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Registration of Actual and Intended Eye Gaze: Correlation with Spiritual Beliefs and Experiences

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Abstract — Previous research by Schwartz *et al.* (1995) documented that subjects could correctly guess, above chance, the presence of an experimenter's hand placed a few inches above one of their hands in the absence of visual and auditory information. Were subjects detecting the biophysical energy of the experimenter's hands and/or the intention of the experimenters? The present experiments employed a different interpersonal registration paradigm and examined whether individual differences in detection accuracy were related to experiences with subtle interpersonal registration (interpersonal ESP and survival of consciousness experiences). In Experiment 3, 20 male and 20 female subjects received 32 trials of actual eye gazes and intended eye gazes. Subjects sat with their backs to the experimenters. The 2×2 design (head/back by actual/intended gaze) used a counterbalanced order. At the end of the experiment, subjects estimated their correct guesses and also rated their openness to spiritual beliefs and experiences. Percent correct detections for actual stares was 56% ($p < .003$); percent correct detections for intended stares was 60% ($p < .001$). There was no correlation between subjects' estimates of their performance and their actual performance. However, subjects' responses to the questions such as "have you ever experienced 'ESP' between people such as connected with a loved one from a distance or having a predictive dream about someone?" and "have you ever experienced the presence of someone who has passed away?" were each significantly corrected with their accuracy in detecting actual and intended eye gaze ($r = .47, p < .002$; $r = .40, p < .01$). These findings suggest that interpersonal sensitivity may be related to implicit registration of individuals in physical and energy systems. Since subtle auditory and other cues may have been involved in these studies, future studies should examine various sources of possible information and energy cues in this paradigm.

Keywords: intentionality — energy medicine — spirituality — eye gaze — dynamical systems

Introduction

When the concept of energy (the capacity to do work and overcome resistance) is combined with the concept of a system (the interaction of components/subsystems creating a larger whole), a set of hypotheses emerge (termed dynamical energy systems hypotheses) that have important implications for

basic and applied science, including healthcare (Russek & Schwartz, 1996; Schwartz & Russek, 1997a).

These hypotheses can be stated generically (*i.e.* applicable to any system) and then can be restated in terms of specific systems (*e.g.* the heart, hands, or eyes). Table 1 (from Schwartz *et al.*, 1995) provides the generic hypotheses on the left and their application to a specific system (the hands) on the right. One obvious prediction is that subjects should be able to detect the presence of someone else's hands with their hands in the absence of visual and auditory cues.

Schwartz *et al.* (1995) found that blindfolded college students could identify above chance which of their hands was closest to the investigator's hand placed a few inches above one of their hands (66% of 1464 trials, $p < .00001$). In two studies involving 20 and 41 subjects (and 1 and 21 investigators) respectively, placement of the investigator's hand was completely counterbalanced over trials for hand of investigator (right versus left) in addition to hand of subject (right versus left). All subjects received 24 trials. Interestingly, subjects' estimates of their performance were only slightly above chance (54%) and were uncorrected with their actual correct identifications.

In the Schwartz *et al.* (1995) study, subjects not only indicated which of their hands was closest to the investigator's hands, but they also rated the confidence of each guess using the numbers between 0 and 10. Importantly, even in those subjects whose performance was at chance levels, it was found that correct identification trials were associated with significantly higher confidence ratings when compared to incorrect identification trials.

TABLE 1
Five Dynamical Energy Systems Hypotheses and Their Applications to the Hands
(from Schwartz *et al.*, 1995)

Dynamical Energy Systems Hypotheses	Hand Energy System Hypotheses
1. Systems are expressions of organized energy and emit energy.	1. The hands are a dynamic energy generating system.
2. Energy activates and regulates systems interactively.	2. Energy from the hands may regulate organs and cells in the body interactively.
3. Energies (types and frequencies) are emitted simultaneously, including the quantum level.	3. The hands generate patterns of energy. The hand energy pattern includes electrical, magnetic, sound pressure, temperature (infrared) and electrostatic energies.
4. Energy is transmitted between systems dynamically and interactively.	4. Hand energy patterns may have interactive effects interpersonally and environmentally as well as intrapersonally.
5. Levels of consciousness may modulate patterns of energy in health and illness, and conversely, patterns of energy may modulate levels of consciousness.	5. Levels of consciousness may modulate hand energy patterns in health and illness, and conversely, hand energy patterns may modulate levels of consciousness.

Schwartz *et al.* concluded that these two studies provided evidence for "implicit performance and perception" of "interpersonal hand-energy registration" as well as "an empirical and conceptual foundation" for viewing some of the controversial claims for non-contact therapeutic touch (*e.g.* Rauscher, 1990; Wirth, 1990) and related therapeutic approaches. Two of the claims made by non-contact therapeutic touch practitioners are that the hands generate and respond to biophysical energy (including electrostatic and temperature) and that humans can detect biophysical energy from the body using their hands. The Schwartz *et al.* findings could be viewed as consistent with these hypotheses.

