

Knowing the Unknown: Participants' Insight in Three Forced-Choice ESP Studies

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ABSTRACT: Three studies were conducted in which participants were asked to indicate for each forced-choice ESP trial whether their call was based upon an impression or a guess. Each study had 12 emotionally unpleasant and 12 neutral targets for a total of 24 trials, thus participants had a simple binary choice with a 50% MCE hit-rate. Experiment 1 had a GESP design and 48 novice participants. It found nonsignificantly higher ESP scoring on impression calls (51% hit-rate) compared to guess calls (48% hit-rate). Experiment 2 had a clairvoyance design and 14 experienced participants who had undergone training in procedures reputed to enhance psi functioning. These participants scored significantly on impression calls (56% hit-rate, $Z = 1.89, p = .03$, one-tailed) compared to a near-chance hit-rate of 51% for guess calls; the difference in scoring between impressions and guesses was not statistically significant. Experiment 3 had a clairvoyance design and 75 novice participants who reversed the trend seen in Experiments 1 and 2, with nonsignificantly lower scoring for impression calls (49% hit-rate) compared to guesses (51% hit-rate). It is concluded that participants may have some degree of insight into the accuracy of their forced-choice ESP impressions, particularly if these participants have had previous experience that may have facilitated the recognition of the characteristics of accurate ESP impressions. The importance of the phenomenological experiences underlying participants' laboratory ESP mentations and calls is stressed.

What does a correct psi impression feel like, and can it be accompanied by a degree of insight about its veridicality? A survey of "gifted" ESP subjects (White, 1964) showed some agreement on the phenomenology that they associate with a correct response: begin with relaxation procedures, take time and effort to clear the mind of extraneous thoughts, adopt an attitude of "passive receptivity," and then wait for an impression to occur. Images that were accompanied by a feeling of certainty or that were particularly spontaneous or vivid were felt to be more likely to be correct, but because this was a survey of anecdotal accounts the veridicality of these impressions could not be objectively established. In her survey of free-response judging practices, Milton (1990) found little empirical support for the association of specific mentation characteristics (e.g., rare mentation items) with correct psi impressions. However, she did note that there is evidence that postsession interviews with participants can elicit information that facilitates the correct identification of psi-related impres-

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sions, which suggests that some insight may be retrievable from the experiential aspects of a mentation.

Confidence calls, that is, the participant's indication of which trials in a forced-choice study they feel are particularly likely to be correct, are another way of tapping the insight that participants may have into their psi impressions. Several studies have shown relatively high psi scoring on trials for which confidence calls have been made (Fahler & Osis, 1966; Honorton, 1970, 1971; McCallam & Honorton, 1973). However, confidence calls do not provide qualitatively rich information on what a correct psi impression feels like. Recognizing this, the study by McCallam and Honorton (1973) also used a structured interview to gather participants' subjective reports on their experiences for the trials for which confidence calls were made. It was found that those participants who based their confidence calls on multiple cues (e.g., a combination of intuition and somatic feelings) showed the greatest improvement in accuracy of confidence calls after feedback.

McCallam and Honorton are among the few researchers who have formally investigated participants' phenomenological response to a forced-choice ESP task. To explore this neglected area in greater detail, Milton (1994)¹ conducted a forced-choice ESP study by mail in which she examined uninstructed participants' guessing strategies using a "cognitive strategy questionnaire" following the ESP task. Confidence was most commonly ascribed to the experience of a visual image or a more vivid or clear image than usual, or of a "hunch" or a "feeling of confidence." Overall, ESP scoring was nonsignificantly lower on confidence call trials than on the other trials; scoring was nonsignificantly higher on imagery-based confidence trials than on hunch-based trials. In commenting on these results, Milton noted that fewer than 6% of participants made their guesses sufficiently slowly to think carefully about each trial. Those who made hunch- or imagery-based confidence calls took significantly longer over the ESP task than others. She felt that slower, more introspective styles of guessing in forced-choice studies might increase the use and accuracy of confidence calls.

