list of all students from the lists that the teacher had sent which contained the name of each student, their grade in the class, and the teacher rating given to them. Next, the researchers analyzed the student ratings given to the teacher which were also recorded on the master list. Based on the student and teacher ratings, all responses were assigned to one of three categories: the "highly positive group" (positive student and teacher rating), the "moderately positive group" (positive student, negative teacher rating or vice versa), and the "negative group" (negative student and teacher rating). The researchers then independently checked the ESP guesses against the actual targets and recorded these numbers on the master lists. Scores were examined from three different perspectives: ESP scores related to teacher's attitudes toward student, ESP scores related to student's

attitudes toward teacher, and ESP scores related to the interaction of teacher and student attitudes.

When all studies were combined, several general trends were noticed. For one, students who were rated positively by their teachers tended to have higher ESP scores than students who were rated negatively by teachers. Also, students who rated their teachers positively tended to have higher ESP scores than those who rated the teachers negatively. In addition, when the interaction of teacher and student attitudes was examined, students who were rated positively by the teacher and whom the student also rated positively had higher ESP scores than students who were rated negatively by the teacher and whom they also rated negatively.

It is interesting to note that before results were analyzed, the experimenters contacted one particular teacher and asked him which he considered the "best" class to be out of the five that he administered the ESP tasks to. This class ended up having the highest ESP score of all five classes. Additionally, another teacher contacted the researchers before results were analyzed and informed them of the behaviors of the three classes she administered the ESP task to. She described the first class as "noisy" and "hard to control", the second class as "very cooperative", and the third class as "a little noisy" and additionally stated that they had just received their report cards. The second class received the highest ESP score of the three (+42), the first class obtained a lower ESP score (-4), and the third class obtained the lowest ESP score (-22).

Aside from belief in psi and experimenter effects, several other factors have been shown to contribute to psi-conduciveness. Meditation or relaxation (Braud, 1990; Irwin, 1994; Rao, Dukhan, & Rao, 1978), open-mindedness or warmth (Schneider, Binder, &

Walach, 2000; Schmeidler, 1997;) motivation (Schneider, Binder, & Walach, 2000) friendliness or charisma (Donovan, 1998; Schneider, Binder, & Walach, 2000) extraversion (Bem, 1996; Bem & Honorton, 1994; Sebastian & Mathew, 2003; Thalbourne & Haraldsson, 1980) creativity or artistic ability (Bem, 1996; Bem & Honorton, 1994) and game-like conditions (McWhorter, 2005 & Yarnall, 2003) have all been shown to increase chances of psi-hitting in an experiment.

In a literature review, Nash (1986) reported on studies showing that drawing responses versus verbalizing them, sensory reduction, hypnosis, free association, dreaming sleep, relaxed daydreaming, and a positive, encouraging environment have been found to improve psi-hitting in parapsychological experiments. Carpenter (2004) suggests individuals who have a high intention to gain knowledge through means of psi, are adventurous, outgoing, non-anxious, have a high level of effectiveness, are creative, and who practice a mental discipline such as meditation have a higher chance of psi-hitting in ESP tasks. Irwin (1994) reports on several factors that can be used to encourage psi-hitting which include: feedback, letting information "come to mind" instead of intensely concentrating, working at participant's own pace, and cheerful mood. Nash and Nash (1967) found a positive correlation between ESP and "general activity" defined by characteristics such as energy, efficiency, speed, and enthusiasm. Although not at a significant level, they also found positive correlations between ESP and sociability, emotional stability, objectivity, friendliness, and personal relations and negative correlations between ESP and restraint, thoughtfulness, masculinity, and dominance.

With respect to physical aspects of conduciveness, Bem (1996) states that dynamic targets (e.g., movie clips) are generally better than static targets (e.g., still pictures) at achieving hits from participants. Dynamic targets may be preferred to static targets because they involve both visual and auditory senses, are more lifelike, have a story, and are more emotionally involving. Irwin (1994) suggests that utilizing multiple aspect targets and targets that have some emotional connection for subjects (i.e., using names of friends as opposed to strangers for targets) increase chances of psi-hitting. Conversely, Gruber and Davenport (personal communication, December 13, 2008) suggest that psi-hitting can be increased by simplifying target information through the use of emotionally neutral, static, forced-choice tasks.

Although there is a great deal of research suggesting what characteristics of individuals and experimental techniques increase chances of psi-hitting, Bem (1996) states that almost nothing is known about what characteristics make a sender, or person who acts as the “transmitter” of telepathic information, effective. However, there is evidence that sender-receiver pairs who are relatives or friends perform better than pairs who do not know each other. Likewise, Sheldrake (2003) suggests that strong bonds between people such as those who are related, best friends, romantic partners, or members of a team can serve as channels of communication for telepathy.

One widely used and highly successful technique in parapsychology research is the ganzfeld procedure. Because of the success of psi in dreams, researchers began to look for ways to replicate a dream-like state in which to study psi. This effect was what led psi researchers in the 1970's to begin using ganzfeld techniques originally developed by gestalt psychologists to study visual imagery (Bem, 1996). Radin (2006) describes a

typical ganzfeld study as a mild form of sensory deprivation. A receiver is asked to relax in a comfortable chair with halved ping-pong balls over their eyes while wearing headphones playing white or pink noise (emphasized lower frequencies). A red light is turned on in the room and the receiver is asked to keep their eyes softly open under the halved ping-pong balls so that all they see is a red glow. After a few moments, the receiver will not be able to tell whether their eyes are open or not. The red glow in combination with the white or pink noise produces a dream-like state of awareness in which various types of psi experiments can be carried out. Generally, a sender is trying to transmit some type of image or feeling to the receiver during a certain amount of time who is asked to speak aloud anything that comes to mind within that time period. Ganzfeld, a German word which means "total field" refers to the visual and auditory environment that the participant is a part of while participating in the experiment. When the ganzfeld period is over, the receiver is usually asked to view four stimuli (only one of which is the target stimulus) and rate the degree to which each matches the feelings, thoughts, and images experienced while in the ganzfeld. If the receiver gives the highest rating to the target stimulus, it is considered a "hit." Based on rating a set of four stimuli, the hit rate expected by chance is 25 percent.

Bem and Honorton (1994) conducted a meta-analysis of ganzfeld studies and concluded that there is strong evidence for a genuine psi effect. Additionally, Bem (1996) reports that in 1985 and 1986, there had been 42 reported ganzfeld studies and that receivers in these studies had an average hit rate of approximately 35 percent which is highly significant. Bem (1996) reports that receivers who have had psi experiences in their own lives and people who practice some form of mental discipline in their own lives

generally perform better in ganzfeld studies. Radin (2006) comments that “....the modern ganzfeld experiment is as close to the perfect psi experiment as anyone knows how to conduct” (p. 117). Sheldrake (2003) adds that ganzfeld experiments “provide some of the strongest evidence to date for telepathy under laboratory conditions” (p. 52). Bem (1996) speculates that the reason why states such as meditation, dreams, hypnosis, and ganzfeld work is because psi is a weak signal that is often covered by the sensory stimulation or “noise” of daily life. Altered states of consciousness tend to diminish this “noise” so that psi is more detectable. Also, altered states of consciousness may reduce resistance to psi because they lower censoring and editing of the rational mind.

Similar to the qualities of ganzfeld studies, Braud (2002) suggests several physical and psychological factors that appear to contribute to psi-hitting such as muscular relaxation, emotional quietness, cognitive quietness, sensory/perceptual restriction, hypnosis, dreams, and drug-induced states. He goes on to mention common features of these conditions that may make them favorable to psi-hitting which include: reduced distractions, internally focused attention, decreased restraint, increased exploration, and increased expectancy, suggestion, and confidence in the participant. Finally, Braud suggests some specific techniques drawn from the aforementioned factors that may increase chances of psi-hitting such as relaxation exercises, autogenic training, meditation, sensory restriction, attentional training and, imagery/visualization techniques. Braud (2002) states the following when referring to psi conduciveness:

A psi experience may be like unto a figure or pattern that requires a certain amount of a certain kind of clay or plasticine for its proper construction. If insufficient clay is available, the pattern cannot be produced. The de-structuring or de-constraining properties of certain psi favorable conscious states may provide

sufficient, freely-available clay to be used in the construction of a psi experience (pp. 113-114).

Psi-Missing

Schmeidler and Murphy (1946) believe that negative attitudes towards psi do more than simply block psi hitting; they appear to lead to significant negative scoring or “psi-missing”. Theoretically, in order to be able to miss targets at greater than chance probability, a participant in a psi experiment must know where the target is, but “chooses to miss it.” This phenomenon is generally said to occur on a unconscious level (Carpenter, 2004; Irwin, 1994; Radin, 2006). Additionally, Carpenter (2004) believes that psi-hitting will occur if an individual believes that the psi event is more important than other information occurring in the environment at that point in time and psi-missing occurs when the psi event is not interpreted as important, useful, or if the individual is fearful of the psi event. Carpenter (2004) states:

psi-missing as an expression of a preconscious orientation away from a potential event is as much an active event as psi-hitting and is a generally adaptive strategy intended to minimize the probability of encountering something undesirable. Its being undesirable may simply reflect the fact that something else is considered more important at the moment, or it may reflect an apprehension that the thing could be positively dangerous if encountered. Like psi-hitting, psi-missing is guided by (largely unconscious) intention: in this case, the intention to avoid something. In the psi-missing situation, the conscious intention to correctly come to know the material is contrary to the unconscious wish to avoid it, and the unconscious wish has its way (p. 232-233).

Studies have generally shown that anxious (high defensive) individuals tend to psi-miss more than non-anxious (low defensive) individuals in forced-choice ESP tasks (Carpenter, 1971; Haraldsson & Houtkooper, 1992; Johnson & Kanthamani, 1967; Palmer, 1977; Watt & Gissurason, 1995). In one study conducted by Carpenter (1971),

subjects participated in an ESP task in which half of the targets (standard ESP symbols) in the study were matched with emotionally arousing (erotic images) stimuli and the other half of the targets were matched with blank cards. Results indicated that participants who were low in anxiety (as measured on the Taylor Manifest Anxiety Scale), psi-hit on targets linked to the erotic stimuli while participants who were high in anxiety psi-missed on the erotic material. Carpenter suggests that the high-anxiety individuals may have been trying to avoid a potentially dangerous or embarrassing event (in this case, psi-hitting on the erotic images) by psi-missing. Along similar lines, Irwin (1994) believes that psi-missing does not indicate a lack of psi ability, but rather suggests that the subject knows what the target is and is choosing to deny it. He postulates that negative mood, negative attitude, or some aspect of a subject's personality may be at work in the phenomena of psi-missing. However, a study conducted by Haraldsson and Gissurarson (1985) concluded that in free response (not limited to specific choices) ESP tasks, there does not appear to be a relationship between defensiveness (anxiety) and ESP performance.

Sheldrake (1999) cites a series of studies conducted by Rene Peoc'h, a French researcher, which demonstrates psi conduciveness (hitting) and psi defensiveness (missing) in populations of animals. In the first series of studies, Peoc'h caused a group of young chicks to imprint on, or become attached to, a robot. This robot's movements were controlled by a random number generator which caused the robot to move around a room in a random fashion. Peoc'h then put the chicks in a cage so they could not follow the robot around the room any longer. After the chicks were put in the cage, the robot only stayed close to the cage instead of moving around in a random pattern. When chicks

who had not attached to the robot were put in the cage, the robot moved around the room randomly once again. It seemed as if the imprinted chicks somehow “willed” the robot to come to them since they could not go to it. In a similar study, rabbits were put into a cage with the robot roaming about the room. At first, they were frightened of it and the robot remained on the far side of the room, away from the rabbits’ cage appearing to provide evidence that the rabbits were controlling the movements of the robot. However, once the rabbits became accustomed to the robot’s presence, it tended to stay close to the cage (pp. 271-272).

Decline Effects

Irwin (1994) notes that within an experimental ESP session, scoring during the first half of the session is usually higher than that of the second half of the session. Within-session declines are termed episodic declines while declines in a participant’s performance over time are termed chronological declines. Irwin (1994) speculates that such declines may be due to boredom and that subject interest is revived at the start and end of each unit of the experiment. Sheldrake (2003) also suggests that the most probable explanation for decline effects is boredom. He points out that many telepathy experiments such as card guessing games are tedious and often meaningless to the subject so after time, the subject becomes bored and scores tend to drop.

Radin (2006) speculates that decline effects occur within psi experiments because the goal of initial studies were focused on simply demonstrating psi in the laboratory while later studies involved a more complicated methodology with the goal of understanding how psi works. A common side effect of this advanced methodology was that it was less personally motivating for participants and this could explain the decline in

effects. Also, some studies were successful when intentionally trying to produce no psi effects. Radin also comments that decline effects are not confined to studies conducted in parapsychological research. Meta-analyses in other disciplines such as biology also show similar declines. Moreover, psi is a complex process involving interactions among many different aspects. Radin suggests that it would be startling if psi remained stable over time.

Bunfill (2006) conducted a study which confirmed a significant within session decline effect in a psi experiment. Results indicated that the first four participants in the study scored above chance expectation while the rest of the participants scored below chance expectation. Additionally, participants with high belief scores displayed less of a decline effect than participants with low belief scores.

Gender

Research examining the relationship between gender and psi is quite limited in its scope. Of the research that does exist, results are generally quite mixed. More studies are definitely needed in this area.

Research has indicated that women are more likely than men to believe in paranormal phenomena (Blackmore, 1994; Clarke, 1991; Haraldsson, 1981; Randall & Desrosiers, 1980). More specifically, Clarke (1991) found that women are more likely to believe in the paranormal events of telepathy, precognition, clairvoyance, and psychic healing, while men are more likely than women to believe in UFOs. Tobacyk and Milford (1983) previously found similar differences between men and women, with women having significantly higher belief in precognition and men having significantly higher belief in extraordinary life forms. It seems as if for specific dimensions of the

paranormal, men do in fact have higher belief scores than women. Kennedy (2003b) found that extreme skeptics of psi tend to be male while strong believers in psi tend to be females.

