

## ARE PSYCHOLOGICAL TESTS NONINTENTIONAL PSI TASKS?

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**ABSTRACT:** Traditionally, when ESP tests and psychological tests have been administered together, the objective has been to correlate the scoring on the two. In a number of other studies, however, the subjects have been presented with psychological tests which, unknown to them, were intended by the experimenter to be tests of ESP. If, under certain conditions, psychological tests can become nonintentional ESP tests, then studies which look for relationships between ESP tests and psychological tests may actually be correlating intentional and nonintentional ESP scores. To investigate this hypothesis in the present research, a mood test was administered as a nonintentional ESP test, along with an intentional ESP test. The first of two exploratory series and a confirmatory series each gave marginally significant evidence for a negative relationship between intentional and nonintentional ESP scores. A second exploratory series may possibly be an instance of the "error phenomenon" since initial marginally significant results became chance when an error in checking was corrected. An attempt to extend the investigation to a different mood test gave no evidence for a relationship between intentional and nonintentional ESP.

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The use of psi without a conscious attempt or intention to do so is a topic receiving much attention in parapsychology at present. By definition, spontaneous cases occur in a "nonintentional" manner, and laboratory experiments also indicate that psi can operate without conscious intention on the part of the subject. Stanford (1974a, 1974b) has reviewed the experimental literature on nonintentional (i.e., spontaneous) psi and developed a psychological model for its operation. More recently, in a review of psi-mediated experimenter effects, White (1976) thoroughly surveyed instances of nonintentional psi in laboratory work. This body of research raises the intriguing possibility that many—perhaps most—instances of psi occur without intention or awareness of anything paranormal.

The possibility that the results of laboratory experiments may be unintentionally influenced by the experimenter is an important subdivision of the topic of nonintentional psi. The range and mechanisms for such paranormal experimenter effects are difficult

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to specify, and there is evidence that they may enter into the non-parapsychological parts of an experiment. Stanford (1970) found that his subjects' responses on a memory test apparently could be paranormally influenced by the desires of the experimenter. Likewise, Kreitler and Kreitler (1973) found evidence that, under certain conditions, an agent could influence the subjects' responses on a subliminal perception task even though the subjects were not aware that ESP was involved. Similar results have been obtained on another subliminal perception task by Kreitler and Kreitler (1972), as well as on an independent replication of this test by Liibke and Rohr (1975), and on an autokinetic motion perceptual test (Kreitler & Kreitler, 1972). Although methodological questions have not yet been settled for the latter three studies (Child, 1977; Kreitler & Kreitler, 1977), this line of research raises the possibility that psi may enter into standard psychological test situations. It is difficult, however, to generalize the findings since there are only a few studies and, in all those mentioned, the effects occurred primarily in a special category of response (i.e., when the ESP information conflicted with either sensory information or with the subject's response biases).

Stanford and associates (Stanford & Thompson, 1974; Stanford & Stio, 1976; Stanford & associates, 1976) have also reported a series of experiments using the reaction time in a word-association test as a nonintentional psi task. In these studies a contingency was arranged so that the subjects would benefit from their unknowing use of ESP. On the other hand, in Stanford's memory study and the Kreitlers' experiments, as in the normal application of psychological tests, the subjects' unintentional use of psi led to no obvious personal gain other than fulfilling the wishes of the experimenters or agents.

Taken together, these studies clearly suggest that under certain conditions psychological tests can be considered as nonintentional psi tasks. Following this line of thought, studies which look for relationships between scores on psychological tests (mood, memory, personality, etc.) and ESP tests may possibly be viewed as looking for relationships between nonintentional and intentional psi scores. The "targets" or correct responses for the psychological (nonintentional psi) test would be determined by the experimenter's hypothesis; that is, the experimenter would be hoping that people who did well on the ESP test would make certain responses on the psychological test. Those subjects who showed ESP might respond to both tests paranormally while the others might not show psi on either test.

This, of course, could tend to enhance support for the experimenter's hypothesis.