Confidence calls are usually only made on a small proportion of trials, for example, a mean of 8% of trials in Milton's (1994) study. Another approach is to ask the participant to categorize their subjective experiences for each psi trial. This is what Honorton (1987) did in an experiment with the experienced participant Malcolm Bessent. Bessent was presented with a computer psi task of 1,000 trials. Before receiving feedback on each trial, Bessent indicated whether his response was based on an impression, a feeling, or a guess, defined as follows:

Impression: Your choice was based on a distinct cognitive impression such

¹ See also Milton (1995).

as an image or verbal association.

Feeling: You had no cognitive impression, but felt drawn to your choice.

Guess: Your choice was based neither on an impression nor a feeling. You cannot identify any specific reason for your choice. (p. 298)

Bessent's highest scoring was for "impression" trials (hit-rate of 31% where MCE = 25%). His impressions consisted of fleeting images of shapes; thus, as in Milton's (1994) study, the highest scoring was on imagery-based trials.

Of course, a participant's mode of responding on a forced-choice task depends in part on how the task is presented. Honorton's (1987) study with Bessent involved a task that encouraged the use of imagery, as in a free-response study due to the relatively large range of target possibilities. Nevertheless, under these favorable conditions Bessent still spent only around 11 seconds per trial and tended to take less time over each trial as the experiment progressed. Typically, though, a forced-choice study involves a large number of trials with a small range of possible targets—conditions that probably discourage lengthy reflection for each trial. As Milton (1994) noted, the speed of responding in typical forced-choice studies is in sharp contrast to the lengthy and intensive procedures recommended by the gifted subjects in White's (1964) survey. Participants rarely feel conviction with forced-choice methods, and these methods require the kind of cognitive, deliberate approach that L. E. Rhine (1951, 1978) felt was not conducive to the qualitative experience of conviction.

Despite this, however, the results of the studies reviewed above suggest that under certain conditions participants can indeed have conscious insight into when they are having a correct psi impression under forced-choice conditions. Trial-by-trial feedback, as was the case in Honorton's studies, appears to be helpful despite the problem of false feedback from the many chance hits that must characterise forced-choice methods (but see Jackson, Franzoi, & Schmeidler's, 1977, follow-up for an alternative interpretation of Honorton's findings). In the experiments reviewed above, however, the psi targets were relatively bland: the numbers 1 to 10 (Fahler & Osis, 1966); ESP cards (Honorton 1970, 1971; McCallam & Honorton, 1973); a series of computer-displayed symbols, pictures, and words (Honorton, 1987); and the numbers 1 and 0 (Milton, 1994). Would participants gain stronger and more accurate impressions if the targets were intentionally emotionally arousing? A high proportion of reports of spontaneous psychic experiences involve emotionally unpleasant events (Schouten, 1979, 1981, 1982); perhaps these events have more meaning and impact for those involved and convey stronger psychic impressions.

This paper describes three experiments that were carried out as part of a doctoral thesis comparing subliminal perception and extrasensory perception (Watt, 1993b). The main features of each experiment were very similar: participants took part in two testing sessions, the first a measure of subliminal perception and the second including a 24-trial forced-choice ESP task using 12 emotionally unpleasant and 12 neutral targets. It was

hoped that using emotion-inducing targets would be a more meaningful task for participants than distinguishing between less contrasting neutral targets (such as ESP card symbols). Details of the subliminal-psi comparisons are reported elsewhere (Watt, 1993b; Watt & Morris, 1995). The targets systematically varied on the dimensions of emotionality/neutrality and simplicity/complexity; details of this aspect of the research are reported elsewhere (Watt, 1993a; Watt, in press). The present report is restricted to a consideration of the forced-choice ESP results that were obtained in the second session, particularly the participants' subjective reports of whether their target calls were based on impressions or guesses. Note that participants were not asked to indicate on which trials they felt particularly confident of an accurate call; therefore, this study was not using typical confidence calls. Instead, participants were asked to give the reason why they made each call, as in the study by Honorton (1987). There was no emphasis on participants' feelings of confidence or accuracy—on the "correctness" of their calls, one might say; instead, my interest was in the process underlying each choice of target. In Experiments 1 and 2, the information gathered about the reasons for participants' target calls was limited to the two categories "impression" and "guess." More detailed information was gathered in Experiment 3, which included a measurement of the time taken for the ESP task and more detailed phenomenological reports from participants on the processes underlying their ESP calls.