At an international conference held on women and parapsychology, Susan Blackmore (1994) discussed the topic of gender differences in belief of the paranormal. She pointed out that research on the topic has brought about mixed results. Some studies show that women have higher belief in the paranormal while some studies show no significant difference in belief in the paranormal between the sexes. Additionally, experiments designed to examine the relationship between gender and psi-hitting rates give mixed results as well. Studies have shown both that women score higher than men (Clarke, 1991; Haraldsson 1981; Tobacyk & Milford, 1983) and that there is no significant difference between men and women (Blackmore, 1984; Murphy & Lester, 1976).

Louisa Rhine (1961) explains that men and women are not really different in the *form* or *content* of ESP experiences in the natural environment, but that the *number* of reported ESP experiences are higher among women than men. Rhine suggests that this may stem from expectations that society has for men (e.g., being logical) and women (e.g., being intuitive). She goes on to explain that before boys and girls reach adolescence, they score approximately the same on ESP tasks in the laboratory. However, a difference between scoring becomes evident as boys and girls grow into men and women. Women typically score higher on ESP tasks than their male counterparts. Again, Rhine attributes the difference in scoring to cultural or societal factors rather than an inherent difference in sensitivity to ESP between the sexes. Irwin (1994) notes that

gender of the receiver and sender may affect the ability of the pair to establish some kind of rapport which would then influence scoring. Gruber (personal communication, December 30, 2008) notes that belief in telepathy often acts as a mediating factor with women and men who believe in mental telepathy scoring differently than those who do not. Interestingly, Gruber and colleagues report finding that high belief women are most likely to score significantly below chance. They attribute this to psi sensitivity and a resulting defensiveness.

Social Fields and Telepathy

How can forms of ESP such as telepathy be theoretically explained? These mechanisms seem to defy conventional science, our notions of causality, and our views on how we are connected to the physical aspects of the universe. Radin (2006) suggests that scientific approval of psi would cause a change in worldview. It would change our understanding of what it means to be human and also cause us to reevaluate the nature of consciousness itself.

Several researchers have proposed that some type of physical or mental field which allows for interconnectedness underlies psi processes and permits them to occur. Laszlo, a Hungarian systems theorist, (1996) defines a field as “a continuous medium that stretches, between, and hence interconnects, two things or events” (p. 169). Other theorists refer to these fields using various names such as morphic fields (McTaggart, 2002; Sheldrake 1987, 1999, 2003), psi fields (Laszlo, 1996) and social fields (Lewin, 1951). Radin (2006) compares these fields to Jung’s concept of the “collective unconscious” and Freud’s idea of a “group mind.” All of these terms suggest that some type of underlying connectedness and non-local memory exists that humans (and in some

instances animals) can access (Radin, 2006). Many theorists believe that quantum theory may help make sense of psi phenomena. Sheldrake (2003) explains that a central part of quantum theory is the idea of “non-locality” or “entanglement.” The idea of non-locality contests that when a system breaks apart, the parts remain connected and react to each other even though they may be very far apart. It appears that both quantum theory and psi experiments are suggesting that an unknown “something” is connecting seemingly isolated objects. Radin (2006) speculates that “psi may be the human experience of quantum interconnectedness” (p. 232).

Sheldrake (1999) defines morphic fields as “invisible blueprints that underlie the form of a growing organism. They are fields: self-organizing regions of influence, analogous to magnetic fields and other recognized fields of nature” (p. 302). Sheldrake (2003) describes the main characteristics of morphic fields: 1) they impose patterns or give a structure to random processes in systems under their control, 2) they contain “attractors” which push systems under their control to future goals, 3) they connect different parts of the system they are organizing, 4) they evolve, 5) they have a history, 6) they contain an inherent memory by a process called morphic resonance, 7) they become stronger through repetition, and (8) connect similar things together across both space and time. He suggests that morphic fields are responsible for how an organism develops rather than solely genetic explanations. Sheldrake explains his hypothesis of formative causation as such:

In self-organizing systems at all levels of complexity there is a wholeness that depends on a characteristic organizing field of that system, its morphic field. Each self-organizing system is a whole made up of parts, which are themselves wholes at a lower level. At each level, the morphic field gives each whole its characteristic properties and makes it more than the sum of its parts (p. 303).

In plants and animals the fields responsible for the development and maintenance of bodily form are called morphogenetic fields. In the organization of perception, behavior, and mental activity, they are called perceptual, behavioral, and mental fields. In crystal and molecules they are called crystal and molecular fields. In the organization of societies and cultures they are called social and cultural fields. All these kinds of organizing fields are morphic fields (p. 303).

Sheldrake (1987) illustrates morphic fields with the example of an oak tree and an acorn: "The acorn is associated with an oak tree field, an invisible organizing structure which organizes the oak tree's development; it is like an oak tree mold, within which the developing organism grows" (p. 15). He goes on to explain that if someone were to chop an oak tree, flatworm, or magnet into small pieces, each piece grows into the whole once again with its own field because morphic fields are intrinsically holistic. In other words, separated parts have the capacity to regenerate an entire organism because each part is still connected to the field of the whole organism (Sheldrake, 2003).

Morphic resonance is the term Sheldrake (1999) uses to describe the means by which information and patterns are transferred from past systems to consecutive systems of the same kind. Any organism tunes in to previous organisms of their kind and thus is both receiving information from and giving information to the morphic field of their species. Sheldrake (1982) contends that morphic resonance with large amounts of people can result in a collective memory, or what Carl Jung dubbed the "collective unconscious." In an article written by Keutzer (1982), she compares Sheldrake's theories of "formative causation" and "morphic fields" to Jung's well established concepts of archetypes, synchronicity, and the collective unconscious. She believes that all people are tuned into this collective memory and it is the main way in which organisms are influenced by morphic resonance from others. Moreover, Sheldrake (1987) contests that

if the concept of morphic resonance is even remotely correct; it would provide reaffirmation for Jung's hypothesis of the collective unconscious and could possibly become a mainstream, accepted theory.

Sheldrake (2003) believes that social fields connect members of a group and allow forms of communication above the normal senses. Sheldrake states that it is in the morphic fields of social groups that an evolutionary basis for telepathy exists. He elaborates by stating "Social fields are subject to natural selection, in that successful patterns of social organization tend to survive, and their morphic fields are strengthened through repetition. And, of course, genes associated with these successful patterns are favored, too, and will tend to increase in frequency within the population" (p. 120). He goes on to explain that telepathy is a part of the seventh sense that allows people in a group to respond to one another's movements, activities, emotions, needs, and intentions. Any change in an individual of a group could affect another individual within the group through the field. The connections allow people and animals to react to calls at a distance, distress or death of loved ones, and to distant intentions of another person to which the person is linked. It is as if the morphic field is stretched rather than broken by distance.

Sheldrake (1999) proposes that "morphic fields stretch out beyond the brain and into the environment, linking us to the objects of our perception, and are capable of affecting them through our intention and attention." (pp. 308-309). Sheldrake (2003) believes that morphic fields underlie all of our mental processes such as thoughts, feelings, and perceptions and that these types of morphic fields are termed mental fields. These "mental fields" account for phenomena such as clairvoyance and psychokinesis.

Furthermore, through social fields, attention and intention link people together. The bonds we have with others serve as channels of thought and allow telepathy to occur through interconnections with other people's minds. Magnetic fields and the earth's gravitational field stretch out beyond their physical state and affect other things at a distance. Likewise, mental fields are not confined to our brains, but rather stretch out of our skulls and can affect things at a distance.

Sheldrake (1982) suggests that any given organism will "tune in to" the most specific organism from the past. The most specific morphic resonance acting upon an organism in the present will be from its own past states, a term called self-resonance which helps to stabilize the morphic fields. Sheldrake proposes that various parapsychological phenomena can be explained using this idea. For instance, telepathy may be the result of someone tuning into another person's very recent past states. Furthermore, Sheldrake (1995) explains that individuals are similar to those in their own family, social groups, culture, and to some degree, all other humans in the present as well as in the past. Individuals may be able to pick up on images, thoughts, and feelings from others because of their connection to them through the process of morphic resonance. Since these connections cut across time and space, it could be possible to pick up on someone else's mind activity that is for instance, a thousand miles away.

Psi fields (Laszlo, 1996) are closely comparable to Sheldrake's idea of morphic fields in that they both suggest that genetic information alone cannot account for the entire makeup of an organism and that fields are self-organizing, evolve, have a history, and contain an inherent memory. Laszlo also discusses the term "Buddha-field" to describe what results when a large group of individuals meditate simultaneously. The

“Buddha-field” caused Laszlo to speculate that if individuals could affect the mind of another person, could not a large group of people meditating together create a type of collective consciousness? This question posed by Laszlo may have well been answered by studies conducted on the Maharishi Effect. The Maharishi Effect refers to the effect that large groups of people meditating have on social issues such as crime, wars, drug abuse, etc. Orme-Johnson et. al. (1988) propose that an accumulation of stress in collective consciousness is what causes large scale social problems and that groups of people meditating can reduce this underlying stress in the population. Orme-Johnson and colleagues (1988) conducted a study on the effect of group meditation on armed conflict in Israel and Lebanon during August and September of 1983. Participants were practitioners of the Maharishi Technology of the Unified Field (a particular type of meditation) who resided in Israel. Practitioners meditated two times daily in a hotel located in East Jerusalem. Dependent variables included the quality of life in Jerusalem (as measured by automobile accidents, fires, and crime), the quality of life in Isreal (as measured by crime, stock market, and national mood), and the war in Lebanon (as measured by war deaths and war intensity) while variables such as holidays and weather were controlled for. Results indicated that there was a 45% reduction in war intensity and a 76% reduction in war time deaths. Furthermore, Orme-Johnson (2003) conducted a review of 15 studies on Transcendental Meditation at city, state, national, and international levels. Practitioners of Transcendental Meditation focus their minds into an unexcited state in which “pure consciousness” is achieved. They avoid meditating on a thought or object as practitioners of other types of meditation may do. Convincing

evidence was found that when 1% of a particular population practices this type of meditation, quality of life is improved and crime rates decrease.

Several field consciousness experiments have been conducted in order to provide support for the idea of some type of “group mind” or “collective consciousness”. These types of studies strongly suggest that focused, coherent group activity is associated with unusual random number generator (RNG) outputs. A RNG is a piece of equipment that generates random number sequences by incorporating a truly random element such as radioactive decay. RNG’s are typically used to generate targets for psi experiments and may also act as the object that participants are asked to influence by “biasing” the output. There are currently a number of studies underway which examine RNGs around the world. Large scale events that are highly publicized or events that cause a large number of people to think about the same thing at the same time can cause RNG outputs to go significantly above or below chance probability. These results have been found in RNG outputs surrounding events such as Pope John Paul II’s funeral, Y2K, and 9/11. It is interesting to note that telepathy scores collected on Radin’s website (a site designed to collect psi data through online experiments) on 9/11/01 were at their lowest point in three years. Radin suggests that people may have been repressing psi information about the terrorist attacks because it was unpleasant. Additionally, odd RNG outputs have also been observed during natural disasters, New Year’s celebrations, and sports events (Radin, 2006).

Sheldrake (1999) suggests that the easiest way to test for morphic fields is to work with groups of organisms. Individuals from the group can be separated so that they cannot communicate with each other through ordinary ways like seeing or hearing each

other. If information can still be communicated between individuals, it would suggest that some type of interconnectedness is taking place that can be attributed to morphic fields. Scientific evidence for the existence of morphic fields has been obtained from both studies involving animals in the wild and experiments in the laboratory. One particular experiment conducted by Mishkind (1993) used human subjects in its sample and attempted to create morphic fields in a laboratory setting. Participants included 309 students enrolled in "test preparation" classes such as students preparing for the SAT or GRE whose ages ranged from 17 to 40. Four different stimuli were presented on a piece of paper and given to each subject which included (1) four nonsense words of which subjects were asked to circle one, (2) four boxes of which subjects were asked to place an "X" in one, (3) a bird-like image divided into four sections in which subjects were asked to shade in one section, and (4) a line across each corner of the paper where subjects were asked to fold one of the corners. The procedure for the study included three phases. In phase I, baseline measurements were provided by 106 subjects by asking them to circle any word, check any box, shade any portion of the bird image, and fold any of the four corners that they wished. Next, one of the four possible responses to each task was chosen at random by the experimenter which constituted four target responses to be used in phase II. In phase II of the study, the experimenter attempted to generate morphic fields by instructing subjects to perform the targeted responses obtained at the end of phase I. This resulted in 485 targeted responses to each of the stimuli. Phase III repeated the procedures used in phase I of the study with 106 new participants. Responses of phase III were then compared to those made in phase I. Results indicated that from phase I to phase III of the experiment, the bird stimulus had a highly significant increase in hits.

Mishkind speculated that the other three stimuli may have not shown evidence supporting morphic fields for two reasons. First, circling a word, checking a box, and folding a corner of paper require much less cognitive processing than shading the bird. Second, the bird stimulus appears to be the most novel of the four stimuli. The other three stimuli are very common and it is likely to assume that they already have well-established morphic fields that would be difficult to change with the relatively small number of subjects in phase II of the study. Results of the study also indicated that the morphic field which existed for the bird stimulus remained present for at least eight months which supports the idea that morphic fields persist across time.

