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The Effects of Social Fields on the Telepathic Reception of Information

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**The Effects of Social Fields on the
Telepathic Reception of Information**

BY

Jamie A. Yarnall

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Arts in Clinical Psychology

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

**2003
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Clinical Psychology Master's Thesis 2003

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Abstract

Field theories are increasingly used as explanations for extrasensory perception, suggesting the existence of some form of collective mind or social field. These theories imply that groups of individuals create fields that can contain and transfer information. The current study explored the telepathic transfer of information regarding randomly selected target locations. Groups of participants “sent” target locations to individuals, observed on close circuit television, who were either members of the group (ingroup) or not members (outgroup). We hypothesized that ingroup members would achieve above chance hit rates while outgroup members would score below chance. Approximately 30 senders sent 16 trials of one of four target locations to three outgroup members, followed by three members of their own group during 12 separate sessions, for a total of 36 outgroup receivers and 36 ingroup receivers. Direct hits as well as total number of tries required to locate targets were analyzed. The ingroup had a direct hit rate of 28.47% as compared to the expected chance hit rate of 25%. While the outgroup had a hit rate of 18.92%, also compared to 25% expected by chance ($p < .05$, one tail). A direct comparison between ingroup and outgroup for direct hits results in $t = 3.84$, $p < .001$, two-tailed. A comparison of total tries between ingroup and outgroup were also significant, $t = 3.75$, $p < .001$, two-tailed. The ingroup beat the outgroup on direct hits and total tries during all of the 12 sessions ($p < .00024$). Correlations between ingroup and outgroup, group scores and session number, as well as patterns of target selections are analyzed and discussed. Results are described as showing strong support for the importance of group membership, as well as varying levels of enthusiasm, in telepathic communication.

The Effects of Social Fields on the Telepathic Reception of Information

The mere mention of the words extrasensory perception, telepathy, clairvoyance, or precognition is bound to elicit strong reactions. Those reactions either reflect believers or skeptics. This does not appear to be a subject about which people are undecided. In addition to the reaction that these words may elicit in an everyday conversation, they also arouse a great deal of controversy in scientific research.

Paranormal abilities consist of two categories, extrasensory perception (ESP), and psychokinesis. Extrasensory perception is a paranormal ability in which “one acquires information through unexplainable means” (Utts, 1995). Psychokinesis is described as an event when an individual physically influences the environment through an unknown means. Furthermore, ESP can be broken down into categories that are based on the source of the information. Clairvoyance is considered when the source of the information seems to come in real time but not from another person (Utts, 1995). Precognition refers to information that could only be acquired through knowledge of the future. Information that appears to come from another person is called telepathy. When conducting research on ESP, it is difficult to determine the exact source of knowledge and thereby establish which of the three paranormal abilities are being observed. However, this has not stopped researchers from trying to find evidence of ESP.

A large number of studies conducted on ESP use a method referred to as remote viewing (Utts, 1995). According to Utts, remote viewing is a method that consists of a participant who attempts to draw or describe a target location, photograph, object, or short video segment. These sessions sometimes include a “sender” who is looking at the target during the session. In a remote viewing experiment, researchers may use either a

free-response format in which the viewers simply describe the target, or a forced-choice format in which there are a small number of set choices from which the viewer must choose.

According to Irwin (1994):

An individual who is extremely skeptical about the paranormal will look for natural causes of the event and if this should prove unproductive will dismiss the experience as a coincidence or mental aberration and quickly forget it. In contrast a person who is overly gullible about the paranormal will accept any unusual event as such without giving due consideration to other possibilities. (p. 56).

Therefore, parapsychologists have long struggled to find a study that both provides evidence for paranormal activity and that is replicable. These parapsychology studies can be affected by many things such as the experimenter's attitude or belief in psi, the effects that the participant being stared at might have on the results, or other variables such as social fields that may be at work during the experiment. All of these things along with other variables must be taken into account if parapsychologists wish to find strong evidence and a place for parapsychology in research.

Experimenter Effects

As a result of the skepticism, researchers must be careful to rule out all possible variables outside of paranormal activity that may be contributing to the phenomena. One such variable that has been found to have an effect on psi is experimenter effects.

Whether or not the experimenter believes in psi and the way that they interact with the participants during the experiment may play a role in the results. Studies in parapsychology have been conducted to specifically address this issue.

According to Schneider, Binder, and Walach, (2000) researchers have suggested that a personal, supportive, warm, empathetic, and open interaction between the experimenter and the participants tends to contribute to a psi-conducive atmosphere. An experimental condition of this sort is more likely to draw out a remote staring effect than a neutral condition. In a study that was conducted by Crandall (1985) an experimental condition in which the experimenter was warm, friendly, and enthusiastic, led to a reduced number of hits on ESP targets than a condition where the researcher was cold, hostile, and indifferent. To the contrary, Honorton et al. (1975) found that a friendly, casual, and supportive interaction between researcher and participant led to a positive deviation from binomial expectation in an ESP task where a negative deviation was found with an abrupt, formal, and unfriendly interaction.

Subsequently, Schneider, Binder, and Walach (2000) conducted a study in order to further assess to what degree the experimenter-participant interactions contributed to a psi-conducive atmosphere. In this experiment, the researchers varied the amount of time and the type of interaction that took place between the experimenter and the participants. In the personal condition, the interaction that took place between the experimenter and the participant was individually arranged; the experimenter tried to meet the participants' needs, and also tried to improve the motivation of the participant. The second condition, the neutral condition, consisted of a more formal interaction between the participant and the experimenter. In the neutral condition the participants were not treated unfairly but the interaction between the experimenter and the participant was kept to a minimal level.

The study included 80 volunteers who were selected through newspaper advertisements from the local area. The subject pool was further narrowed down to

include only those who were interested in the study and those who knew each other. In addition, participants were paid for their contribution to the study. Participants were then randomly assigned to either the personal condition or the neutral condition. According to Schneider et al. (2000), the personal condition consisted of an informal chat before the experiment, an effort to establish good rapport with the participants, and an attempt to raise curiosity. In the neutral condition a computerized presentation was given, and the conversation was limited. Refreshments and cookies were offered to the participants by both experimenters.

Schneider et al. (2000) found that there was no significant difference in receiver's electrodermal activity (EDA) between active and calm periods. In addition, the hypothesized effect of the two conditions was not confirmed.

Wiseman and Schlitz (1997) sought to determine if the experimenter's belief in psi had an effect on results in a remote staring study. Remote staring studies are those in which participants are being stared at by individuals who they cannot see. Both Wiseman and Schlitz had previously attempted to replicate a study of this type. Wiseman, who is quite skeptical regarding parapsychology, has not found any significant results, whereas Schlitz, who is a proponent of psi phenomena, has found encouraging results many times.

The study consisted of two trials that used the same equipment, the same subject pool, the same location, were conducted at the same time, and used the same methodological procedures. However, one trial was conducted by Wiseman, the skeptic, and one was carried out by Schlitz, the believer. Each study included one independent variable with two levels of stare and nonstare, with the dependent variable being the

receiver's electrodermal activity (EDA) and their responses to a designed to measure belief in psi.

The participants were 32 people who acted as receivers. The receivers were put in a room with a camera on them, and the senders were put in a separate room where there was a TV monitor with the image of the receiver displayed on it. The receivers were either met by the skeptical researcher or the researcher who had a belief in psi. Each of the experimenters showed the participant to the room and explained the purpose of the study. After 32 trials, the researcher returned to the receivers' room and thanked them.

The receivers' EDA was compared for the 16 stare trials with their total EDA during the 16 nonstare trials. Receivers who were met and run by the skeptical researcher did not differ from chance. However, receivers who were met and run by the researcher who had a belief in psi showed a significant effect. Receivers who were run by the believer were significantly more active in stare trials, whereas the receivers run by the skeptical researcher did not respond differently between the stare and nonstare trials.

The Remote Detection of Staring

Many studies on psi have included the use of a TV monitor on which the receiver is able to be seen by the sender. This phenomenon, the detection of an unseen gaze, or staring, has also been referred to as paranormal and may play a part in the finding of psi. It appears as though the physiology of an individual can be stimulated when they are being watched by someone (Utts, 1995). According to Wiseman and Schlitz (1997), between approximately 68% and 94% of the population has reported that at least once they were able to detect an unseen gaze. This phenomenon has become a subject of research in parapsychology.

Some researchers believe being able to detect when someone is staring at you may be due to legitimate psi ability. Studies seeking to explain this phenomenon often use two participants, one who acts as a sender and one a receiver (Wiseman & Schlitz, 1997). The sender and the receiver are placed in separate rooms. The sender is able to see the receiver, often through a two-way mirror or closed circuit television. These studies often consist of stare and nonstare trials in which the sender either focuses on the receivers or directs his or her attention away from the receiver. Some studies consist of the receivers making a verbal guess as to whether or not they were being stared at. However, more recent studies measure the receiver's electrodermal activity (EDA) during both stare and nonstare trials, in order to determine if there is a change. Many studies have found a significant difference in the receiver's EDA between stare and nonstare trials.

A study on the detection of staring, as measured by EDA, was conducted by Wiseman and Schlitz (1997). There were two trials conducted in this study, one by Wiseman and one by Schlitz. Both trials had the same independent variable with two levels of stare and nonstare trials, the same dependent variable being the receiver's EDA, and their response to a questionnaire regarding belief in psi, and both were conducted at the same time, the same place, and with the same tools. Thirty-two participants acted as receivers in an observation laboratory with a video camera positioned in front of them. The senders were located in a room approximately 20 meters away, which contained a TV monitor that displayed the image of the receiver. The order of stare and nonstare trials was selected randomly by the experimenter. Receivers were tested individually over 32 trials consisting of 16 stare trials and 16 nonstare trials, each of which lasted 30 seconds.

The EDA of the receiver was recorded before the experiment began and during all 32 trials.

