

Attention Focusing Facilitated Through Remote Mental Interaction: A Replication and Exploration of Parameters*

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Abstract

This study is a replication of a study conducted by Braud and his colleagues (Braud, Shafer, McNeill, & Guerra, 1995) and is an attempt to assess direct mental interactions of one person, with a variety of *nonphysiological* activities (e.g. cognitive, emotional) that are being carried out simultaneously by another, distantly isolated person. Eighty unpaid volunteer participants took part in pairs (all pairs of friends), in 40 experimental sessions. The sessions lasted 16 minutes, during which time both participants attempted to focus their attention upon an object (a lighted candle). Within each pair one subject acted as a *Helper*. The other will be referred to as the *Helpee* (i.e. receiving help). The helpee indicated each time the mind wandered from the candle, by pressing a hand held button. A computer recorded these button presses. The helper was situated in a distant room, and during eight 1-minute Help periods, attempted to help their friend (the respective helpee), by focusing on an identical candle, and intending for their friend to attend well and not to be distracted. During eight 1-minute Control periods, the helpers did not attempt to influence their friend, but tried instead to keep their mind occupied by irrelevant matters. The scheduling of these two types of periods was randomised, and unknown to both the helpee and the experimenter (CB).

Helpees evidenced significantly greater focused attention (fewer button presses) during Help versus Control periods, $t(39) = 1.775, p < .05$, one tailed, effect size (r) = .27

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Introduction

Over the past 50 years, there have been many experiments published exploring direct mental interactions with remote, spatially distant, living systems (DMILS). The targets used have been diverse, ranging from bacteria, motile algae, plants, gerbils, cats and many others. Human targets have also been used, in attempts to influence eye movements, electrodermal activity and also cognitive measures of attention, (Braud & Schlitz, 1991; Braud, Shafer, McNeill & Guerra, 1995). Much of the early work has been reviewed within the context of mental healing by Solvvin (1984). An implication of this work is that in dyadic situations, the "mental work" of one member of the dyad could directly influence some of the physical, psychological, emotional or cognitive processes in the other.

DMILS: Braud's Attention Focusing Experiment

The majority of the experiments with humans have relied on psychophysiological measures to detect the occurrence of a psi interaction, but a cognitive measure (frequency of self reported mental distractions) can also be used to detect the occurrence of a facilitative effect on focused attention. Braud et al. (1995), found evidence that attention can indeed be facilitated through direct mental interaction. He also found that those participants who could be classified as "more needy" in relation to the task of focusing attention responded more to the remote influence, and those who could be classified as "less needy" showed a very weak and non-significant reversed effect (Braud et al., 1995). This is what would be expected according to the Psi-Mediated Instrumental Response Model (PMIR-Model). This model proposes that an organism non-intentionally uses psi to scan its environment for need-relevant objects, or in this case influence. The model encompasses a wide range of needs (Stanford, 1974). It was proposed that this model would be investigated in relation to both of the participants in the dyad. Braud also reported a positive correlation between the participants score on the absorption scale, and their total number of distractions. The present study was designed to replicate the work by Braud et al. (1995) on remote facilitation of concentration, and to explore in greater detail the relationship between the two members of the dyad. The experimental protocol adhered as close as possible to the procedures and guidelines detailed in Braud & Schlitz (1991).

Influencer / Receiver Effects

In the original study the remote helping was carried out by members of the research team. As already mentioned, the major difference in this study was in the use of 'pairs of friends' to work as dyads attempting to influence one another. This was done in part to investigate the psi influence under more naturalistic conditions (i.e. between friends), and also to explore the effect of the nature of the relationship of the two friends, and the role of the 'helper' in greater

detail. A few studies carried out in the 50's and 60's explored the relationship between agent and perceiver. We will refer to them as 'helper' and 'helped' respectively. Although a few studies have reported that the degree of intimacy between participants seems to facilitate psi performance (Stuart, 1946. Haraldsson, 1970), the results are not clear cut. For example, Casper (1952) found that the "degree of liking" between college students was negatively related to GESP. Both Schneider (1961), and Bletsley (1963) demonstrated the importance of helper and helped having at least met briefly beforehand in getting good results. If the 'pairs' had not met, chance results were found.

