DOES PRECOGNITION FORESEE THE FUTURE? SERIES 4: A POSTAL REPLICATION

By FIONA STEINKAMP

ABSTRACT: The study reported here is a replication of a previous postal study examining the possibility of true precognition. The previous study (Steinkamp, 2000) revealed chance results for true precognition but significant results for the clairvoyance condition. However, a similar study in the laboratory (Steinkamp, 2001) yielded almost significant results for true precognition. The replication study reported here tried to emulate the conditions in the laboratory but in the setting of a postal study. For instance, this time participants were given a relaxation tape to help them get in the right frame of mind for the experiment and they were not sent their target pool until after they had submitted their mentation reports. Results from the study were at chance. There was no obvious indication that participants' putative lack of motivation might have influenced the outcome. Also, participants who reported having had psychic experiences did not perform any better than those claiming no such experience. It appears that either postal experiments are not suitable for eliciting evidence for true precognition, or, if true precognition is possible, it can occur only with a much shorter precognitive interval than these experiments have allowed.¹

A methodological issue early on in precognition research has been to devise a procedure to rule out real-time alternatives in experimental tests for precognition. Even in the very early tests for precognition, it was soon understood that good results in tests could be explained through real-time psi. Thus, the initial experiments by Rhine (1938), in which participants tried to guess the order in which the ESP cards in a deck would be after the pack had been shuffled, could be interpreted as successful due to a "psychic shuffle" performed by the person shuffling the deck. That is, the shuffler may shuffle the cards so that they conform to the pre-existing guesses rather than the guesses predicting the future state of the deck of cards (see Rhine, Smith, & Woodruff, 1938). Traditionally, Mangan's (1955) procedure, in which a complex calculation using square roots and sines on the outcome of a dice throw is used to determine the future target, was thought to be sufficient to rule out real-time psi explanations. The Honorton and Ferrari (1989) meta-analysis of forced-choice precognition experiments indicated that studies using this procedure still obtained overall significant results. Earlier, however, Morris (1982) had noted that studies using stock market figures on a prespecified future date tend not to obtain significant results. Also, he had conducted an experiment in which it appeared that someone could psychically ascertain which dice numbers they would have to throw in order to obtain the correct target after the Mangan-type calculations had been performed (Morris, 1968). Thus, contrary to the previously held views, the

¹ I would like to thank the Bial Foundation for financing this research.

Mangan procedure may not have ruled out real-time psi because, according to Morris's experiment, it may be possible to use real-time psi plus deduction via the Mangan method. The closing price or volume of stock market sales is arguably less likely to be able to be determined by real-time psi than the Mangan method. First, even if real-time PK could be used to influence the purchasing patterns of stocks and shares, people whose livelihoods depend on the stock market would collectively have more of an incentive to use their PK than a single person in an experiment who has no financial gain to make. Second, it would be difficult for anyone telepathically to know real-time what all the different people were likely to bid in the next few days; indeed many people may not know themselves until minutes before bidding. Consequently, real-time psi appears to be unlikely to operate on the stock market and if experiments using stock market figures to determine a future target are generally unsuccessful, it may be that true precognition is not possible.

The three previous studies in this series examined this issue in some detail by comparing results from trials using a clairvoyance protocol, in which the target had already been selected at the time of the participant's guess, with results from trials using a true precognition protocol, in which the target was determined by the performance of the stock market on a prespecified date a few days after the participant had made his or her guess. If true precognition can occur, it should be possible to gain significant results in the true precognition condition. Each participant in each study did two trials, one in each condition, with the belief that both trials were precognition ones. One study was conducted through the mail (Steinkamp, 2000), another in the laboratory, and the third through the World Wide Web (WWW) (Steinkamp, 2001). The results were contradictory, with promising results in the clairvoyance condition for the laboratory experiment, and a tendency for psi-missing in the precognition condition in the WWW experiment. The results are summarised in Table 1.

		Precognition				Clairvoyance		
	N	z	p *	ES (z/√N)	N	Z	p*	$ES \\ (z/\sqrt{N})$
1. Postal	75	-0.67	.50	08	74	1.72	.08	.20
2. Lab	80	1.85	.06	.21	80	0.15	.88	.02
3. Web	100	-1.74	.08	17	100	0.85	.39	.09

TABLE 1									
SUMMARY OF PREVIOUSLY PUBLISHED	RESULTS FROM SERIES	1-3							

*two-tailed

These results raised the question of whether the tendencies toward significance in each experiment were indicative of real effects or whether the findings were due to multiple analysis. Moreover, if the findings were suggestive of real effects, why did each experiment produce such radically different results?

