

ARE RELIGIOSITY AND BELIEF IN AN AFTERLIFE BETTER PREDICTORS OF ESP PERFORMANCE THAN BELIEF IN PSYCHIC PHENOMENA?

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ABSTRACT: Some measures of religiosity, belief in an afterlife, and belief in psychic phenomena were included in eight forced-choice ESP experiments. Seven of the experiments consisted of 40 trials of clairvoyance as a computer game and 40 trials of precognition in a paper-and-pencil test for each subject; and in one experiment there were 80 trials of clairvoyance. A combined measure of religiosity correlated significantly with the ESP scores in two of the experiments and for all the experiments combined ($N = 383$). Belief in an afterlife also correlated significantly in two experiments and in all experiments combined ($N = 382$). Belief in psychic phenomena correlated significantly with ESP scores in two experiments but in opposite directions from each other, and was insignificantly cot-related in all the experiments combined ($N = 448$).

Discovering usable predictors of performance in ESP experiments has proved to be a difficult task. It can be stated that no *reliable* such predictor has been found. This comes, of course, as no surprise when we consider the extremely low reliability of what have traditionally been termed *ESP* scores, a designation used even when there have been no signs of ESP operating in these scores (Haraldsson, 1983).

However, in a fairly large number of experiments small effects and patterns have shown up that seem to have some consistency. One of these is the sheep-goat effect (SGE). Schmeidler (1945) introduced the terms *sheep* and *gout* into parapsychology, having taken them from a religious connotation in the Bible (Matthew, 25: 31-33). She made them apply to "those who thought that ESP could occur in the experimental situation, and those who were sure it could not" (Schmeidler, 1945, p. 47), thereby referring to the "open-minded sheep" versus the "skeptical goats."

The effect of belief in psi on ESP performance has yielded significant results in many experiments but has not shown up in oth-

The author thanks Joop M. Houtkooper for computing most of the statistical analyses and Michael Thalbourne for some helpful comments.

ers. Palmer (1971, 1978) has reviewed a large number of experiments which have shown how belief in psychic phenomena or belief in the success of an ESP experiment has affected the scoring rate: believers (sheep) have tended to obtain a higher number of hits than disbelievers (goats). Often the belief was a general belief in psychic phenomena or a belief according to Schmeidler's original definition, that is, "either accepting the possibility of ESP under the conditions of the experiment, or as rejecting any possibility of ESP under these conditions" (Schmeidler & McConnell, 1958, p. 24). The SGE may be considered one of the best, if not **the** best, demonstrated effect in parapsychology.

In a few experiments conducted at the University of Iceland using a large number of subjects, the SGE has come clearly to view. One experiment ($N = 449$) revealed a significant SGE; another ($N = 393$) was almost significant (Haraldsson, 1975, 1980); and the third ($N = 229$) was significant but in the reversed direction, that is, the goats obtained higher scores than the sheep (Thorisson, Skulason, & Haraldsson, 1991). In these experiments we used the 3-item Icelandic Sheep-Goat Scale, which measures belief in clairvoyance, precognition, and psychic dreams, as well as the reading of books and articles on psychic phenomena (Haraldsson, 1981). The Icelandic Sheep-Goat Scale does not refer to a specific experimental setup as in Schmeidler's original question.

Religiosity and Belief in Psychic Phenomena

A relationship between religious beliefs and belief in psychic phenomena has shown up in several studies with large samples of subjects. In four Icelandic samples (Haraldsson, 1981) there have been significant correlations between belief in psychic phenomena and items in a religiosity scale consisting of self-reported religiosity, praying, and reading of religious material. The correlations ranged from .26 ($N = 568$) to .55 ($N = 195$).

Factor analysis of data from a large sample of students at Louisiana Tech University (Tobacyk & Milford, 1983) showed that items pertaining to "Traditional Religious Belief" (belief in survival, devil, God, heaven, and hell) constituted a factor supposedly independent of other belief dimensions of their scale and that it correlated positively with belief in precognition ($r = .23$).

However, Clarke (1991) found no relationship between self-reported religiosity and belief in telepathy and precognition in a large sample ($N = 1,048$) of New Zealand university students.