Note that these studies presumed that the potential interpersonal registration involved some combination of biophysical energy (*e.g.* temperature, electrostatic) as well as possible subliminal auditory cues (no subjects reported hearing and using such cues). However, these studies did not examine the possibility that the source of the detection might be more "subtle" and potentially involve the "intention" to connect with the subject's left and right hands. Research on intention suggests that intention may influence not only living systems (*e.g.* cells, reviewed in Schlitz, 1996) but also electronic systems as measured using random event generators (*e.g.* see Jahn *et al.*, 1997).

The present research attempted to replicate and extend the Schwartz *et al.* findings using a different interpersonal registration paradigm (detecting interpersonal energy and intention from the back) that made it easier to manipulate biophysical energy and intention. In addition, the present research explored the possibility that one correlate of individual differences in sensitivity to biophysical energy and intention might be openness to spiritual belief and experience.

Experiment 1

Purpose

The purpose of Experiment 1 was to determine if subjects could detect the presence of another person's hand placed a few inches behind their head versus a few inches behind their lower back, and to compare this ability with their ability to detect whether someone was simply staring at the back of their head versus staring at their lower back. From a straightforward biophysical perspective, it would be expected that subjects should be better at detecting a hand placed a few inches behind their head versus their back compared to detecting someone staring at their head versus their back (since the staring was a few feet from their head and back and the hands were a few inches from their head and back). Also, if subtle auditory cues were involved, it would be expected that the cues would be stronger with actual hand and arm movement (in addition to possible sounds involved in staring, since the experimenters performed the hand detection task with eyes open), compared to the staring alone condition.

Design

Twenty-four trials were administered to each subject. Each block of four trials contained the 2 × 2 design (head versus back and hand versus stare). Order of trials was counterbalanced, a different order was used for each of the six blocks. Experimenters used their dominant hand.

Subjects

Thirty-one subjects were recruited for the experiment by 31 different experimenters (students in an advanced health psychology course at the University of Arizona). There were 18 female subjects (mean age 24.2 years) and 13 male subjects (mean age 25.2 years). Subjects were family members, friends, or acquaintances of the experimenters.

Procedure

Subjects sat with their backs to the experimenters, who sat approximately three feet from the subject. The experimenters read a set of prepared instructions:

The purpose of this exploratory study is to determine whether people can tell if someone is physically near them from behind, or whether someone is staring at them from behind. Research suggests that people can sometimes sense when someone is physically near them or is staring at them.

The experiment will be conducted as follows: You will sit in front of me, with your eyes closed, relaxing. You will wait for me to say "ready," and then approximately one second after I say "ready," you will attempt to sense or feel or intuit whether I am placing one of my hands near the back of your head, or near your lower back. Don't worry about "trying" to be right or wrong, just relax and enjoy the process of trying to sense or feel or intuit my intention — to be physically near or looking at your head or your back. You can take a few seconds or so to sense or feel or intuit whether I am physically near or staring at your head or back, and then simply tell me "head" or "back." After you make this guess, I will ask you to rate the confidence of your guess, from 0, meaning "this is a complete guess," through 5, meaning you are somewhat confident, to 10, meaning you feel very confident. Different people feel different degrees of confidence, and your confidence will likely vary from trial to trial, guess to guess. Some people feel that they are completely guessing, and give mostly 0's, 1's, and 2's. There are no right or wrong answers. We want you to simply tell us what you feel, whatever you feel. Feel free to use any number from 0 to 10. Is this clear?

There will be approximately 25 trials. Again, I will say "ready" to start each trial, then approximately one second later you will begin to possibly sense or feel or intuit my presence or stare. You may take a few or more seconds to make your impression and say "head" or "back" — then you will give us a rating from 0 to 10 to share your confidence with us. There will be approximately 10 seconds between each trial. Do you have any questions?

Since it is claimed that people who relax and try to enjoy this kind of experiment tend to be more sensitive, just let yourself relax and enjoy the experience of letting yourself sense or feel or intuit my physical presence or staring at your head or back. Shall we begin? Good.

At the end of the experiment, subjects were asked to estimate their percent accuracy (from 0% to 100%, where 50% would be chance).

Experimenters recorded the subjects' guesses and confidence ratings on a standardized sheet that contained the order of trials (the confidence ratings have not been analyzed).

Results

Figure 1 displays the average percent correct and percent incorrect responses for the 12 hand and 12 stare trials.