Aspects of Meditation: Psi Effects, Health Benefits, and Flow

During the experiment both helper and helped were asked to focus their attention upon a particular object (a candle), and to try to keep their mind free from mental distractions. It has been recognised (Carrington, 1986; Goleman, 1988; Humphreys, 1968; Naranjo & Ornstein, 1971) that the core element within various traditions of meditation and yoga has been concerned with "retraining the way we use our attention" and that by using various devices e.g. a candle, distractions from the outside world are reduced. The relationship between the meditative state and the internal attention state conducive to psi has been recognised (Honorton, 1977). Meditation has also been shown to have many positive health effects (Carrington, 1986; Goleman, 1988), which again returns us to the concept of mental healing. If one person can directly facilitate another's attempts to focus attention, which can be thought of as similar to attempting meditation, and if meditation itself has many healing properties, then can that person be thought of as carrying out a form of "mental healing". The concept of a meditative mood (Carrington, 1986) has been described as the occurrence of an 'absorbed mood', or inner illumination, and has been likened to some of the profoundly positive altered states of consciousness (ASC's) Maslow (1962) has referred to as peak experiences. A similar state has been described by Csikszentmihalyi (1988) for a broad range of intrinsically rewarding activities (including meditation), all of which are marked by a similar experience which he calls "flow". Again one of the key elements of flow is the 'focusing of attention' and 'the merging of action and awareness in sustained concentration on the task at hand'.

Flow and Increased Sense of Control

Flow as a concept can be applied to the 'practice of virtually anything'. It occurs when there is a balance between perceived challenges and the requisite skills of the person. During the flow experience, as well as deep concentration and a distorted sense of time, there is often a feeling of 'increased sense of control'. So, it was also decided to look at the concept of volition or willpower, to see if individual differences contributed to performance in the experiment. Kuhl's (1994) theory of action control proposes a fundamental difference in volitional

processes that mediate the enactment of intentions, in action versus state oriented individuals. The ratio of enacted compared to intended actions is a function of the effectiveness of action control, it was this distinction between action vs state oriented individuals that was examined in this experiment. One of the action control processes is 'attention control'. It is proposed that whilst action oriented individuals confine their attention to the information necessary to enact their intentions, state oriented individuals in contrast are more easily distracted by intention irrelevant information. This has been confirmed by Steinsmeiter-Pelster, Schneider, Schurmann & Mollman (1989).

Psychological Measures Administered for the Replication, and Exploration of Parameters

Psychological measures of concentration in everyday life (Braud, personal communication), attention success and absorption (Tellegen & Atkinson, 1974) were given to all participants in an attempt to replicate the findings of the original study. In this experiment attempts were made to assess how long the pairs had known each other, and also how close/intimate their friendship was, to see whether these measures correlate with psi influence. In order to see if participants' own practice of meditation affected performance in the experiment, a short questionnaire was given to look at this in more detail. It was thought that dyads who had shared meditation or flow experiences may perform better, i.e. facilitate each other more during the experiment. The Action Control Scale (ACS-90) (Kuhl, 1994) was administered to participants as a measure of volitional control, in order to assess the correlates with the other psychological measures and the psi influence. Finally, a measure of belief in psi, the Sheep/Goat Scale (Palmer, 1971) was used in order to assess the role of belief in the experiment.

Method

Experimental design

The experimental design was chosen to replicate the study conducted by Braud et al. (1995), as closely as possible. However, it was decided not only to replicate, but also to extend and explore some of the parameters.

The independent measure is Help versus Control periods of influence. The dependent measure is the number of button presses during the influence periods. The participants were tested in Helpee/Helper pairs, with equal numbers of Help and Control periods in random pair sequencing. The sample size was pre-set at 40 pairs, before data collection began. Psychological assessments were administered to participants, and correlated with a measure of the validity of "remote helping of attention" (psi influence).