McClenon (1990), using 241 students at the University of Maryland, concluded that experience of ESP and belief in ESP (each measured by single items) were not related either to religious denomination or to self-perceived religiosity.

Religiosity and Reporting of Psychic Experience

Reporting of personal psychic experiences has similarly been found to correlate with religious beliefs. In a national representative survey in Iceland ($N = 902$), there was a significant correlation of $r = .30$ between the reporting of psychic experiences (six different kinds) and a 3-item religiosity scale: (How religious do you consider yourself to be? Have you ever had a vivid religious or spiritual experience? Do you read the Bible?) (Haraldsson, 1985; additional data not analyzed at the time).

A mass survey ($N = 18,607$) was recently conducted in most countries of Western Europe and the United States (Haraldsson & Houtkooper, 1991). Among the religious variables relating significantly to psychic experiences were belief in reincarnation, God being important in one's life, and taking some moments for prayer or meditation.

In the sample of town people in Palmer's (1979) Charlottesville community survey, 11% who were classified as "other" in regard to religious affiliation (i.e., not Protestant, Catholic, Jewish, or atheist) tended to report a relatively high incidence of psi-related experiences (significant for ESP agency, apparitions, and haunting). Those claiming to be atheists reported a relatively low incidence, and self-reported religiosity was not related to the reporting of psi-related experiences.

Thus far, this relationship between religious beliefs and belief in psychic phenomena has been explored only in surveys of self-reported psychic experiences and beliefs. We have lacked data to test whether religious beliefs and religiosity can predict ESP scores in experiments designed primarily to elicit ESP. The author searched in vain through the parapsychological literature for an experiment in which a religious variable was used to correlate with ESP performance.

Results from a series of experiments-to be described in this paper-indicate that religious belief and belief in an afterlife may be more important predictors in ESP scoring than belief or interest in psychic phenomena, which is the essence of the sheep-goat effect.

Since 1977 a series of 10 experiments have been conducted at the University of Iceland to test a possible relationship between perceptual defensiveness and performance in a forced-choice guessing game as an indicator of ESP. A meta-analysis has shown that these experiments revealed an overall significant relationship between perceptual defensiveness as measured by the Defense Mechanism Test (DMT) and ESP performance: effect size (ES) = .121, $z = 2.61$, $N = 462$, $p = .0045$, one-tailed. The experiments have been described in detail elsewhere (Haraldsson, 1978; Haraldsson & Johnson, 1979, 1980, 1981, 1986; Haraldsson, Houtkooper, & Hoeltje, 1987; Haraldsson & Houtkooper, 1992; Johnson & Haraldsson, 1984).

To test a possible relationship between ESP performance and religious belief and interest, a few religious items were included along with the Icelandic Sheep-Goat Scale in 8 of the 10 DMT-ESP experiments.

METHOD

The experiments consisted of two sessions given from one day to two weeks apart and averaging two to four days apart. In the first session the DMT was administered along with some questionnaires, which differed across experiments. Two ESP tasks were presented in the second session. There was one exception. Experiment IV consisted of three sessions, each conducted on a different day. In the first session a paper-and-pencil precognition test was administered along with a questionnaire. The DMT was administered in a second session and the clairvoyance test in a third session (Johnson & Haraldsson, 1984).

The Extrasensory Perception Tasks

The ESP task in all our experiments consisted of 80 trials, or guesses. For each trial the probability of a hit was 1 in 4 trials, because there was a choice of four different targets. Thus mean chance expectation was 20 hits. One exception was the clairvoyance test in Experiment IV where the probability for a hit was 1 in 5. Forty trials of clairvoyance (run as a computer game) and 40 trials of precognition were administered in seven experiments. In experiment VIII the subjects completed two runs of the 40-trial clairvoyance test.

Clairvoyance. The clairvoyance test consisted of 40 trials for each subject, who had to guess which of 4 possible targets had been selected by the random number generator in the computer for each of the 40 trials. In the first three experiments we used a commercially available "ESP tester" with a built-in random number generator from Paratronics, Los Gatos, California. In the following five experiments we used an Apple IIE computer with a built-in random number generator. The targets were different for all subjects.