Wiseman and Schlitz (1997) compared the receiver's EDA for the 16 stare trials and the 16 nonstare trials. There was a significant effect found in the receivers who were run by Schlitz, who had a strong belief in psi, whereas receivers who were run by Wiseman, who is a skeptic, did not respond differently in stare and nonstare trials. Therefore, Schlitz found significant evidence to support the theory that people are able to detect when they are being stared at.

In a study conducted by Braud, Shafer, and Andrews (1993a), 32 participants acted as starees in order to study body changes during stare and nonstare trials. The participants were tested in two phases, one of which consisted of 16 participants who had not been trained and the second of which consisted of 16 participants who had participated in a "connectedness training" program (Braud et al., p. 378). This training program consisted of the 16 participants taking part in "20 hours of intellectual and experiential exercises designed to help individuals become more adept at and comfortable with experiencing interconnections with others, and to become more aware of, and to deal more effectively with, psychological resistances to such connectedness," (Braud et al., 1993a, p. 393).

The starees were placed in a room that contained a camera and the starers were placed in a room with a monitor that displayed the image of the staree. The staree was connected to a machine that recorded skin resistance. Furthermore, they were told that the camera would be focused on them for the duration of the session, although the staree would only be looking at their image during the designated stare trials. Each session

consisted of 10 stare trials and 10 nonstare trials. During the stare trials the staree faced the monitor and stared at the image of the staree. During the nonstare trials, the starrer turned their chairs around and thought about things unrelated to the experiment (Braud et al., 1993a).

Braud et al. (1993a) found that the 16 untrained starees displayed a significantly greater EDA during the stare trials than the nonstare trials. The mean percent EDA for the staring trials was 59.38% as opposed to the 50% that was expected by chance. This demonstrates that these participants were significantly more stimulated by the remote staring than they were during the nonstare trials (Braud et al., 1993a). On the other hand, the 16 participants who took part in the training displayed significantly less activity during the stare periods as compared to the nonstare periods. The mean percent for EDA during stare trials was 45.45% as opposed to the 50% that was expected by chance. The results of the study indicate that participants are able to detect an unseen gaze as evidenced by unconscious physiological reactions.

Braud et al. (1993b) have since replicated this study. The first part of the replication included 30 new stares. The second part of the replication included the same starrer who participated in the previous study, with 16 new starees. This study was an exact replication of the previous study with two exceptions. In the replication study an additional experimental control was implicated. This consisted of what Braud et al. (1993b) called a "sham control". The "sham control" was made up of sessions and data that were treated the same as real staring sessions, however staring did not actually occur. This provided for an estimation of the possibility of obtaining chance discrimination of

otherwise equal sessions. The second addition to this replication consisted of a different personality assessment for the starees.

This two-part replication study consisted of 30 volunteer participants who were starees in the first part, and 16 volunteers who were starees in the second part. With the exception of the “sham control” the methodological approach for the replication study was identical to the previous experiment. For the second part of the replication study, rather than 10 stare trials and 10 nonstare trials, the sessions consisted of 32 recording periods with one half being the experimental session with 8 staring trials and 8 nonstare trials, and the other half being the sham control and consisting of 8 sham or pseudo-staring periods and 8 nonstaring periods. The purpose of the experimental half was to provide a comparison of true staring periods against the absence of staring. The sham control half provided data similar to the experimental half, although no staring actually took place. The TV monitor was off during the sham periods and the starrer focused on things not related to the study.

The researchers hypothesized that in both parts one and two, the starees' electrodermal activity would show discrimination between the true staring periods and the nonstare periods. In regards to the first part of the replication, the average EDA for the staring periods was 45.15% and 54.85% for the nonstare periods, as opposed to 50%/50%, which would be expected by chance. In the second part of the study, the average EDA was 45.66% for the staring periods and 54.34% for the non-stare periods, as opposed to the 50%/50% expected by chance. Both parts of the replication study displayed a reduction in EDA during staring periods. The results of the 16 sham sessions show that the mean EDA was close to the 50%/50% expected by chance.

The results of both the original study and the replication study support the theory that people are able to discern when they are being stared at as evidenced by electrodermal activity. The results of the original study and of the second part of the replication study both reached statistical significance.

Telepathy

The term telepathy dates back to 1882, when it was coined by Frederic W.H. Myers, who was a founder of the London-based Society for Psychical Research (Radin, 1997). In 1886, the first studies of telepathy were based on collections of people's experiences. These collections consisted of situations where telepathy was thought to be involved. For instance, one of the stories is about a man who has a dream in which his brother-in-law is killed, and then finds out days later that his brother-in-law had in fact been killed in a manner quite similar to his dream.

In the late 1920's, Joseph Rhine conducted a number of telepathy studies at Duke University. Rhine's studies consisted of a forced-choice technique using a deck of ESP cards. The deck contained 25 cards with 5 groups of 5 symbols. The sender was asked to thoroughly shuffle the cards, select the top one, and then attempt to mentally send that symbol to the receiver (Radin, 1997). The receiver made 25 guesses, one for each card. The number of matches between the target card and the guess was then compared to the number of hits expected by chance, which was five. Many of these experiments have been conducted over a span of about 60 years and have provided "increasingly persuasive evidence for psi," (Radin, 1997).

According to Utts (1995), government-supported paranormal research can be traced back to the 1970s. A program was started at this time at the Stanford Research

Institute (SRI). This program was then changed to the Science Applications International Corporation (SAIC), where many paranormal studies were conducted with the support of the government. Approximately 154 studies that involved remote viewing were conducted at SRI between 1973 and 1975. These studies found a connection between the target sites and the sites that were described by the receivers; however, the selection of the sites without replacement and the scoring method that was used were criticized (Utts, 1995).

Despite the criticisms, a number of other results were obtained from the SRI experiments. SRI found that the free response remote viewing was much more successful than the forced choice, that neither practice nor training could enhance remote viewing abilities and that distance between the target and the receiver seems to affect performance.

The studies conducted at SRI prompted work that was done at SAIC in order to answer questions and provide additional support for the existence of ESP. Ten such experiments were conducted, some of them utilizing remote viewing. In the remote viewing studies the effect size demonstrated performance above chance that should be reliable enough to be replicated (Utts, 1995).

The paramount studies in the field of parapsychology tend to be the ganzfeld studies. According to Bem and Honorton (1994), “the ganzfeld procedure has been most often used to test for telepathic communication between a sender and a receiver” (p. 348). Ganzfeld, or total field, refers to the specific environment that has been used in these studies. This environment consists of receivers being placed in a reclining chair in an acoustically isolated room with translucent ping-pong ball halves taped over their eyes,

headphones placed on their ears, a red floodlight directed towards their eyes, and white noise played in their headphones (Bem & Honorton, 1994). Progressive relaxation exercises are also included in order to reduce internal noise. The sender is then placed in a separate, acoustically isolated room. A visual stimulus such as an art print, a photograph, or a brief videotaped sequence is then randomly selected to be used as the target. The sender then concentrates on the target while the receivers report their ongoing imagery and mentation. The session typically lasts 30 minutes. At the end of the 30 minutes, the receivers are presented with approximately four stimuli and are asked to rate the degree to which each stimulus matches what they experienced during the ganzfeld period. If the target stimulus is given the highest rating, it is scored as a “hit” (Bem & Honorton, 1994). When a set of four stimuli is used, the hit rate expected by chance is .25.

One of the criticisms of the ganzfeld studies is that the data can be analyzed in several different ways. Many who have conducted ganzfeld studies have used multiple statistical methods and have even “shopped” for the one that shows a significant outcome (Bem & Honorton, 1994). However, when Honorton re-examined several of the studies using the same statistical method, he found that the overall results cannot be reasonably attributed to chance.

A study was conducted by Palmer in 1996, in which the ESPerciser was used. The ESPerciser is a computer game, created by Charles Honorton, that consists of both forced-choice and free response ESP tasks that can test for both clairvoyance and precognition. When using the ESPerciser, the participants are presented with four white rectangles which allow them to produce impressions of the target. The participants then

press a button on the game paddle, which results in the rectangles being changed to four geometric designs, imagery-evoking words, or drawings of common objects or living beings (Palmer, 1996). The participants then choose which of the four objects they believe the target is. The participants are then provided on feedback on which was the chosen target. In this study, the background color of the rectangles was changed to white, green, or orange. There was a 50/50 chance that the background would be either white or colored.

The study was comprised of 8 sessions which were each made up of 10 trial runs. In half of the sessions, the goal was to score higher on the white trials than on the color trials and vice versa for the other half of the trials. In addition, for half of the sessions the senders were to try to influence the receivers' performance while they were using the ESPerciser.

It was hypothesized that the background color would correspond to the sender's aim in the active condition. There was a significant correspondence found between the sender's aim and the receiver's selected target; however, it occurred during the passive phase of the experiment.

Braud, Shafer, McNeill, and Guerra conducted a study in 1995 on the direct mental influences of one person on cognitive, emotional, social, and psychic activities of another individual. This study consisted of one participant, the receiver, being seated in a quiet room and asked to focus on a specific object. The receivers were also instructed to press a button when their mind wandered off the object. A second participant, the helper or sender, was placed in a distant room. During the baseline periods, the helpers were instructed to occupy their mind with anything other than the participant or the

experiment. During the help periods, the helpers focused their attention on an object similar to that of the receivers' while also attempting to assist the receivers in focusing on their object and remain free from distractions.

The existence of mental influence was measured by comparing the number of button presses during control periods and during help periods (Braud et al., 1995). A one-way analysis of variance comparing 3 sets of 20 different scores indicated no significant differences among the three data sets. Furthermore, for each of the 60 participants, the distraction scores were summed across the eight one-minute control periods, and the eight one-minute help periods. Results indicated a significant difference between the control and help distraction scores. These findings indicate that "one person's mental activity, in the form of attention, intention, and focusing, can interact significantly with the mental activity of another person" (Braud et al., p.112).