Findings from Eastern Illinois University's Parapsychology Laboratory:

Gruber and colleagues (Gruber, personal communication, November 4, 2008) have speculated that groups of individuals form social fields that can facilitate or interfere with the telepathic transfer of information. They have developed a methodology which includes the use of groups of senders, closed circuit television, and simple foam targets. A series of studies have been conducted in the parapsychology laboratory at Eastern Illinois University in order to test this hypothesis.

Several studies conducted by Gruber and colleagues (Bunfill, 2006; McWhorter, 2005; Parker, 2006; Yarnall, 2003) have used similar procedures to test for various telepathic effects in an experimental setting. An example of a typical methodology is as follows: A receiver, picked at random from a group of senders, sits in an isolated room in front of a foam board marked with four target circles. Red disks which have Velcro strips on the backs are used as markers. The receiver is viewed via closed circuit television by a group of senders in another room who are facing an identical foam board.

A target is selected in the sender room by using random numbers and is marked on the senders' foam board with one of the red disks. The receiver is notified by a signal tone that the target has been selected. The senders try to transmit the target to the receiver telepathically and the receiver attempts to locate the target by marking it on their foam board. They continue to choose spaces on the board until the correct target is found. When the correct target is identified, a signal tone indicates that the receiver has scored a "hit." Several trials are run (usually 16), and the receiver is returned to the sender room and another receiver is randomly selected from the group. A single response is referred to as a trial, a set of trials constitutes a run, a series of runs constitutes a session, and several sessions comprise an experiment.

Yarnall (2003) split participants of a telepathy study into an "in-group" and an "out-group." The materials used in this study included two foam boards containing four circles and four red foam discs with Velcro affixed to the backs. Senders were able to view the receiver via closed circuit television. The first three receivers were separated from the others prior to the experiment. Having never met the others or acting as senders, they were considered to constitute an out-group. The next three receivers were selected from the in-group where research assistants attempted to create a warm and friendly atmosphere by joking around with participants and making enthusiastic comments about the study to facilitate group communication and comfort level. Each receiver attempted to telepathically receive the correct location of the target and place the foam disc on the corresponding target. It was hypothesized that in-group members would score above chance due to psi-conduciveness created by the collective group while out-group members would score below chance due to the natural tendency towards psi-

defensiveness. Results of a t-test indicate that the in-group achieved significantly more direct hits than the out-group ($M_{\text{ingroup}} = 4.53$; $M_{\text{outgroup}} = 3.03$), $t(72) = 3.84$, $p < .001$. The initial hypothesis was supported in that in-group members attained significantly more direct hits, or target hits on the first attempt, (163 direct hits) than the out-group (109 direct hits). With 144 hits expected by chance, the in-group scored significantly above chance ($p < .05$) while the out-group scored significantly below chance ($p < .001$), showing a very strong psi-missing effect.

Using a similar methodology, McWhorter (2005) examined the relationship between mental telepathy and belief in psi. It was hypothesized that subject belief scores would correspond to telepathy performance. A group of researchers attempted to telepathically transmit target locations to groups of subjects (multiple receivers simultaneously). Two runs were conducted (Sets A and B) of 16 trials each, in which each receiver completed a record form on which they recorded where they believed the correct targets were located. In Set A, significant results ($p < .01$) were found when examining the relationship between belief and telepathic ability. As belief scores increased, hit rates increased as well. These results support the hypothesis that belief is a major factor in determining telepathy scoring.

Bunfill (2006) examined the relationship between belief in psi and decline effects. The methodology of this study was similar to that of McWhorter (2005). Additionally, this particular study also examined the effect of experience in a psi experiment as subjects included in the study had previously participated in a telepathy study. It was hypothesized that subjects would score above chance at the beginning of the experiment due to previous experience, but scores would start to drop as the study went on due to

boredom or fatigue. Support was found for a within-session decline effect as results were significant for this variable. Results were not significant for the relationship between psi belief and telepathy scores. However, the researchers speculated that belief may have had a mediating role in the decline effect since subjects with a high belief score had less of a decline in scoring than subjects with low belief in psi.

Parker (2006) conducted a two part study which examined how telepathy is influenced by belief, within session order, past experience, and instructions to attempt to miss targets. Part I consisted of groups of senders attempting to telepathically send a target location to one receiver selected at random. It was hypothesized that an order effect would be evident with greater missing occurring during the first run (due to a warm-up or acclimation effect) and last runs of each session. Significant differences were found when comparing the first and last positions in a run with the middle sessions of a run. In addition, subjects who indicated a high belief in telepathy obtained scores significantly below chance, contrary to what one would expect based on results from previous studies. Part II consisted of three sets (Sets A, B, and C) in which groups of research assistants attempted to transmit targets to groups of subjects. During Set C, the subjects were instructed to purposely “miss” the target. Results indicated that scores for Sets A and C were significantly below chance probability. It was hypothesized that subjects who had participated in Part I and Part II of the study would have higher scores than participants who only participated in Part II. There was indeed a tendency for subjects with prior experience to have higher hit rates than novice subjects in all three sets.

Current Study

The current study examines data from three experiments designed to extend the findings from previous parapsychology research conducted at Eastern Illinois University. These experiments address a number of related variables including belief, sex, researcher ratings of group friendliness/enthusiasm, subgroups as senders, and instructions to miss targets. All data was collected during the Spring 2006 semester at Eastern Illinois University. The methodology is very similar to previous studies conducted by Gruber and colleagues. As in previous studies, a “direct hit” refers to a participant hitting the target on their first attempt. With the four choice target format, the probability of obtaining a direct hit is 25%. “Overall hits” refer to a participant hitting the target on either their first or second attempt. The probability of obtaining an overall hit is 50%.

In Part I, small groups and individual receivers were employed. Research assistants rated friendliness and enthusiasm of each group of participants after they arrived, but prior to the start of data collection. Given previous research findings involving psi-conduciveness and experimenter effects, it was hypothesized that friendlier, more enthusiastic groups would have higher hit rates. Both direct and overall hits were explored as participants were able to receive immediate feedback on target hits and misses during their individual runs. Receiving feedback when having missed on the first attempt provides participants with the ability to maintain motivation on their second attempt.

In Part II, large groups completed a series of three sets of trials (Sets A, B, and C) in which belief in telepathy and instructions to miss were the main points of focus. While large groups do not allow feedback regarding hit rates to be provided to participants, they

do allow for a much greater amount of data to be collected. The resulting increase in statistical power may be particularly important when dealing with subtle phenomena. This methodology also allows for multiple runs within a session, providing the opportunity to examine a variety of variables (e.g. high versus low belief, men versus women, instructions to hit versus instructions to miss). When discussing the methodology, researchers were curious as to how certain subgroups would perform when given instructions to miss. It was hypothesized that specific subgroups (i.e., low belief men) would miss targets above probability when instructions to hit were given and would hit targets above probability when instructed to miss. Due to inability to provide participants with immediate feedback for Part II of the study, direct hits were examined.

Part III involved the division of a large group into four subgroups with each subgroup acting as senders while the others acted as receivers. This was the first attempt from the parapsychology lab to have groups of participants sending to other groups. It was hypothesized that rotating subsets of the overall group sending to other subsets may increase effect sizes. As previous research has shown significant scoring differences between the sexes, the final run examined the effects of a group of men acting as senders while a group of women constituted the receivers. In turn, a group of women acted as senders while a group of men acted as the receivers. Due to inconsistent findings from previous research, a direction of the effect was not hypothesized. However, the finding of a difference between the sexes was predicted.

Method Part I

Participants

Participants in Part I consisted of 135 students (44 men and 91 women). The participants were students enrolled in an introductory psychology course taught at Eastern Illinois University who volunteered to take part in the study. Participants fulfilled a course requirement for introductory psychology by participating in the study. While the lead researcher was teaching an introductory psychology course at the time the study was conducted, none of the participants were from his class.

Materials

Materials for the study consisted of two foam boards (20" x 30") marked with four circles (one in each corner), five six-inch red disks with Velcro affixed to the backs which attached to the foam boards as target markers, a video camera, a video monitor, a 32" Panasonic television, coaxial cable, a standard doorbell, stopwatch, data record sheets for scoring 16 trials, consent forms, 6-point Belief forms, debriefing forms, lead researcher script, and a telepathy instruction form (see Appendix A). Also, friendliness and enthusiasm rating forms were used by the research assistants to rate participants (See Appendix B).

Procedure

The procedure used in this study is similar to and in some cases identical to that used by Parker (2006) and McWhorter (2005). A group of research assistants (generally six or seven) set up equipment, assisted with the experimental procedure, acted as record keepers, and rated each group of participants on the characteristics of friendliness/warmth and receptivity/enthusiasm. Two rooms (one sender room and one receiver room) in an

academic building of the Eastern Illinois University campus were used. The receiver room was a small, furnished room with a video camera mounted in one corner within a suite of rooms on the third floor of the building having no access to an outside window or outer hallway. The sender room was located in a classroom on the first floor of the same building. The video camera in the receiver room was attached to a television monitor in a separate control room on the third floor of the building by the receiver room. From this control room, a coaxial cable was run through the ceiling down the outside of the building to the television located in the sender room. By implementing this procedure, it was ensured that senders could not communicate with receivers by using normal sensory means. A foam board and set of discs were placed in the receiver room while the other foam board and one disc were placed in the sender room. The doorbell was placed in the receiver room and attached by wire to a switch located in the sender room. This setup allowed the senders to see and hear the receivers and also signal them with a tone.

However, the receivers were unable to see or hear the senders.

A total of nine separate data collection sessions, one per week, were conducted with small groups which consisted of 13 - 16 participants per session with an average of 15. In each session, ten of the participants were chosen randomly, one at a time, to act as receivers. This was done by selecting a consent form from a shuffled pile. The remaining participants acted as senders during the experimental session. The research assistants greeted the participants upon arrival and asked them to sit in chairs arranged in a half circle facing the television in the sender room. For the first two sessions (after the introduction, but prior to data collection), the research assistants who were in the sender room with the participants stepped out of the room to discuss the ratings of the group of

participants on the dimensions of friendliness/warmth and enthusiasm/ receptivity. 7-point Likert scales were used with one indicating low and seven indicating high. A rating was agreed upon and recorded. Following the first two sessions, a decision was made to change the methodology and have each research assistant independently rate the overall emotional tone of the group of participants in order to ensure the independence of rater judgments. While during Sessions 1 and 2 a consensus was quickly arrived at, it was determined that the average of independent ratings might provide a more accurate assessment without having to rely on group agreement. Therefore, for the remaining seven sessions, the characteristics of friendliness/warmth and enthusiasm/receptivity were rated by each researcher. Research assistants were instructed to use the friendliness/warmth scale to judge the participants' interactions with each another and to use the enthusiasm/receptivity scale to judge their interaction with the research assistants. Only those researchers who were in the room during the introduction, prior to data collection, provided ratings. This resulted in some inconsistency in the number of ratings produced each session as some research assistants were required to perform tasks outside of the sender room as well as some research assistants not attending every session. For a copy of the scales and the researcher ratings by session see Appendix B.

To begin the session, the lead researcher presented the participants with a brief description of the research project which included an explanation of the experimental procedure. The description also included a brief explanation of social fields and their possible connection with mental telepathy. The research assistants then handed out consent forms for participants to sign. The consent forms outlined the experimental procedure, explained that participation in the study was completely voluntary, and

indicated confidentiality of participant information. Participants were then asked one question in order to judge their level of belief in mental telepathy on a 6-point Likert-scale with one indicating they believed mental telepathy “very unlikely to exist” and six indicating they believed mental telepathy “very likely to exist”. Participants indicated their belief score by writing the corresponding number from the scale on the top of their consent forms. Participants with low belief scores (1s & 2s on a 6 point scale) were termed low believers, those with medium belief scores (3s & 4s on a 6 point scale) were termed middle believers, while participants with high belief scores (5s & 6s on a 6 point scale) were termed high believers. Participants were then given a telepathy instruction form which detailed tasks that senders and receivers would be expected to perform and also provided helpful suggestions on how to send or receive telepathic information. Questions that participants had were clarified by the lead researcher or research assistants and the first receiver was randomly selected from the group and led upstairs to the receiver room by a research assistant.

Several different research assistants performed various tasks for the data collection process. Two research assistants who were located in separate rooms (one in the monitor room and one in the sender room) recorded information on data record sheets, another research assistant selected targets, in the sender room, through a random number procedure (described below). A disc was placed on the foam board in the sender room to indicate the chosen target for each separate trial. A fourth assistant escorted participants between the sender room and receiver room and another research assistant operated the doorbell to indicate the beginning of trials and when targets had been hit and used a stopwatch to standardize timing of each trial of the experiment.

Parker (2006) describes the random number procedure used to generate targets for the experiment as follows: "Two pages of random numbers were generated from the website "random.org" and were printed by the lead researcher prior to the start of each session. These pages included numbers 1, 2, 3, and 4 divided into 12 columns. "Random.org" generates random numbers by using a process known as white noise, which is said to be more random than the pseudo-random numbers generated by computer programs" (p. 30). Dice rolling and a coin flip were used to determine which sheet of numbers to use and which column to begin with. Targets were determined by entering the table at the location chosen with 1's indicating placement in the upper left corner, 2's indicating upper right, 3's indicating lower left, and 4's indicating lower right. A research assistant put a disc on the foam board which corresponded to the selected target location. The doorbell signal was given to the receiver to indicate that the target had been chosen and that the senders were focusing on it. The receiver then placed a disc on one of the four locations of the foam board where they believed the correct target to be. If the receiver did not obtain a hit on the first attempt, they continued to place discs on the foam board until the doorbell signal was given indicating the target had been hit. Once the signal had been sounded, the receivers took down the discs and waited for another signal to indicate the start of the next trial. The next trial started exactly ten seconds after the receiver had taken down the last disc from the foam board. The ten second time frame ensured that no sensory/temporal information could be conveyed from senders to the receiver, permitted enough time to put up the next target location, and also gave senders ample time to focus on the new target.