Participants

Eighty unpaid volunteers (58 females, 22 males), ranging in age from 18 to 54 years, participated in pairs. Half of the participants were friends, or fellow students of the experimenter. The remaining participants were either recruited through announcements at the end of 1st year Psychology lectures, or via a University broad e-mail distribution list. The list was set up independently by the University Computing Services. Two thousand students from a wide range of faculties, and a range of years were sent an e-mail detailing the research program being run and inviting them, if interested to come and take part. All participants (both e-mail recruits, and verbal recruits) were asked whether they would be interested in participating, for about one and a half hours, in a laboratory experiment investigating remote mental influence of attention focusing. If they expressed interest, they were then asked if they knew someone, i.e. a friend, with whom they would like to do the experiment. Forty people were recruited in this manner, and each person brought someone they knew with them. Although no attempt was made to target particular sample populations, efforts were made to have as wide a sample base as possible, whilst still choosing persons with the requisite interest in the processes under study. The results can only be generalised to the population of similar, self-selected individuals. Within each pair, one subject took on the role of helpee, and the other took on the role of helper.

Setting

All sessions were conducted in the laboratory facilities of the Koestler Chair of Parapsychology, during January, February and early March of 1997. For a detailed description of these facilities and their security measures, see Dalton et al. (1994). *Physical layout.* During the experimental sessions, it was essential to guarantee that there were no sensory cues that could inadvertently let the helpee know which condition was in effect at any given time. Therefore the helpee and helper were situated in separate closed rooms. The floor plan of the laboratory is given below, see Figure 1. The Helpee was seated in a sound-shielded room, and there were four closed doors and a long intervening corridor between the rooms. Even if the helper were to make verbalisations they could not be heard by the helpee. For details of the testing procedures used to verify this please refer to Dalton et al. (1994). The helpee sat in a comfortable padded chair. Approximately five feet in front of them was a small lighted candle in a pale blue translucent glass holder suspended in a black metal holder. The helper sat in a comfortable padded chair. In front of them was a similar candle, a TV monitor, and a pair of headphones.

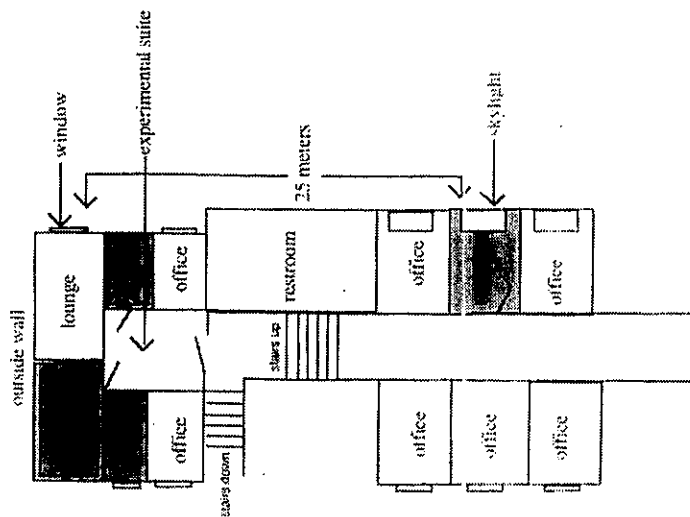


Figure 1. Laboratory layout

In the experimenter's room there was a TV monitor and the automated computer system. Software was designed specifically for this experiment, and runs under a combination of Microsoft Quick Basic 1.0 and DOS 5. The series of help/rest influence periods were randomised as part of a pseudo-randomised algorithm built into the Quick Basic program. It ensured an equal number of control and help periods as well (8 of each). This was achieved by the random choice of either a Help/Control pair sequence, or a Control/Help pair sequence. The randomness of this method has been verified, for details see Dalton et al (1994). The details of what period (help/control) was currently running was displayed on the helper's monitor. The program also delivered a 'beep' via the headphones to the helper, in order to remind them to look at the monitor to see which type of influence period was occurring. The experimenter's screen only displayed the number of the influence period, therefore ensuring that the experimenter was unaware of when the helping was occurring. The program produced

a datafile for each session detailing the number of button presses for both the rest and the help periods. This was stored on both the hard drive and a floppy disk.