Psi Missing

Parapsychology researchers, who are looking for evidence of ESP, tend to examine results that occur above chance expectation in order to determine significance. However, according to Riniolo and Schmidt (1999), regular variations both above chance (ESP) and below chance (psi missing) are considered to be evidence of a psi mechanism. Therefore, those scores that are significantly below chance expectation should also be examined when looking for paranormal evidence.

Many factors that are involved in experimental conditions may account for scores that are below chance, or reflect psi missing. Negative and hostile experimenters and negative experimenter-participant interactions tend to result in psi missing (Riniolo & Schmidt, 1999). In addition, the belief of the participant and the experimenter may also

account for psi missing. Experimental conditions where there are participants and experimenters who have a negative attitude towards psi tend to obtain results below chance. In man telepathy experiments people who do not believe in ESP are referred to as goats, while those who do believe in ESP are referred to as sheep. According to Irwin (1994), “by making more incorrect responses than expected by chance goats seemingly use ESP in a self-defeating endeavor to support their belief that ESP does not exist” (p.106). Irwin goes on to say that the below chance scores of skeptics are not due to the fact that they are inherently insensitive to ESP, but their attitude towards it influences the way that they deal with that information. Another variable associated with participants that may affect scores is personality. Well adjusted participants tend to score above chance, while neurotic participants tend to score at or below chance (Irwin, 1994).

Along with participant and experimenter belief, a large number of distractions in the testing environment also tend to result in below chance scores (Riniolo & Schmidt, 1999). Therefore, Riniolo and Schmidt conducted a study in order to determine whether or not test conditions can obtain a reduction from chance on a card-guessing task. The first group of participants was given a mental counting task which was classified as an environmental distraction. The second participant was then to guess the color of the card, either red or black, that was selected by the experimenter from a group of 10 cards containing 5 black and 5 red cards. The testing environment also consisted of cold, formal interactions with the participants and an experimenter who did not believe in psi. The results of this study were found to be consistent with the hypothesis that test conditions have an effect on psi scores.

Harley (1989) conducted a study in order to examine psi missing during dream clairvoyance. Harley's study consisted of a single participant and experimenter; himself. The purpose of this was an attempt to reduce some of the factors that are often consistent with below chance findings. A total of 20 sessions were conducted in which 50 different sets of 4 thematically different pictures were used as targets. This study consisted of three phases. The first phase was the target generation in which a target set and the target picture within that set were chosen before the night's dreaming. A person who was designated as the randomizer selected an envelope that contained the identity of the target and, without opening it locked it away so that the target was not known to anyone at this point in the study. The second phase of the study was the dreaming phase. During the designated recording nights, the experimenter/participant recorded all dreams or dream fragments for that night. The third phase of the study was the judging phase. The judging phase consisted of opening up the envelope which contained the target, judging each element of the dream against the four pictures in the chosen set, and assigning them a score out of 10 depending on how similar the dream was to the picture. The pictures were then ranked one to four in decreasing order of similarity to the dream. The pictures and the dream report were then given to another judge who was unaware of the results of the first judging. The second judge compared the transcripts to eight pictures, the four from the target set and four additional pictures from another randomly selected set. This judge was unaware of which four pictures were from the target set.

The results of the subject's judging were found to be significantly below chance. The results of the second judge also displayed evidence of psi missing. The study also exhibited an increase in psi missing across the 20 sessions. Harley (1989) suggests that

the psi missing found in this study could be a result of both target avoidance and control hitting. The results of this study and others show that not only are results yielding psi missing important, but possible causes of these results should be examined.

Field Theories

According to Edge (1985), “the field theory is an explicit attempt to reject atomistic ontology” (p. 82). He goes on to explain that the field theory suggests that an internal defining relationship is formed among objects, as opposed to the world being made up of independent units that are simply superficially related to each other. In order to further explain field theory, Edge provides the example of a watch that is owned by Mr. T. He states that while the watch retains its original character, it is now also defined as having the property of being owned by Mr. T. Although the watch is still a Timex, traces of Mr. T are left on it and thus adds this characteristic of being owned by him to the watch. This demonstrates how field theory rejects the atomistic character of the world, specifically the separation of subject and object. Edge states that, “the world is not composed of unrelated ultimate units, nor is there a separate mind simply to mirror the world” (1985, p. 82).

According to Rupert Sheldrake (1995) a field is defined as:

A region of physical influence. Fields interrelate and interconnect matter and energy within their realm of influence. Fields are not a form of matter; rather, matter is energy bound within fields. In current physics, several kinds of fundamental field are recognized: the gravitational and electromagnetic fields and the matter fields of quantum physics. The hypothesis of formative causation broadens the concept of physical fields to include morphic fields as well as the known fields of physics.

In addition to Sheldrake’s, many theories have been developed in relation to what he called a morphic field. Similar to Sheldrake, Irwin (1994) also felt as though “field

effects may involve some form of undiscovered or unrecognized form of physical energy”, (p. 169). Lewin (1951) used the terms “social field” and “force field” in his field theory when attempting to explain human behavior, as opposed to Sheldrake and Irwin’s focus on the physics aspects of fields. Lewin was not the only one who used a field theory in this way. Sigmund Freud also had a similar theory. Freud (as cited in Sheldrake, 1995) used the term “collective mind” to describe the process of psychological processes being passed from individual to individual, similar to the way Edge (1985) described the traits of Mr. T being left in his watch. Similarly, Teilhard de Chardin describes the Noosphere (in contrast to the biosphere) as a collective human mind and memory that encircles the earth (de Chardin, 1959). Relatively comparable to Freud’s theory, Jung used the term “collective unconscious” while Emile Durkheim called it “conscience collective” and went on to describe this term as having “its own distinctive properties, conditions of existence, and mode of development” (Sheldrake, p.247, 1995). Durkheim also felt that this “conscience collective” transcends individuals and remains as they pass on (Sheldrake, 1995). The terms “psi field” and “global mind” have also been used to describe this field that is made up of some kind of energy and contains information that radiates from individuals and results in extrasensory phenomena. Although different theorists focus on different aspects in their field theories, they all agree that such a field exists.

According to Laszlo (1996), who used the term “psi field”, this field provides human bodies with “the information that they need to form tissues relevant to their location” (p. 119). The “psi field” is sensitive to information in an individual’s environment and also to their past and present. This information is carried in the field

over several generations and may be affected by difficulties experienced by an individual's parents or grandparents. The information that the "psi field" carries consists of messages that are sent and received through transpersonal communication, beyond the array of sensory organs, and involves extrasensory perception. Laszlo also discusses the idea of a "Buddha-field" which results from the corresponding meditation of a large group of people. The "Buddha-field" theory leads to Laszlo's question that it is possible that "as well as single individuals being able to spontaneously affect the brain and mind of another, many people meditating together could develop some kind of collective consciousness" (1996, p.108). It is interesting to note that no laboratory studies using groups of senders were found in the literature. The closest thing to this involves a "parlor game" described by Sheldrake (2003) as "popular in Britain and America in the 1870's called 'the willing game'" (p. 44) in which a group attempted to influence a member to perform a simple action or find a hidden object. Sheldrake reports that this is often successful.

Sheldrake describes "morphic fields" as similar to blueprints that lie beneath the form of a growing organism (Sheldrake, 1999). For example, "as an oak tree develops, 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," (1987, p.15). Similar to Laszlo, he described these fields as being self-organizing. Also similar to Laszlo, he believes that "morphic fields" evolve, have a history, and contain a memory. Sheldrake compares "morphic fields" to fields of physics in that they are "regions of influence in space-time located in and around the systems they organize" (1999, p. 303). Furthermore, these fields guide those systems

under their influence toward distinguishing goals or end points (Sheldrake, 1999). In order to test morphic fields, Sheldrake states that you have to separate individuals so that they are unable to communicate with each other by normal sensory means and therefore, if communication were able to travel between them this would point to the existence of morphic fields. This would indicate that we may be able to affect things just by looking at them, such as the feeling of being stared at.

In *Morphic Resonance and the Presence of the Past: The Habits of Nature* (1995), Rupert Sheldrake uses ant colonies as an example to describe morphic fields. He explains that the “behavioral fields of individual insects are the morphic fields of the society as a whole, which co-ordinate the activities of the individuals,” (p. 228). These fields encompass the entire colony and the individuals within them. It is through these fields that the colony is able to come together and maintain its organization, regardless of the fact that the individuals within the field have a considerably short life-span which results in the continual turnover of the workers. These fields allow the colonies to adjust to accidents, damage, and environmental fluctuations and to repair their nests (p. 228).

Social Fields and Telepathy

Gruber and colleagues (2000) have recently undertaken a series of studies combining a number of variables in order to test a field theory of psi phenomenon. It was hypothesized that groups of people form social fields that contain information and possess some form of collective mind or consciousness. In line with the field theory of psi, the existence of social fields would help provide an explanation of the telepathic transfer of targets or images. This suggests that if a group of people know the solution to a problem or task, then an isolated or nonpresent member of the group might have a

lower threshold for solving the problem or completing the task. Anagrams or the unscrambling of scrambled words was suggested as a possible problem but was determined to be too difficult. A suitable task would have to be one that anyone could solve and of uniform difficulty. The children's game of battleship involving location of a hidden target on a grid was suggested and collection of pilot data was undertaken.

A team of research assistants acted as senders and took turns acting as the receiver. To our knowledge, no previous studies had used either groups of senders or location of a "target" as the target stimulus. Receivers were seated in an isolated room in front of a 76.20cm X 50.80cm foam board marked with a grid of nine squares. Red discs affixed with Velcro were used as markers. An image of the receiver was projected on a large screen in the room that the senders were in through closed circuit television. This room also contained an identical foam board with the same grid of nine squares. A target number was selected from among 30 sets of envelopes which each contained 2 sets of 20 random numbers (1-9). The chosen target square on the grid of nine which corresponded to the selected number was then marked on the foam board by one of the red discs. A two-way radio with a chime function was used to signal the receiver that the target had been placed. Senders were then instructed to attempt to telepathically transmit the target location to the receiver. The receivers were asked to determine the location of the target and mark it with the red disc on their foam board. The receivers were instructed to continue choosing spaces on the foam board until the target was found, at which point they were notified with a signal tone indicating a hit. The receivers then waited for a signal signifying the start of the next trial. Each run consisted of 12 trials.