Before and after each Apple IIE session the computer automatically tested the randomness of 1,000 trials ($p = 1/4$) of the random number generator and performed a chi-square test of the frequency of the four alternatives. No significant deviations from chance were found in these tests. These data were saved in the computer along with the targets generated by the computer and the subjects' guesses. Additionally, one of the experimenters hand-recorded the outcome of each guess and signed the form. This "guessing game" was jointly designed by Richard Broughton and the author. For further details see Haraldsson & Houtkooper (1992).

Precognition. The precognition test consisted of 40 trials and was conducted immediately after the clairvoyance test, with the exception of Experiment IV, when the order was reversed. The subject received a sheet of paper with 40 numbered boxes. He was asked to guess which of four letters (B, N, O, V) a mainframe computer would select for each of the 40 boxes. When all subjects had completed their ESP task, we obtained from the mainframe computer a unique set of 40 random letters ($p = 1/4$) for each subject. In the first three experiments Sybo A. Schouten had the targets produced by a mainframe computer in the Psychological Laboratory at the University of Utrecht. In the other five experiments the mainframe used was at the University of Iceland Computing Center. The targets were checked against each subject's guesses and the number of hits was recorded.

Belief in Psychic Phenomena

The Icelandic Sheep-Goat Scale (Haraldsson & Houtkooper, 1992) was administered in Experiments I, II, III, VIII, IX, and X. It consists of three items:

1. Do you believe that the existence of telepathy (thought-transference) or clairvoyance is: (a) unthinkable, (b) unlikely, (c) likely, (d) certain?
2. Do you believe that the ability to know the future or to have dreams about it is: (a) unthinkable, (b) unlikely, (c) likely, (d) certain?

3. Do you read books or articles on psychic phenomena: (a) never, (b) seldom, (c) now and then, (d) often?

A score is obtained by summing up the point scores in front of each response on each of the three items.

In Experiment IV two questions on belief in psychic phenomena were used to obtain an indicator: "Do you read about psychic phenomena?" (scale of 1 to 4) and "Do you believe that dreams can foretell events?" (scale of 1 to 3).

Experiment V had four questions, with responses ranging from 1 (no) through 2 (not sure) to 3 (yes):

Do you believe there are psychic phenomena such as:

1. Hunches
2. Telepathy
3. Ability to see the dead
4. Psychic dreams

In Experiment VI Tobacyk's 25-item Paranormal Belief Scale was administered (Tobacyk & Milford, 1983). Four of these items form the Icelandic version of the Precognition subscale (Haraldsson & Houtkooper, submitted for publication):

1. Dreams can provide information about the future.
2. Some people have the ability to predict the future.
3. The idea of predicting the future is foolish.
4. Mind reading is not possible.

Subjects rated their degree of agreement for each item on a 5-point rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). A final score was obtained by summing up the point scores, the rating scale being reversed for items 3 and 4.

All scores that were used in the various experiments as indicators of belief in psychic phenomena were normalized so that a meta-analysis could be conducted.

Measures of Religiosity

The following four questions on religiosity were combined into a religiosity scale in Experiments I to III.

1. Do you read articles and books on religion? (a) never, (b) seldom, (c) on and off, (d) often.
2. How religious do you consider yourself to be? (a) very, (b) somewhat, (c) slightly, (d) not at all.
3. Do you pray? (a) never, (b) seldom, (c) on and off, (d) often.

4. Do you attend religious meetings? (a) never, (b) seldom, (c) on and off, (d) often.

No questions on religiosity were presented in Experiment IV. Experiment V included five questions:

1. Do you believe that God exists in some form?
2. Do you consider yourself a religious person?
3. Does God have some personal meaning for you?
4. Do you read the Bible?
5. Do you consider yourself religious without having specific religious ideas?

Response alternatives for 1, 2, 3 and 5 were (a) no; (b) not sure; (c) yes; for 4, they were (a) never, (b) seldom, (c) often.

In Experiment VI three items (nos. 8, 15, and 22) were used from Tobacyk's Paranormal Belief Scale (Tobacyk & Milford, 1983; Haraldsson & Houtkooper, submitted for publication) and one item from the extended Icelandic version of that scale (4 below) because in factor analysis it loaded highest on the Traditional Religion subscale. Subjects rated their degree of agreement with each item on a 5-point scale ranging from 1 (strongly disagree), through 3 (undecided, do not know) to 5 (strongly agree):

1. There is a devil.
2. I believe in God.
3. There is heaven and hell.
4. It is possible to be possessed by evil spirits.