The main shared characteristics of the three experiments will be described at the outset, so that each subsequent "Procedure" section only highlights procedural variations from the basic methodology.

OVERVIEW OF PROCEDURE

General Set-Up for ESP Session

All participants were volunteers with a wide variety of ages, occupations, and interests. They had been recruited through several channels, such as public lectures, articles in the media, or they had contacted the parapsychology unit at Edinburgh University independently to express their interest in participating in research. Following initial conversation and discussion of the procedure, the experimenter and the participant sat in a dimly lit sound-attenuated room containing the apparatus (a modified tachistoscope) that had been used for the previous week's subliminal measure, and that participants would gaze into again for the ESP measure. The box contained a dimly lit greyish illuminated panel, like a screen, at which participants could gaze while they considered the nature of the target (visually, the screen was like a "mini-ganzfeld" in that it was unpatterned, like gazing into fog). The participant held a button that was connected, via a computer and cable ducting, to a carousel projector housed in a second nonadjacent, sound-attenuated room (the "target room"). The target

slides were projected onto a screen in the target room, with the participant remotely advancing each target slide with the hand-held button. Following completion of the ESP task (of which further details are given below), the experimenter and participant returned to the target room and viewed the actual target sequence for feedback. Following collection and analysis of all data, each participant was provided with detailed debriefing of their results and of the results of the study as a whole.

Target Preparation and Security

Prior to the commencement of the study, the experimenter (C.W.) prepared a collection of random target slide sequences (see description of each experiment below for further details of random source). Strips of paper, each containing one of these sequences, were all put in a single envelope. Prior to each session, a person otherwise uninvolved with the experiment blindly selected one unique sequence, loaded the 24 ESP slides into the projector tray accordingly, and prepared the projector for use; therefore, each participant had a different random slide sequence. The person who loaded the projector tray wrote the participant's unique ID number and the date on the slip containing the random numbers. This was retrieved after the session to provide a permanent record of the target slide sequence, and it was attached to the written record of the subject's ESP calls. An opaque cover was attached to the slide tray so that experimenter and participants could not inadvertently glimpse the target sequence for that session (deliberate peeking could not be ruled out, but was unlikely because the participants were not left unattended prior to making their ESP calls). All participants thus remained blind to the ESP target order. After initial instructions had been given, the double doors of the target room were closed, and the experimenter and participant sat in the room where the previous subliminal testing had taken place, whose double doors were also closed.

Target Contents

The ESP target slides consisted of 12 identical line drawings of a rectangle (designated "neutral") and 12 different pictures that were designated "emotionally unpleasant" (based on emotionality ratings that were gathered in pilot studies with a different set of subjects). The emotional targets tended to depict scenes of aggression, violence, and threat; sexual or erotic targets were not used. Participants knew that there were equal numbers of emotional and neutral targets, but they were asked not to attempt to keep track of their calls or to try to balance their calls because this would add a source of noise to the data. For each of the 24 targets, participants gave their impressions of whether the target was unpleasant or neutral. Thus, this was a forced-choice ESP task with a 50% likelihood of a hit by chance alone, $MCE = 12$ hits.