Initial pilot data was collected with 15 participants. Of these 15 participants, one participant scored six direct hits during a run of twelve trials ($p < .001$). These data were encouraging and promoted further data collection. However, it was determined that the grid of nine was too many spaces. Researchers wanted to increase the chance for direct hits while also avoiding frustration, so an adjustment was made to include only four target locations and 16 trials (vs. 12). Pilot data were then collected using four target locations and one participant performed well above chance.

In exploring this methodology it was hypothesized that increasing the number of senders might increase hit rates. Therefore, on April 24, 2002, 80 members of an introductory psychology class acted as senders and attempted to convey location of a target to 3 members of the research group. Group members were chosen based on their high hit rates during previous runs. Hit rates from three research assistants were surprisingly well below any previous runs. Direct hit rates of one, one, and two were achieved for a total of 4 hits out of 48 trials where 12 hits would be expected by chance. Members of the class were then given the opportunity to volunteer to act as receivers and enthusiastic volunteers were selected. They scored three, five, and seven for a total of 15 direct hits. Based on these scores, the hypothesis was developed that group members (ingroup) would tend to score higher than nongroup (outgroup) individuals.

Current Study

The current study was designed to continue with this basic methodology. Based on the idea that groups form their own social field that contains information, it would seem as though this information could be used in order to facilitate a member of that group in achieving a high hit rate while acting as a receiver. While on the other hand,

when a nonmember acted as a receiver the social field of the group would not facilitate or even block the sending of information, resulting in a low hit rate for out-group members. It is possible that the social field of the group could block the information in the field from getting to the out-group receiver so strongly that not only would their scores be low, but could indicate psi missing. Conversely, low scores may be due to blocking by receivers rather than senders. Based on those scores achieved on April 24, 2002 and in conjunction with field theory, it was hypothesized that out-group members would perform below chance while in-group members would perform above chance.

The current methodology involves five procedures or variables that to our knowledge have not been used. These variables consist of: using groups of senders; use of simple location as a stimulus target; the ingroup/outgroup dichotomy and potentially contrasting psi hitting with psi missing; a competitive game format; and experimenter effect is assumed and built into the method, specifically, experimenter influence on the creation of a psi conducive atmosphere and variation in level of enthusiasm (lower with the outgroup and higher with the ingroup) are integral to the methodology.

Method

Participants

On night one of the experiment, April 24, 2002, participants (80) were members of an Introductory Psychology class who received extra credit for participation. During all other data collection procedures participants (approximately 40 per session) volunteered through the Introduction to Psychology subject pool and received course credit. In addition, a group of about 10 research assistants, registered for independent study, acted as both experimenters and participants.

Materials

Two 50.80cm X 76.20cm foam boards marked with four circles, each containing strips of Velcro and 12.70cm red discs affixed with Velcro were used. Two two-way radios with a chime function were used to signal the receivers. The chime function allows for signaling without a voice channel available. A stopwatch was also used to standardize the timing of trials. Data record sheets were used to record results (an example can be found in Appendix A).

This study also used a closed-circuit TV system in order to display the image of the participant acting as the receiver in the sender room. A camera, VCR, co-axial cable, and a projection TV were used.

Procedure

Four rooms in the Physical Science building at Eastern Illinois University were used. These rooms included of a meeting room, a receiver room, a sender room, and an equipment and observation room. The meeting room is a lounge located on the third floor of the building, next to the receiver room. The receiver room is a 3.65m X 3.65m clinical observation room comfortably furnished with chairs, couches, and a table within a suite of rooms off the main hallway. A video camera is mounted in an upper corner. There are no windows leading to the outside. Two doors, a door to the receiver room and a door to the main hallway, provide an isolated setting and an effective barrier to sound. The camera is connected to a monitor and a VCR in the observation room.

Set up included placing a foam board and red discs on an easel on the table in the receiver room. A co-axial cable was connected to the VCR in the observation room and to a projection TV system in the sender room. This allowed sound and an image of the

receiver and the foam board to be transmitted and displayed on a large screen (2.43m X 2.43m) in the sender room. The sender room was located on the second floor on the opposite side of the hall from the receiver room. This arrangement allowed for three doors, an outer hallway, a flight of stairs, and an inner suite hallway to separate senders and receivers. Yelling loudly, including yelling directly into air ducts, indicated that absolutely no sound was carried from one room to another. The second foam board was placed by the projection screen in the sender room.

All data collection sessions were conducted from 6pm to 8pm. Research assistants arrived 1 hour prior to data collection in the meeting room to set up and prepare for data collection. After set up was completed, tasks were divided among the research assistants. The tasks consisted of two people acting as data recorders, a target selection and display person, a signal person, two receiver greeter/instructors, a sender greeter/instructor, and one or more research assistant receivers. A schedule of research assistants assigned to these tasks was prepared prior to data collection.

Instructions to participants.

Consent forms, instructions and debriefing forms can be found in Appendix B. The consent forms included instructions as follows: Receivers will be asked to sit in a comfortable room in front of a foam board with four circles drawn in two rows. Through closed circuit TV this image will be video taped and transmitted to a room where a group of people will be seated. They will be the “senders” in the experiment. The senders will attempt to telepathically convey, to the receiver, the location of a target stimulus. For each trial, one of four circles will be randomly selected as the target. The senders will use sealed envelopes containing strings of random numbers to select a location and will place

a 12.70cm red disc on a second foam board, using Velcro, to mark the location. The senders will then attempt to work together 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.

Specific instructions were provided explaining both sender and receiver tasks.

They are as follows.

Sender:

- Try to clear your mind and wait for random target placement to be selected and for red disc to be placed on the board
- Focus your attention on the target location
- Note to yourself the location of the target on the board
(upper left #1, upper right #2, lower left #3, lower right #4)
- Keep the *goal* in mind---*Join with others to “send” target location*
- Keep the receivers in mind—try to *help* the receivers to correctly locate the target

Receiver:

- Wait for a signal tone to begin each trial
- Carefully examine each of the four spaces on the foam board for a *feeling* or *sense of the target location*
- Keep *goal* in mind—*others are trying to send you the target location*
- Make your choices by placing a disc on the board—wait for feedback
 - *Misses*—no response—continue with next guess
 - *Hits*—signal tone in about one second—remove all targets—wait for another signal tone to begin the next trial

- Between trials try to clear your mind and wait for the signal to begin the next trial
- Try your best

Both senders and receivers were given an identical set of consent forms and instructions. In order to produce a warm atmosphere and a sense of enthusiasm, the greeter/instructor employed a joking, bantering and light hearted tone. Social field theory was described along with the development of the current methodology. While an exact script was not used, to further promote an informal, relaxed interaction, the following is an approximate example of this introduction.

Senders were told that they would be sending to three receivers and then they would be given a break after which “we would be trying something a little different.” They were given no information regarding the ingroup/outgroup distinction and were not told anything about the receivers. It was explained that social field theory suggests that groups of people formed “collective fields” and that these fields might facilitate the process of mental telepathy. The development of the research methodology was briefly described including how the task was chosen; the change from the nine spaces to four; the randomization procedure (described in detail below); the presence of the research team and the recording procedures (also described below). The experimenter’s belief in the telepathic process and this specific methodology was emphasized.

During this time the empty receiver room was displayed on the screen. As an example of the use of humor to create a warm atmosphere, the instructor joked that the room on the screen was located “four stories below the polar ice cap in Antarctica,” then admitted “O.K., it’s at the University of Pittsburgh” and then “O.K. it’s upstairs and across the hall.”

Senders were encouraged to focus and work together. To facilitate this, lights were dimmed and they were told they would participate in a “breathing exercise.” They were instructed to “take a deep breath, hold it, and exhale.” Instruction concluded with an enthusiastic “let’s go,” or “let’s do it!”

Following this, the target was selected in the sender room and displayed on the foam board. The participant acting as receiver was seated in a chair in the receiver room and left alone with the door closed. A chime notified the receiver to begin.

Variables: in-group/out-group and enthusiasm.

Subject pool ingroup participants (approximately 40 per session) arrived and were seated in the sender room. Six receiver participants were run each evening. Scores for each receiver (direct hits, twos, threes, and fours) were written on a blackboard in the sender room immediately following each run, providing immediate feedback to the senders. Receivers were evenly divided (3 and 3) between ingroup and outgroup participants. Further, outgroup participants were divided between novices and research assistants. This additional variable, novice vs. research assistants, was included to explore possible differences between naive and experienced receivers and to include receivers who knew the predicted outcome of the experiment. Over 9 sessions this resulted in a total of 27 out-group receivers (with 13 being novices and 14 being research assistants) and 27 ingroup receivers. Novice receivers were selected from arriving subject pool participants prior to entering the sender room and were chosen based on criteria of arriving alone and after approximately one half of the senders had arrived. This eliminated choosing early or late arrivers. The selected novice receivers were escorted to

the third floor meeting room where they signed consent forms and were given instructions.

In the first half of each session, three outgroup receivers were tested. After the first three participants, the senders were given a short break and were told that when they came back they would be doing something a little different. On their return to the sender room they were again told that we would now be “doing something a little bit different.” It was explained that according to social field theory we had not really expected the previous three receivers, who they did not know and were not part of their “social field” to do well. Reference was made to the data recorded on the blackboard. It was suggested that because they were a group, having been working and sitting together for the past hour, that they should be able to do better. In this way the ingroup/outgroup dichotomy was established. It was explained that they would be given the chance to volunteer to be receivers and that the group would now be more actively encouraging high hit rates. Receivers were chosen based on those first to volunteer and appearing to be enthusiastic. Before leaving the sender room and being escorted to the receiver room by a research assistant, the volunteers were asked their names while in front of the group and were verbally encouraged while the concept of the social field connection was reinforced.