#### OUTLINE OF THE INVESTIGATION

As a first step in investigating these ideas, it was decided to use a psychological test as a nonintentional psi task, along with a conscious (intentional) ESP test. The theoretical considerations discussed earlier led to the hypothesis that there would be a relationship between the conscious ESP test scores and the scores on the psychological test treated as a nonintentional psi test. In a study referred to above, Stanford and Thompson (1974) reported a positive correlation ( $r = +.39, 27 df; p < .025$ , one-tailed) between such scores. (However, in that study, subjects were rewarded for their performance on the nonintentional psi test; in the work reported here, no specific reward was given to the subjects.)

The present paper reports findings of a line of research which started as an exploration of these ideas and continued with their development, confirmation, and an attempted further extension. The present study is divided into two experiments. The first (comprising three series) explored and confirmed the effect for one psychological test; the second (four series) attempted to extend the same basic idea to a different form of the psychological test. Since the main effect did not occur when the second psychological test was used, this part of the investigation was discontinued at the exploratory stage.

The psychological test for the nonintentional psi task in the first experiment was based on the Mood Adjective Check List (MACL) used previously by Carpenter (1968, 1973) for another purpose. The MACL was chosen because it was easy to administer, and convenient for use as a nonintentional psi task. The second experiment involved a modified form of the mood test, which gave more trials per subject and a simplified statistical analysis.

The intentional ESP test varied somewhat. In the first two series of the first experiment the experimenters took advantage of some on-going research and merely added the MACL to it. For the third (confirmatory) series of the first experiment and the entire second experiment, however, the intentional ESP test was standardized and had no other purpose. Classes of high-school students were tested in groups. The number of classes (rather than the number of subjects) was specified in advance for each series and it was planned to pool

the classes in each series for analysis. Typically, a series consisted of all the classes tested on a given day. All classes were first given a short talk introducing parapsychology. The intentional ESP test was then administered, followed by the mood test.

## I. THE FIRST EXPERIMENT

### *Series 1 (Exploratory)*

*Subjects.* The subjects in Series 1 were 83 high-school students from three psychology classes. They were tested in school as three groups in the spring of 1976 by J. T. O. and D. O., members of the research staff of the Institute for Parapsychology.<sup>1</sup>

*Intentional ESP Test.* The intentional ESP task was an ESP "word-camouflage test" which was part of another line of research being carried out by J. T. O. and D. O. In this test, the subject attempted to find hidden words within an array of letters. Each subject received a sealed envelope with a sheet of letters arranged in a 20 x 24 matrix stapled to the outside. Thirty-two five-letter nouns were hidden in the matrix and could be read horizontally, vertically, or diagonally, going forward or backward. The subject's task was to locate and circle the words embedded in the matrix of letters. Half of the words were chosen as ESP target words and were displayed inside the sealed envelope. All the other letters which appeared in the matrix on the outside of the envelope were left out on the inside sheet except those letters which made up the target words. The targets for each subject were randomly selected and the matrix was generated and printed by computer. An assistant prepared the envelopes. Only words actually found and circled by the subject were counted as ESP trials; a circled word counted as an ESP hit if it was displayed inside the envelope ( $P = Vz$ ).

Each of the three classes received different instructions for the test. One class was told it was an ESP test with some of the hidden words displayed in the envelope; another class was told that ESP could help them but the target words were not mentioned; the third class was not informed of the ESP aspect of the test at all. Thus, for the third class, the word-camouflage ESP test did not constitute an intentional psi task, thereby complicating the intentional versus nonintentional psi concept which is the main concern of this research.

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<sup>1</sup> The authors would like to express their appreciation to Dr. Judith T. O'Brien and Dennis O'Brien for acting as experimenters in this series and for permitting the use of the data from their word-camouflage ESP test.