Analysis of variance revealed that the main effect for percent correct versus incorrect was significant ($F = 8.87$, $df = 1,30$, $p < .006$) and that the percent correct by hand versus stare (eye look) interaction approached significance ($F = 2.98$, $df = 1,30$, $p < .09$), suggesting that performance during the stare condition (58.6%) was slightly higher than the performance during the hand condition (54.0%).

Subjects' average estimate of their performance was 41.1% compared with the average of their actual performance which was 56.35%. There was no correlation between their actual performance and the estimates of their performance ($r = .13$, $df = 30$, $p = .48$). However, subjects who were more accurate in detecting the presence of the hand tended to be more accurate in detecting staring ($r = .43$, $df = 30$, $p < .02$).

Discussion

The finding that subjects could guess significantly better than chance when another person placed his/her hand near their head versus their back, but that

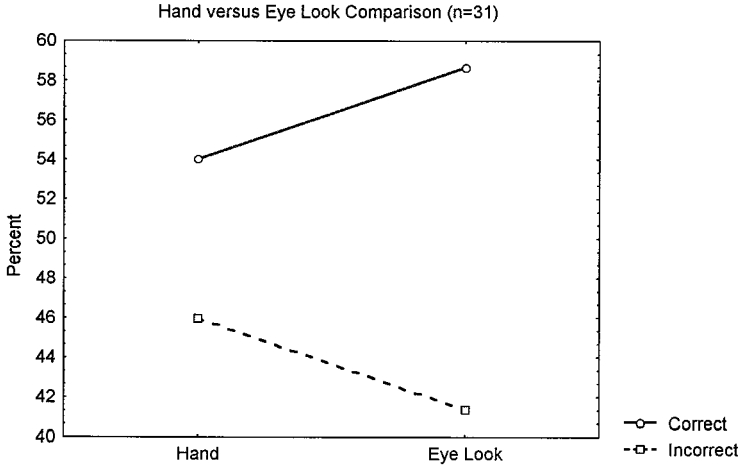

Fig. 1. Percent correct (solid line) and incorrect (dashed line) for hand detection and eye gaze detection conditions (total $n = 31$).

they were not accurate in guessing the degree of their actual performance, replicates the Schwartz *et al.* findings for interpersonal hand energy registration and extends this to interpersonal registration from behind. However, the finding that subjects could also guess head versus back when they were being stared at, and that this effect was equal (if not larger) in magnitude to hand detection, raises the question about the role of direct biophysical energy in the detection process. Since the amount of infrared (temperature) and electrostatic energy should be substantially greater in the hand compared to the eye detection condition (since the experimenter's hands were only a few inches from the subject's body), and potential subtle sound cues should have been greater as well, the performance of the stare condition appears anomalous. To examine this anomaly further, Experiment 2 was designed.

Experiment 2

Purpose

The purpose of Experiment 2 was to replicate if subjects could detect whether someone was staring at the back of their head versus staring at their lower back, and compare this condition with an "intention" condition where someone imagined staring at the back of their head versus staring at their lower back. From a biophysical perspective, it would be expected that subjects should be better at detecting someone staring at their head versus their back than imagining staring at their head versus back. If subtle auditory cues were involved in staring (*e.g.* subtle sounds of eye blinks), then the detection of staring should also be better than the detection of imagined staring.

Design

Twenty-four trials were administered to each subject. Each block of four trials contained the 2×2 design (head versus back and stare versus intend). Order of trials was counterbalanced, a different order was used for each of the six blocks. During the intend condition, the experimenters kept their eyes closed.

Subjects

Thirty-one subjects were recruited for the experiment by 31 different experimenters (students in an advanced health psychology course at the University of Arizona). There were 20 female subjects (mean age 23.2 years) and 11 male subjects (mean age 26.8 years). Subjects were family members, friends, or acquaintances of the experimenters. A small number of subjects in Experiment 2 were repeated from Experiment 1.

Procedure

Subjects sat with their backs to the experimenters, who sat approximately three feet from the subject. The experimenters read a set of prepared instructions:

The purpose of this exploratory study is to determine whether people can tell if they are being stared at from behind, or whether someone is thinking about staring at them from behind. Research suggests that people can sometimes sense when someone is staring at them.

The experiment will be conducted as follows: You will sit in front of me, with your eyes closed, relaxing. You will wait for me to say "ready," and then approximately one second after I say "ready," you will attempt to sense or feel or intuit whether I am staring at the back of your head, or at your lower back. Don't worry about "trying" to be right or wrong, just relax and enjoy the process of trying to sense or feel or intuit my intention — to be looking at your head or your back. You can take a few seconds or so to sense or feel or intuit whether I am staring or intending to stare at your head or back, and then simply tell me "head" or "back." After you make this guess, I will ask you to rate the confidence of your guess, from 0, meaning "this is a complete guess," through 5, meaning you are somewhat confident, to 10, meaning you feel very confident. Different people feel different degrees of confidence, and your confidence will likely vary from trial to trial, guess to guess. Some people feel that they are completely guessing, and give mostly 0's, 1's, and 2's. There are no right or wrong answers. We want you to simply tell us what you feel, whatever you feel. Feel free to use any number from 0 to 10. Is this clear?