Experiments VIII, IX, and X included only one religious item: "Do you read articles or books about religion"? Responses ranged from 1 (never) to 4 (often).

Because the content and number of items from which combined scores were obtained were different in the various experiments, these scores were normalized so that they could be correlated with other overall scores and for the purpose of meta-analysis.

Belief in Afterlife

In eight experiments the subjects were asked: Do you believe in life after death? The subjects rated their belief on a 4-point scale ranging from 1 (it is unthinkable) to 4 (it is certain). This item was not included in the religious scale because it can be argued that belief in life after death can be a more philosophical than religious attitude.

Statistical Procedures

In order to obtain comparable scores for all the experiments, which included some measure of belief in psychic phenomena, religiosity, and belief in afterlife, all scores were normalized by converting them into z scores (Conover, 1980) using available procedures in the SYSTAT program package (Wilkinson, 1990). ESP scores were calculated as z scores of the numbers of hits in both ESP tasks. For the total ESP scores we combined z scores of both tasks with equal weights. These z scores were used in calculating the correlations, though in Table 1 we give the ESP scores as numbers of hits.

For the meta-analysis, the main requirement is that the combined result must not show inflated significance. This means, in the case of z -score approximations to the nonparametric correlation coefficients, that modified corrections are called for instead of the usual continuity correction. Elsewhere (Haraldsson, Houtkooper, & Hoeltje, 1987) appropriate approximations for Kendall's tau and Spearman's rho have been reported. Both coefficients can be used, but Kendall's tau may be preferred for the greater range of validity of its approximation. The meta-analysis procedure involves combining the z scores, weighted with the number of subjects in each experiment. The procedure was implemented in a computer program that is available from the author.

It has been argued that in meta-analysis an evaluation in the form of effect-size (ES) is indispensable (Utts, 1991). In this study, aiming to compare strengths of relationships, we chose the widely used measure of $ES = z\sqrt{N}$, where z is the z score of the correlation obtained from N subjects. The numerical values thus obtained are close to those of the mean correlation coefficient, which we did not evaluate because a precise formula for nonparametric correlation coefficients is not, to our knowledge, available as yet.

Belief in, as well as the reporting of, psychic personal experiences has been found significantly related to religiosity in all Icelandic samples tested so far. Hence, a one-tailed test of significance is used for calculations involving religiosity.

RESULTS

Belief in an afterlife was found to be significantly positively related to ESP performance in two of eight experiments ($\tau = .18$,

TABLE 1
MEANS AND STANDARD DEVIATIONS OF NUMBERS OF HITS FOR EACH ESP TASK IN ICELANDIC EXPERIMENTS I TO X

Experiment	No. of subjects	Total ESP hits		ESP: 1st task			ESP: 2nd task		
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Type ^a	<i>M</i>	<i>SD</i>	Type ^a
I	37	20.49	3.52	10.08	2.94	Cl	10.41	2.35	Pr
II	37	20.76	3.85	10.41	2.74	Cl	10.35	2.85	Pr
III	41	19.07	3.69	9.10	2.97	Cl	9.98	2.38	Pr
IV ^b	54	18.81	4.14	0.15	3.30	Pr	8.67	2.46	Cl
V	46	19.72	3.67	9.87	3.02	Cl	9.85	2.88	Pr
VI	44	20.34	4.16	10.25	2.94	Cl	10.09	2.39	Pr
VII	48	20.10	5.82	10.48	3.50	Cl	9.63	3.48	Cl
VIII	50	19.12	4.34	9.64	2.56	Cl	9.48	2.82	Cl
IX	50	20.62	3.83	10.36	2.41	Cl	10.26	2.93	Pr
X	55	19.75	4.20	9.56	2.51	Cl	10.18	2.95	Pr
Total	462								

^aCl = clairvoyance; Pr = precognition.

^bThe clairvoyance test in Experiment IV had a probability of a hit of 1/5.