*Nonintentional ESP Test.* The nonintentional ESP test (the MACL) was given to the subjects after they had completed the word-camouflage test. As it was used here, this test, adapted by Carpenter from an early Nowlis check list (Nowlis, 1953), consisted of 54 adjectives (such as *carefree*, *sociable*, *languid*) that might describe the subject's feelings or mood at the moment. The words, printed on a record sheet, were in alphabetical order in three columns, with a small space to the left of each word for a check mark. Before the testing session, 13 numbers between 1 and 54 were generated randomly for each subject from a computerized electronic RNG by J. W. D., a staff member of the Institute, and the corresponding word was defined as a target ( $P = 13/54 = .2407$ ). The target generating program approximately balanced the targets across subjects by limiting the number of times a word could be chosen. The list of MACL target numbers was kept at the Institute laboratory and was not seen by the experimenters until after the data were collected. Each subject's MACL response sheet was numbered and corresponded with a numbered target list. Only those words actually checked by the subject were considered ESP trials. Before the MACL was administered, the subjects were told: "This is a list of adjectives which are commonly used by people in describing how they feel. Please look over the list and check those that describe the way you feel *at this particular moment.*" It was explained that previous work suggested there might be a relationship between this test and the first one they had taken, but no mention of psi was made in connection with the MACL.

Upon returning to the laboratory when the testing was finished, J. T. O. and D. O. scored the word-camouflage tests; the MACL's were scored by J. E. K.

Although a relationship between scores on the intentional and nonintentional ESP tests was hypothesized, it was felt that perhaps only those subjects who showed ESP on the intentional ESP task would respond to the MACL as a nonintentional ESP task. Also, the small number of trials per subject could not provide a very sensitive measure of ESP. Therefore, it was decided to divide the data based on word-camouflage scores in such a way as to eliminate those who obviously scored at chance, as these subjects might only add "noise" to the evaluation of the MACL as a nonintentional ESP test. The details (cut-off scores, etc.) for applying this strategy were chosen after the data were collected, since the number of responses to be expected was not known.

*Results.* The total deviations for the intentional (word-camouflage) and the nonintentional (MACL) tests in Series 1 were not significant. Statistical analysis was complicated because, on both tests, the numbers of trials varied from subject to subject. Most subjects found 4 to 12 hidden words, the extremes being 0 and 17. It was decided to omit the data from subjects who had made fewer than 4 responses on either test because it was felt that reliable individual scores could not be obtained for them. Six subjects were discarded because of too few responses on the word-camouflage test, 10 because of too few responses on the MACL, and one because of too few responses on both tests. In addition, 4 other subjects were discarded because no MACL targets had been generated for them. Thus, there remained 62 subjects with usable data.

The relationship between scores on the two tests was analyzed by using performance on the word-camouflage test to make predictions about scoring on the MACL test. Subjects were divided according to their word-camouflage test scores into hitters, missers, and chance scorers. The method used to separate the groups was to consider as chance those scores within the range of  $MCE \pm 1$  hit. Thus, for persons making 8 responses on the word-camouflage test (i.e., finding 8 words), the chance group contained those having 3, 4, or 5 hits ( $MCE \pm 1$ ). However, because of the varying number of trials for each subject, MCE for some subjects fell between two whole numbers. In these instances, it was decided to explore two criteria, one more extreme than the other. For Criterion 1, chance scoring was defined as  $MCE \pm .5$ . For the more extreme Criterion 2, the chance range was increased to  $\pm 1.5$ . For example, if 9 responses were made, 4 or 5 hits ( $MCE \pm .5$ ) would be considered as chance scores by Criterion 1, while 3, 4, 5, or 6 hits ( $MCE \pm 1.5$ ) would be called chance by Criterion 2. Because of the small number of trials for each subject, categorization was not very sensitive. Of the 62 subjects, 9 fell into the hitting, 16 into the missing, and the rest into the chance category based on Criterion 1. The stricter Criterion 2 gave 6 subjects in the hitting and 9 in the missing category.

The individual scores on the MACL test were standardized with 2 transforms.<sup>2</sup> The difference in scores on the MACL test between the word-camouflage hitters and missers was evaluated by a Mann-Whitney test on the transformed scores. For Criterion 1, the differ-

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<sup>2</sup> The original report of the first three series (Kennedy & Haight, 1977) presented at the 1977 Southeastern Regional Parapsychological Association Convention used an arcsine transform. After discussions with Dr. J. A. Greenwood, it became apparent that the

ence was not significant. For Criterion 2, the difference was significant at the level of  $p = .02$ , two-tailed, in the negative direction (see Table 1). Those subjects who hit on the word-camouflage test tended to miss on the MACL test, and vice versa. If the data from the class for which the word-camouflage test was not an intentional psi task were eliminated, this difference was still at the 3% level of significance:  $U (n_1 = 5, n_2 = 6) = 3.00$ ;  $p < .03$ , two-tailed. A Spearman rank-order correlation performed between transformed scores on the word-camouflage and MACL tests using all 62 subjects was not significant ( $r = -.17$ ). This result (or non-result) provided credence to the rationale for dividing the data.