After the sixteenth trial was completed, the receiver was taken back into the sender room and another receiver was picked by using the shuffled consent form procedure. The research assistants did not indicate to participants how many runs of 16 trials would be conducted during each experimental session in order to avoid altering participant performance. After the tenth and final run of the experimental session, the lead researcher gave a brief summary of results of the session in the sender room, handed out debriefing forms, and answered any questions that participants had.

Method Part II

Participants

Participants included in Part II of the study consisted of 199 students (97 men and 102 women). The participants consisted of students enrolled in introductory psychology courses taught at Eastern Illinois University who volunteered to take part in the study. Some of the participants were enrolled in an introductory psychology course taught by the lead researcher of the study ("class"; sessions 1, 2, & 3) while some participants were enrolled in introductory psychology courses taught by other professors at Eastern Illinois University, who were not involved with the study ("not class"; sessions 4, 5, & 6). Participants fulfilled a course requirement for introductory psychology by participating in the study.

Materials

Materials used in Part II of the study were similar to those used in Part I, with slight modifications. Instead of handing out the telepathy instruction form and belief scale as was done in Part I, these handouts were placed on an overhead projector for participants to view. Three separate data record sheets (one with 16 trials and two with 8

trials) were used. The overhead projector was also used to show sample record sheets and to ensure that participants were following along with the correct trials by marking them as the study progressed. The lead researcher's script, consent forms, and telepathy instruction form were slightly changed in order to explain the new procedure. Copies of all forms can be found by referring to Appendix C. In addition to the changes mentioned above, only one foam board and disc was used in Part II of the study as receivers recorded their responses directly on the record forms.

Procedure

The procedure used in Part II of the study is similar to that used in Part I. One substantial modification made was that research assistants acted as senders while all participants simultaneously acted as receivers. Two rooms (one sender room and one receiver room) in an academic building of the Eastern Illinois University campus were used. The receiver room was a large lecture hall on the second floor while the senders were located in a smaller room on the third floor of the same building. A camera mounted on a tri-pod was placed in the receiver room facing the receivers. The sender room contained both a closed circuit television on which the receivers could be viewed and one foam board and disc to indicate targets. Senders signaled the beginning of each trial by sounding a doorbell while the lead researcher indicated the current trial by placing a marker on a copy of the record form on the overhead projector. Between 6 – 8 research assistants acted as senders during each session.

A total of six separate data collection sessions were conducted with groups which consisted of 18 to 56 people per session. Three sessions were conducted with participants who were all enrolled in an introductory psychology course taught by the

lead researcher while three other sessions were conducted with participants enrolled in introductory psychology courses taught by professors not affiliated with the study. Participants were divided according to course assignment because those enrolled in the lead researcher's course had previously been exposed to the researcher as well as the concepts of psi, telepathy, and social fields. The initial goal to have consistent group sizes each session was not accomplished due to a lack of control over subject pool availability. Attempts were made to obtain as many participants as possible, resulting in drastically different group sizes. Unfortunately, only two sessions (one class, one not class) contained more than 30 participants.

During each session, all participants arrived in the receiver room and were instructed to sit in view of the camera. After the introduction had been provided by the lead researcher, consent forms were signed, belief scores were completed, and the telepathy instruction form was displayed on the overhead projector. The random number procedure described in detail for Part I of the study was used in the sender room to generate the target locations. In the sender room, researchers placed a target disc on the foam board, began to focus on it, and also signaled the beginning of the trial by using the doorbell which rang in the receiver room. Unlike Part I of the study, participants in Part II did not receive feedback. Since participants were responding simultaneously on separate sheets, it was not possible for the researchers to immediately analyze responses and provide feedback. The doorbell served the sole purpose of signaling participants that the next trial had begun. In the receiver room, the first data record form containing 16 trials was distributed to participants and a sample record form was placed on the overhead projector. A one-inch square piece of plastic film was used to highlight the trial

that participants were instructed to respond to. Participants were instructed to write a "1" inside of the circle for their first choice of where they thought the target was, a "2" inside of another circle for their second choice of where the target was, and so on until all four circles had a number written in them. After a 20 second interval, another target was selected using the random number procedure and receivers were signaled that the next trial was beginning.

Three separate sets (A, B, & C) were conducted during each session. Following the completion of the first 16 trials (Set A), data record forms were collected from participants. Prior to beginning the next set of trials, the lead researcher divided the participants into two groups. Participants who indicated a low belief score (1-3 on 6-point scale) were asked to seat themselves on the left half of the room while participants who indicated a high belief score (4-6 on 6-point scale) were asked to seat themselves on the right half of the room. This procedure was done as researchers anticipated that identifying belief level to other participants and to the researchers might influence psi effects. Participants then received a second record form which contained eight four circle format trials and followed the same methodology as the previous run. After the eight trials had been completed (Set B), data record sheets were collected and a third data record sheet was distributed which contained another eight trials. For this final run, participants were instructed to attempt to "miss" or "not hit" the target. The instructions to miss the target were repeated prior to each trial with the statement "Do not hit the target - miss the target". After the final run had been completed, data record sheets were collected, debriefing forms were passed out, and the lead researcher thanked participants and provided them with the opportunity to ask questions.

Method Part III

Participants

Participants included in Part III of the study consisted of 70 students (36 men and 34 women). All participants were students enrolled in an introductory psychology course taught by the lead researcher of the study at Eastern Illinois University and volunteered to take part in the study. Participants fulfilled a course requirement for introductory psychology by participating in the study.

Materials

Materials used in Part III of the study were identical to those used in Part II.

Procedure

The procedure used in Part III of the study is similar to that used in both Parts I and II. However, all participants acted as both receivers and senders at some point during the course of the study. Once again, two rooms (one sender room and one receiver room) in an academic building of the Eastern Illinois University campus were used. The sender room was a large lecture hall on the first floor while the receivers were located around a corner on a different hallway in a smaller room on the first floor of the same building. A camera mounted on a tri-pod was placed in the receiver room facing the receivers. The sender room contained both a closed circuit television on which the receivers could be viewed and also one foam board and disc to indicate targets. Research assistants signaled the beginning of each trial by sounding a doorbell which was placed in the receiver room.

One single data collection session containing six separate runs (consisting of 16 trials each) was conducted with a large group of 70 people. Participants arrived in the sender room and were randomly assigned to one of four groups by being counted off in

1's, 2's, 3's, and 4's by research assistants. One group of the four was taken into the receiver room (and acted as receivers) while the remaining three groups stayed in the sender room (and acted as senders). After the completion of the run consisting of 16 trials, the group of receivers went back into the sender room and another group was taken into the receiver room. This process was repeated until all four groups had acted as receivers. After the final group of participants had acted as receivers, participants were divided according to sex. The men were then led into the receiver room while the women acted as senders. The men were then brought back to the sender room and women were taken to the receiver room where the men sent to them. Participants were debriefed, thanked for their participation, and allowed to leave following the completion of the study.

Results

Analysis

As multiple statistical tests were run during data analysis, results should be considered exploratory rather than conclusive. Results of telepathy scoring will be reported in percentages in order to easily compare hit rates and also to make findings easily understandable. As previously stated, Part I examines both overall and direct hits while Parts II and III will only examine direct hits.

Part I

It was hypothesized that as the research assistants' ratings of each group's warmth/friendliness (friendliness) and receptivity/enthusiasm (enthusiasm) increased or decreased for a session, hit rates would correspondingly increase or decrease for that

session. As friendliness and enthusiasm ratings increased, hit rates would also increase. Likewise, as friendliness and enthusiasm ratings decreased, hit rates would decrease.

A total of nine sessions were run with small groups ranging in size from 13 to 16 (with ten participants acting as receivers per session) for a total of 135 participants (44 men and 91 women). With all sessions combined, there were 90 receivers/senders (28 men and 62 women) and 45 participants who acted only as senders (16 men and 29 women). The mean belief score for all participants ($N = 90$) was 2.84. Men ($N = 44$) had a mean belief score of 2.82 ($SD =$) while women ($N = 91$) had a mean belief score of 2.85 ($SD =$). There were 67 low believers and 23 high believers. In each session, ten participants were randomly chosen, one at a time, and acted as receivers while the remaining participants acted as senders. For the nine nights, prior to the beginning of data collection, between five and ten research assistants made ratings on friendliness and enthusiasm for the group of participants. For a breakdown of mean ratings and hit rates for each of the nine sessions see Table 1. For raw friendliness and enthusiasm ratings by session see Appendix B. Only one rating is shown for Sessions 1 and 2 which represents the verbal consensus of the group. For a simple indication of inter-rater agreement, the standard deviation shows the consistency of ratings with smaller standard deviations indicating less variability and more agreement among raters.

A Pearson product – moment correlation was performed to test the hypothesis that as friendliness and enthusiasm ratings increased or decreased for a session, overall hit rates for the session would correspondingly increase or decrease. Results indicated that as friendliness ratings increased for a session, overall hit rates for that session also tended to increase, $r(7) = .73, p = .027$. For a representation of friendliness and enthusiasm

ratings see Figure 1. Since the friendliness ratings have the strongest correlation with overall hits, Figure 1 is arranged from the lowest to highest friendliness rating. Figure 2 shows mean hit rates by session and is also arranged from lowest to highest friendliness rating. Figure 3 is a representation of these same findings (hit rate by session in order of friendliness) showing scores as deviations from chance expectation.

A significant relationship was not found between enthusiasm ratings for sessions and overall hit rates, $r(7) = .56, p = .113$. While these ratings and hit rates were in the expected direction and their correlation coefficient was indicative of a strong relationship, results were not statistically significant. This appears to be due to either the very small sample size ($N = 9$) as the sample size corresponded to the number of sessions rather than the number of participants or low variability in scores. This is also true when examining direct hits (friendliness $r = .51, p = .16$; enthusiasm $r = .48, p = .19$). Additionally, effects for sex and belief were examined. When collapsed across sessions, significant differences were not found between men and women ($M_{men} = 50.89\%$, $M_{women} = 48.19\%$; $t(88) = .956, p < .341$) or between participants with high or low belief scores ($M_{high} = 50.82\%$, $M_{low} = 48.41\%$; $t(88) = -.798, p < .427$).

Part II

A total of six separate data collection sessions were conducted with groups which consisted of 18 to 56 people per session for a total of 199 participants (97 men and 102 women). Three sessions were conducted with participants who were all enrolled in an introductory psychology course taught by the lead researcher. The total number of participants enrolled in the lead researcher's course was 96 (44 men and 52 women). The average belief score for "class" participants ($N = 96$) was 3.47 for men ($N = 44$) and 3.69

for women ($N = 52$). For a breakdown of hit rates for all “in class” participants by set, see Table 2. Three other sessions were conducted with participants enrolled in introductory psychology courses taught by professors not affiliated with the study. The total number of participants enrolled in courses not taught by the lead researcher was 103 (53 men and 50 women). The average belief score for “not class” participants ($N = 103$) was 3.80 for men ($N = 53$) and 3.12 for women ($N = 50$). Participants identified as high believers included 33 men and 20 women while those identified as low believers included 18 men and 30 women. For a breakdown of hit rates for all “not class” participants by set, see Table 3. Results of a t -test indicate that of the “not class” participants, men had a significantly higher mean belief score ($M = 3.80$, $SD = 1.37$) than women ($M = 3.12$, $SD = 1.35$) $t(99) = 2.53$, $p < .01$. Three runs, Sets A, B, and C, were conducted during each session with participants acting only as receivers and research assistants acting as senders.

Examining Set A, results of a t -test indicate that men who were enrolled in the lead researcher’s course obtained significantly higher direct hit rates ($M = 27.13\%$, $SD = .12$) than women enrolled in the lead researcher’s course ($M = 22.24\%$, $SD = .12$) $t(94) = 1.96$, $p = .05$. When the same analysis was performed for overall hits, men ($M = 55.36\%$) had a higher hit rate than women ($M = 47.36\%$), $t = 3.47$, $p < .001$. However, a difference between the sexes was not found for the participants not enrolled in the lead researcher’s course. Men who were not enrolled in the lead researcher’s course did not have significantly different scores ($M = 23.32\%$, $SD = .1213$) than women who were not enrolled in the lead researcher’s course ($M = 24.50\%$, $SD = .1070$) $t(100) = -.52$, $p = .60$. For a breakdown of hit rates for men and women, see Tables 4 and 5 respectively. For a

visual representation of hit rate deviation from chance expectation for all participants by sex, set, and class assignment see Figure 4.

Given the small number of participants in four of the six sessions ($N = 18, 25, 26, 21$) and the number of variables of interest (class assignment, sex, belief, instructions to hit versus instructions to miss, and session), these samples were considered too small to properly analyze. When examining all three "in class" sessions together, significant results were found for set A as noted above. Results for sets B and C were inconsistent and did not produce consistent findings. However, one session of participants from the lead researcher's class was large enough to allow for the examination of the effects of sex, belief, and instructions to hit versus instructions to miss. Therefore the results that follow focus on Session 2. As this is only one session out of six, results are considered exploratory and tentative.

Focusing on Session 2, in order to explore belief in more detail, belief scores were used to divide participants into three groups: high, medium, and low. The middle group who did not express high or low belief in telepathy was removed, allowing for a comparison of extreme groups: high belief (scores of 5 or 6) versus low belief (scores of 1 or 2). For Set C of Session 2, results of a t -test show that when instructed to miss, men who indicated low belief in telepathy had significantly higher scores ($M = 35.42\%$, $SD = .04$) than men who indicated high belief in telepathy ($M = 12.50\%$, $SD = .04$), $t(9) = 4.13$, $p = .003$. However, a significant difference was not found between women who indicated low belief in telepathy ($M = 33.33\%$, $SD = .08$) and women who indicated high belief in telepathy ($M = 15.62$, $SD = .06$) $t(8) = 1.55$, $p < .16$.