Forced-Choice ESP Task

The ESP task consisted of two separate ESP measures, only one of which is the focus of the present paper. While participants gazed into the tachistoscope, their first task was to press a button to indicate when they first became aware of a blank slide that was gradually brightening in the center of the background screen. Participants were aware that this slide contained no information, and they were told that this was simply a measure of visual sensitivity to give a baseline measure for comparison with their previous subliminal perception test that had used an almost identical procedure. In fact, this was an exploratory measure of "unconscious ESP," the aim of which was to examine whether participants' responses to the blank slide in front of them was related to the nature of the ESP target (emotional or neutral) that was concurrently being displayed in the target room. Details of this "unconscious ESP" measure have been reported elsewhere (Watt, 1993a, 1993b), and as this was a secondary and exploratory measure, it will not be discussed further in the present paper. Once participants had pressed the response button to indicate awareness of the blank stimulus slide (unconscious ESP measure), that slide faded away to leave participants gazing at the unpatterned background field. At this point participants were to make their judgment as to the nature of the ESP target slide that was displayed in the target room. Thus, this was a forced-choice ESP task asking whether the target was emotional or neutral in nature.

Participants had as much time as they desired to form their impressions; when they had decided whether they thought the target was emotional or neutral, they told the experimenter, who wrote the participant's call on a form. The participant was also asked at this time to say whether their call was made on the basis of an *impression* or a *guess*. This information, recorded by the experimenter alongside each target call, forms the main focus of interest for the present paper (see following sub-section for further information on the criteria for impressions and guesses). When the participant was ready to proceed to the next target slide, they pressed the response button and this both remotely advanced the projector in the target room to display the next target slide and began the brightening of the next blank slide within the tachistoscope (unconscious ESP measure). Thus, this was a self-paced ESP task. Once the first 12 target slides had been responded to, the participant took a short break (also self-paced, but rarely more than five minutes in duration) during which time they relaxed and chatted with the experimenter. When they were ready to proceed with the second run of 12 target slides, the participant pressed the response button to initiate display of the next target. Only 24 trials were done because it was hoped this would lessen the chances of boredom and decline in scoring. On completion of all 24 ESP trials, the participant and the experimenter went directly to the target room where they viewed the actual target sequence so that the participant would get feedback on their success. As the actual targets were shown to the participant, the experimenter made an

initial written recording of whether each call was a "hit" or a "miss"; this was double-checked following the session in conjunction with the original random target sequence slip (no discrepancies or errors were discovered).

"Impressions" and "Guesses"

Prior to beginning the ESP testing, the participant discussed the procedure with the experimenter, including the criteria they should use to judge whether each ESP call was based on an "impression" or a "guess." An *impression*, it was explained to participants, could range from a simple intuition or hunch, an emotional feeling (such as feelings of fear or sadness), a somatic feeling (such as a prickling on the back of the neck, "butterflies" in the stomach), to a more "cognitive" impression, such as a thought or an image. A *guess* was where the participant had no idea of the target nature, not even the slightest hunch. When participants were guessing, it was explained, it was like tossing a coin to decide whether the target was emotional or neutral. Compared to the criteria for "impressions," "feelings," and "guesses" used in the study with Bessent (Honorton, 1987), an *impression* in the present study encompasses both "impressions" and "feelings" from Honorton's study.

The information given by participants on the reasons for each call in this study may be distinguished from a traditional confidence call in that participants were asked to give information on their strategy for each individual call rather than selecting only a few calls for which they felt particularly confident. Also, in the present study there was no emphasis on the accuracy or correctness of participants' impressions or guesses—participants were encouraged not to regard impressions as possibly being more accurate than guesses because they were told that it was possible that guesses contained less "conscious interference" than impressions. Thus, it was hoped that participants regarded impressions and guesses as of equal value in what they could reveal of the nature of the ESP process.

Scoring

All analyses were two-tailed, except where formal predictions were made about overall ESP performance and performance on impressions versus guesses.