TABLE 2
CORRELATIONS (KENDALL'S TAU) BETWEEN ESP PERFORMANCE AND RELIGIOSITY, BELIEF IN PSYCHIC PHENOMENA (SHEEP-GOAT), AND BELIEF IN AFTERLIFE

Experiment	No. of subjects	Religiosity	Sheep-goat	Belief in afterlife
I	37	-.06	-.09	-.05
II	37	.12	.04	.13
III	41	.05	-.22*	-.10
IV	65	—	-.00	—
V	46	.08	.06	.18*
VI	54	.26**	.02	.18*
VIII	54	.03	.01	-.02 (<i>n</i> = 53)
IX	54	.23**	.25*	.10
X	60	-.03	.08	.09
Total N		383	448	382
Meta-analysis				
<i>z</i>		2.48	.73	1.92
<i>p</i>		.007	.23	.03
Effect size		.127	.035	.098

**p* < .05

***p* < 0.01

n = 54 and 46, *p* < .05, one-tailed). A meta-analysis of all eight experiments found belief in afterlife to be significantly related to ESP performance (*ES* = .098, *z* = 1.916, *n* = 382, *p* = .028, one-tailed). Results for each experiment are given in Table 2.

Scores of the combined religiosity scale related significantly to ESP performance in two out of eight experiments as can be seen in Table 2. A meta-analysis of the eight experiments showed that persons more interested in religion tended to obtain higher ESP scores than those less religiously interested (*ES* = .127, *z* = 2.48, *n* = 383, *p* = .007, one-tailed).

A look at the results for individual religious items reveals that "How religious do you consider yourself to be?", which was used in five experiments, related significantly to ESP performance (*ES* = .125, *z* = 1.839, *n* = 215, *p* = .033, one-tailed). Almost significant was reading of articles and books on religion, which was administered in eight experiments (*ES* = .086, *z* = 1.553, *n* = 328, *p* = .060, one-tailed), whereas attending religious meetings, used in three experiments (*ES* = .100, *z* = 1.077, *n* = 115), and frequency of praying (*ES* = -.007, *z* = -.074, *n* = 115) was not. Results for individual experiments are given in Table 3.

TABLE 3
CORRELATIONS (KENDALL'S TAU) BETWEEN ESP PERFORMANCE (ESP TOTAL) AND RELIGIOSITY AS COMPOSED OF RELIGIOUS READING, ATTENDING RELIGIOUS MEETINGS, HOW RELIGIOUS, AND PRAYING

Experiment	Religiosity	Religious reading	Attending religious meetings	How religious	Praying
I	-.06	-.11	.02	-.00	-.09
II	.12	.07	.01	.12	.02
III	.05	.06	.17	.03	.04
V	.08	.16		.08	
VI*	.26**			.18*	
VIII	.03	.03			
IX	.23**	.23**			
X	-.03	-.03			
Total N	383	328	115	215	115
Meta analysis					
z					
p	2.007	1.06	1.14	1.03	0.53
Effect size	.127	.086	.100	.125	-.007

*Three items not listed here were included in experiment VI. The item "I believe in God" was used as indicator for "How religious."

* $p < 0.05$.

** $p < 0.01$.

A meta-analysis of results based on the hypothesis that belief and interest in psychic phenomena is related to ESP performance was not confirmed ($ES = .035$, $z = .731$, $n = 448$, $p = .232$). The Icelandic Sheep-Goat Scale was administered in eight experiments. This relationship was significant in Experiment III in the reversed direction ($\tau = -.224$, $n = 41$, $p = .983$) and in Experiment IX in the expected direction ($\tau = .246$, $n = 54$, $p = .005$). This is the second time a reversed SGE has been obtained in experiments at the University of Iceland, this time in a small group of subjects. Results for each experiment are given in Table 2.

Regression analysis was carried out to find to what extent ESP performance can be predicted from religiosity, belief in afterlife, and belief and interest in psychic phenomena. The percentage of the variance that can be explained by these three variables is only 1.3%, all accounted for by religiosity, which is the only significant predictor of ESP performance ($t = 2.27$, $n = 382$, $p = .024$, two-tailed). Belief in afterlife and belief and interest in psychic phenomena do not add anything significant to the prediction.