During this phase of the experiment the sender group was actively encouraged to energetically participate in working together “to convey the target location” to the receiver. The instructor now played the role of coach/cheerleader attempting to strengthen cooperation through praising successes and maintaining a focused, energetic atmosphere. This required continuous dialogue and enthusiasm throughout the second half of the session. By updating and referring to the ongoing record of results on the

blackboard, senders were fully informed of the “score,” adding an element of competition and increased involvement. This procedure added the variable of enthusiasm. The outgroup was not exposed to enthusiastic senders, while attempts were made to incorporate enthusiasm, focused attention, and support during the ingroup sending.

Research assistants as receivers.

As previously mentioned, on night one of data collection, April 24, 2002, three research assistants (outgroup) were tested, followed by three class members (ingroup). On the second night of data collection three research assistants (outgroup) were tested first and on the third night of data collection three novice receivers (outgroup) were tested first, both were followed by three (ingroup) members. The decision to test three novice receivers on the third night was based on the possibility of the hits being affected by the research assistants’ knowledge of the experiment. However, when the three novice participants were tested they did not appear to be focusing on target selection. Therefore, on night four of data collection, it was decided that both research assistants and novice receivers would be tested, with a research assistant always going first. This was in line with the goal of having equal numbers of novices and research assistants and for the research assistant to provide a model for the following receivers. The successive receivers would see the research assistants attempting to focus on the board and taking time in their target selection. Throughout the duration of the experiment outgroup receivers were divided evenly among research assistants and novice receivers.

Randomization, timing, and recording.

In order to determine the order of targets, 5000 columns of rows of 20 numbers were generated using a random number program from SPSS. These numbers ranged from

one to four. A number of pages containing these numbers were then selected at random. These were cut into 100 segments of 2 rows of 20 numbers and were placed in envelopes. At the time of data recording, an envelope was randomly selected, each containing a set of 2 rows of numbers. After the envelope was randomly selected, a coin was flipped. If the coin was heads, then the top row of numbers was used. If a tails was flipped then the bottom row of numbers was used. The row that was not selected was then crossed out and the chosen row was used to determine the order of targets, one through four, that would be placed on the foam board and sent to the receiver. A new envelope was randomly selected and the coin was tossed for each receiver.

The length of time between trials was standardized at 15 seconds to ensure that there was no possibility that variability between trials could convey information regarding target location to the receiver. For example, a longer delay could conceivably be used to indicate 3s or 4s while a shorter delay might indicate ones or twos. Following each correct target selection (ending a trial) timing was begun using a stopwatch while a new target was selected and placed. After the 15-second interval another signal chime was given to begin the next trial.

As previously mentioned, two research assistants acted as data recorders for each session. One data recorder was located in the sender room and the other was located in the observation and equipment room. The reason for this was to keep the recorders apart and to keep the presence of research assistants in the sender room to a minimum to avoid any possible effects that they might have on the experiment due to their knowledge of the study. Data were recorded on record sheets. Each record sheet had a place for the receiver's name and the date. The sheets consisted of 16 sets of 4 circles resembling the

foam board on which the target was placed. Each set of 4 circles was numbered corresponding to trials 1 through 16. When the target was selected and displayed on the foam board, that corresponding circle on the record sheet was then circled to indicate the target. The data recorder in the observation and equipment room watched the receiver on a monitor and circled the selected target after the receiver was signaled indicating that they had gotten a hit, due to the fact that they were unaware of the selected target. During the 16 trials when the receiver selected a target the corresponding circle on the record sheet was marked with a number one through four indicating the order of selection, until the receiver selected the correct target. After the 16 trials were complete, the total number of direct hits, twos, threes, and fours was recorded on the board by the instructor in the sender room. Two record sheets were kept for each receiver in order to ensure accurate recording.

Results

It was hypothesized that outgroup members would have hit rates below chance while ingroup members would perform above chance. Comparisons were made between ingroup and outgroup members for the number of direct hits (ones) and, twos, threes, and fours as well as the total number of tries (sum of ones, twos, threes, and fours). Figures one through six illustrate these comparisons. The expected number of direct hits due to chance would be 4 per run of 16 (.25) while the total number of tries expected by chance would be 40 (with an average of 2.5 per trial). For the 36 people in each group there was a total of 576 trials (16 x 36), so we would expect 144 direct hits (.25) by chance. The total number of tries expected by chance would be 1,440 (36 X 40). The ingroup achieved 163 direct hits and a total of 1,404 tries (with fewer tries representing greater

accuracy). In comparison, the outgroup achieved 109 direct hits with a total of 1,532 tries. Comparisons using t-tests between the ingroup and outgroup on direct hits and total tries were both significant. The ingroup achieved significantly more direct hits than the outgroup ($M_{\text{ingroup}}=4.53$; $M_{\text{outgroup}}=3.03$), $t=-3.84$, $p<.001$, two-tailed. Furthermore, it took the ingroup significantly fewer overall tries to hit the target ($M_{\text{in-group}}=39.00$; $M_{\text{out-group}}=42.56$), $t=3.75$, $p<.001$, two-tailed (See Table 1). Appendix C contains a table of the overall data for ingroup and outgroup hit rates across all 12 sessions.

While there is a very clear difference when directly comparing ingroup with outgroup performance we were also interested in determining if the scores for each group differed significantly from what would be expected by chance. The ingroup members had a mean hit rate of 4.53, per run of 16, which was compared to the expected chance mean of 4.00 using a single sample t-test. This difference was found to be significant, $t=1.78$, $p<.05$, one tailed. There was also a significant difference found when comparing the outgroup mean hit rate with that expected by chance ($M_{\text{outgroup}}=3.03$; $M_{\text{chance}}=4.00$), $t=-3.88$, $p<.001$, one tailed.

The outgroup was composed of both novice receivers (volunteer participants) and research assistants who acted as receivers. We were interested in comparing the performance of these two different groups. A t-test was conducted and no significant difference in hit rates was found between the two groups, ($M_{\text{research assistants}}=2.85$; $M_{\text{novices}}=3.13$), $t=-.54$, $p>.594$, two tailed.

Our hypothesis that ingroup scores would be higher than outgroup scores leads to the prediction that on more nights than not the ingroup would have more direct hits and a lower overall score than the outgroup. The results show that the ingroup had more direct

hits and fewer overall tries on each of the 12 sessions. Using the binomial distribution for 12 successes in 12 trials with a probability of success of 50% we arrive at a probability of .00024. The occurrence of 12 successes in a row is actually less likely as this does not allow for the probability of a tie.

It is well known that people tend to underestimate the number of repeats in a string of random numbers. Given this, we expected our subjects to be less likely to pick a target if it had been selected on the previous trial. However, we also expected that as participants gained experience with the task that they would be more likely to repeat. Therefore, the ingroup receivers who had observed at least the three outgroup receivers would be expected to repeat more than outgroup receivers who had no opportunity for observation. In fact, ingroup members repeated 108 times out of 576 trials (18.7%) compared to the outgroup members who repeated 77 times (13.4%). As each trial is independent, this should have no influence on scores. To figure out whether this difference between groups influenced their total hits we calculated ratios of hits on repeats to overall repeats and compared these to overall hits with overall tries. The ingroup repeated 108 times and scored 35 hits on repeats for a hit rate of 32.4%. The outgroup repeated 77 times and scored 12 hits on repeats for a hit rate of 15.6%. Likewise, the ingroup scored 164 direct hits out of 576 total trials for a hit rate of 28.47%. While the outgroup scored 109 direct hits out of 576 trials for a hit rate of 18.92%. Overall 21.3% of ingroup hits occurred on repeats while only 11.09% of outgroup hits did (See Table 2).

There were 40 female receivers and 32 male receivers (See Table 3). A t-test was conducted comparing their hit rates with no significant difference found. A t-test was also

conducted between ingroup and outgroup receivers to compare the number of trials during which twos, threes, and fours were scored, with no significant differences found. A check of the random numbers generated by the SPSS program was also performed in order to ensure that there were relatively equal numbers of ones, twos, threes, and fours in the tables used. Overall, the ones accounted for 24.82% (24,821) of the total numbers used, 25.30% were twos (25,303), 25.01% were threes (25,007), and 24.87% were fours (24, 869).

On examining the data it became apparent that over the 12 sessions the outgroup appeared to get better. Although they were always performed below the ingroup their scores increased as the sessions progressed. Therefore, correlations were computed in order to determine if there was a significant relationship between the order of session and hit rates. A correlation of .4319 was obtained for the outgroup and was found to be significant, $p < .009$. A correlation of .0392 was obtained for the ingroup and was not found to be significant, $p > .820$. Examination of data also seemed to show a correspondence between scores from any one session between the ingroup and the outgroup. It appeared as though on nights when the outgroup scores were higher so were the ingroup scores, similarly when the outgroup scores were lower the ingroup scores were also lower. In order to determine the significance of the fluctuation in scores between groups a correlation was computed. A correlation of .40 was obtained with no significance, $p > .20$.