**Table 1**  
**FIRST EXPLORATORY SERIES**  
**NONINTENTIONAL ESP SCORES SEPARATED ACCORDING TO**  
**HITTERS AND MISSEES ON INTENTIONAL ESP**

	S's Who Missed on Intentional ESP		S's Who Hit on Intentional ESP	
	Criterion 2	Criterion 1	Criterion 1	Criterion 2
No. subjects	9	16	9	6
Av. no. trials	8.67	8.12	5.22	5.33
Av. scoring rate <sup>a</sup>	33.53%	25.22%	16.88%	10.32%

$U = n.s.$

$U(n_1 = 9, n_2 = 6) = 7; p = .02, \text{two-tailed}$

<sup>a</sup> Mean chance expectation = 24.07%.

arcsine was not a particularly appropriate transform, so the  $z$  transform was adopted. The results do not change appreciably. The  $z$  transform used here was:

$$z = \frac{x - np}{\sqrt{np(1-p)}}$$

where  $x$  = no. hits;  $n$  = no. trials and  $P = 13/54 = .2407$ .

This standardizes the scores to a mean of 0. Given the small number of trials per subject and the need for a transformation, nonparametric statistics were originally chosen as a conservative means to handle the data without making assumptions about the distribution of the transformed scores.

*Series 2 (Exploratory)*

A second exploratory series was carried out shortly after the first by again adding the MACL nonintentional psi task to an experiment originally planned for other purposes.

*Subjects.* The tests were administered by J. M. H. to four small groups of high-school students who attended a seminar in the spring of 1976. A total of 43 subjects were tested.

*Intentional ESP Test.* The intentional ESP test consisted of two runs (50 trials) of a clairvoyance task based on the standard ESP symbols ( $P = Vs$ ). Following a brief talk on parapsychology by J.M.H., the test was presented as a challenging distance ESP task. It was explained that in a locked desk at the Institute for Parapsychology there were computer printouts containing lists of ESP symbols. The subjects were given standard ESP record sheets and were asked to fill in the first two columns with what they thought was the order of ESP symbols on the printout corresponding to their record sheet.

*Nonintentional Psi Test.* After the standard ESP symbol test was given, the MACL nonintentional psi test was administered as in the first exploratory series.

Targets for both the MACL nonintentional ESP test and the intentional ESP test were computer-generated by J. W. D. prior to the administration of the tests and were kept at the Institute during the sessions. The MACL's were scored by J. E. K. The ESP symbol tests were scored by J. M. H. and D. O. The subjects were informed of their scores on the intentional ESP test about one week later by mail, but the ESP aspect of the MACL was not mentioned.

*Results.* Overall scores on the standard ESP symbol and MACL tests were at chance. At first, it seemed that the results again indicated a relationship when the subjects were divided according to scores on the intentional ESP test. However, a mistake in the procedure of assigning the targets to the calls was found upon double-checking the data, and the final results were completely at chance. As similar situations have occurred before (cf., "error phenomena"), presentation of the initial results may be in order, although the post hoc nature of the findings should be borne in mind.

Subjects were divided into three groups—those who hit, missed, and scored at chance—on the basis of the scores on the conscious ESP test. The same strategy was employed to choose the chance group as was used in the first exploratory series (i.e.,  $MCE \pm 1$ ). Since use of the standard ESP test resulted in a larger number of trials for

each subject, it was decided also to explore the use of an even more extreme criterion,  $MCE \pm 2$ . Thus, "missing" was defined as scores less than, or equal to, 8 hits by Criterion 1 and less than or equal to 7 hits by Criterion 2. "Hitting" occurred with 12 or more or 13 or more hits, respectively. Again, subjects with less than 4 checks on the MACL were discarded from the analysis. The MACL scores were transformed and analyzed with the same procedure as the first series.