However, for Session 2 participants, when men and women participants were included together, and belief scores of 1, 2, 3, and 4 were combined (low/medium belief) and compared with belief scores of 5 and 6 (high belief), results of a *t*-test indicate that when instructed to miss (Set C), participants who indicated high belief in telepathy scored significantly lower ($M = 13.89\%$, $SD = .10$) than participants who indicated low/medium belief in telepathy ($M = 32.10\%$, $SD = .16$), $t(17) = 4.54$, $p = .00025$. When analyzed separately by sex, results of a *t*-test indicate that for Set C, men who indicated belief scores of 5 or 6 obtained significantly lower hit rates ($M = 12.50\%$, $SD = .09$) than men who indicated belief scores of 1, 2, 3, or 4 ($M = 32.42\%$, $SD = .16$) $t(22) = 2.58$, $p < .017$. Likewise, results of a *t*-test for women in Set C just reached significance, with women who indicated belief scores of 5 or 6 obtaining lower hit rates ($M = 15.62\%$, $SD = .12$) than women who indicated belief scores of 1, 2, 3, or 4 ($M = 32.00\%$, $SD = .15$) $t(27) = 2.03$, $p = .05$.

It is interesting to note, when instructed to miss (Set C), Session 2 participants with the lowest belief scores (1s and 2s on the 6-point scale) had the highest hit rate ($M = 34.37\%$, $SD = .15$), those who indicated high belief scores (5s and 6s) obtained the lowest hit rate ($M = 13.89\%$, $SD = .10$), and those with medium belief scores (3s and 4s) had a hit rate which fell in between the high and low hit rates ($M = 31.25\%$, $SD = .16$). For a breakdown of mean scores by belief levels on Sets A, B, and C for Session 2, see Figure 5. Also, for a breakdown of hit rates by set and belief levels see Figure 6.

When men and women are analyzed separately the same pattern arises for Set C of Session 2. Men who had the lowest belief scores had the highest hit rate ($M = 35.42\%$, $SD = .09$), those who had the highest belief scores had the lowest hit rate ($M = 12.50\%$,

$SD = .09$), and those with medium belief scores had a hit rate which fell in between the high and low hit rates ($M = 30.77\%$, $SD = .19$). Women who indicated low belief (1s and 2s) obtained the highest hit rate ($M = 33.33\%$, $SD = .20$), those who indicated high belief (5s and 6s) obtained the lowest hit rate ($M = 15.62\%$, $SD = .12$), and those who indicated medium belief scores (3s and 4s) had a hit rate which fell in between the high and low hit rates ($M = 31.58\%$, $SD = .14$).

Part III

One single data collection session containing six separate runs was conducted with a large group consisting of 70 people. Three participants filled out the belief questionnaire and departed the study leaving 67 participants (35 men and 32 women). In addition to those participants who left before data collection began, two other participants left between sets four and five leaving 65 total participants (34 men and 31 women). Participants were randomly assigned to one of four groups. During each of the first four runs, one group of participants acted as receivers while the remaining three groups acted as senders. Therefore, during these runs, each participant acted as a receiver once and a sender three times. The last two runs consisted of men sending to women followed by women sending to men. Men ($N = 35$) had a mean belief score of 3.40 while women ($N = 32$) had a mean belief score of 3.65. Of the high believers (defined as those participants having belief scores of 4 – 6 on a 6-point scale), 17 were men and 17 were women. Low believers (defined as those participants having belief scores of 1 – 3 on a 6-point scale) included 18 men and 17 women.

Overall, the participants in Part III ($N = 67$) obtained a mean hit rate of 24.5% which is close to chance expectation (25%). However, when a t -test for independent

means was conducted comparing hit rates for men and women across the first four runs, the results indicated that women had significantly higher hit rates ($M = 27.34\%$, $SD = .11$) than men ($M = 21.96\%$, $SD = .09$), $t(65) = -2.28$, $p = .03$. Only the first four runs were included in this analysis due to the fact that the final runs did not include both sexes simultaneously. For a breakdown of mean scores by sex and run see Table 6. A representation of these results is shown in Figure 7.

It is interesting to note that, although not at a significant level, hit rates for participants decreased as their belief scores increased. Participants who indicated low belief scores ($N = 19$) obtained the highest hit rate ($M = 25.33\%$, $SD = .07$), those who indicated high belief scores ($N = 18$) obtained the lowest hit rate ($M = 23.96\%$, $SD = .09$), and those who indicated medium belief scores ($N = 29$) obtained a hit rate which fell in between the high and low scores ($M = 24.78\%$, $SD = .12$). A similar trend was noted when analyzed further by sex and belief with men's hit rates below chance expectation across low, medium, and high belief levels and women's hit rates above chance expectation across each belief level. For a detailed breakdown of hit rates by sex and belief see Table 7.

During the final two runs, women sent to men (Run 5) and men in turn sent to women (Run 6). Overall, the participants ($N = 65$) obtained a mean hit rate of 22.6%. In order to further explore these results, a one-sample t -test with men and women combined was performed to determine if the overall mean score was below chance expectation. Results of this t -test approached significance ($M = 22.60\%$, $SD = .10$), $t(63) = -1.93$, $p = .058$. A one-sample t -test was also conducted on the mean score for men when women were sending to them and indicated that men did score significantly below chance

expectation ($M = 21.32\%$, $SD = .09$), $t(33) = -2.29$, $p = .029$. However, this result was not found for women when men acted as the senders ($M = 23.99\%$, $SD = .11$), $t(30) = -.524$, $p = .604$. Additionally, significant differences were not found between participants with high versus low belief scores for the final two runs ($M_{high} = 20.83\%$, $M_{low} = 24.26\%$; $t(62) = .136$, $p = .178$).

Discussion

Part I

The results of Part I support the hypothesis that friendlier, more enthusiastic groups will have higher hit rates. Although a statistically significant relationship was not found between enthusiasm ratings and hit rates, a significant relationship was found to exist between friendliness ratings and hit rates. The strongest relationship was found when comparing friendliness ratings and overall hit rates ($r = .73$). This correlation is strong enough so that even with as few as nine data points (one for each session) and seven degrees of freedom, it is statistically significant at .03. While all of the correlations involving friendliness/warmth and enthusiasm/receptivity are not as high, ranging from a low of .48, they are all in the predicted direction, with the correlation of .73 standing out as a very strong indicator that we were able to accurately rate friendliness and that the groups rated as friendlier scored more hits than those rated as less friendly. By viewing the data and visual representations in Figures 1 and 2, it is difficult not to accept that information was in fact transferred by some type of psi phenomena with the perceived friendliness of the group during each session having an impact on psi-conduciveness.

As previous research has indicated, friendliness or warmth of individuals and groups in psi experiments tend to increase psi-conduciveness and in turn, psi-hitting

(Donovan, 1998; Honorton, Ramsey, & Cabibbo 1975; Nash & Nash, 1967; Schmeidler, 1997; Schneider, Binder, & Walach, 2000). Furthermore, Schmeidler (1997) suggests that a warm environment causes participants to feel relaxed, interested, and cooperative and thus allows participants to perform well on ESP tasks. Anderson and White (1958) were among the first to use a rating system during a psi experiment. They also reported finding that ratings indicative of psi-conductive factors increased chances of psi-hitting. The current study provides support for these previous findings and also extends them to cohesiveness and psi-conduciveness within groups of individuals.

It is interesting to note that the hit rate data obtained for Part I appears to show no effect when collapsed across sessions, but when the variable of friendliness is introduced, important information comes to light and strong findings appear. For instance, across sessions ($N = 90$), direct hits were 25.4% and overall hits were 49.0%. However, with a friendliness rating of 5.7 (on a 7 point scale), participants in Session 3 had a 26.9% direct hit rate and a 55.0% overall hit rate while Session 1 participants with a friendliness rating of 1.0, had a direct hit rate of 19.4% and an overall hit rate of 44.4%. This effect may shed light on the elusive nature of psi-phenomenon which is discussed at length by various researchers (Freeman, 1966; Kennedy, 2001 & 2003a; Osis, 1952; Stanford 2003; White, 1993). Kennedy (2003a) states that a shift from intended effects of a study to unintended effects provide evidence for both the elusive nature of psi and the existence of psi itself. If relevant variables such as gender, belief, etc. are not taken into consideration, data sets with strong effects may appear to be random. Specifically, without considering friendliness as a variable in Part I, there appears to be no effect. In other words, when the above chance hit rates of friendly groups (psi-hitting) are

combined with the below chance hit rates of less friendly groups (psi-missing), the results cancel each other out and results appear to be random.

Part II

While six sessions were run, (three “class”, three “not class”) due to small and unequal group sizes, four of the six sessions were unable to be analyzed when broken up by variables (i.e. sex, belief, class assignment). The largest group from the “not class” sessions did not show clear results. However, when examining Session 2, the largest group from “class” ($N = 53$) the hypothesis that particular subgroups would miss targets when instructed to miss was supported. Interestingly, participants who indicated low or medium belief in telepathy (belief scores of 1, 2, 3, or 4) began to hit targets quite well when instructed to miss, while participants who indicated high belief (scores of 5 or 6) in telepathy appeared to cooperate with the instructions to miss, scoring significantly below chance. These findings are very strong with a t value of 4.54 and a p value of .00025.

When analyzed separately, results for men and women were very similar with high belief men (scores of 5 or 6) having significantly lower scores when told to miss (Set C) than low or medium belief men (scores of 1, 2, 3, or 4) and high belief women having significantly lower scores than low or medium belief women. It can be speculated that those who clearly identify themselves as believers (belief scores of 5 or 6) have greater psi abilities or may have had experiences with phenomena such as telepathy or clairvoyance that allowed them to have increased focus or control. Previous research has indicated that anxious or defensive individuals are more likely to psi-miss than non-anxious or non defensive individuals (Carpenter, 1971; Haraldsson & Houtkooper, 1992; Johnson & Kanthamani, 1967; Palmer, 1977; Watt & Gissurarson). In this particular

instance (with *instructions* to miss), it may be the case that those participants who were the least defensive against psi information cooperated with the instructions to miss, while those who were the most defensive against psi information unconsciously rejected the instructions to miss and instead began to unconsciously hit targets. Researchers such as Schmeidler and Murphy (1946) have attempted to manipulate the experimental environment to encourage psi-missing, but review of past literature does not reveal that anyone has actually given participants instructions to miss targets as was done in the current study.

Set C (with instructions to miss) was a direct reversal of Set A, which instructed participants to hit targets. In discussing past findings and the initial hypothesis, the researchers considered the possibility that low belief participants were “purposely” missing targets by unconsciously rejecting information which they had access to. If in fact low belief participants were unconsciously rejecting information and unconsciously missing targets on purpose, instructions to miss would very likely strike them as confusing. Thus the instructions to miss were intentionally incorporated into the experimental design in order to create this possibility of confusion. While this methodology can be somewhat conceptually confusing, it appears that some sort of thought processes were involved whereby some people who were “intentionally” and “unconsciously” missing would begin to hit targets above chance when instructed to miss. Participants could have chosen to miss even more targets or completely block out information (thus creating random scoring) as a result of the instructions to miss, but this is not what actually happened. Instead, a number of low belief participants reversed their

attempts to miss targets and began to attempt to hit targets. Parker (2006) also found that when participants were instructed to miss, (Set C) hit rates were below chance levels.

Although not initially hypothesized and not directly related to psi phenomenon, it was found that of the “not class” participants, men had a significantly higher mean telepathy belief score than women. This particular finding runs counter to most previous research on gender differences in belief of psi which suggests that women are more likely than men to believe in paranormal phenomena (Blackmore, 1994; Clarke, 1991; Haraldsson, 1981; Randall & Desrosiers, 1980). However, in the current study, this effect may be more due to experimenter effects than to actual differences between the sexes. Participants who had previously been exposed to the lead researcher (“in class” participants) would be expected to have a different reaction to him than those who were meeting him for the first time. For example, men may have been more comfortable with meeting a new researcher than women who had just met a new, strange, male, researcher.

Part III

The hypothesis that subsets of the overall group sending to other subsets would increase the effect size was not supported. In fact, there was a trend in the opposite direction with scores tending to be below chance expectation. A possible reason for this could be due to the difficulty, reported by the researchers, in maintaining the focus of the groups. A lot of movement was required of the participants (one quarter of the group was removed from the room and returned to the room) and this appeared to cause a distraction resulting in a lack of focus. The lack of focus may also be attributed to the interaction between men and women. When divided by sex, men’s scores were significantly below chance expectation across the first four runs and also in run five when men received from

women. The consistency of these findings adds to the argument that the mens' psi-missing is not due to chance.

While the primary hypothesis was not confirmed, the hypothesis that men and women would score differently was indeed supported. Previous research on gender differences and psi-hitting rates has brought about mixed results. Some studies have shown that women score higher than men (Clarke, 1991; Haraldsson 1981; Tobacyk & Milford, 1983) while others indicate that there is no significant difference between men and women on psi-hitting rates (Blackmore, 1984; Murphy & Lester, 1976). In the current study however, results indicated that women scored higher than men on all sets in Part III including both mixed sets and sets in which men and women were separated. Therefore, in this particular study it seems as though there is indeed a gender difference in psi scoring between the sexes, with women having higher scores than men. It is unclear as to whether these scores would replicate within the general population. An explanation for this may involve some specific aspect of this particular study. For instance, all of the participants in Part III were enrolled in an introductory psychology course taught by the lead researcher, a male professor. Enrollment in the lead researcher's course may have played a part in scoring differences between the sexes. Previous studies from the parapsychology laboratory at Eastern Illinois University have shown that participants enrolled in the lead researcher's course, who have had previous exposure to both the researcher and the basic concepts of psi, score differently than those who are enrolled in introductory psychology courses taught by other professors at the university. Watt and Ramakers (2003) found that participants in an ESP study who were tested by high belief experimenters scored higher than participants tested by non-

believers. As the lead researcher is a strong believer in psi phenomenon, this may have had an effect on participant scoring as well. Specifically, according to Gruber, et. al., the highest levels of psi-missing from experiments conducted in the parapsychology laboratory are almost always found in males who are enrolled in the lead researcher's class (Gruber, personal communication, April, 2008). It was suggested by Gruber that these findings might be due to competitiveness, tension, or dominance issues between the males in the class and the professor on an unconscious level which resulted in an increase of psi-defensiveness. This is not described as simply blocking psi information as this would result in random scoring, but an actual rejection on an unconscious level of target information which has been unconsciously perceived, and then used to miss targets. It should be recalled that in order to miss targets above chance, participants must on some subconscious level, know where the targets are (Carpenter, 2004; Irwin, 1994; Radin, 2006). We might speculate that results would be quite different with a female lead researcher.