Questionnaires:

A personal information form was used to collect information about the nature of the relationship between the participants, as well as their experience (individual and joint) of formal meditation and so-called "flow experiences" (Csikszentmihalyi, 1992). Questions were asked regarding how long they had known each other, and how close/intimate they felt this relationship was in relation to all others they have had. They were also asked about their experience of Meditation, Yoga, Tai Chi, or something similar, including length of time of practice and whether they still practice now. They were also asked whether they had practised 'meditation' together, or if they practised anything else together regularly that would constitute a flow experience. (For full questionnaire see Appendix 1).

They also filled out several psychological assessments. The first measured everyday concentration difficulties, and was the original questionnaire used by Braud et al. (1995), to measure the degree to which the participant experienced difficulties in focusing attention or concentrating in every day life. The second was a general Sheep/Goat questionnaire designed to assess belief in psi phenomena (Palmer, 1971), the third measured degree of action orientation (ACS-90) (Kuhl, 1994), and the fourth assessment was a 34-item Absorption scale of tendency to become totally absorbed in everyday events. Finally after completing the experiment they filled out a measure of estimated attention success during the experiment. For purposes of analysis participants were categorised as either "more needy" or "less needy", using a method called "conjoint classification" (Braud et al., 1995), as follows. The scores on the concentration questionnaire and the attention measure correlated significantly; therefore, more needy participants were those who scored below the median on the attentional success measure *and* who also scored above the median on everyday concentration difficulties. This measure *and* who also scored above the degree of need to focus attention in both lab *and* life. Less needy participants were those who scored above the median on the attentional success measure *and* who also scored below the median on everyday concentration difficulties. This was considered to be a measure of relative freedom from need to focus attention in both lab *and* life.

Procedure

Participant and experimenter activities. After being greeted and shown to the hospitality room, the participants filled out the questionnaires. Instructions for the experiment were then given.

It was decided that the friends should make a decision themselves as to who would help and who would be helped, and that this decision would best be made once the whole experimental procedure had been explained. There were rarely any problems during the decision process, however; if neither participants could make a decision a coin was flipped. The participants were initially given instructions by the experimenter for the attention task verbally as follows:

The purpose of this session is to look at the effects of joint meditation on your attention focusing abilities. Some people are able to focus their attention readily on one thing while others tend to scan over a number of things. Of course, we all do both of these, focusing and scanning, to some degree but generally a preferred mode develops. In this experiment, I am going to rely on your report of the extent to which you were or were not able to keep your attention focused. I am going to ask you to focus your attention on a candle, a small lighted candle in a pale blue translucent glass holder suspended in a black metal holder. By focusing I do not mean analysing the different parts of the candle, or thinking a series of thoughts about the candle, or associating ideas to the candle, but rather trying to see the candle as it exists in itself, without any connection to other things. Try to exclude all other thoughts or feelings or sounds or bodily sensations. Do not let them distract you but keep them out so that you can focus all your attention, all your awareness on the candle. Try to let the perception of the candle fill your entire mind.

Most people find it fairly difficult to keep their mind empty of thoughts and it is expected that you will experience the intrusion of random thought. If you are being helped (i.e.: the helpee) I'd like you to signal each time an intrusion occurs by pressing a small hand held button-presser. Some extremely fleeting thought or perception may cross your mind and not be counted as an intrusion so long as long as you do not get caught up in a stream of thought about it. An intrusion is counted whenever you find that you have got caught up in some thought or other and, by force of will, have to bring yourself back to the task of just focusing on the candle. It is as if you have momentarily forgotten the task or had a slight lapse of consciousness and then suddenly remembered what you were supposed to be doing. It is very important that if you are being helped, you report the intrusions as honestly as you can without trying to get caught up in trying to look good to me.