As can be seen from Table 2, the first criterion gave  $U(n_1 = 11, n_2 = 8) = 14; p < .02$ , two-tailed, while Criterion 2 yielded  $U(n_1 = 7,$

Table 2  
SECOND EXPLORATORY SERIES<sup>a</sup>  
NONINTENTIONAL ESP SCORES SEPARATED ACCORDING TO  
HITTERS AND MISSERS ON INTENTIONAL ESP TEST

	S's Who Missed on Intentional ESP		S's Who Hit on Intentional ESP	
	Criterion 2 ≤ 7	Criterion 1 ≤ 8	Criterion 1 ≥ 12	Criterion 2 ≥ 13
No. subjects	7	11	8	4
Av. no. trials	6.86	7.18	7.00	6.50
Av. scoring rate <sup>b</sup>	13.88%	14.99%	34.09%	39.02%

$U(n_1 = 11, n_2 = 8) = 14; p < .02, \text{two-tailed}$   
 $U(n_1 = 7, n_2 = 4) = 3; p < .05, \text{two-tailed}$

<sup>a</sup> With procedural error.

<sup>b</sup> Mean chance expectation = 24.07%.

$n_2 = 4) = 3; p < .05$ , two-tailed. However, in this case the relationship was positive; those who hit on the ESP runs also hit on the MACL. A Spearman rank-order correlation between ESP run scores and transformed MACL scores using all 31 usable subjects gave  $r_s = + .37, 29 \text{ df}; p < .05$ , two-tailed.

The mistake in checking the data resulted from a misunderstanding concerning the procedure for sequential assignment of intentional ESP target lists (which were used sequentially but were not numbered). While the intended procedure called for skipping target lists corresponding to unused response sheets, one checker (J. M. H.) used the target lists consecutively. The experimenters who

scored the intentional ESP tests were blind to the MACL nonintentional ESP scores, so the mistake was not of the unconscious recording-error type; in principle it should not have produced results in line with the experimenter's hypothesis.

Similar procedural errors "coincidentally" producing significant results have been noted in the past (for a review, see White, 1976). Since information required for these "coincidences" could not have come through sensory means, it has been suggested that they may have been psi effects (Rao, 1963, 1968; Schmeidler, 1964); that is, the subjects may have precognitively responded to the mistakes the experimenter was going to make, or alternatively, using information from nonintentional clairvoyance, the experimenter may have made mistakes that supported his hypothesis. Although such suggestions are certainly in line with the experimenter-effects hypothesis, they can only be considered as speculation at this time. The results of this series must be evaluated accordingly.

### *Series 3 (Confirmatory)*

In the fall of 1976, an experiment was planned and carried out to follow up the results of the previous series. The basic procedure was identical to the second series.

*Subjects.* The subjects were 42 high-school students attending a science club meeting.

*Intentional ESP Test.* As in Series 2, the conscious ESP test consisted of two runs of a clairvoyance task using standard ESP symbols. J. M. H. gave a lecture on parapsychology and a demonstration of testing techniques and then introduced the ESP test as a challenging distance task involving computer-generation of the ESP card symbols. Standard ESP record sheets were given to the subjects. They were instructed to "tune in" to the computer printout at the laboratory corresponding to their record sheet and to fill in the first two columns with their ESP responses.

*Nonintentional ESP Test.* The MACL test was identical to that used in Series 1 and 2.

Before the administration of the tests, targets for both the MACL and standard ESP tests were generated by computer by J.W.D. and kept in a locked drawer at the laboratory. After the experimenter returned to the laboratory, copies of the subjects' responses on both tests were made and exchanged with J. W. D. for a copy of the targets. The MACL tests were scored by J. E. K. and the standard

ESP runs were scored by J. M. H. The scores on the standard ESP test were mailed to the group. Although they were not specifically informed of the ESP aspect of the MACL, they were told that "there was a relationship between scoring rate on the ESP card runs and the data from the adjective check list, successfully confirming previous studies."