EXPERIMENT 1

Experiment 1 was run between November 1990 and January 1991. Prior to the commencement of this study, the experimenter used the pseudorandom algorithm of a BBC microcomputer to prepare the potential ESP target sequences. A GESP design was used; novice participants were invited to bring along someone to act as "sender," though if preferred a student or staff member with the parapsychology unit would act as sender. Before

Table 1
FORCED-CHOICE ESP SCORING FOR PARTICIPANTS' "IMPRESSIONS" AND "GUESSES" IN
EXPERIMENT 1

	Trials	Hits	%hits	Z	p
Overall ESP	1145	574	50	.06	.48 (1-t)
"Impression"	807	413	51	.63	.53
"Guess"	338	161	48	-.82	.41
"Emotional Impression"	426	217	51	.34	.73
"Neutral Impression"	381	196	51	.51	.61
"Emotional Guess"	124	59	48	-.45	.65
"Neutral Guess"	214	102	48	-.62	.54

Note. MCE = 50% hits; all *p*-values are two-tailed except where indicated; *N* = 48.

responding to the targets, the participant, experimenter, and sender sat together in the target room and discussed how the sender would respond to the targets. It was suggested that the sender try to remain calm and neutral for the neutral targets but try to generate and experience the emotion portrayed by the unpleasant emotional targets, so that the participant would note a definite contrast in the feelings associated with the two target types. The forced-choice ESP procedure was as already described, except that the sender was present at the final viewing of the targets for feedback. Forty-eight individuals took part in this study (28 females, 20 males; mean age 39, range 19 to 66 years).

Predictions

The only prediction in Experiment 1 was for overall positive ESP scoring.

Results and Discussion of Experiment 1

The forced-choice ESP results for participants' impressions and guesses in Experiment 1 are summarized in Table 1². Overall ESP performance was at chance (50% hit-rate, $Z = .06$, $p = .48$, one-tailed). There was a 51% hit-rate for impression calls ($Z = .63$, $p = .53$) and a 48% hit-rate for guess calls ($Z = -.82$, $p = .41$). There was little difference in the accuracy of participants' impression calls for emotional versus neutral targets (51% hit-rate for the former, $Z = .34$, $p = .73$; 51% hit-rate for the latter $Z = .51$, $p = .61$), nor in their guess calls for these targets (48% hit-rate for *emotional guess* calls, $Z = -.45$, $p = .65$; 48% hit-rate

² The sharp-eyed will notice that there are seven missing responses in the results. Each was from a different participant. Five trials were lost due to a technical hitch, one was lost due to the carousel projector being wrongly loaded, and in one case the participant failed to make a response before they initiated the following trial.

for *neutral guess* calls, $Z = -.62$, $p = .54$). The trend for scoring to be higher for impressions than for guesses, though insignificant, is consistent with earlier research.

Despite the fact that participants tended to score more highly when they reported having an impression of the target nature, most participants seemed to have little confidence in their impressions (judging by their informal comments during and after the testing session). This reinforces my earlier argument that the present study's design (requesting information on the reasons for each target call) is not directly comparable with the traditional confidence call, whose emphasis is on the participant's subjective feelings of confidence or accuracy. When the experimenter and the participant informally discussed the nature of participants' impressions (e.g., whether they relied on somatic or cognitive impressions), the participant often qualified his or her description with a statement to the effect that "it might just have been my imagination." Perhaps this was because the participants had never previously taken part in an ESP experiment and thus were unaware that ESP impressions may often be faint and fleeting and unaccompanied by feelings of certainty, especially using forced-choice methods in the laboratory. On the other hand, the criterion set for describing a call as an impression was so low (in that it included any kind of impression, from the vaguest hunch to the most vivid visual image) that participants were understandably reluctant to lend weight to their weaker impressions.

EXPERIMENT 2

An important implication of the suggestion that individuals can "know the unknown" (that is, show insight into when their psi impressions are correct) is that psychic abilities may be learned, trained, and strengthened over time. This could mean that individuals can become "more psychic," but it is more likely to mean that they become better able to recognize psi-mediated information and to differentiate that information from other irrelevant and distracting mentations.