Both participants were given this information, then the experimenter explained the helping process as follows:

If you are going to help, then for half the experiment you will be focusing on a similar candle while attempting mentally and at a distance to help your friend pay attention to their candle. For the other half of the experiment you should try to occupy your mind with everyday matters and try not to think about your friend or the experiment a lot. These periods of influence will be one minute long and there will be eight of each. They will also be occurring in random pair sequencing (Control/Help Vs Help/Control). So you may get two help or control periods together. The type of the current period will be indicated to you by means of a monitor display (Help or Control). In addition, there will be an auditory signal (a "beep") at the beginning of each influence period administered as an extra signal to inform you to look at the monitor to see what the next influence period will be. You will not need to report distractions from the candle; however, if you do become distracted just gently return your focus to the candle.

The experimenter CB instructed the participants from memory based on the script presented here. Once both participants felt that they understood what was being asked of them, they were left alone for five minutes to decide which role they would like to try. The experimenter left the room so as not to influence the decision. The participants were then shown to their respective rooms and both were sat in comfortable armchairs with the candle approximately two metres away. The helpee was left in the soundproofed room and started the attention focusing task as soon as the door was closed. The helper was then taken up to the other room and shown the monitor, headphones and volume control (for the beep). The experimenter then returned to her room and after allowing for a minute or two of relaxation for the helper, she then pressed the session start button on the computer. At this point a random sequence for the Help/Control periods was determined, also the computer recorded only those button-presses that occurred once the session had been started. This was done so that the helpee would not be exactly aware of when the session had started and would hopefully be quite calm and relaxed in the surroundings. This also reduced any chance of the helpee trying to work out when the specific influence periods were occurring. At the end of the session, the helper's monitor displayed 'session over', and the participant was instructed to blow the candle out and return to the hospitality room. The experimenter shut down the system and the data was automatically saved to both the hard drive and to disc. Then she opened up the soundproofed room and subject-A returned to the hospitality room. Immediately upon return both participants were asked to fill out their "estimate at success at focusing attention", a one item visual analog scale on which the participant marked a 10cm line to indicate how well attention had been maintained

on the candle for the overall session. Once completed, each participant's questionnaire was coded (e.g. 1a and 1b, session 1, a=helped, b=helper) and then filed away until all sessions were completed.

Preplanned Analyses

1. The primary hypothesis was that the helpeses distraction score (frequency of distractions) would be greater for Control than for remote Help periods. This was analysed by a matched t test on the number of distractions (button presses) in the Help and Control periods respectively. The effect size (r) (Braud & Schlitz, 1991) associated with this t was also calculated.
2. Of secondary interest were the need related hypotheses. (using the conjoint classification: Braud et al., 1995)
 - a) Helpeses, classified as more needy will experience a greater psi interaction score than those classified as less needy.
 - b) Helpers, classified as more needy will contribute to a lesser psi interaction score than those classified as less needy.
3. Participants (i.e.: helpeses) who score high on absorption will also score high on total number of distractions during the experiment.

Exploratory Analyses

4. For both participants it was thought that those who scored as sheep would exhibit a greater psi interaction score than those who scored as goats. Participants score on the ACS-90, will be correlated with psi interaction score to see if any relationships exist. The length of time the subjects have known each other will correlate positively with the psi interaction score. Subjects rating of intimacy of friendship will correlate positively with psi interaction score. The helpeses 'formal meditation experience' will be correlated with total number of distractions, and the helpers 'formal meditation experience' will be correlated with psi interaction score, and finally subjects experience of joint 'flow activities' will be correlated with psi interaction score, again to see if any relationships exist.

The psi interaction scores were calculated as follows, $1 - (a/a+b)$, where a = number of button presses in help condition, b = number of button presses in control condition. MCE (mean chance expectation) = 0.5, ($>.5$ = remote helping effect, $<.5$ = negative effect.)