On the basis of the results of the exploratory series, two specific statistical analyses were planned to test the hypothesis that there would be a relationship between scores on the psychological test used as a nonintentional psi task and scores on the intentional ESP test. The first planned analysis was a Mann-Whitney test comparing the transformed MACL scores<sup>3</sup> of those who scored 8 or less on the conscious ESP runs with those who scored 12 or more. The second planned analysis was a rank-order correlation between standard ESP run scores and transformed MACL scores using all subjects. Two-tailed tests were planned because the direction of the relationship was not predicted. Again, those subjects with three or fewer responses on the MACL were discarded from the analysis. Nine other subjects were discarded because targets had not been generated for them.

*Results.* Of 28 usable subjects, 9 were classified as hitters and 6 as missers. The *U* test gave  $U(n_1 = 9, n_2 = 6) = 9; p < .05$ , two-tailed. (See Table 3.) As in the first series, this was a negative relationship;

**Table 3**  
**THIRD SERIES (CONFIRMATORY)**  
**NONINTENTIONAL ESP SCORES SEPARATED ACCORDING TO**  
**HITTERS AND MISSERS ON INTENTIONAL ESP TEST**

	S's Who Missed on Intentional ESP ≤ 8	S's Who Hit on Intentional ESP ≥ 12
No. subjects	9	6
Av. no. trials	10.22	10.00
Av. scoring rate <sup>a</sup>	29.37%	13.33%

$\uparrow U(n_1 = 9, n_2 = 6) = 9; \downarrow$   
 $p < .05$ , two-tailed

<sup>a</sup> Mean chance expectation = 24.07%.

<sup>3</sup> An arcsine transformation was originally planned and carried out (Kennedy & Haight, 1977). The probability values reported here are derived using the more appropriate *z* transform. The results are similar with either transform.

subjects tended to score high on one test and low on the other. The correlation yielded  $r_s = -.43, 26 df; p < .05$ , two-tailed.

### *Discussion*

The results of the first exploratory series and the later confirmatory series indicated a negative relationship between scores on the intentional ESP test and scores on the psychological test treated as a nonintentional psi test. This relationship was observed by comparing the nonintentional psi scores of those who hit on the intentional ESP task with those who missed. For the exploratory study, a correlation between scores on the two tests for all subjects was not significant; in the confirmatory experiment it was marginally significant. In the second exploratory series, a positive relationship became nonsignificant when a procedural error in scoring was corrected. Interpretation of this series is more difficult, and it may possibly represent an instance of the "error phenomenon."

These results support the idea that certain psychological tests may be treated as nonintentional psi tasks, even when the only apparent motivation is to fulfill the wishes of the experimenter. The negative relationship between intentional and nonintentional ESP scores suggests that a differential effect may have occurred. The apparent contradiction of these results with Stanford and Thompson's (1974) finding of a positive relationship may be due to the fact that subjects in that study were later rewarded for a successful nonintentional ESP performance. However, in line with the hypothesis under investigation, there may also have been a crucial difference between the two experiments in the experimenter's wishes and/or state of mind, thus leading to a difference in results.

The important point is that evidence for a relationship between intentional and nonintentional psi was found under the conditions of this experiment. In generalizing these results, it should be remembered that there was not a significant overall deviation from chance in the studies reported here. As in many group ESP studies, the significance comes by having some means of separating the high and low scorers. In this experiment, there was no evidence that ESP produced a net bias in the responses to the psychological test for the group as a whole. Also, since the psychological test used here was a very spontaneous and ambiguous one, these results cannot be confidently extended to other psychological tests. And, of course, this

study does not allow inferences about Carpenter's (1968, 1973) work with the MACL when a different subject population was tested under very different conditions.

## II. THE SECOND EXPERIMENT

The experimental design just reported has several limitations. The reliability of measurements based on such a small and varying number of trials per subject must be questioned, and it is difficult to extend findings to a stage beyond that of just showing evidence for an effect. Also, as mentioned above, the ambiguous, spontaneous nature of the MACL may make it more available to psi than other psychological tests.