Experiment 2, conducted between January and May 1991, looked at the question of whether psi performance might improve with training, and accordingly, whether participants' insight into the accuracy of their impressions might improve. Participants were introduced to a variety of mental techniques (including relaxation, focusing of awareness, and visualization exercises) that were reputed to be psi-conducive (Mishlove, 1983; Morris, 1977; White, 1964). Participants practiced these exercises at home, along with informal ESP exercises; they also did a formal free-response ESP session during each of the weekly visits to the laboratory. Full details of the training aspect of the study and of participants' performance on the free-response ESP measure are reported in Delanoy, Morris, & Watt (1994).

Procedure

In contrast to Experiment 1, the participants in Experiment 2 were experienced with various kinds of ESP tasks. They had all taken part in Experiment 1, and they had been invited (on the basis of their interest and availability, and without reference to their performance in Experiment 1) to take part in a smaller, but more intensive, psi-training study that was designed and conducted by Deborah Delaney, Robert Morris, and Watt (1994). Each participant came into the laboratory approximately once a week.

Once they had completed the training study, C.W. ran all participants through the same tests of subliminal perception and forced-choice ESP that they had done before (when they participated in Experiment 1), except that there was no sender for the ESP task.

In another change in the procedure used in Experiment 1, in the present study all participants were asked to rate each of the emotional ESP targets according to their individual emotional associations to each picture. This was done before the participant knew whether or not he or she had scored a "hit" for each picture. The ESP targets and the randomization procedure were identical to those used in the previous study. Fourteen individuals participated in this study (10 females, 4 males; mean age 45.2, range 20 to 66 years).

Predictions

Overall positive ESP scoring was predicted. An improvement in ESP scoring after training was predicted. Following the results of Experiment 1, ESP scoring was predicted to be higher for "impression" calls than for "guess" calls.

Results and Discussion of Experiment 2

Table 2 summarizes the forced-choice ESP scores of the impressions and guesses of participants in Experiment 2 ("post-training") and for comparison includes the data of these participants from Experiment 1 ("pre-training"), but note that the latter data form a subset of those already reported above. Overall, forced-choice ESP scoring was significantly positive (55% hit-rate, $Z = 1.69$, $p = .04$, one-tailed), and the highest scoring was for impression calls (56% hit-rate, $Z = 1.89$, $p = .03$, one-tailed), whereas scoring was at chance for guess calls (51% hit-rate, $Z = 0$, $p = .50$, one-tailed). There was a nonsignificant trend towards improved scoring after training, both overall (from 52% hit-rate before training to 55% hit-rate after training, $Z = .84$, $p = .20$, one-tailed) and when impressions and guesses were considered (impressions had a 54% hit-rate before training, 56% hit-rate after training, $Z = .42$, $p = .34$, one-tailed; guesses had a 44% hit-rate before training, 51% after training,

Table 2
FORCED-CHOICE ESP PERFORMANCE FOR PARTICIPANTS' "IMPRESSIONS" AND "GUESSES"
IN EXPERIMENT 2 ("POST-TRAINING") AND EXPERIMENT 1 ("PRE-TRAINING")

	Pre-training			Z	p
	Trials	Hits	%hits		
Overall ESP	333	172	52	.55	.29 (1-t)
"Impression"	249	135	54	1.27	.20
"Guess"	84	37	44	-.99	.32
"Emotional Impression"	137	73	53	.69	.49
"Neutral Impression"	112	62	55	1.04	.30
"Emotional Guess"	35	16	46	-.34	.73
"Neutral Guess"	49	21	43	-.87	.38
	Post-training				
	Trials	Hits	%hits	Z	p
Overall ESP	336	184	55	1.69	.04 (1-t)
"Impression"	253	142	56	1.89	.03 (1-t)
"Guess"	83	42	51	.00	.50 (1-t)
"Emotional Impression"	128	72	56	1.33	.18
"Neutral Impression"	125	70	56	1.26	.21
"Emotional Guess"	34	17	50	.00	1.00
"Neutral Guess"	49	25	51	.00	1.00

Note. For purposes of direct comparison, these data are for the subset of participants in Experiment 1 who took part in Experiment 2. MCE = 50%; all *p*-values are two-tailed except where indicated; *N* = 14.