These three variables were all significantly related to each other. Most closely related were religiosity and belief in afterlife ($r = .55$, $n = 407$), then belief in afterlife and belief in psychic phenomena ($r = .43$, $n = 407$), and last belief in psychic phenomena and religiosity ($r = .27$, $n = 408$).

DISCUSSION

Of the three belief variables that were related to ESP performance- religiosity, belief in afterlife, and belief in psychic phenomena-only religiosity proved significant. A meta-analysis of the results of eight experiments showed that the z value is highest for religiosity, 2.48 ($n = 383$). For belief in afterlife, it is 1.92 ($n = 382$), and for belief in psychic phenomena it is lowest, .73 ($n = 448$). The low z value for the belief in psychic phenomena is primarily due to the reversal of the SGE in Experiment III. All of these relationships are very weak, as is to be expected. Respective effect sizes are .127, .098, and .035. These figures become of some interest only because of the large number of subjects behind each calculation, ranging from 382 to 448.

Multiple regression analysis showed that religiosity was the only significant predictor of ESP performance. Previous findings have shown a substantial relationship between religiosity and belief and experience of psychic phenomena, particularly in Iceland. Hence the present finding indicates that religiosity may be a more efficient predictor of ESP performance than the traditional sheep-goat variable.

It should be pointed out that religiosity has some differences in content between Iceland and the USA, which may be the reason for the less consistent relationship in the US between religiosity and belief and reporting of psychic experiences than in Iceland. The Icelanders are about as high on self-reported religiosity and belief in God as the Americans (which is higher than for all other European nations, according to the international Human Values Survey (Gallup International, 1984; Haraldsson & Houtkooper, submitted for publication; Harding, Phillips & Fogerty, 1986). However the church attendance of Icelanders is the lowest in Europe (2% attend church weekly) whereas Americans are higher than almost any European nation with over 40% attending church weekly (Hagvanger, 1984). Furthermore, among European nations belief in such Christian notions as the devil and hell are the lowest in Iceland, whereas

the Americans are among the greatest believers in such religious ideas. Thus, Icelanders may well be more like those whose religious affiliation Palmer (1979) classified as "others" in his Charlottesville community survey, than they are like the typical American Christian.

If the relationship between religiosity and ESP performance proves to be less consistent in other countries than in Iceland remains to be seen. Hopefully some experimenters will find it worth while to explore this relationship with samples from other countries.

REFERENCES

- CONOVER, W. J. (1980). *Practical nonparametric statistics*. (2nd ed.). New York: Wiley.
- CLARKE, D. (1991). Belief in the paranormal: A New Zealand study. *Journal of the Society for Psychological Research*, 57, 412-425.
- GALLUP INTERNATIONAL. (EUROPEAN VALUE SYSTEMS STUDY GROUP). (1984). *Human values and beliefs*. London. Unpublished manuscript.
- HAGVANGUR (1984). *Könnun á gildismuti og mannlegum viðhorfum Íslendinga. Fyrstu niðurstöður* [Survey of human values and beliefs of Icelanders. First results]. Reykjavik. Unpublished report.
- HARALDSSON, E. (1975). Reported dream recall, precognitive dreams, and ESP. In J. D. Morris, W. G. Roll, & R. L. Morris (Eds.), *Research in parapsychology 1974* (pp. 47-48). Metuchen, NJ: Scarecrow Press.
- HARALDSSON, E. (1978). ESP and the Defense Mechanism Test (DMT). A further validation. *European Journal of Parapsychology*, 2, 104-114.
- HARALDSSON, E. (1980). Scoring in a precognition test as a function of the frequency of reading on psychical phenomena and belief in ESP. *Parapsychology Laboratory Research Letter*, No. 10, pp. 1-8. University of Utrecht.
- HARALDSSON, E. (1981). Some determinants of belief in psychical phenomena. *Journal of the American Society for Psychological Research*, 75, 297-309.
- HARALDSSON, E. (1983). Retest reliability of ESP and sheep-goat scores. In W. G. Roll, V. Beloff, & R. A. White (Eds.), *Research in Parapsychology 1982* (pp. 197-198). Metuchen, NJ: Scarecrow Press.
- HARALDSSON, E. (1985). Representative national surveys of psychic phenomena: Iceland, Great Britain, Sweden, USA, and Gallup's multinational survey. *Journal of the Society for Psychological Research*, 53, 145-158.
- HARALDSSON, E., & HOUTKOOPER, J. M. (1991). Psychic experiences in the multinational human values study: Who reports them? *Journal of the American Society for Psychological Research*, 85, 145-165.
- HARALDSSON, E., & HOUTKOOPER, J. M. (1992). Effects of perceptual defensiveness, personality, and belief on extrasensory perception tasks. *Personality and Individual Differences*, 13 (10), 1085-1096.
- HARALDSSON, E., & HOUTKOOPER, J. M. Religion, spiritualism, and the paranormal: An Icelandic-American comparison. Submitted for publication.