As a first step in attempting to overcome these problems, several exploratory series were carried out using a more structured mood test as the nonintentional ESP task. The new mood test consisted of a list of 40 adjectives drawn from the 54-word MACL. Subjects were instructed to rank each word from 1 to 4 according to how well it described their feelings at the moment of the test. Corresponding target ranks, or "desired responses," for each word (numbers 1 to 4) were randomly generated for each subject and kept at the Institute during the experiment. Besides defining a hit as a choice of the correct rank ( $P = 1/4$ ), a binary scoring method that combined ranks 1 and 2, and 3 and 4 ( $P = 1/2$ ) was also explored. Since psi-missing played a key role in the previous work, a symmetric, binary scoring method was thought desirable as a more sensitive measure. The procedure was the same as in the previous studies with two standard forced-choice clairvoyance runs of ESP symbols administered with the mood test.

A total of four series were carried out in three different high schools, with one or two classes being tested on a single day. Various experimenters (M. M., J. M. H., and R. D. C.) administered the tests at different schools.<sup>4</sup> Table 4 summarizes the conditions of each series along with the results. Since the experimenter may play a crucial role, the results are given according to individual experimenter as well as for the series totals.

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<sup>4</sup> The authors thank Ms. Melissa Morrison and Mr. Robert Dal Corso for their help as experimenters in these series.

Table 4  
NONINTENTIONAL ESP SCORES FOR THE SECOND  
EXPERIMENT USING MODIFIED MACL TEST

Series	School	Class	Experi- menter	Total No. of Sub- jects	Intentional ESP Test Scores ≤ 8			Intentional ESP Test Scores ≥ 12			Total MACL Scores $P = \frac{1}{2}$ (MCE = 20)	Total MACL Scores $P = \frac{1}{4}$ (MCE = 10)
					No. Sub- jects	MACL	MACL	No. Sub- jects	MACL	MACL		
						$P = \frac{1}{2}$ MCE = 20	$P = \frac{1}{4}$ MCE = 10		$P = \frac{1}{2}$ MCE = 20	$P = \frac{1}{4}$ MCE = 10		
1	O. H.	#1	M. M.	24	4	18.75	9.50	6	18.58	10.22	19.05	9.61
		#2	J. M. H.	23	5	19.38	9.50	9	19.33	9.89	19.55	9.53
		Total		47	9	19.10	9.50	15	19.03	10.02	19.28	9.57
2	C. H.	#1	J. M. H.	19	8	18.38	9.25	2	20.50	10.50	18.67	9.50
3	J. H.	#1	M. M.	20	5	21.00	11.00	2	23.00	12.50	20.25	9.85
		#2	J. M. H.	23	6	19.50	9.33	3	18.00	9.33	19.54	9.99
		Total		43	11	20.18	10.09	5	20.00	10.60	19.89	9.92
4	J. H.	#1	M. M.	28	11	20.93	11.83	5	18.40	9.40	20.15	10.83
		#2	R. D. C.	23	10	19.18	9.84	6	20.59	9.55	19.88	9.55
		Total		51	21	20.09	10.88	11	19.59	9.48	20.03	10.25

Note. Three subjects who did not make responses on the second ESP run and four subjects who did not respond on the MACL were discarded from the analysis. Planned analyses were carried out only on the totals for each series.

Results

No evidence was found to suggest a relationship between intentional and nonintentional ESP scores (see Table 4). The first two series each showed suggestive missing overall on the nonintentional ESP test using the binary scoring method described above. When the two series were combined, the effect was significant ( $t = -2.74, 60 df; p < .01$ , two-tailed). However, this finding was not confirmed since Series 3 showed only a very slight negative deviation and Series 4 had a very slight positive deviation on the MACL test.

Although it was not a hypothesis of primary interest to the experimenters, two sheep-goat questions were included with the mood test. The questions were: "Do you believe ESP is possible under the conditions of this experiment?" and "Do you believe ESP is ever possible?" The subject was asked to answer *Yes*, *No*, or *Undecided*. Combining all four series, there were no suggestive differences in intentional ESP scores based on answers to the sheep-goat questions (see Table 5). However, for the nonintentional ESP test scored by either