$Z = .91$, $p = .18$, one-tailed). As with Experiment 1, there appeared to be no difference in accuracy for impressions and for guesses for emotional compared to neutral targets, with scoring at chance levels: emotional impressions had a 56% hit-rate, $Z = 1.33$, $p = .18$, neutral impressions had a 56% hit-rate, $Z = 1.26$, $p = .21$; emotional guesses had a 50% hit-rate, $Z = 0$, $p = 1$; neutral guesses had a 51% hit-rate, $Z = 0$, $p = 1$.

In sum, Experiment 2 showed a nonsignificant improvement in forced-choice ESP scoring after training and practice of mental techniques thought to be psi-conducive (with significant overall scoring after training). The highest scoring was for those calls designated as impressions by participants, thus replicating Experiment 1 at a statistically significant level. Scoring was exactly at chance level for calls designated by participants as guesses. Experiment 2 also found little difference in accuracy of impressions or guesses for emotional compared to neutral targets, as was found in Experiment 1.

Despite the fact that participants might be expected to report more calls based on impressions following training (either due to social demand effects or to enhanced psychic functioning), for these participants there was little change in tendency to report impressions after training (249 impression calls before training, 253 after training); likewise, participants also

made similar numbers of guesses before and after training (84 guess calls before training, 83 after training). This suggests that participants did not subjectively feel that they were having more psi impressions after training, but nevertheless the accuracy of their impressions was greater after training. Experiment 2 therefore supports the nonsignificant trends seen in Experiment 1; it suggests that participants can indeed have insight into the accuracy of their psi impressions.

EXPERIMENT 3

Experiment 3, conducted between April and August 1992, was designed with a forced-choice ESP procedure very similar to Experiments 1 and 2, to replicate the consistent trends found in the first two studies but with a greater number of participants and so greater statistical power. This experiment also gathered descriptive information on the processes underlying the ESP task (time taken and mental strategies used for the task).

Procedure

Prior to the commencement of Experiment 3, C.W. prepared potential random target sequence slips using the RAND (1955) tables as the source of randomness. The participants in Experiment 3 were novices at experimental psi tasks. About half of the participants were recruited through word-of-mouth from other participants in Experiment 3. So some of the participants were self-motivated volunteers (as in Experiments 1 and 2), while others were friends, relatives, and colleagues of these volunteers. Like the second study, a clairvoyance design was used. As most novice participants would probably feel more confident of success with a sender than without, some time was taken at the outset of the session to explain to participants the advantages of not having a sender and the successful results already obtained this way. Also, by way of establishing a symbolic link with the target room (a link that might normally be provided by the presence of a sender), participants were invited to light a candle in the target room that would stay lit until the ESP testing was over (some participants remarked afterwards that the candle had been included in their imagery strategies for "reaching" the target). During the forced-choice ESP testing, the amount of time that participants took to complete the task was noted. Once all 24 ESP trials were completed, participants described what kind of strategy they were using on those trials that they designated as based on an impression. Seventy-five individuals took part in this study (44 females, 31 males; mean age 37.6, range 16 to 74 years).

Predictions

Overall positive ESP scoring was predicted. Based on the trends seen in Experiments 1 and 2, ESP scoring was predicted to be higher for impression calls than for guess calls.

Results and Discussion of Experiment 3

The forced-choice ESP results are summarized in Table 3. Overall forced-choice ESP scoring was at chance (50% hit-rate, $Z = -.31$), and participants scored nonsignificantly lower ($Z = -.69$) on those trials that they reported were based on impressions than on their guesses (49% hit-rate for impressions, $Z = -.58$; 51% hit-rate for guesses, $Z = .32$). This was a reversal of the trend seen in the previous two studies, and it is inconsistent with the research reviewed earlier that also suggested that participants could have insight into when they were receiving psychic impressions. As in Experiments 1 and 2, there was little difference between the accuracy of participants' impressions or guesses for emotional compared to neutral targets: emotional impressions had a 49% hit-rate, $Z = -.61$, $p = .54$, neutral impressions had a 50% hit-rate, $Z = -.16$, $p = .87$; emotional guesses had a 53% hit-rate, $Z = .65$, $p = .51$, neutral guesses had a 50% hit-rate, $Z = -.06$, $p = .95$.