- HARALDSSON, E., HOUTKOOPER, J. M., & HOELTJE, C. (1987). The Defense Mechanism Test as a predictor of ESP performance. Icelandic Study VII and meta-analysis of thirteen experiments. *Parapsychology*, **5**, 1, 75-90.
- HARALDSSON, E., & JOHNSON, M. (1979). ESP and the Defense Mechanism Test (DMT), Icelandic study No. III. A case of experimenter effect? *European Journal of Parapsychology*, **3**, 11-20.
- HARALDSSON, E., & JOHNSON, M. (1980). ESP and the Defense Mechanism Test (DMT): A case of experimenter effect? In W. G. Roll (Ed.), *Research in parapsychology* 1979 (pp. 112-113). Metuchen, NJ: Scarecrow Press.
- HARALDSSON, E., & JOHNSON, M. (1981). ESP and perceptual defensiveness: A replication. In W. G. Roll, & J. Beloff (Eds.), *Research in parapsychology* 1980 (pp. 106-107). Metuchen, NJ: Scarecrow Press.
- HARALDSSON, E., & JOHNSON, M. (1986). The Defense Mechanism Test (DMT) as a predictor of ESP performance: Icelandic studies VI and VII. In D. H. Weiner & D. I. Radin (Eds.), *Research in parapsychology* 1985 (pp. 43-44). Metuchen, NJ: Scarecrow Press.
- HARDING, S., PHILLIPS, D., with Fogerty, M. (1986). *Contrasting values in Western Europe*. London: Macmillan.
- JOHNSON, M., & HARALDSSON, E. (1984). The Defense Mechanism Test as a predictor of ESP scores. *Journal of Parapsychology*, **48**, 185-200.
- MCCLENON, J. (1990). Chinese and anomalous experiences: The role of religiosity. *Sociological Analysis*, **51**, 53-67.
- PALMER, J. (1971). Scoring in ESP tests as a function of belief in ESP: Part I. The sheep-goat effect. *Journal of the American Society for Psychological Research*, **65**, 373-408.
- PALMER, J. (1978). Extrasensory perception: Research findings. In S. Krippner (Ed.), *Advances in parapsychological research: Extrasensory perception* (pp. 59-243). New York: Plenum Press.
- PALMER, J. (1979). A community mail survey of psychic experiences. *Journal of the American Society for Psychological Research*, **73**, 22 1-25 1.
- SCHMEIDLER, G. R. (1945). Separating the sheep from the goats. *Journal of the American Society for Psychological Research*, **39**, 47-49.
- SCHMEIDLER, G. R., & McCONNELL, R. A. (1958). *ESP and personality patterns*. Westport: Greenwood Press.
- THORISSON, K., SKULASON, F., & HARALDSSON, E. (1991). Effects of belief in ESP and distorted feedback on a computerized clairvoyance task. *Journal of Parapsychology*, **55**, 45-58.
- TOBACYK, J., & MILFORD, G. (1983). Belief in paranormal phenomena: Assessment instrument development and implications for personal functioning. *Journal of Personality and Social Psychology*, **44**, 1029-1037.

UTTS, J. (1991). Replication and meta-analysis in parapsychology. *Statistical Science*, 6, 363-403.

WILKINSON, L. (1990). *SYSTAT: The system for statistics*. Evanston, IL: Systat Inc.

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