Suggestions for Future Research

After exploring the three experiments from the Spring 2006 data, it is clear that a number of improvements could be made in order to strengthen future studies from the parapsychology lab. Each of the experiments had methodological mistakes, that in hindsight, could have been avoided. The weaknesses encountered were primarily due to the theoretical and methodological complexity, number of variables, and exploratory nature of the research project.

The primary problem with experiment one concerned the inconsistent number of research assistants involved with rating the groups. This problem made it difficult to

calculate an accurate measure of inter-rater reliability. While inter-rater agreement was high, a more consistent number of raters would have made demonstration of agreement easier. In future studies where ratings are made, it would be better to have a consistent number of independent raters per night. The change in methodology involving ratings during the study was also not an optimal situation. Based on the findings involving friendliness, the way in which the participants interact with each other may be a more important variable than their interaction with the researchers. Thus the variables of friendliness/warmth may be more important variables of interest as opposed to enthusiasm/receptivity in future studies.

The biggest limitation encountered in Part II was that of sample sizes. Some groups were large while others were small. The inconsistency of participants across sessions posed some major challenges when analyzing data. This issue combined with the large amount of variables made data analysis quite complicated and often times either overshadowed important information (when collapsing across variables) or made sample sizes too small to show an effect (when breaking down the sample by each variable).

It seems clear that the variables of "class" or "not class" have an effect with respect to both differences in scoring and belief. In the current study as well as in others from this lab, those participants who are enrolled in courses taught by the lead researcher almost always have different scoring patterns and often different patterns in belief scores than those participants who have never met the lead researcher until the experiment took place. These differences were noted in both the current study and also by Parker (2006). Gender also seems to mediate these effects. One way to counter this effect could be to have a professor independent from the experiment and all introductory psychology

courses read a pre-planned script and act as the symbolic “lead researcher.” Also, to test for a gender effect in addition to the experimenter effect, it may be beneficial to enlist a female to act as the “lead researcher.”

The need of improving the focus of the senders was undoubtedly an issue in Part III. In future studies, focus may be increased with more supervision accomplished by having more research assistants in the room. Also, it might help if the receivers are the participants who stay in the large group while senders are taken out of the room a quarter at a time. This setup may increase focus as well as allow for a considerably larger amount of data points to be collected.

As always, replication of findings from the parapsychology lab is key in order to identify what variables produce consistent effects and what variables need to be changed. Even with the number of problems encountered, the three studies examined in this report are a helpful step in understanding psi phenomena. Successfully producing significant effects with instructions to miss targets, connecting ratings of group characteristics with psi scoring, replicating differences between men and women, levels of belief, and class membership all seem to be very productive areas to explore.

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Table 1.

Part I: Friendliness Ratings, Enthusiasm Ratings, and Mean Hit Rates by Session

Session	F/W	E/R	Mean Direct	SD	Mean Overall	SD
1	1.0	2.0	19.4	.108	44.4	.157
2	6.0	5.0	25.6	.127	49.4	.140
3	5.7	4.7	26.9	.089	55.0	.124
4	2.7	4.0	25.0	.072	45.0	.113
5	2.7	2.9	27.5	.099	46.2	.099
6	3.9	4.1	21.9	.099	45.1	.128
7	4.2	4.3	26.9	.098	51.2	.082
8	3.7	3.8	28.8	.123	50.6	.102
9	2.8	2.8	24.4	.154	48.8	.141

Note: F/W = Friendliness/Warmth Rating

E/R = Enthusiasm/Receptivity Rating

Chance expectation = 25% for Direct Hits

Chance expectation = 50% for Overall Hits

Table 2.

Part II: Mean Direct Hit Rates for All Participants "In Class"

All Participants			
Session 1/In Class (N = 17)			
	Low Belief (N = 5)	Medium Belief (N = 7)	High Belief (N = 5)
Set A	25.0%	25.9%	23.8%
Set B	20.0%	26.8%	17.5%
Set C	22.5%	23.2%	27.5%
Session 2/In Class (N = 53)			
	Low Belief (N = 12)	Medium Belief (N = 32)	High Belief (N = 9)
Set A	21.9%	21.1%	27.8%
Set B	31.3%	24.6%	22.2%
Set C	34.4%	31.3%	13.9%
Session 3/In Class (N = 25)			
	Low Belief (N = 5)	Medium Belief (N = 11)	High Belief (N = 9)
Set A	21.3%	25.6%	36.1%
Set B	30.0%	20.5%	27.8%
Set C	17.5%	19.3%	26.4%

Table 3.

Part II: Mean Direct Hit Rates for All Participants "Not Class"

Session 4/Not Class (N = 55)			
	Low Belief (N = 14)	Medium Belief (N = 28)	High Belief (N = 13)
Set A	29.0%	21.2%	24.0%
Set B	17.0%	22.3%	26.9%
Set C	20.5%	21.0%	25.0%

Session 5/Not Class (N = 26)			
	Low Belief (N = 10)	Medium Belief (N = 13)	High Belief (N = 3)
Set A	20.6%	21.9%	27.1%
Set B	26.3%	25.0%	33.3%
Set C	22.5%	20.2%	29.2%

Session 6/Not Class (N = 20)			
	Low Belief (N = 6)	Medium Belief (N = 5)	High Belief (N = 9)
Set A	27.1%	26.3%	25.0%
Set B	16.7%	17.5%	12.5%
Set C	27.1%	35.0%	23.6%

Table 4.

Part II: Mean Direct Hit Rates for Men

Men			
Session 1/In Class (N = 10)			
	Low Belief (N = 3)	Medium Belief (N = 5)	High Belief (N = 2)
Set A	25.0%	21.3%	21.9%
Set B	25.0%	22.5%	25.0%
Set C	16.7%	30.0%	25.0%
Session 2/In Class (N = 24)			
	Low Belief (N = 6)	Medium Belief (N = 13)	High Belief (N = 5)
Set A	27.1%	24.5%	33.8%
Set B	35.4%	23.1%	17.5%
Set C	35.4%	30.8%	12.5%
Session 3/In Class (N = 9)			
	Low Belief (N = 3)	Medium Belief (N = 3)	High Belief (N = 3)
Set A	22.9%	29.2%	45.8%
Set B	20.8%	12.5%	25.0%
Set C	20.8%	12.5%	29.2%

Table 4. Cont.

Part II: Mean Direct Hit Rates for Men Cont.

Session 4/Not Class (N = 29)			
	Low Belief (N = 1)	Medium Belief (N = 14)	High Belief (N = 14)
Set A	37.5%	17.0%	27.8%
Set B	50.0%	15.2%	27.8%
Set C	37.5%	22.3%	26.4%

Session 5/Not Class (N = 14)			
	Low Belief (N = 4)	Medium Belief (N = 9)	High Belief (N = 1)
Set A	23.4%	21.9%	12.5%
Set B	21.9%	23.6%	25.0%
Set C	18.8%	19.4%	37.5%

Session 6/Not Class (N = 13)			
	Low Belief (N = 3)	Medium Belief (N = 3)	High Belief (N = 7)
Set A	31.3%	25.0%	25.9%
Set B	16.7%	12.5%	14.3%
Set C	25.0%	41.7%	23.2%

Table 5.

Part II: Mean Direct Hit Rates for Women

Women			
Session 1/In Class (N = 7)			
	Low Belief (N = 2)	Medium Belief (N = 2)	High Belief (N = 3)
Set A	25.0%	37.5%	25.0%
Set B	12.5%	37.5%	12.5%
Set C	31.3%	06.3%	29.2%
Session 2/In Class (N = 29)			
	Low Belief (N = 6)	Medium Belief (N = 19)	High Belief (N = 4)
Set A	16.7%	18.8%	20.3%
Set B	27.1%	25.7%	28.1%
Set C	33.3%	31.6%	15.6%
Session 3/In Class (N = 16)			
	Low Belief (N = 2)	Medium Belief (N = 8)	High Belief (N = 6)
Set A	18.8%	24.2%	31.3%
Set B	43.8%	23.4%	29.2%
Set C	12.5%	21.9%	25.0%

Table 5. Cont.

Part II: Mean Direct Hit Rates for Women Cont.

Session 4/Not Class (N = 31)			
	Low Belief (N = 13)	Medium Belief (N = 14)	High Belief (N = 4)
Set A	28.4%	25.5%	15.6%
Set B	17.3%	29.5%	25.0%
Set C	19.2%	19.6%	21.9%

Session 5/Not Class (N = 12)			
	Low Belief (N = 6)	Medium Belief (N = 4)	High Belief (N = 2)
Set A	18.8%	21.9%	34.4%
Set B	29.2%	28.1%	37.5%
Set C	25.0%	21.9%	25.0%

Session 6/Not Class (N = 7)			
	Low Belief (N = 3)	Medium Belief (N = 2)	High Belief (N = 2)
Set A	22.9%	28.1%	21.9%
Set B	16.7%	25.0%	06.3%
Set C	29.2%	25.0%	25.0%

Table 6.

Part III: Mean Hit Rates Based on Sex and Run

First Four Sets (N = 67)		
	Men (N = 35)	Women (N = 32)
Set 1	25.0% (N = 7)	28.5% (N = 9)
Set 2	23.9% (N = 6)	24.4% (N = 10)
Set 3	20.0% (N = 15)	28.1% (N = 6)
Set 4	21.4% (N = 7)	29.5% (N = 7)
Last Two Sets (N = 65)		
Set 5	21.3% (N = 34)	
Set 6		24.0% (N = 31)

Table 7.

Part III: Mean Hit Rates Based on Sex and Belief Level for Runs 1 – 4

Men (N = 34)		
Low Belief (N = 12)	Medium Belief (N = 14)	High Belief (N = 8)
24.0%	21.4%	21.1%
Women (N = 32)		
Low Belief (N = 7)	Medium Belief (N = 15)	High Belief (N = 10)
27.7%	27.9%	26.3%

Figure 1.