On a post hoc basis, it is easy to think of reasons why the difference in experimental setting may have produced different results. In the laboratory experiment participants listened to a relaxation tape suggesting that they were in a timeless zone in which they could see past, present, and future at once. After listening to this tape, they listened to white noise for 20 min and said aloud any thoughts that came to them about a picture they would later receive through the post. Afterward they were shown four target possibilities (all postcard-sized pictures) and they rated each picture as to its similarity to their mentation. Thus in the laboratory experiment participants were helped by strong suggestions about the possibility of precognition. However, in the postal experiment participants were sent a sealed envelope with four target possibilities and were asked to take time at home to gain impressions about what picture they would later receive through the mail. They subsequently opened the sealed envelope and rated all four pictures in terms of similarity to their impressions. Participants then mailed back their ratings and the pictures. Thus, because participants already had the four target possibilities in their possession at the time they gained their mentation, and because they had no relaxation tape, participants may have been focusing more on the envelope already in their possession rather than on the picture they were later to receive. This may be why the laboratory experiment gained promising results in the precognition condition whereas the postal experiment gained better results in the clairvoyance one.

Series 4 reported here, a replication of the postal experiment, was designed to examine these issues by making the new postal experiment resemble more closely the laboratory experiment. Thus the following changes were made:

1. Participants were furnished with the same relaxation tape as those in the laboratory received.

2. Participants were not sent the target materials until they had submitted their mentation.

Experimental power was increased so that an effect, if present, could be detected.

4. Each participant did only one trial.

It was hoped that these four changes would turn the previous chance results for true precognition to a positive one.

Method

Materials

Target materials. Before the experiment started, 200 target sets of four pictures each were created. Thus there were 800 pictures in total. Around 60 sets consisted of pictures that had been used successfully in previous

studies (e.g., Delanoy, Morris, Watt, & Wiseman, 1993; Steinkamp, 2001); the others were printed out from the WWW or were picture postcards. Their themes were varied—some were cartoons, some were abstract art, some were photographs or realistic art, and some were pencil drawings. They could be black and white or coloured. Each picture was mounted on $9" \times 6"$ grey cardboard and was identified on the back by its own unique, randomly assigned, four-digit number. Each set of four was placed in numerical order in a sealed opaque brown envelope.

First information pack. This pack included:

- a letter welcoming participants to, and explaining, the experiment
- an empty, unsealed envelope
- a relaxation tape

The tape talked participants through a relaxation routine in which they were led to think of themselves going up into the sky, which was a timeless zone, until they got to a point where they had access to all times. The routine ended with them imagining that the picture in their envelope was coming towards them. The tape ended with 10 min of silence.

- a sheet of paper on which the participant could write down their mentation
- a questionnaire

The questionnaire was optional. It contained questions about the spontaneous psychic experience that the participant may have had and also included Eysenck and Barrett's (1985) abbreviated neuroticism scale.

a stamped, addressed envelope for their reply

Second information pack. This pack included:

- a letter explaining what the participant had to do next
- a sealed envelope containing their set of four target possibilities
- a ratings form
- a prepaid envelope for return of the materials

Participants

One hundred and forty participants were recruited to take part in the experiment by (1) placing letters in various British local newspapers; (2) calling for participants in the *Paranormal Review* (a publication of the Society for Psychical Research); (3) advertising on UK newsgroups on the internet; and (4) calling for participants on the UK paranormal (e-)mailing list. In order to be eligible, participants had to have access to a tape recorder, and those who thought they had had a psychic experience at some point in their life were told that they were particularly welcome. Recruiting and the experiment took place from September 2001-December 2002. Of the 140 participants recruited for the experiment, 80 (57%) completed it, of whom 32 were men and 48 were women. Their age ranged from 17 to 74 years, although a number of participants opted not to give this information. Fifty-seven participants (71%) reported having had a psychic experience at some point in their life.

Procedure

When a participant wrote in to ask to take part, a computer program generated five random numbers between 1 and 50 and stored them in an electronic file for that participant. These numbers indicated which five stocks (the same stock could be selected more than once for one participant) should be used on a prespecified future date (explained below) from a list of 100 stocks in the *Financial Times*. The experimenter then sent the participant his or her first information pack.

