

EXPERIMENTER EFFECTS AND PSI PERFORMANCE USING A DIGITAL AUTOGANZFELD SYSTEM

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The ganzfeld procedure has been used within parapsychology for over 30 years as a controlled method of studying 'psi' experiences in a laboratory setting. The utility of the ganzfeld paradigm in providing replicable empirical support for the existence of an anomalous process of information transfer continues to be debated in both the parapsychological literature as well as more 'mainstream' psychological literature (e.g., Bem & Honorton, 1994; Bem, Palmer & Broughton, 2001; Milton, 1999; Milton & Wiseman, 1999; Milton & Wiseman, 2001; Schmeidler & Edge, 1999; Storm, 2000; Storm & Ertel, 2001).

Researchers on both sides of this debate point to the need for further attempts to replicate and extend ganzfeld-ESP findings across a wider range of laboratories and researchers. With this in mind, researchers at Liverpool Hope University College have developed a fully automated computerised ganzfeld testing system that builds upon the strengths of earlier autoganzfeld systems, and which is flexible and easy to install (Fox, Smith & Williams, 2002).

Added to this, the 'experimenter effect' (where some experimenters are consistently more successful than others in obtaining evidence for psi) continues to be a major challenge facing experimental parapsychology (e.g., Kennedy & Taddonio; 1976; Smith, 2003). This is because the experimenter effect is often held responsible for unsuccessful replication attempts. Whilst there is much debate over the replicability of ganzfeld-ESP findings, there has been very little research directly examining the role of experimenter effects in ganzfeld research (e.g., Parker, Miller & Beloff, 1977). This is unfortunate as experimenter variables may play a central role in explaining the replicability of ganzfeld-ESP findings. This is likely to be especially true if experimenter effects are explained, at least in part, in terms of how the experimenter interacts with his or her participants because participants in ganzfeld experiments are tested individually (as opposed to being group tested) and there is sustained experimenter-participant interaction at the beginning of each session and during the important judging stage.

This study will experimentally assess the relative effects of experimenters' attitudes towards psi and expectations of success upon ESP performance by conducting a ganzfeld study with multiple experimenters. Sixteen individuals are being recruited as experimenters on the basis of their prior attitudes towards psi, with the aim of recruiting those obtaining either high or low scores on a measure of attitudes towards psi. Each experimenter will then conduct 8 trials, giving a total of 128 trials. Experimenter expectancy regarding the likely success of the experiment will be manipulated so that half the experimenters are given a positive expectancy of success and half are given a negative expectancy of success. Experimenters in the positive expectancy condition will be told that previous research using the ganzfeld procedure and, more specifically, research using the digital autoganzfeld system has so far been very successful in obtaining strong evidence in support of ESP and that we expected the trials they were about to conduct would obtain similar positive results. Experimenters allocated to the negative expectancy condition will be told that previous research using the ganzfeld procedure has been difficult to replicate. More specifically, they will be told that previous attempts using the digital autoganzfeld system have been unsuccessful in obtaining evidence for ESP and that we expected the trials they were about to conduct would obtain similar negative results.

The effects of these independent variables upon participants' confidence of success and actual performance on a ganzfeld-ESP task will be assessed. This general approach has been used to good effect to examine experimenter expectancy in psychological research (e.g., Rosenthal, 1976) and has been used successfully in some previous research on experimenter effects in parapsychology (e.g., Parker, 1975; Taddonio, 1976; Watt, 2002). However, no previous research has used this approach with the ganzfeld

paradigm, nor has any previous research discriminated between a priori attitudes towards psi and more specific expectations about the outcome of the experiment.

The study is using our newly developed digital autoganzfeld system. This system comprises a software application, *DigiGanz*, which is installed onto the hard drives of two Apple iMac computers linked via an Ethernet cable. At Liverpool Hope these two computers are housed in two separate rooms, in different buildings, approximately 30 metres apart. *DigiGanz* allows the two computers to communicate with each other; one acting as the sender's machine, the other as the receiver's machine. The software then coordinates the ganzfeld testing procedure by, for example: prompting the experimenter to enter session details; leading both sender and receiver through a relaxation exercise; using a random function to select the target (from a pool of 100 digital movies, each lasting 60 seconds, stored on the computers' hard drives); displaying the target to the sender; guiding the experimenter and receiver through the judging procedure; and storing the data securely. The software also plays white noise to the receiver and records the receiver's mentation. As this system is designed to be relatively easy to use, it is possible to train undergraduate and postgraduate students to use the system fairly quickly. This means that more time and effort can be devoted to training experimenters in other skills deemed to be important in ganzfeld research. These include those social skills associated with creating a warm and friendly atmosphere, such as putting participants at ease, explaining what the experiment involves, and responding to participants' questions. In order to explore more fully the possible effects of the experimenters' attitudes towards psi and expectancy upon the experimenter-participant interaction, video recordings of a sub-sample of ganzfeld testing sessions (two sessions per experimenter) will be made for subsequent content analysis. This will allow us to, for example, examine whether there is a tendency for experimenters in the different conditions to interact with participants in observably different ways. For example, do experimenters given a 'positive' expectancy tend to display more enthusiasm than experimenters given a 'negative' expectancy? Are experimenters' expectations and attitudes towards psi communicated towards participants explicitly or implicitly?

Participants and experimenters will also complete self-report questionnaires that include the Keirsey Temperament Sorter (Keirsey, 1998) (a 70-item self-report personality measure), questions about personal psi experiences, whether they practise any form of mental discipline and their attitudes towards psi phenomena.

PLANNED ANALYSES

Primary analyses

A 2 x 2 between groups ANOVA will be used to assess the effects of experimenter attitudes towards psi ('high' scores versus 'low' scores) and experimenter expectancy ('positive' versus 'negative' expectancy) upon ganzfeld-ESP performance. For this analysis, ratings for targets and decoys for each trial will be converted into standardised ratings. ANOVA will also allow the interaction between these two independent variables to be assessed.

Secondary analyses

These will include a similar 2 x 2 ANOVA examining the effects of experimenters' attitudes towards psi and experimenter expectancy upon participants' confidence of success in the ESP task. Any interaction effect will also be assessed.

Exploratory analyses

We will undertake an exploratory content analysis of the video recordings of a sample (25%) of the ganzfeld testing sessions (the 3rd and 7th session of each experimenter will be recorded). A prototype coding framework will be developed based on previous psychological research on experimenter effects (e.g.,

Friedman, 1967) in which experimenters' behaviour will be coded in terms of both verbal behaviour (e.g., information-giving; question-asking) and non-verbal behaviour (e.g., eye-contact; smiling). The analysis will explore differences in behaviour between experimenters in the positive and negative expectancy conditions as well as between experimenters with high and low scores on attitudes towards psi.

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