Part I: Friendliness and Enthusiasm Ratings by Session

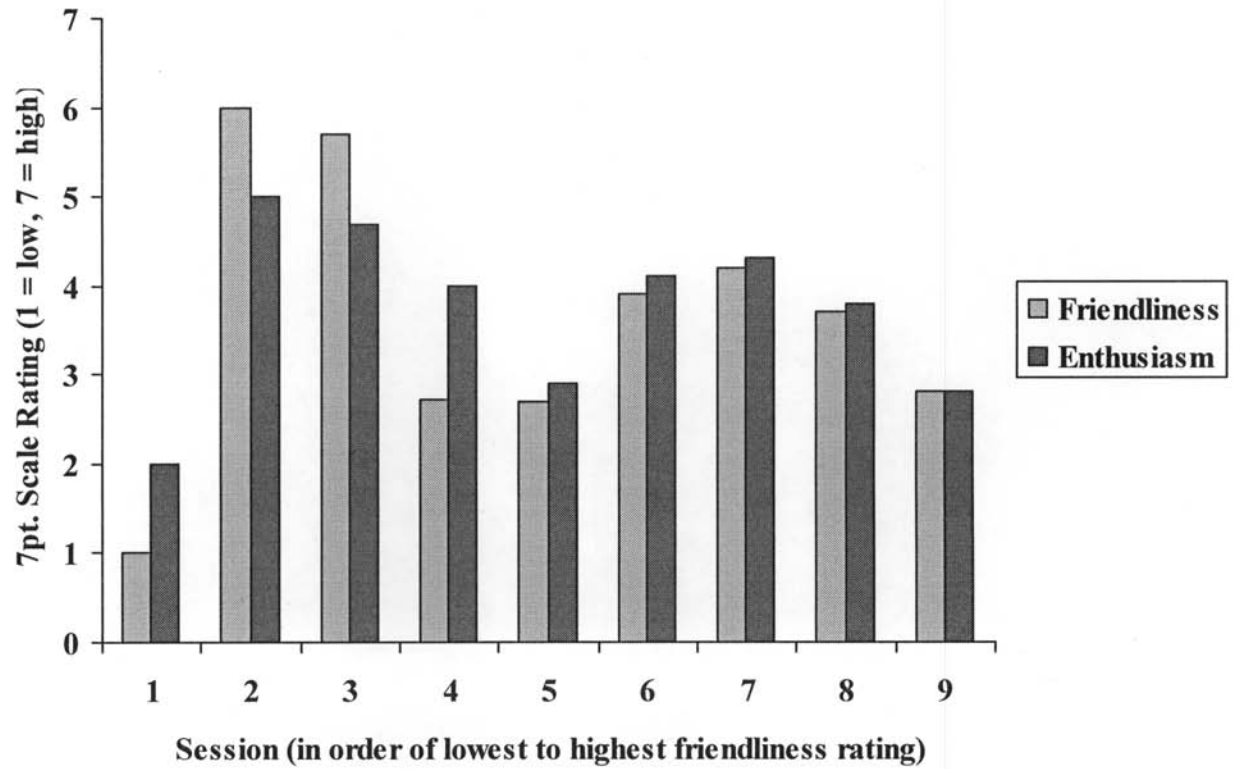
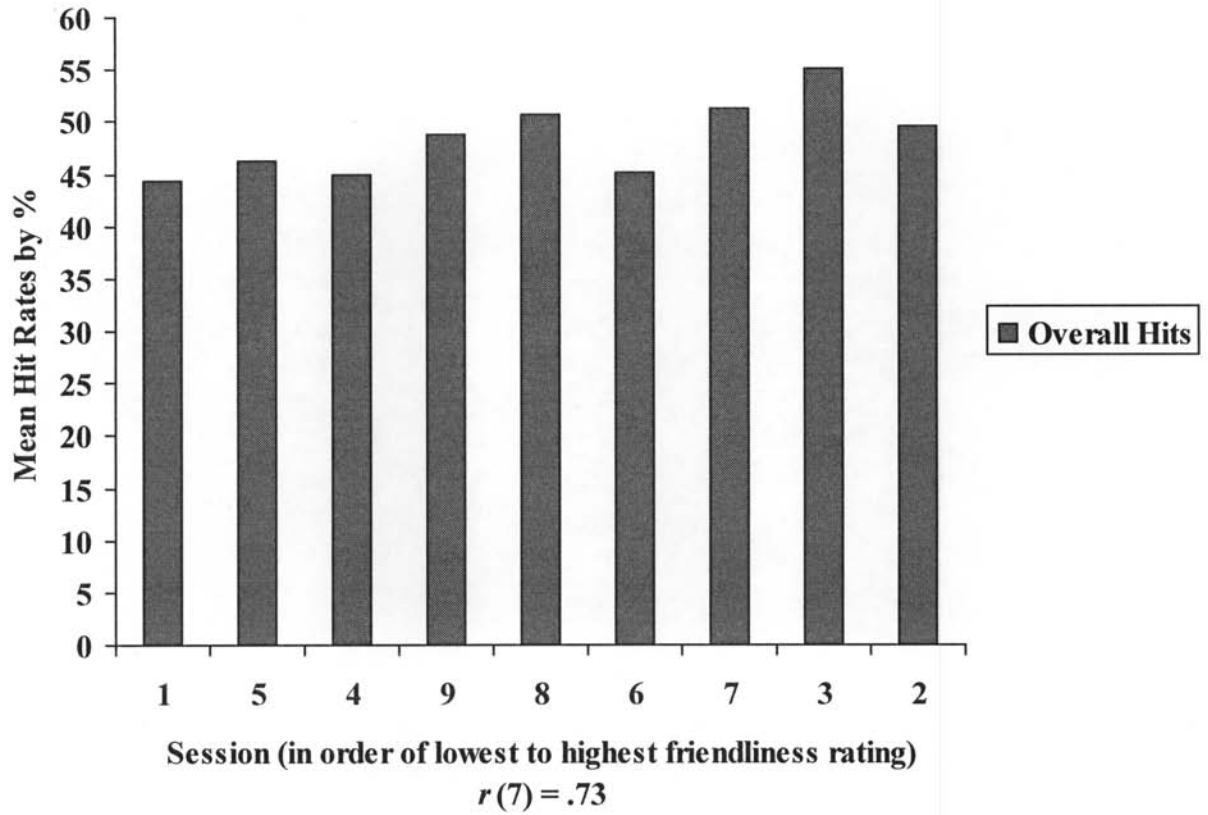


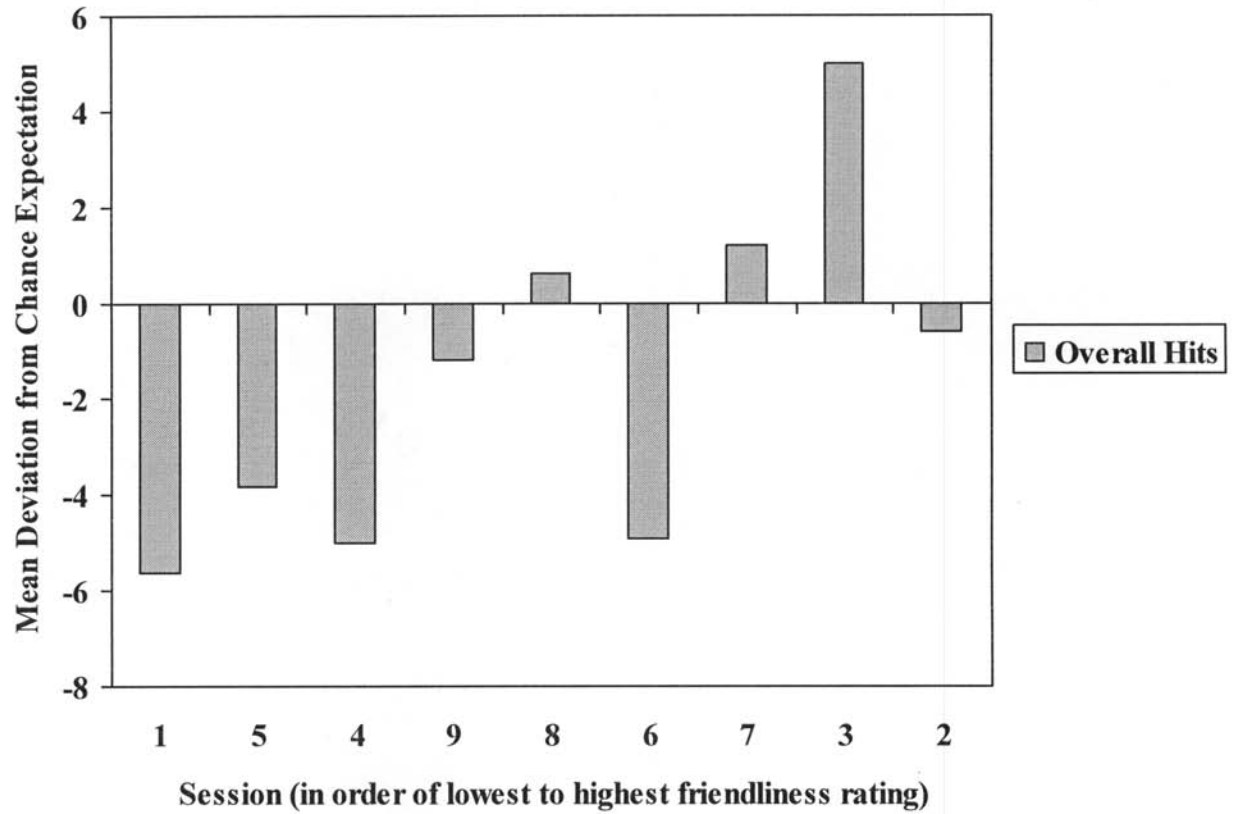
Figure 2.

Part I: Mean Hit Rates by Session

Note: chance expectation = 50%

Figure 3.

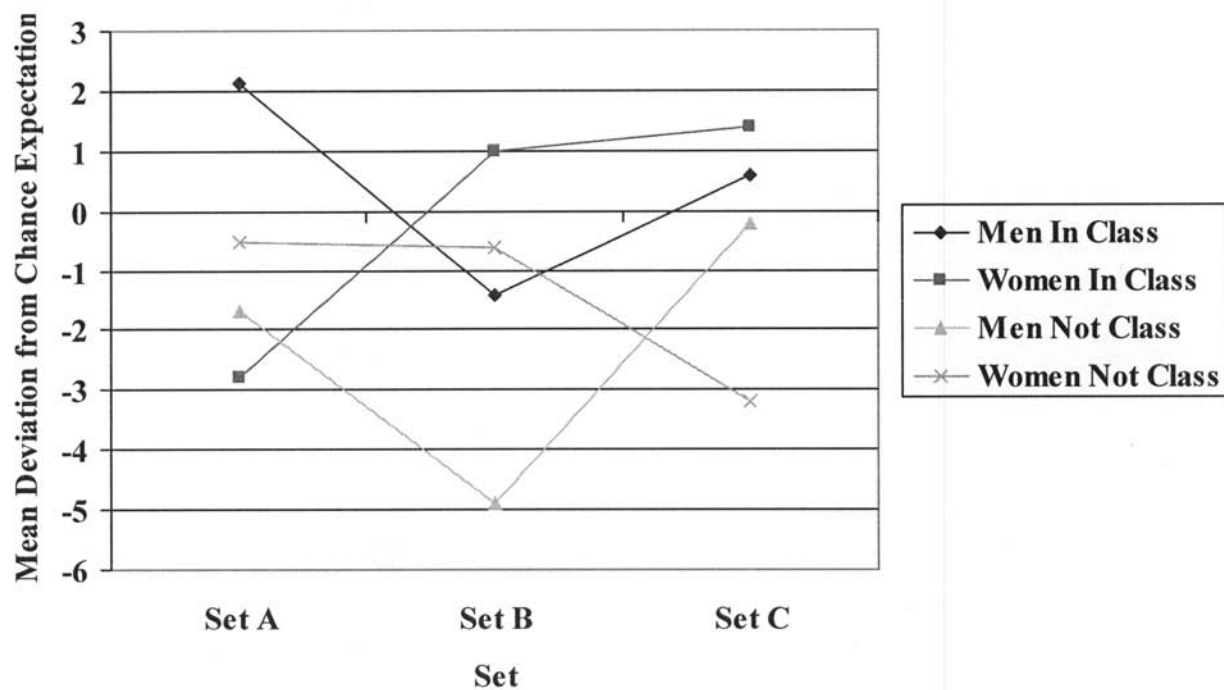
Part I: Mean Hit Rate Deviation from Chance Expectation by Session



Note: chance expectation = 50%

Figure 4.

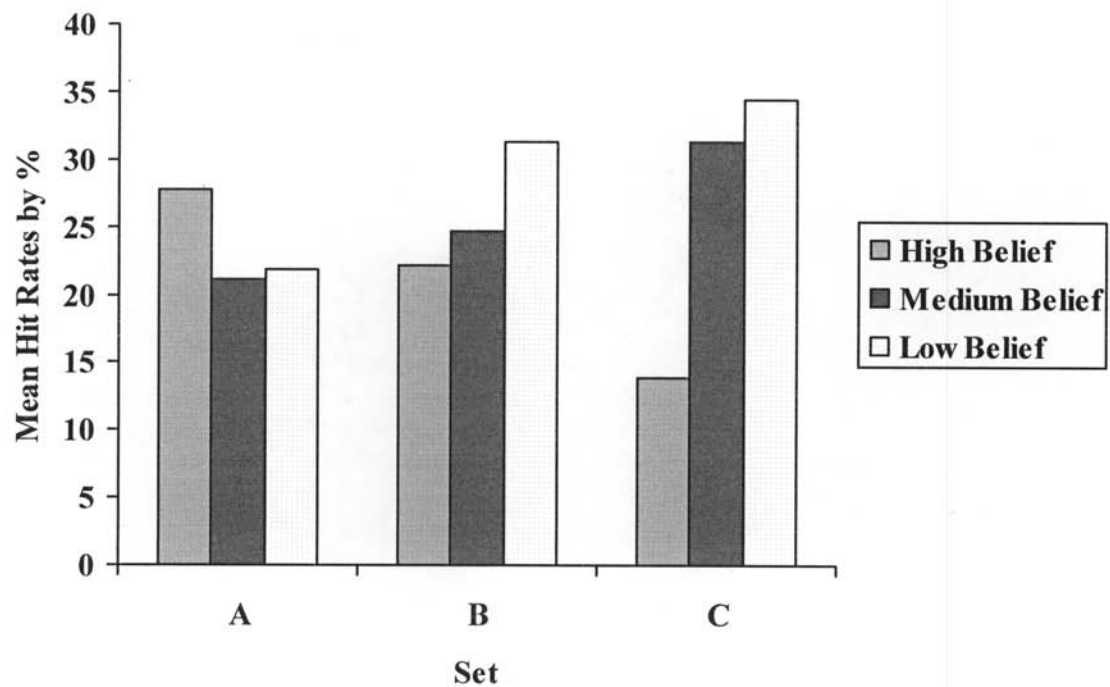
Part II: Mean Hit Rate Deviation from Chance Expectation for all Participants by Sex, Set, and Class Assignment



Note: chance expectation = 25%

Figure 5.

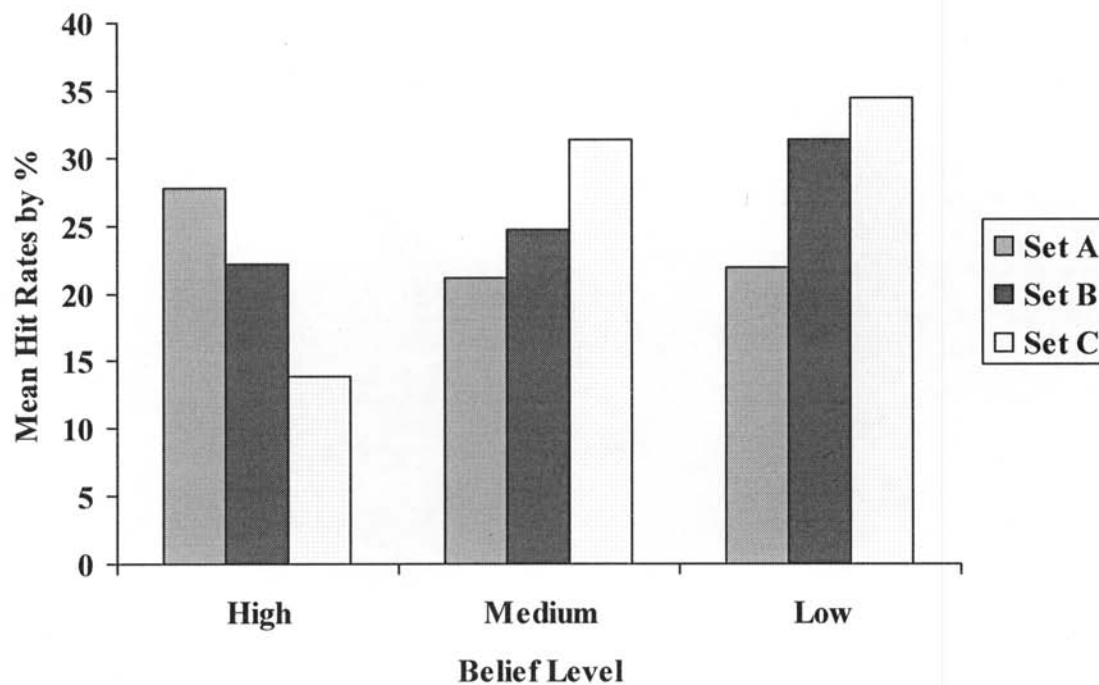
Part II: Mean Hit Rates of Session 2 on All Three Sets (A, B, & C) by Belief



Note: chance expectation = 25%

Figure 6.