On receiving the pack, participants were asked to personalise the empty envelope (e.g., write their name on it, draw a picture, etc.). Participants were informed that this was to help them bond with the envelope in some way because it would later contain a picture that the experimenter was going to send them through the mail. At a convenient time, participants listened to the relaxation tape, attempted to gain impressions about the picture they would later find in their empty envelope, and then wrote down or drew their impressions on the sheet provided. Participants then returned the tape, their mentation, their personalised envelope, and optionally the questionnaire in the prepaid envelope. Results from the survey will be reported in a separate paper as analyses have not yet been conducted on the questionnaire data. When the experimenter received the returned materials, they were given to a colleague (JS) unopened.² JS opened the participant's returned materials, checked that the participant had completed the task, and then photocopied the enclosed mentation report and added it to the second information pack so that the participant could be reminded of his or her impressions. The second information pack was then posted to the participant. The experimenter saw neither the photocopy nor the original report of the participant's mentations.

On receiving the second information pack, participants opened the enclosed sealed envelope containing the target set of four pictures, described on the ratings form how well each picture matched the impressions they had gained, and gave a percentage rating for each picture as to how closely it matched their impressions. The picture to which they gave their highest rating was the picture they thought they would later receive through the

² I would like to thank Jo Smith (JS) for photocopying and storing the mentation reports. She also performed all the double-checking at the end of the study, for which I am also very grateful.

mail. Participants were requested to give no two pictures the same rating and to return the ratings form and the pictures in the prepaid envelope.

The postmark on the envelope containing the returned ratings and pictures determined the date for retrieving the stock market figures. The date used was two days after the postmark; if the envelope arrived before two days had elapsed from posting, the envelope was set aside until the relevant day. The envelope was not opened. A relevant day was a day on which the stock market figures were published in the *Financial Times* i.e., Tuesday through Friday. Thus, if an envelope arrived on a Thursday, Friday, or Saturday the day for retrieving the stock market figures would be Tuesday.

On the relevant day, the five stocks to use were retrieved from the computer and their closing prices were looked up in the newspaper. The last digit of these five closing prices determined an entry point into a random number table, and the number from this table in turn determined which of the four pictures the participant should receive. The number obtained from the table was independently double-checked by a colleague, and the colleague also checked that the returned envelope was still sealed and that the participant number on the outside of that sealed envelope coincided with the number of the participant whose stock market figures were being checked. A colleague retained the obtained target number on file.³

Once the target number had been double-checked and stored, the participant's envelope was opened and his or her enclosed rating of the target picture was converted to a rank. Thus, if the participant gave the target picture the highest percentage rating of the four pictures, the rating of the target picture was converted to a rank of 1; if the target picture had been given the second highest percentage rating of the four pictures, it was converted to a rank of 2, etc. The target picture was retrieved from the participant's returned envelope and placed in the participant's personalised envelope.

The participants were then sent the target picture in their personalised envelope and a feedback letter telling them whether the picture selected was their 1st, 2nd, 3rd, or 4th choice. They were asked to return the target picture in a prepaid envelope. Thus each participant did only one trial for this experiment and all trials were testing for true precognition. It was prespecified that the study would end when participants who had not completed the experiment had been sent a maximum of three reminders. All participants who completed the study were sent feedback of the overall results of the experiment.

JS double-checked the data in the colleague's possession with the data on the experimenter's database; she also checked that the ratings were accurately transferred to the database from the participants' forms and that the ranks to the targets had been correctly assigned.

³ I would like to thank Paul Stevens and Caroline Watt, who did most of this checking; and especially the latter, who was also responsible for storing the target numbers.

RESULTS

Descriptive Statistics

Originally, the study was planned to comprise 200 completed participants. Also, we had initially hoped to conduct the experiment as a dream study in which participants gained their impressions about the picture during sleep after listening to a relaxation tape in bed. Participants were also to be selected on the basis of having had a precognitive experience. Thus to take part participants needed to (1) have good dream recall; (2) have had a precognitive experience; and (3) have access to a tape recorder in bed. After 6 weeks and a large recruitment drive, only 7 participants had been recruited and 3 of those had dropped out. It was clear that the experimental conditions were not realistic for the time available, so the requirements were changed to those described in the Method section (i.e., 140 participants were recruited, those reporting psychic experiences were preferred but others were also welcome, and the experiment took place in a waking state). These changes had the advantage of making the present study closer in style to the previous laboratory study. The statistics reported throughout this section include the 4 participants who took part in the early dream-study design (of whom 3 scored a rank of 4 and 1 scored a rank of 3.5).

The response rate in this study (57%) is similar to the response rate in the previous postal study (55%). A total of 27 (34%) of the 80 participants needed at least one reminder before they completed the experiment. Of those who needed reminders, 18 participants needed one, 7 needed two, and 2 needed three.