Results

1. The presence of a remote mental interaction upon participants' ability to sustain a focused state of attention was examined by comparing the number of button presses as a measure of

distraction during Control periods, with those occurring during remote mental Help periods. For each of the 40 sessions, distraction scores were summed across the 8 one-minute Control (baseline) periods and the 8 one-minute Help periods. The mean numbers of total distractions (button presses) during the Control and Help periods were 19.60 and 18.45 respectively. These numbers correspond to distraction rates of 2.45 and 2.31 distractions per minute, respectively. A matched t test calculated for these measures indicated a significant difference between the Control and Help distraction scores, yielding $t(39) = 1.775$, $p = .04$, one tailed. The effect size (r) associated with this t is 0.27.

2. For both sets of subjects the everyday concentration difficulty scores did not correlate significantly with the attention success scores (Helpes: $Rho = .038$, $p = .87$. Helper: $Rho = .069$, $p = .67$). However, participants were still categorised using the conjoint classification method in order to examine the role of need. Helpeses were classified as either more or less needy (8 more needy, 7 less needy). Their respective psi interaction scores were calculated, and an unmatched t -test was performed, $t(13) = -.738$, $p = .24$ one tailed. For the needy subjects, the mean psi interaction score was (.528), for the less needy subjects the mean score was (.588). Helper's were classified as either more or less needy (9 more needy, 8 less needy). Their respective psi interaction scores were calculated, and an unmatched t -test was performed, $t(15) = -1.029$, $p = .16$ one tailed. For the needy subjects the mean psi interaction score was (.478), for the less needy subjects the mean score was (.55). Although the results for the helper seem to be in the expected direction, the results for the helpeses are not. In order to look at the role of need in more detail a post hoc analysis was performed in the following manner. Subjects were classified as more or less needy separately on the two measures, concentration difficulties and attention success, to look at need within everyday life and need within the context of the experiment. In order to classify participant need the data for each measure was dichotomised at the median. The respective psi interaction scores were calculated, and an unmatched t -test was performed on the data to compare the scores for needy participants versus less needy participants. This method was chosen as the most reasonable one in order to define participant need on the separate measures.

Need within everyday life: Concentration difficulties in everyday life

Helpes: $t(38) = -1.356$, $p = .09$ one tailed. Needy subjects mean psi interaction score (.494), Less needy subjects psi interaction score (.541). Helper: $t(38) = -1.021$, $p = .16$ one tailed. Needy subjects mean psi interaction score (.498), Less needy subjects psi interaction score (.533).

Need within the context of the experiment : Attention success

Helpee: $t(38) = .135, p = .45$ one tailed. Needy subjects mean psi interaction score (.519), Less needy subjects psi interaction score (.514). Helper: $t(38) = -1.344, p = .09$ one tailed. Needy subjects mean psi interaction score (.493), Less needy subjects psi interaction score (.539).

For all correlations below, $n = 40$. All correlations are listed positive when they are in the predicted direction, and negative when they are not.

- The correlation between the degree of absorption of the helpee and their total number of distractions was not in the direction expected with regard to Braud et al. (1995), and was not significant ($Rho = -.112, p = .48$).
- The correlation between degree of belief in psi (Sheep/Goat variable) and the helpees psi interaction score was in the expected direction, but not significant ($Rho = .102, p = .52$). The correlation between the degree of belief in psi and the helper's psi interaction score was not in the expected direction and was not significant ($Rho = -.161, p = .31$). The correlation between the degree of the helpees volitional control and their psi interaction score was in an unexpected direction, and was not significant ($Rho = -.154, p = .34$). The correlation between the degree of the helper's volitional control and their psi interaction score was also in an unexpected direction, and was not significant ($Rho = -.154, p = .34$). The correlation between length of time pairs of participants had known each other and the resultant psi interaction score for the pair was in the expected direction, but was not significant ($Rho = .188, p = .24$). Neither of the correlation's between intimacy ratings of the pairs of friends and the resultant psi interaction scores were significant (Helpee: $Rho = .003, p = .99$; Helper: $Rho = -.042, p = .79$). The correlation between the helpees experience of formal meditation and their total number of distractions was not significant ($Rho = -.007, p = .97$). The correlation between the helper's experience of formal meditation and their resultant psi interaction score was not significant ($Rho = -.046, p = .77$). The correlation between participants experience of joint flow activities and psi interaction scores was in an unexpected direction and was not significant ($Rho = -.164, p = .30$).