Table 1. Mean direct hits and total tries per session

Date	Direct Hits		Total Tries	
	In-group	Out-group	In-group	Out-group
02/24/2002	5.00	1.33	40.00	42.33
10/09/2002	4.33	3.00	36.66	42.33
10/16/2002	3.00	1.33	40.33	44.00
10/23/2002	6.00	3.00	35.00	41.66
10/30/2002	3.33	2.66	42.66	44.33
11/06/2002	5.33	2.66	37.00	44.33
11/13/2002	4.33	4.00	40.66	41.00
11/20/2002	5.66	4.66	37.33	40.33
12/04/2002	3.33	2.66	42.33	46.00
02/12/2002	4.66	4.00	37.66	39.00
02/20/2002	5.33	3.33	39.33	42.33
02/27/2002	4.33	3.66	38.66	43.00
Overall Mean	4.53	3.03	39.00	42.56

Figure 1

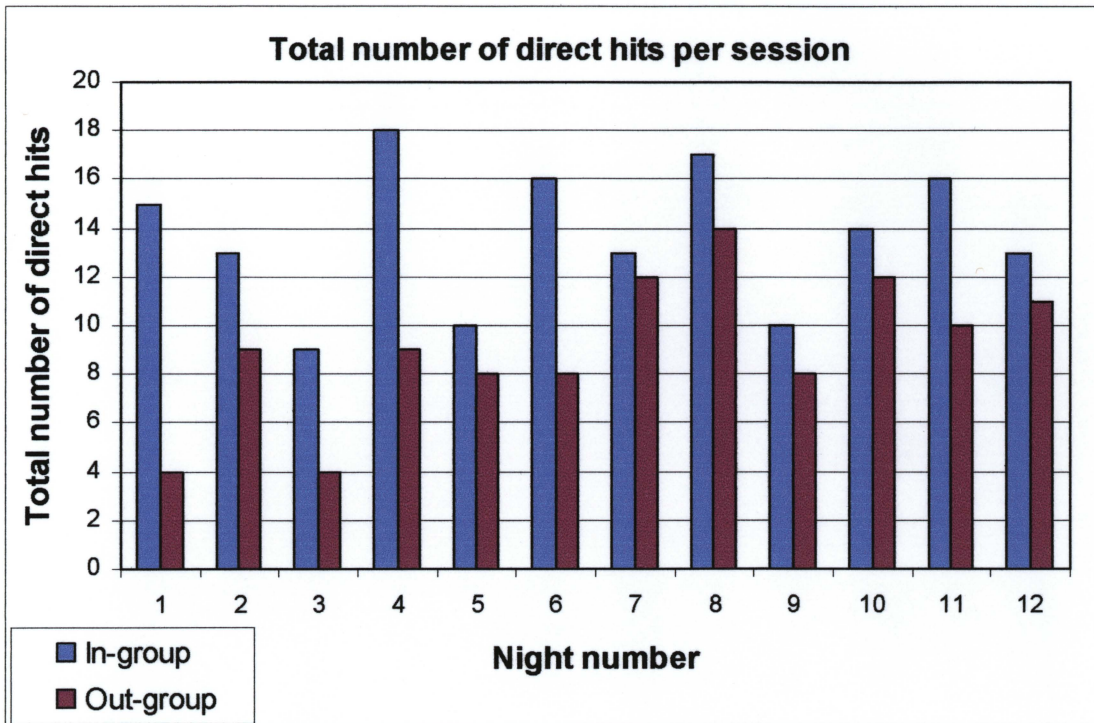


Figure 2

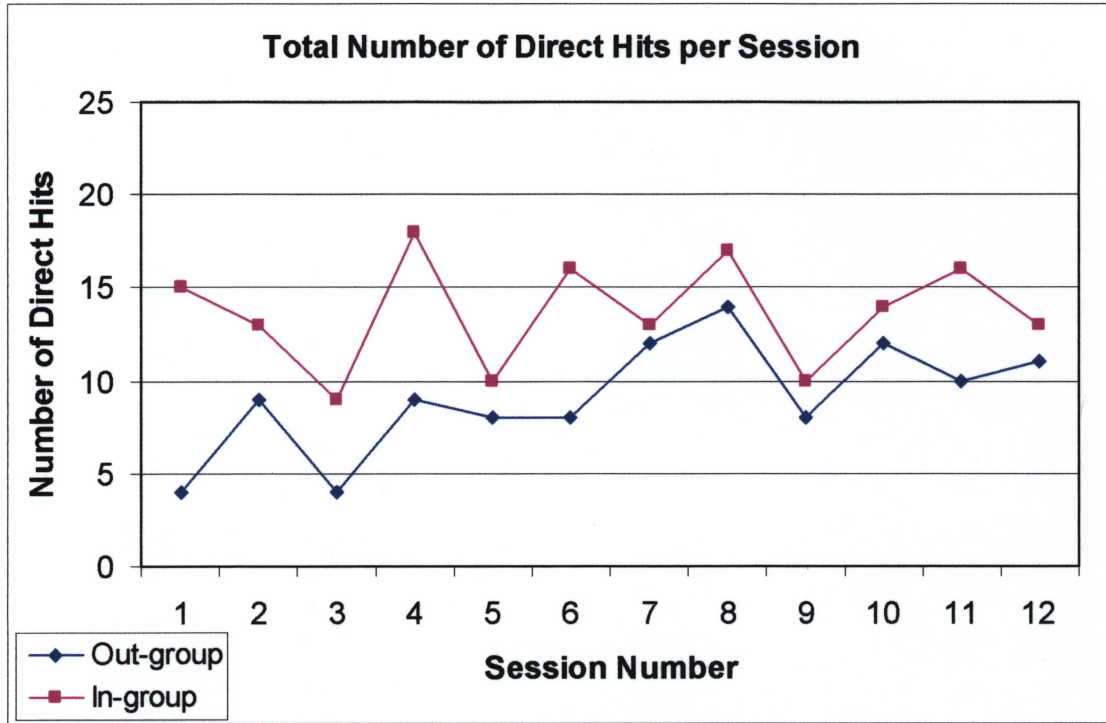


Figure 3

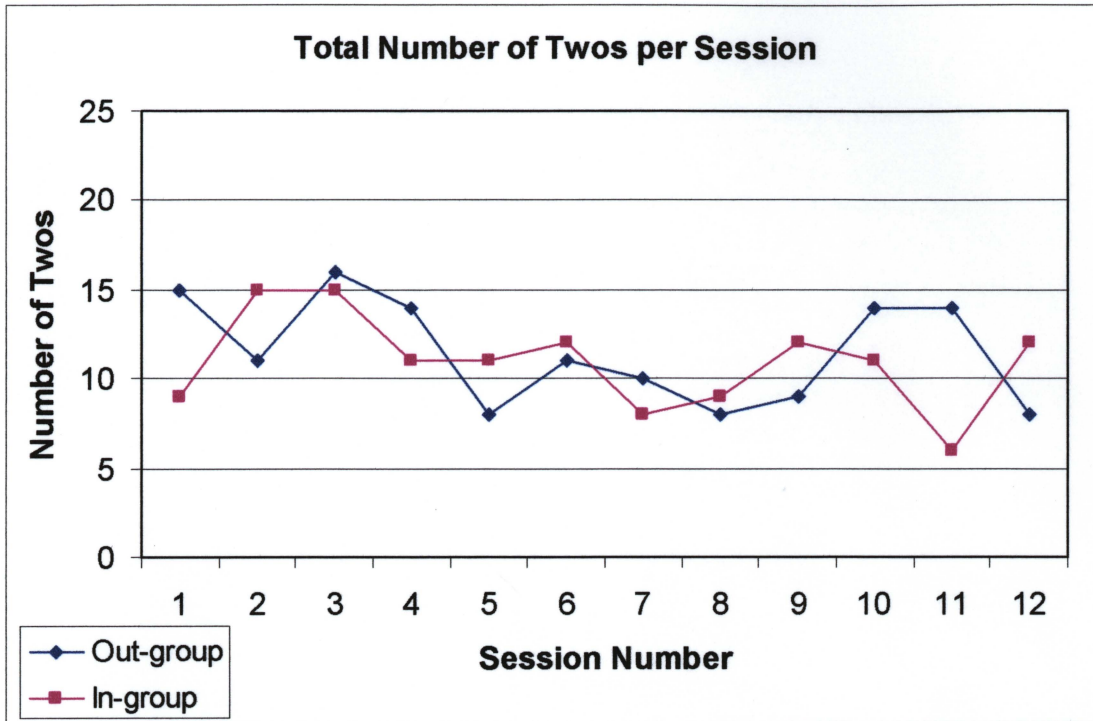


Figure 4

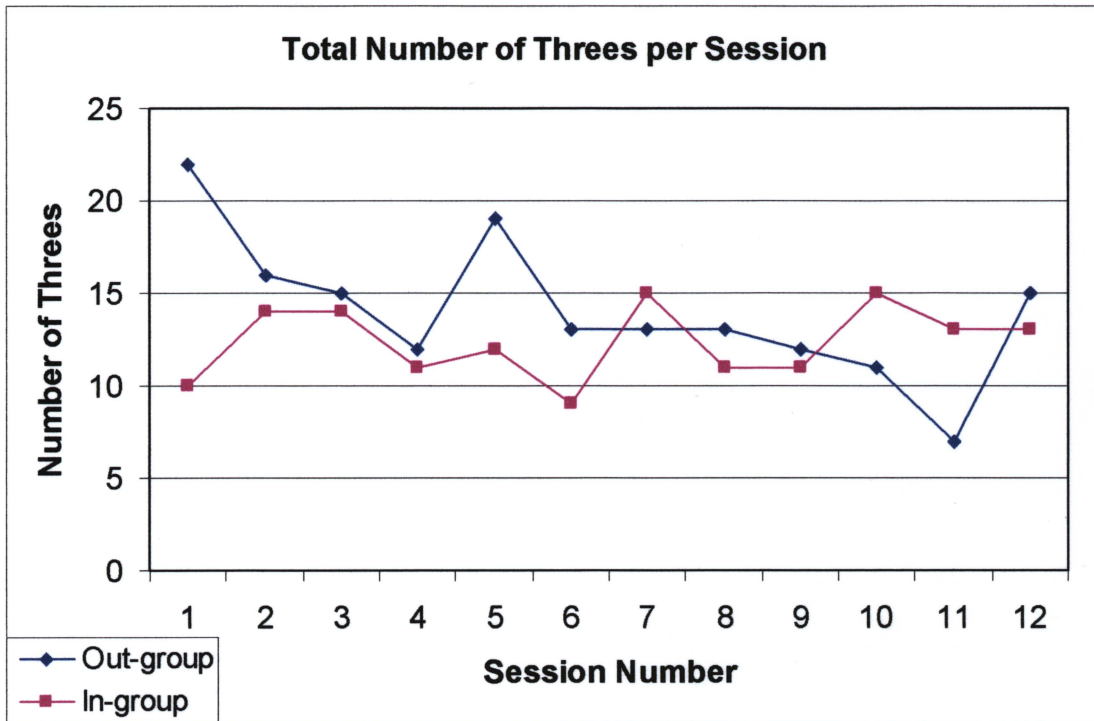


Figure 5

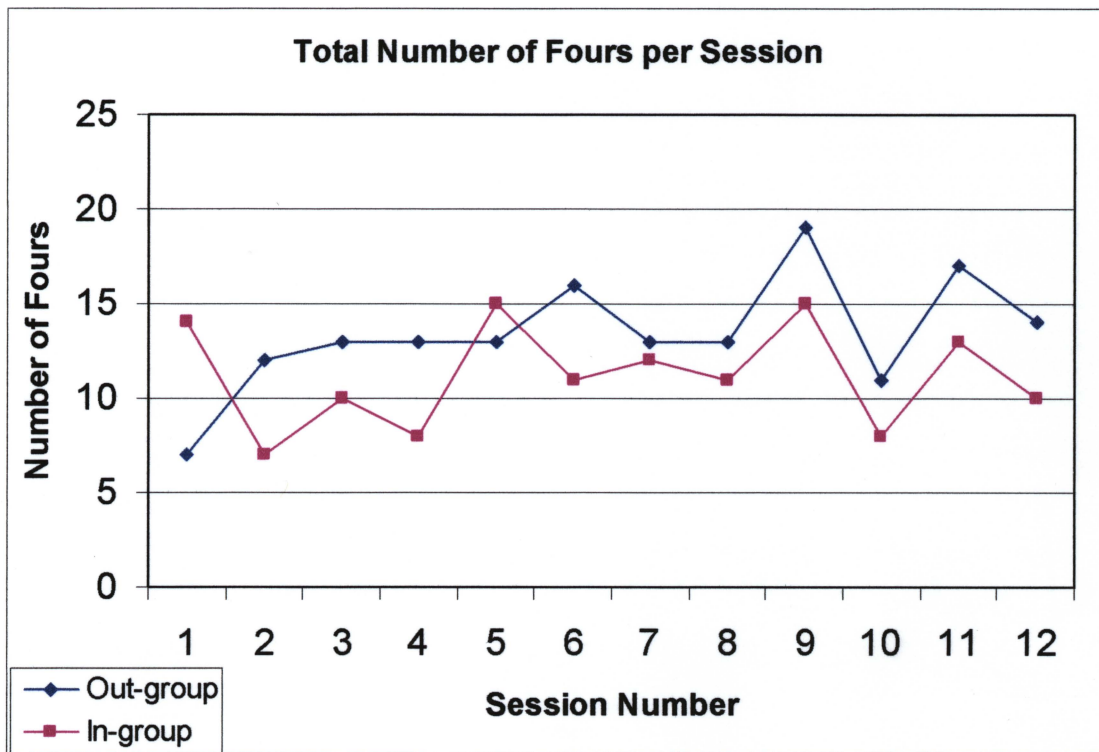


Figure 6

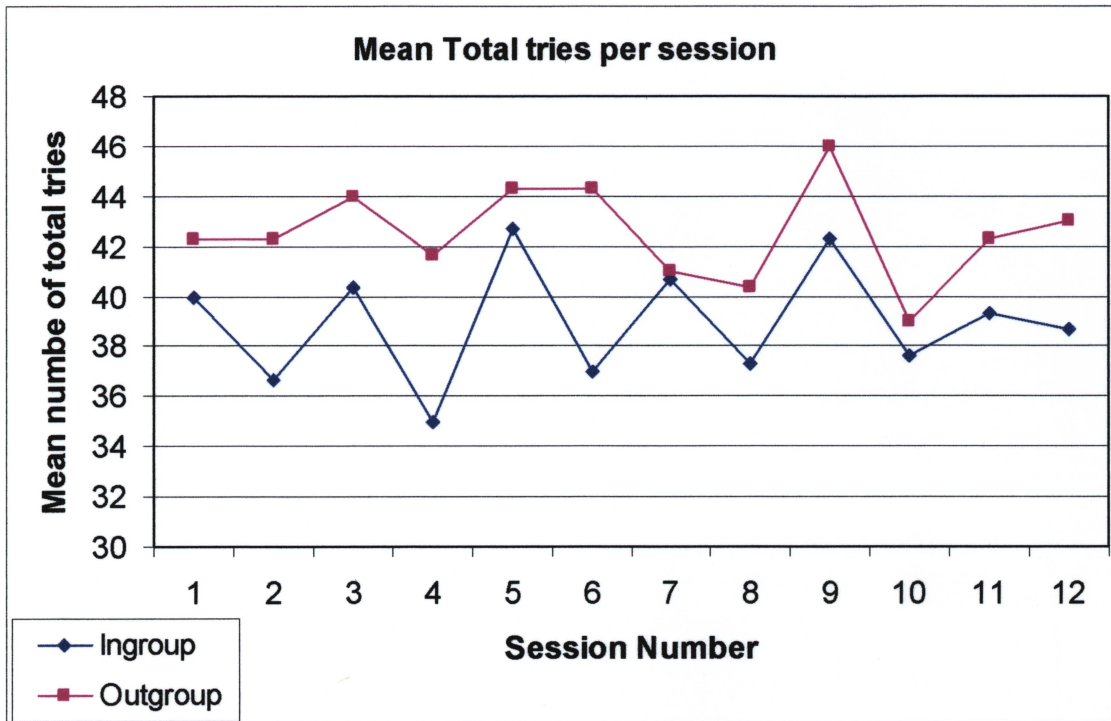


Table 2. Repeats and hits occurring on repeats

	<u>Repeats</u>	<u>Hits on repeats</u>	<u>Percent of hits on repeats</u>
In-group	108	35	21.3%
Out-group	77	12	11.09%

Table 3. Gender

Date	<u>Senders</u>		<u>Out-group receivers</u>		<u>In-group receivers</u>	
	Male	Female	Male	Female	Male	Female
04/24/2002	28	46	3	0	0	3
10/09/2002	07	35	2	1	1	2
10/16/2002	03	49	1	2	0	3
10/23/2002	06	31	1	2	0	3
10/30/2002	15	24	2	1	2	1
11/06/2002	13	24	2	1	1	2
11/13/2002	11	27	2	1	1	2
11/20/2002	10	25	2	1	0	3
12/04/2002	21	25	2	1	1	2
02/12/2002	09	19	2	1	2	1
02/20/2002	09	22	1	2	1	2
02/27/2002	11	15	1	2	2	1
Total	143	342	21	15	11	25

Discussion

The results from this study show very strong support for the ability to convey information at a distance and affect hit rates on a target location task through some form of telepathic means. There were a number of previously untested variables present in this study and it is difficult to determine which of these may have caused the effect. All, none or any combination of the variables may have played a part in the results.

Upon examining our results it became evident that there are possible nonparanormal and paranormal explanations. While we were very careful to attempt to eliminate any nonparanormal influences, it is worthwhile to discuss these.

There are a number of possible nonparanormal explanations for our results such as sensory leakage, errors in recording, inadequate randomization, and the possibility of attributing our results to chance.