Preplanned Analyses

The main aim of the study was to see if evidence could be obtained for true precognition. The study yielded no such evidence. The sum of ranks (SOR) for all 80 participants was 202.5 (MCE = 200), z = -0.2, ES $(z/\sqrt{N}) = .02$, p = .42 (one-tailed). The results remained nonsignificant even with the 4 dream trials excluded from the total: SOR = 177 (MCE = 190), z= 1.28, ES = .15, p = .10).

Post-Hoc Analyses

1. Because about a third of all participants needed to be sent at least one reminder before they completed the experiment, there was some concern that perhaps they had lost the motivation to do the experiment. If this were the case, one would expect there to be a correlation between the number of reminders a participant needed and the rank to the target. No such correlation was found, r(78) = -.03, n.s.

2. Due to the changes from the original experimental design, it is possible that the participant population in this study may differ slightly from that in the previous postal study because in this study not all participants reported having had a psychic experience. Thus an analysis was performed to see if those reporting a psychic experience performed better than those ' who reported no such experience. No difference in performance between the two groups was found (U = 627, N = 80, z = -0.31, n.s.)

3. A survey of precognitive experiences by Hearne (1984, 1989) found that women over 40 years of age who reported their first precognitive experience earlier on in life went on to have more children. This correlation was subsequently replicated in the work of the current author using women aged over 45 years. Hearne hypothesised that women who had such experiences only later in life were meant to be "seers" for the community rather than to have children. Thus, according to Hearne, women aged over 40 years with fewer children should be more psychic. There was a promising trend in my last postal study for women over the age of 45 years with fewer children to perform better, so this analysis was performed here. The correlation in the survey findings was again upheld, with women aged over 45 years reporting their first precognitive experience earlier on in life having more children, r(9) = -0.58, p < .05, indicating that the general effect was still there in the population used for this study. However, no correlation was found between the number of children among women aged over 45 years and performance at the psi task, r(21) = -0.27, n.s. Hearne's survey findings are more likely to be due to social factors than to Hearne's hypothesis. For example, religious women may be more likely to report experiences early on and be more likely to have children, thus creating the correlations in the survey findings. However, these issues will be discussed more fully in a later paper devoted to the results from the survey. The experimental findings went in the reverse direction to those from the previous postal experiment, so there is no particular experimental support for Hearne's thesis.

4. Participants who completed the optional questionnaire before taking the test also completed Eysenck, Eysenck, and Barrett's (1985) reduced neuroticism scale. A correlation was performed between the neuroticism scores and the ranks obtained in the experiment. An almost significant negative correlation between neuroticism and precognition scoring was found, indicating that those who scored high on the neuroticism scale performed slightly better in this experiment, r(60) = -0.22, p < .1, two-tailed. This finding is contrary to Palmer's (1978) review, which indicated that high neuroticism correlates with bad scoring in forced-choice experiments. It is unclear whether the findings from Palmer's (1978) review also hold for free-response studies. Nevertheless, the correlation found in the study reported here might support Schmeidler's (1988) later observation that those scoring high on neuroticism scales will perform well when in their own environment but worse when in the laboratory. Evidence

for this hypothesis is, however, somewhat conflicting (see Schmeidler 1988 for a review). Moreover, the previous postal study found a slight trend in the reverse direction (N = 69, r = .07, n.s.) from the one in this new postal study. Thus it is more likely that the significant correlation between high neuroticism scores and good precognition results in the current experiment is an artifact of multiple analysis.

5. Haraldsson (1993) found a significant relationship between religiosity and forced-choice ESP scoring. The optional questionnaire in the postal study reported here included an item asking participants if they currently belonged to a religion. Although this question does not fully address the idea of religiosity, a Mann-Whitney U-test was performed to see if those who responded positively to this question performed better. They did not (U = 398, N = 58, z = -0.33, n.s.).

DISCUSSION

Neither this postal study nor the previous study yielded any evidence for true precognition. Several changes were made in the current study in the hope of improving on the results from the previous one, but these changes failed to have the desired effect.

The first change was the use of a relaxation tape. This tape was almost identical to that used in the previous laboratory study, which gained results approaching significance for true precognition. The use of this relaxation tape did not improve the results in this most recent postal study. Thus, if the relaxation tape was useful in the laboratory study, it must have been useful only in conjunction with other aspects of the laboratory experiment (e.g., the experiment not taking place at home, the tape being followed by white noise, etc.).