The nonsignificant ESP results for Experiment 3 may suggest that the significant results for Experiment 2 are attributable to the involvement of experienced participants in Experiment 2 rather than to the use of the clairvoyance design in Experiment 2, because Experiments 1 and 3 had novice participants, and Experiments 2 and 3 had a clairvoyance design. However, there is no attempt here to compare the three experiments systematically: subtle and not-so-subtle changes in methodology (e.g., the use of the candle in Experiment 3; the difference between novice and experienced participants) means that variables are confounded. Even when the most obvious variables are under control, any comparison of experiments can never be exactly rigorous because many variables (such as experimenter's mood, time of the year, geomagnetic activity) may still be uncontrolled.

Table 3
FORCED-CHOICE ESP PERFORMANCE FOR PARTICIPANTS' "IMPRESSIONS" AND "GUESSES"
IN EXPERIMENT 3

	Trials	Hits	%hits	Z	p
Overall ESP	1800	893	50	-.31	
"Impression"	1336	657	49	-.58	
"Guess"	464	236	51	.32	
"Emotional Impression"	689	336	49	-.61	.54
"Neutral Impression"	647	321	50	-.16	.87
"Emotional Guess"	190	100	53	.65	.51
"Neutral Guess"	274	136	50	-.06	.95

Note. MCE = 50% hits; all p -values are two-tailed; no p -values are given for the first three rows because the results are in the direction opposite to that predicted on these one-tailed tests; $N = 75$.

impressions were based on emotional feelings or physiological feelings such as increased heart-rate. Possibly the emotional targets in this study were still relatively trivial compared to the sorts of crises and real-life events that would be truly engaging and important to know about in everyday life.

The unexpected results for Experiment 3 were disappointing. While it is all too easy to rationalize post hoc about results that may merely be due to chance fluctuations, it is perhaps worth noting that the experimenter found the size of this last study to be tiring, and it was difficult for her to maintain motivation throughout the study. Also, the participants in Experiment 3 were slightly different from those in Experiments 1 and 2. In the first two studies, the participants were self-motivated volunteers who had contacted the parapsychology unit to offer their help in research. In Experiment 2, which had the strongest ESP results, the participants were particularly enthusiastic because they had been prepared to devote a lot of time and effort to the training aspect of the study. In contrast, about half of the participants in Experiment 3 were recruited by word of mouth from other participants in that study; these recruits were certainly interested and open-minded about parapsychology, but probably they would not have had the strength of interest and motivation to contact the unit without prompting. Participants in Experiment 2 had also been trained to examine their internal impressions, perhaps thus enhancing their degree of insight into their psi-related impressions. So there are some factors that might contribute to the failure of Experiment 3 to replicate the findings of Experiments 1 and 2, beyond the obvious possibility that the effects seen in the first two studies were mere chance fluctuations.

Rhea White's (1992) "experience-centered approach" argues for the value of studying the phenomenology of spontaneous psychic experiences because this might increase our understanding of these experiences. I would extend White's suggestion to the laboratory. Here we get small effects, and so we must rely on statistical analyses to reveal them. Perhaps we should complement our gathering of hits and mentations with the gathering of participants' accounts of the qualitative nature of their psi impressions. Experienced and successful participants, especially, might be able to give us some insight into the psi process as they perceive it. Additionally, if participants typically show elevated scoring on trials when they report confidence, or report they were not guessing, then parapsychologists can plan analyses based on these selected trials, which would give higher effect-sizes and allow them to test potentially more informative process-oriented hypotheses.

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