The possibilities for sensory leakage include directly hearing information about target placement through sound traveling from one room to another, either through hallways and doors or ventilation ducts. These could both be sources of sensory leakage, however, as previously mentioned, they were both carefully checked and it was determined that no sound was conveyed in this way. It should also be noted that the larger effect involved the out-group missing considerably more than would be expected by chance, while the sender group was completely silent during the out-group trials.

The other potential source of sensory leakage involves the possibility of inadvertently conveying information through the two-way radio. As described in the methods section, this can be ruled out due to the fact that the chime function did not create an open channel. Also, had the talk button been inadvertently pressed a signal

would have been clearly audible through the closed circuit video feed as well as on the videotape of the receiver. Given these safe guards there does not appear to be any reason to suspect that sensory leakage could account for these results.

The potential for errors in recording was addressed through the use of two different recorders in separate locations as described in the methods section. This allowed for checking accuracy by comparing the separately recorded data sheets. This assured accuracy allowing the ruling out of recording errors as an explanation for our results.

With regard to randomization, a triple level randomization procedure, using random numbers generated by an SPSS program, shuffled envelopes and the flipping of a coin, ensured that there was no chance of a detectable pattern and that the receivers had no knowledge of the target location chosen. As previously mentioned a check of the frequency of the numbers generated showed a very close to equal distribution.

A remaining nonparanormal explanation is the possibility that our results are due to chance. While possible statistical analysis shows this to be an extremely unlikely explanation.

Effectively ruling out the nonparanormal explanations, we can turn to paranormal explanations. The current methodology involved five procedures or variables that to our knowledge had not been previously explored. These included using groups of senders; use of simple location as a stimulus target; the ingroup/outgroup dichotomy contrasting psi hitting with psi missing; and a competitive game format. In addition, experimenter effect is assumed and built into the method. Specifically, experimenter influence on producing a psi conducive atmosphere and variation in level of enthusiasm.

To the best of our knowledge nobody has previously used groups of senders in a telepathy experiment. Why not? This seems like an unusual oversight. Choosing a very simple stimulus involving locating a target from four choices may have also helped to produce the results.