Discussion

Our overall significant 'mental interaction' supports the findings in Braud et al., (1995). The effect size of .27 is comparable to the effect size reported in both the original study (.25), and also the 15 human electrodermal influence series (.25) reported in Braud & Schlitz (1991).

Of secondary interest was the attempt to replicate the 'need related' findings. As mentioned in the results section, unlike Braud et al. (1995) the measures of concentration difficulties in everyday life and attention success during the experiment did not correlate for either the helpees or the helpers, which therefore casts doubt on the validity of the method of conjoint classification. However, in the original study all the psychological measures were completed after the experiment, yet in this study only the attention success measure was completed after the experiment. Therefore it is possible that in the original Braud study, the psychological measures were influenced in part by the experience of participating in the session. For the helpees, the conjoint classification of need did not show the expected patterns with those subjects least in need experiencing a greater direct mental interaction than those in greater need. For the helpers the results were as predicted, with the participants who were in need contributing to a small reversed interaction, and those who were classified as less needy contributing more in terms of a psi interaction.

A post hoc analysis of the need related hypothesis in terms of 'need within everyday life' measured by the concentration difficulties questionnaire, and in terms of 'need within the context of the experiment' measured by the attention success rating revealed a complex relationship between the role of the participant (i.e. helpee or helper) and the experienced need. The helpees scoring as more needy on the concentration questionnaire contrary to expectation did not experience a larger psi interaction (mean .494) than those classified as less needy (mean .541). However, there was not a significant difference overall between the two sets of helpees (see results section 2 for all t-test scores). For the helpers, the results were as expected but not significant, with those subjects who were classified as more needy contributing to a lesser psi interaction (mean .498) than those classified as less needy (mean .533). For the measure of need within the context of the experiment, the results were more as expected. The more needy helpees experienced a slightly greater psi interaction (mean .519) than the less needy helpees (mean .514). Again the difference between these two groups was not significant. The less needy helpers contributed to a reversed effect (mean .493). From these results it is possible to conclude that the attention success measure is a more reliable indicator of need in relation to the helper, than the helpee. The concentration difficulties measure is a more reliable indicator of 'need and resultant ability to help', in relation to the helper. However, due to the results with this measure and the helpees', it is possible to infer that the relationship between need within everyday life and the experience of a remote psi interaction is more complex and is possibly related to the role of the participant within the experiment.

The correlation between the helpers total number of distractions and their absorption score was not replicated. The original result was in an unexpected direction and, although it was not significant, the result from this experiment was in the opposite direction, i.e. in the direction originally expected by Braud et al. (1995). Braud emphasised that the interpretation was unclear, so it is possible that this was just an artefact of the original analysis.

There were no significant correlations between belief in psi phenomena and psi interaction. However, the Sheep/Goat variable, is not a robust effect (Palmer, 1971), with only a proportion of the studies reporting a significant correlation between the Sheep/Goat score and success in psi experiments. It is also important to point out that the Sheep/Goat variable has been used more often within the context of ESP experiments, rather than DMILS specifically, and the questions on the scale used referred directly to experiences of both ESP and PK, but not DMILS type experiences. It is also important to note that the experimenter, CB, attempted to place participants at ease, and preferred a style of interaction with participants that conveyed enthusiasm, comfort, trust and confidence. She also did not start any particular session until she felt that both participants in the session were fully ready. Perhaps when CB became aware that non-believers may be at a disadvantage she made an extra effort to frame the experiment in terms of experiences they may have had in everyday life, and had not thought of them in terms of a distant mental interaction. It is therefore possible that due to her style of interaction individual differences in belief did not have such a dramatic effect on the production of a psi interaction. This can be a kind of experimenter effect, (e.g. Morris et al., 1995), and is only a possible explanation. It would be necessary to repeat the experiment using more than one experimenter to see if there is a real experimenter effect.