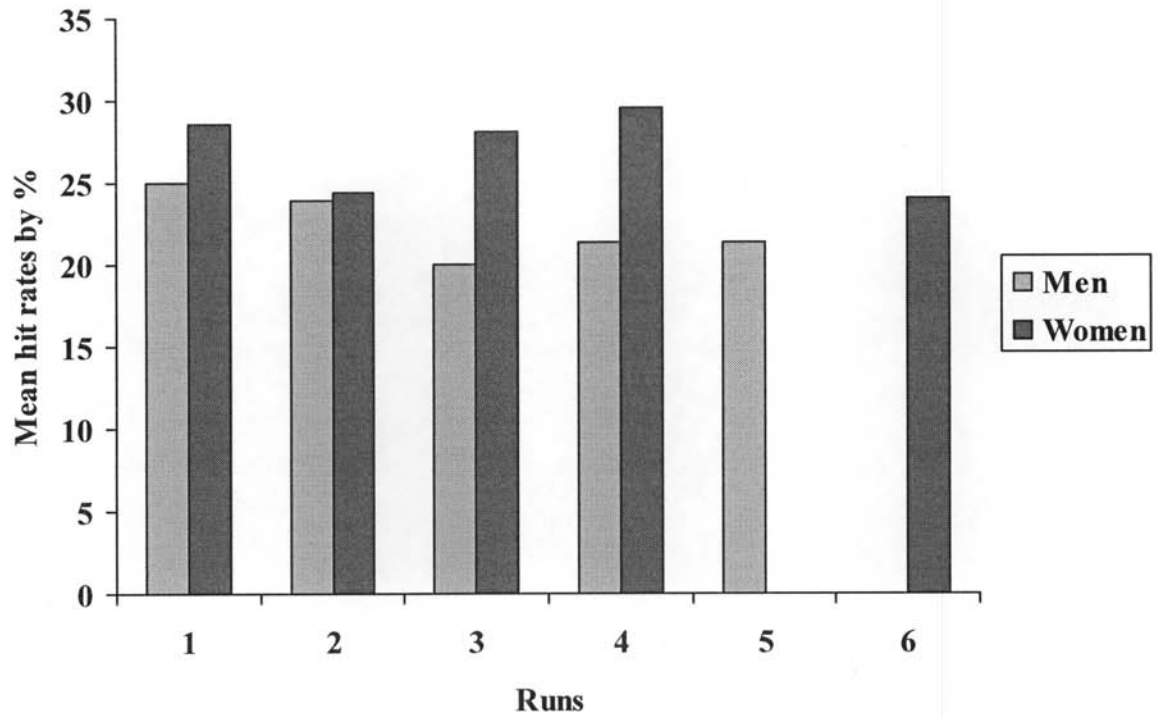
Part II: Mean Hit Rates of Session 2 by Belief Levels and Set (A, B, & C)



Note: chance expectation = 25%

Figure 7.

Part III: Mean Hit Rates on All Runs for Men and Women



Note: chance expectation = 25%

Appendix A: 16 Trial Data Record Sheet

Name (please print) _____ Date _____

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Appendix A: Consent Form (Part I)

Consent Form for Mental Telepathy Experiment

This experiment involves the study of Mental Telepathy. A group of "senders" will attempt to telepathically convey the location of a target stimulus to a "receiver." Receivers will be asked to sit in a room in front of a foam board marked with target circles. Through closed circuit TV this image will be video taped and transmitted to a room where a group of people will be seated in front of a second foam board. They will be the senders in the experiment.

For each trial, one of four circles will be randomly selected as the target. The senders will place a red disc on a foam board (using velcro), to mark the randomly selected location. The senders will then attempt to telepathically transmit the target location.

The receiver will be asked to try to determine the location of the target circle and to mark the choice by placing discs (using velcro), on their board. Sixteen trials will be conducted.

I understand that my participation is completely voluntary, that all personal information collected will be kept strictly confidential, and that I may withdraw my participation at any time without penalty.

Print Name _____

Signature _____ Date _____

Appendix A: 6 point Likert Scale

Mental Telepathy Belief Question



Appendix A: Debriefing Form (Parts I, II, & III)

Mental Telepathy -- Social Field Experiment Debriefing

Thank you for participating in the Social Field Experiment. We have been trying different approaches to sending and receiving telepathic information using groups. The existence of Social Fields and mental telepathy are very controversial subjects and your participation may help us to better understand the complex issues involved. Your help is truly, very much appreciated.

If you would like further information concerning this study or have any other questions, please feel free to contact me.

Russell Gruber, Ph.D.
Professor
Department of Psychology
Eastern Illinois University
Charleston, IL 61920
e-mail - regruber@eiu.edu
phone - (217) 581-6614

Appendix A: Part I Script

Mental Telepathy Script

Hi. I'm Dr. Russell Gruber. I want to thank you for being here and for your participation in the experiment we are about to run.

This introduction is meant as a brief overview of the research we are conducting.

You will be receiving more detailed, specific instructions, on a written consent form and instruction sheet, as well as from the experimenters.

The research project we are conducting involves a combination of Mental Telepathy and Social Field Theory.

Mental Telepathy is the ability of a person to know what is going on in another persons mind.

We are also studying Social Fields

The main idea of social fields is that when groups of people get together, they form a kind of group consciousness or collective mind.

So, what we are suggesting is that this helps to explain mental telepathy -- it is through these *mental social fields* that information is conveyed from one individual mind to another -- *the field creates the connection*.

We will be asking some of you -- one at a time -- to go to another room, while the others attempt to convey target information, telepathically.

The group is the sender and the individual is the receiver.

The sender group will be able to see and hear the receiver over closed circuit T.V. ----- the receiver will get signals indicating the start of each trial and whether they have hit or missed each target.

We believe this is an important scientific study and hope that you will be motivated by the chance to make an important contribution to this interesting area of scientific investigation!

the next thing were going to do.....

Appendix A: Part I Script Cont.

1. consent form
2. instructions and tips
3. demonstrate boards
4. review tips and randomness of each trial
5. select receivers

Appendix A: Telepathy Instruction Form (Part I)

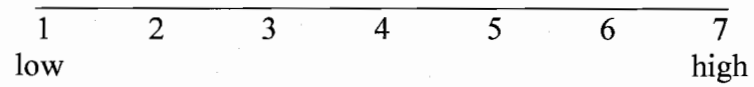
Tips

- wait for a signal to begin each trial
- carefully examine each of the four spaces for each trial on your data sheet for a *feeling* or *sense of the target location*
- keep the *goal* in mind -- *others are trying to send you the target location*
- between trials try to clear your mind and wait for the signal to begin the next trial
- remember, each trial is separate and has nothing to do with the previous trials
- mental telepathy is very subtle information -- and may even be subconscious -- so, before each trial you may want to take a deep breath, relax, and try your best to quiet your mind
- try your best -- this is a scientific investigation of an interesting and controversial phenomenon

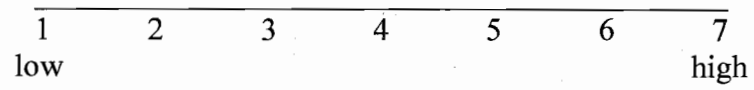
Appendix B: 7 point Likert Scale

PSI Conduciveness Rating Scale

Friendliness / Warmth



Enthusiasm / Responsiveness



Appendix B: Raw Ratings by Session

Session/# of Raters	Friendliness Rating Raw Scores	Mean Score	SD
1 (N = ?)	1 (Consensus Rating)	N/A	N/A
2 (N = ?)	6 (Consensus Rating)	N/A	N/A
3 (N = 7)	5, 6, 6, 6, 6, 6, 6	5.86	.3779
4 (N = 7)	2, 2, 3, 3, 3, 3, 3	2.71	.4879
5 (N = 7)	2, 2, 3, 3, 3, 3, 3	2.71	.4879
6 (N = 10)	2, 3, 3, 3, 4, 4, 5, 5, 5, 5	3.90	1.101
7 (N = 6)	3, 3, 4, 5, 5, 5	4.17	.9831
8 (N = 10)	2, 2, 3, 4, 4, 4, 4, 4, 5, 5	3.70	1.059
9 (N = 5)	2, 2, 3, 3, 4	2.80	.8366
Mean Standard Deviation for Friendliness Ratings			.7618

Session/# of Raters	Enthusiasm Rating Raw Scores	Mean Score	SD
1 (N = ?)	2 (Consensus Rating)	N/A	N/A
2 (N = ?)	5 (Consensus Rating)	N/A	N/A
3 (N = 7)	4, 4, 4, 5, 5, 5, 6	4.71	.7559
4 (N = 7)	3, 3, 3, 4, 4, 5, 6	3.71	1.113
5 (N = 7)	1, 2, 3, 3, 3, 4, 4	2.86	1.069
6 (N = 10)	2, 3, 4, 4, 4, 4, 5, 5, 5, 5	4.10	.9944
7 (N = 6)	3, 4, 4, 5, 5, 5	4.33	.8165
8 (N = 10)	2, 3, 3, 3, 4, 4, 4, 5, 5, 5	3.80	1.033
9 (N = 5)	2, 3, 3, 3, 3	2.80	.4472
Mean Standard Deviation for Enthusiasm Ratings =			.8896

Appendix C: 8 Trial Data Record Sheet

Name (please print) _____ Date _____

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Appendix C: Script (Part II & III)

Social Fields and Mental Telepathy

Hi. I'm Dr. Russell Gruber. I want to thank you for being here and for your participation in the experiment we are about to run.

This introduction is meant as a brief overview of the research we are conducting.

You will be receiving more detailed, specific instructions, on a written consent form and instruction sheet, as well as from the experimenters.

The research project we are conducting involves a combination of Mental Telepathy and Social Field Theory.

Mental Telepathy is the ability of a person to know what is going on in another persons mind.

We are also studying Social Fields

The main idea of social fields is that when groups of people get together, they form a kind of group consciousness or collective mind.

So, what we are suggesting is that this helps to explain mental telepathy -- it is through these mental social fields that information is conveyed from one individual mind to another -- the field creates the connection.

We will be asking you to attempt to try to figure out the locations of targets -- that a group of research assistants -- in another room --- will be sending to you -- telepathically.

In this study --- the group of research assistants are the senders and the you are the receivers.

The senders will be able to see and hear you over closed circuit T.V. -- you -- the receivers will get a signal indicating the start of each trial. You will get three chances to hit each target.

We hope that you will be motivated by the chance to make an important contribution to this interesting area of study!

Appendix C: Script (Part II & III) Cont.

the next thing were going to do.....

1. consent form
2. instructions and tips
3. review tips and randomness of each trial
4. Please turn off Cell Phones

Appendix C: Consent Form (Part II & III)

Consent form -- Mental telepathy / Social Field Experiment

This experiment involves the study of Mental Telepathy and Social Fields. A group of "senders" will attempt to telepathically convey the location of a target to a group of "receivers." In this experiment, a group of research assistants in another room will act as senders and the group in this room (you) will act as receivers. The sender group will be able to see and hear the receivers over closed circuit T.V.

For each trial, one of four circles -- in two rows -- will be randomly selected as the target. The senders will place a red disc on a foam board (using velcro), to mark the randomly selected location. The senders will then attempt to telepathically transmit the target location.

The receivers will be asked to try to find the location of the target circle and to mark their choice on a data collection form corresponding to the foam board. You will get three try's to find the target.

For each trial receivers will be asked to place a number 1 in the circle corresponding to their first choice, a 2 in a second circle indicating their second choice, and a 3 indicating their third choice. The total time for the experiment will be about one hour.

We do not foresee any risk or discomfort from the above procedure, and would like to remind you that your participation is completely voluntary, that all personal information collected will be kept strictly confidential, and that you may withdraw your participation at any time without penalty. Expected benefits from participation may include an increased understanding of research in Psychology as well as learning about and furthering progress in an interesting field of Psychology.

Print Name _____ Date _____

Signature _____

Appendix C: Telepathy Instruction Form (Part II & III)

Tips

-- *wait for the signal to begin each trial* -- and check to make sure you are on the correct trial

-- carefully examine each of the four spaces for each trial for a *feeling or sense of the target location*

-- remember, each trial is separate and has nothing to do with the previous trials

-- between trials try to clear your mind and wait for the signal to begin the next trial

-- mental telepathy is very subtle information -- and may even be subconscious -- so, before each trial you may want to take a deep breath, relax, and try your best to quiet your mind

-- keep the *goal* in mind -- *others are trying to send you the target location*

-- try your best -- this is a scientific investigation of an interesting and controversial phenomenon