The procedure used in this study produced an amazing run of 12 consecutive sessions where the ingroup scored more direct hits and less total tries than the outgroup. With a chance expectation of 144 direct hits per group, the ingroup scored a total of 163 direct hits ($M=4.53$) to the outgroup's 109 direct hits ($M=3.03$). While the ingroup did score above chance, the truly strong effect appears to be the ability of the outgroup to score so far below chance expectation. The outgroup never scored better than the ingroup and there were no ties across the 12 sessions. Given the current methodology it is difficult to say if this was due to group membership or level of enthusiasm as both variables were inseparably interrelated.

A few additional findings may shed some light on the nature of the observed effects. As the experiment progressed we noticed that some nights the participants were interested, excited, and easily encouraged. On these nights both groups had higher hit rates. On other nights groups were disinterested and unenthusiastic corresponding to lower hit rates for both groups. Figures one and two plainly show a correspondence between ingroup and outgroup hit rates that we observed to correspond to over all levels of enthusiasm. The correlation between groups across sessions reached a level of .40 which while not significant for the small sample size is very suggestive of a relationship.

Another interesting finding involves our exploration of differences between groups in the selection of the previous target as the first choice (repeats). When selecting

repeats the ingroup had a hit rate of 32.4% which is above their overall hit rate of 28.47%. On the other hand when selecting repeats the outgroup had a hit rate of 15.6% which is below their overall hit rate of 18.92%. This included the outgroup scoring zero hits on their last 21 repeats. Certainly this difference between the ingroup hit rate on repeats as compared to the outgroup is remarkable. When the ingroup repeated they tended to hit while when the outgroup repeated they tended to miss. It is possible that recognizing the tendency for people not to repeat that the senders put extra effort into their attempts to telepathically convey the target location.

Current evidence supports a social field theory of telepathy. Even though we are unsure if group membership or level of enthusiasm accounted for higher ingroup hit rates and lower outgroup hit rates, either explanation provides evidence for the existence of some form of social field. The group of senders appears to have had a consistent affective collective influence on receivers based on group membership.

A next step in this series of experiments would involve an independent replication of our findings. We hope that we have provided a thorough enough description of the methodology to allow an accurate recreation of key elements or variables. When discussing this with the research team in order to determine whether each aspect that might affect replication has been addressed certain aspects were noted as potential concerns. While this was covered thoroughly in the methods section we feel that it might be useful to address further. A key factor in the methodology involves quickly creating a sense of enthusiasm, competitiveness and group membership within a group of approximately 30 participants. At times maintaining enthusiasm when sending to ingroup receivers was often very challenging and required a great deal of energizing, imploring,

and coaching. We would also like to note that all sessions took place in the evening and the time of day may have some relevance.

We were amazed by the results of this study. An ongoing series of experimentation is currently underway with the goal of gaining a further understanding of key variables and underlying theoretical explanations. They are generating some interesting findings.

References

- Bem, D.J., & Honorton, C. (1994). Does psi exist? Replicable evidence for an anomalous process of information transfer. In K. Ramakrishna Rao, *Basic Research in Parapsychology* (pp. 345-337).
- Braud, W., Shafer, D., & Andrews, S. (1993a). Reactions to an unseen gaze (remote attention): A review, with new data on autonomic staring detection. *Journal of Parapsychology*, 57, 373-390.
- Braud, W., Shafer, D., & Andrews, S. (1993b). Further studies of autonomic detection of remote staring: Replication, new control procedures, and personality correlates. *Journal of Parapsychology*, 57, 390-409.
- Braud, W., Shafer, D., McNeill, K., & Guerra, V. (1995). Attention focusing facilitated through remote mental interaction. *The Journal of the American Society for Psychical Research*, 89, 103-115.
- Crandall, J.E. (1985). Effects of favorable and unfavorable conditions on the psi-missing displacement effect. *Journal of the American Society for Psychical Research*, 79, 27-38.
- De Chardin, Teilhard. (1959). *The phenomenon of man*. New York, NY: Harper & Row Publishers.
- Edge, H. (1985). Parapsychology and atomism. *Journal of the Society for Psychical Research*, 53, 79-86.
- Gruber, R. (2000). [Remote Battleship]. Unpublished raw data.
- Harley, T.A. (1989). Psi missing in a dream clairvoyance experiment. *Journal of the Society for Psychical Research*, 56, 1-7.

- Honorton, C., Ramsey, M., & Cabibbo, C. (1975). Experimenter effects in extrasensory perception. *Journal of the American Society for Psychical Research*, 69, 135-139.
- Irwin, H.J. (1994). *An introduction to parapsychology*. Jefferson, NC: McFarland & Company, Inc., Publishers.
- Laszlo, E. (1996). *The whispering pond*. Rockport, MA: Element Books, Inc.
- Lewin, K. (1951). *Field theory in social science: Selected theoretical papers*. New York, NY: Harper.
- Palmer, J. (1996). External psi influence on ESP task performance. *Journal of Parapsychology*, 60, 193-210.
- Radin, D. (1997). *The conscious universe: The scientific truth of psychic phenomena*. New York, NY: Harper Collins Publishers Inc.
- Riniolo, T.C., & Schmidt, L.A. (1999). Testing psi and psi-missing. *Skeptic*, 7.
- Schneider, R., Binder, M., & Walach, H. (2000). Examining the role of neutral versus personal experimenter-participant interactions: An EDA-DMILS experiment. *The Journal of Parapsychology*, 64, 181-194.
- Sheldrake, R. (1987). Part I: Mind, memory, and Archetype: Morphic resonance and the collective unconscious. *Psychological Perspectives*, 18, 9-25.
- Sheldrake, R. (1995). *Morphic resonance and the presence of the past: The habits of nature*. Rochester, VT: Park Street Press.
- Sheldrake, R. (1999). *Dogs that know when their owners are coming home: And other unexplained powers of animals*. New York, NY: Three Rivers Press.
- Sheldrake, R. (2003). *The sense of being stared at: And other aspects of the extended mind*. New York, NY: Crown Publishers.

Utts, J. (1995). An assessment of the evidence for psychic functioning. *The Journal of Parapsychology*, 59, 289-321.

Wiseman, R., & Schlitz, M. (1997). Experimenter effects and the remote detection of staring. *Journal of Parapsychology*, 6, 197-207.

Appendix A: Data Record Sheet

Name (please print) _____ Date _____

1 2 3 4
OO OO OO OO
OO OO OO OO

5 6 7 8
OO OO OO OO
OO OO OO OO

9 10 11 12
OO OO OO OO
OO OO OO OO

13 14 15 16
OO OO OO OO
OO OO OO OO

Appendix B: Consent Form and Debriefing

Consent Form for Remote Battleship

This experiment involves the study of extrasensory perception (ESP). Receivers will be asked to sit in a comfortable room in front of a foam board with four circles drawn in two rows. Through closed circuit TV this image will be video taped and transmitted to a room where a group of people will be seated. They will be the "senders" in the experiment.

The senders will attempt to telepathically convey, to the receiver, the location of a target stimulus. For each trial, one of the four circles will be randomly selected as the target. The senders will use sealed envelopes containing strings of random numbers to select a location and will place a five inch red disc on a second foam board (using Velcro), to mark the location. The senders will then attempt to work together 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 personal information will be kept confidential, and that I may withdraw my participation at any time without penalty.

Print name _____

Signature _____ Date _____

Remote Battleship Debriefing

Thank you for participating in the Remote Battleship experiment. The existence of mental telepathy is a very controversial subject and your participation may help us to better understand the issues involved. Your help is truly appreciated.

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

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Appendix C: Table A1 Data Table

Session Number	Tries until hit	Out-group Participants				In-group Participants			
		#1	#2	#3	Total	#4	#5	#6	Total
1	1	1	1	2	4	3	5	7	15
	2	6	5	4	15	3	3	3	9
	3	6	10	6	22	4	4	2	10
	4	3	0	4	7	6	4	4	14
2	1	2	4	3	9	2	3	8	13
	2	5	3	3	11	5	6	4	15
	3	7	4	5	16	7	4	3	14
	4	2	5	5	12	3	3	1	7
3	1	1	2	1	4	4	3	2	9
	2	8	4	4	16	3	6	6	15
	3	2	5	8	15	5	4	5	14
	4	5	5	3	13	4	3	3	10
4	1	2	3	4	9	4	8	6	18
	2	4	6	4	14	7	2	2	11
	3	3	4	5	12	4	4	3	11
	4	7	3	3	13	1	2	5	8
5	1	2	3	3	8	4	4	2	10
	2	2	3	3	8	3	4	4	11
	3	5	6	8	19	4	3	5	12
	4	7	4	2	13	5	5	5	15
6	1	2	2	4	8	8	6	2	16
	2	4	4	3	11	4	5	3	12
	3	6	3	4	13	3	1	5	9
	4	4	7	5	16	1	4	6	11

Session Number	Tries until hit	Out-group Participants				In-group Participants			
		#1	#2	#3	Total	#4	#5	#6	Total
7	1	4	3	5	12	5	3	5	13
	2	1	7	2	10	2	6	0	8
	3	5	2	6	13	5	4	6	15
	4	6	4	3	13	4	3	5	12
8	1	6	3	5	14	7	3	7	17
	2	2	4	2	8	2	4	3	9
	3	3	5	5	13	3	5	3	11
	4	5	4	4	13	4	4	3	11
9	1	3	2	3	8	4	3	3	10
	2	4	3	2	9	5	4	3	12
	3	2	7	3	12	3	3	5	11
	4	7	4	8	19	4	6	5	15
10	1	2	8	2	12	7	3	4	14
	2	6	1	7	14	4	4	3	11
	3	5	3	3	11	4	3	8	15
	4	3	4	4	11	1	6	1	8
11	1	3	4	3	10	6	7	3	16
	2	5	5	4	14	4	2	0	6
	3	3	2	2	7	2	5	6	13
	4	5	5	7	17	4	2	7	13
12	1	5	4	2	11	4	4	5	13
	2	3	1	4	8	5	2	5	12
	3	3	7	5	15	4	6	3	13
	4	5	4	5	14	3	4	3	10