The participants' degree of volitional control was not a good predictor of success in the experiment. It was expected that helpers with low volition scores would experience a greater psi interaction (again possibly connected to the need related hypothesis), and that helpers with high volition scores would contribute to a greater psi interaction. However this was not the case.

There was no effect of the length of the participants' friendship, or their ratings of intimacy on the success of the psi interaction; however, as mentioned in the introduction the findings for these variables are unclear (Carpenter, 1986).

For all participants, experience of formal meditation did not correlate significantly with attempts at focusing; however the implications and limitations of these measures will be discussed in length later. It was predicted that experience of formal meditation would correlate negatively with their total number of distractions, however no significant correlation was found. It was also expected that helpers who had experienced meditation would contribute to a greater psi interaction; again no significant correlation was found. Finally the last prediction concerned participants' experience of joint flow activities. It was expected that this would correlate positively with psi interaction, however no significant correlation was found.

Although a significant effect has been found in the primary analysis, it is important also to consider the non-psi hypotheses. It is possible to rule out a multiple analysis artefact for this finding as there was only one primary hypothesis and analysis. Also its close approximation to previous findings (effect size .27) supports a psi hypothesis. During the design of the experiment great emphasis was placed on designing a replication of the original study (Braud et al., 1995), whilst adhering to the guidelines detailed in Braud & Schlitz (1991). Therefore although it is impossible to exclude all possible means of communication, and it has been acknowledged (Dalton et al., 1994) that there is no such thing as a single absolutely fraud proof experiment, it is felt that this replication provided an experimental protocol with a high measure of security, combined with the type of warm, encouraging friendly environment that psi seems to require.

As mentioned earlier the measures regarding experience of formal meditation and flow experiences did not produce any significant results, however, since completion of the experiment, problems concerning the short questionnaire regarding personal information such as meditation experience have been highlighted. It is important to note that these were exploratory questions. For example formal meditation experience did not distinguish between Meditation, Yoga, or even Tai Chi. There was no distinction between those who no longer practised and those who did; also there was no distinction between the types of meditation. It would perhaps be of more interest to study particular groups of practising meditators or Yogis, etc. rather than within a general population as within this experiment. Only 33 of the 80 participants were classed as having experienced 'formal meditation', and for many their experience was limited to one or two sessions in their whole life. So, although the results for this section were not very promising, this could possibly be improved upon by targeting specific populations.

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Appendix 1.

Personal Information (Questionnaire 1)

Please read all questions carefully and give as honest as possible answers. Do not confer with your friend when filling out the questionnaires.

1. Age....., Sex M / F
2. How long have you known your friend? (i.e. the person with whom you will do the experiment) months (approximately if for a very long time)
3. Mark on the scale provided how you rate this friendship in light of other close friendships you have had/still have.

1.....]	Very Close
Friend/Acquaintance	Intimate Friend
4. Have you ever practised meditation, yoga, Tai Chi or something similar? Y / N
 If so, for how long.....months
 Do you still practice? Y / N
5. Have you ever practised one of the above with your friend? Y / N
 If yes, for how long.....months
 Do you still practice together? Y / N
6. Have you ever practised any of the following together ; climbing, sailing, snowboarding/skiing, parachuting, playing music together (i.e. an exhilarating all mind encompassing physical and mental activity) Y / N
 If so for how long.....months
 Do you still practice together? Y / N
7. Have you ever shared a "mystical experience"?
 If so give it a rating 0-10 on how empathic the experience was
8. If you feel there is any other information relevant to any of the questions asked please feel free to give any extra details below.