The second change was to place more emphasis on the precognitive aspect of the task by not giving participants their target pool until after they had submitted their mentation. Thus participants did not have a target set in their possession at the time they gained their impressions of the target and, therefore, participants should have been less likely to be side-tracked to thinking about their target set rather than about the picture that would be in their personalised envelope. This change in procedure also does not appear to have helped results.

Participants who needed to be reminded several times about the experiment did not perform any worse than those who completed the experiment straight away. Consequently, there do not appear to be immediately obvious motivational reasons to explain why participants were unable to select the correct target more often than by chance.

Although the original postal experiment included only those who had reported having had a precognitive experience and who had filled out a questionnaire about it, in the postal experiment reported here, there was no difference in performance between those who had reported psychic experiences and those who had not. Thus the chance results from this experiment cannot easily be explained by claiming that this postal study used a different population or that participants in this study had confided less in the experimenter.

Results from the previous experiments did not indicate that participants were in any way trying to gain precognitive information by inferring the future through using real-time psi. For instance, in the previous studies the volatility of the participants' stocks did not make any difference to participants' scoring, whereas, if one thought that participants were trying to work out psychically what the future stock figures would be, participants with stocks that were less volatile should have fared better. This was not the case. Similarly, in the previous studies there was no indication that participants tended to guess the target according to what it would have been had the stock market figures been used from the day of their mentation rather than from a few days later.

However, it may be that true precognition is possible only for very short precognitive intervals. If this is so, in this and the previous experiments one would not expect participants to score any better by using real-time means, because a two-day precognitive interval or more is impossibly long anyway. Alternatively, it may be that postal experiments are particularly unsuited to a true precognition protocol. Perhaps participants need the support of an experimenter and the comfort of a laboratory setting in which they feel that anything might be possible. Additional experiments have been conducted to explore further the laboratory and WWW settings as a means of gaining evidence for true precognition. The results from these studies may provide some indication as to where a possible answer may lie.

References

DELANOY, D., MORRIS, R., WATT, C., & WISEMAN, R. (1993). A new methodology for free-response ESP testing out with the laboratory: Findings from experienced participants. *Proceedings of Presented Papers: The Parapsychological Association 36th Annual Convention*, 204-221.

EYESENCK, S. B. G., EYSENCK, H. J., & BARRETT, P. (1985). A revised version of the Psychotism Scale. *Personality and Individual Differences*, 6, 21-29.

- HARALDSSON, E. (1993). Are religiosity and belief in an afterlife better predictors of ESP performance than belief in psychic phenomena? *Journal of Parapsychology*, **57**, 259-273.
- HEARNE, K. (1984). A survey of reported premonitions and of those who have them. Journal of the Society for Psychical Research, 52, 261-270.
- HEARNE, K. (1989). Visions of the future: An investigation of premonitions. Wellingborough: The Aquarian Press.
- HONORTON, C., & FERRARI, D. C. (1989). Meta-analysis of forced-choice precognition experiments. Journal of Parapsychology, 53, 281-308.

- MANGAN, G. L. (1955). Evidence of displacement in a precognition test. Journal of Parapsychology, 19, 35-44.
- MORRIS, R. L. (1968). Obtaining non-random entry points: A complex psi task. In J. B. Rhine & R. Brier (Eds.), *Parapsychology today* (pp. 75-86). New York: Citadel Press.
- MORRIS, R. L. (1982). Assessing experimental support for true precognition. Journal of Parapsychology, 46, 321-336.
- PALMER, J. (1978). Extrasensory perception: Research findings. In S. Krippner (Ed.), Advances in parapsychological research 2: Extrasensory perception (pp. 59-243). New York: Plenum Press.
- RHINE, J. B. (1938). Experiments bearing on the precognition hypothesis: I. Preshuffling card calling. *Journal of Parapsychology*, **2**, 38-54.
- RHINE, J. B., SMITH, B. M., & WOODRUFF, J. L. (1938). Experiments bearing on the precognition hypothesis: II. The role of ESP in the shuffling of cards. *Journal of Parapsychology*, 2, 119-131.
- SCHMEIDLER, G. R. (1988). Parapsychology and psychology. Matches and mismatches. Jefferson, NC: McFarland.
- STEINKAMP, F. (2000). Does precognition foresee the future? A postal experiment examining the possibility of true precognition. *Journal of Parapsychology*, **64**, 3-18.
- STEINKAMP, F. (2001). Does precognition foresee the future? Two conceptual replications. Series 2: In the laboratory. Series 3: On the WWW. *Journal of Parapsychology*, **65**, 17-40.

Department of Psychology The University of Edinburgh 7 George Square Edinburgh EH8 9JZ, UK ejua35@holyrood.ed.ac.uk