Table 5  
MEAN ESP SCORES FOR SECOND EXPERIMENT  
BASED ON ANSWER TO FIRST SHEEP-GOAT QUESTION

Answer	No. of Subjects	Intentional ESP Test Score (MCE = 10)	MACL Test Score $P = \frac{1}{2}$ (MCE = 20)	MACL Test Score $P = \frac{1}{4}$ (MCE = 10)
Yes	63	9.46	20.16	10.49
No	19	9.00	18.74 <sup>a</sup>	9.05
Undecided	58	9.74	19.83	9.84
Difference between Yes & No		n.s.	$t = 2.09, 80 df; p < .05$ , two-tailed	$t = 1.99, 80 df; p < .05$ , two-tailed

Note. Several subjects were not included because they failed to answer the sheep-goat questions. Also, a few subjects who failed to make responses for the second ESP run were not included in this analysis.

<sup>a</sup>  $t = -2.29, 18 df; p < .05$ , two-tailed.

method the difference between those who answered *Yes* and those who answered *No* on the first question was marginally significant ( $p < .05$ , two-tailed). When the *Undecided* group was combined with the *Yes* group, as in the original sheep-goat work, the differences were not significant. There was no evidence of a relationship between intentional and nonintentional ESP scores when the data were

Table 6  
SUMMARY OF INTENTIONAL ESP SCORES FOR SECOND EXPERIMENT

Series	Class	First Run			Second Run			Total			Run 1-Run 2	
		$\bar{X}$	$t$	$df$	$\bar{X}$	$t$	$df$	$\bar{X}$	$t$	$df$	$t_{diff.}$	$df$
1	#1	5.26	< 1.00	22	4.91	< 1.00	22	10.17	< 1.00	22	< 1.00	22
	#2	5.10	< 1.00	19	5.35	< 1.00	19	10.45	< 1.00	19	< 1.00	19
	Total	5.19	< 1.00	42	5.12	< 1.00	42	10.30	< 1.00	42	< 1.00	42
2	#1	4.67	< 1.00	17	3.83	- 2.93**	17	8.50	- 2.35*	17	+ 1.21	17
3	#1	4.10	- 2.23*	19	5.40	< 1.00	19	9.50	- 1.01	19	- 1.89	19
	#2	4.19	- 2.09*	20	5.52	+ 1.47	20	9.71	< 1.00	20	- 2.18*	20
	Total	4.15	- 3.09**	40	5.46	+ 1.66	40	9.61	- 1.21	40	- 2.91**	40
4	#1	4.71	< 1.00	27	4.86	< 1.00	27	9.57	< 1.00	27	< 1.00	27
	#2	4.13	- 2.33*	22	5.39	< 1.00	22	9.52	< 1.00	22	- 2.33*	22
	Total	4.45	- 2.19*	50	5.10	< 1.00	50	9.55	- 1.13	50	- 1.71	50
All 4 Series Pooled		4.59	- 2.69**	152	5.05	< 1.00	152	9.65	- 1.54	152	- 2.12*	152

Note. Comparison of Run 1 and Run 2 of the standard ESP tests in the first experiment showed no suggestive trends.

\* $p < .05$ , two-tailed.

\*\* $p < .01$ , two-tailed.

analyzed separately for those who answered the first question *Yes*, *No*, or *Undecided*. Various post hoc analyses of the intentional ESP runs were significant. These results are summarized in Table 6 for any suggestive value they may have.

### *Discussion*

The failure to get significant results using a different mood test could be due to several factors. Perhaps the longer, forced-choice mood test was not susceptible to nonintentional psi. It should be noted, however, that Stanford (1970) and the Kreitlers (1973) used comparatively long forced-choice tasks in their nonintentional psi studies. They found the strongest psi effects when the ESP information conflicted with sensory information or biases. Thus, it may be necessary to monitor subjects' response biases when evaluating psi effects on most psychological tests.

It is also common to find a decline in significance with attempted replications of experiments, and this same trend could apply to the line of research here. Such declines in significance are usually attributed to a slight but critical loss of enthusiasm on the part of the experimenters (Taves & Dale, 1943; Kennedy & Taddonio, 1976). Studies like the present one that require nonintentional paranormal communications between experimenters and subjects may be particularly sensitive to subtle changes in the experimenters' enthusiasm, attitudes, and psychological states.

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