There will be approximately 25 trials. Again, I will say "ready" to start each trial, then approximately one second later you will begin to possibly sense or feel or intuit my stare or intention. You may take a few or more seconds to make your impression and say "head" or "back" — then you will give us a rating from 0 to 10 to share your confidence with us. There will be approximately 10 seconds between each trial. Do you have any questions?

Since it is claimed that people who relax and try to enjoy this kind of experiment tend to be more sensitive, just let yourself relax and enjoy the experience of letting yourself sense or feel or intuit my staring or intending to stare at your head or back. Shall we begin?

Good.

At the end of the experiment, subjects were asked to estimate their percent accuracy (from 0% to 100%, where 50% would be chance).

Experimenters recorded the subjects' guesses and confidence ratings on a standardized sheet that contained the order of trials.

Results

Figure 2 displays the average percent correct and percent incorrect responses for the 12 stare and 12 intend trials.

Analysis of variance revealed that the main effect for percent correct versus incorrect was marginally significant ($F = 3.59$, $df = 1,30$, $p < .067$) and that the percent correct by stare versus intend interaction was not significant ($F = 0.36$, $df = 1,30$, $p = .55$).

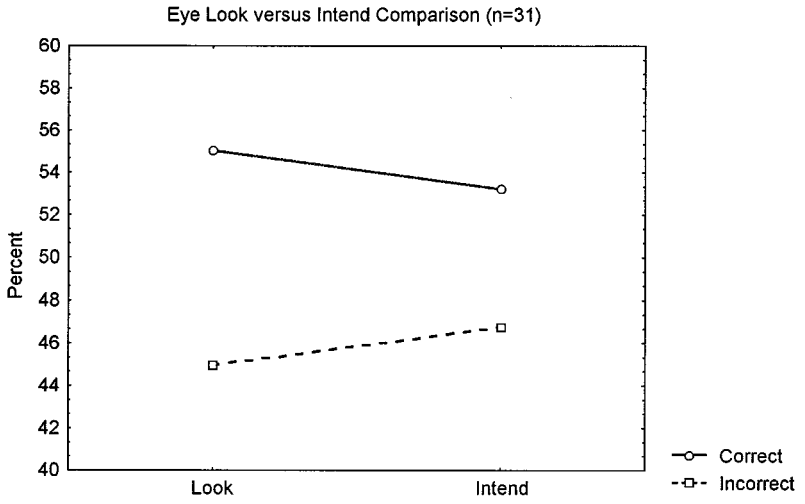

Fig. 2. Percent correct (solid line) and incorrect (dashed line) for eye gaze detection and intended eye gaze detection conditions (total $n = 31$).

Subjects' average estimate of their performance was 43.1% compared with the average of their actual performance which was 53.9%. There was no correlation between their actual performance and the estimates of their performance ($r = -.09$, $df = 28$, $p = .64$). However, subjects who were more accurate in detecting the presence of the stare tended to be more accurate in detecting the intention ($r = .36$, $df = 30$, $p < .05$).

Discussion

The results for Experiment 2 were similar to Experiment 1, though the absolute level of performance was somewhat less. The data suggest that subjects could not only detect whether someone was staring at their head versus back, but they could also detect whether someone was intending (with their eyes closed) to stare at their head versus back. Again, subjects' estimates of their performance were unrelated to their actual performance (replicating Schwartz *et al.* and Experiment 1). However, subjects who tended to do better in detecting stares were also somewhat better in detecting intended stares. This is similar to the finding in Experiment 1, where subjects who tended to do better in detecting hand presence were also somewhat better in detecting stares.

Experiment 3

Purpose

Since the findings in Experiment 2 were marginally significant and highly controversial, Experiment 3 was conducted using a new and larger set of experimenters, a larger sample of subjects, and a larger number of trials (36 rather than 24). The procedures were identical to Experiment 2. However, a questionnaire was created that assessed openness to spiritual beliefs and experiences, to determine if individual differences in guessing performance were related to individual differences in openness to spiritual beliefs and experiences.

Design

Thirty-six trials were administered to each subject. Each block of four trials contained the 2×2 design (head versus back and stare versus intend). Order of trials was counterbalanced, a different order was used for each of the eight blocks. During the intend condition, the experimenters kept their eyes closed.

Subjects

Forty subjects were recruited for the experiment by 40 different experimenters (students in an undergraduate psychology course at the University of Arizona). There were 20 female subjects (mean age 25.2 years) and 20 male subjects (mean age 22.5 years). Subjects were family members, friends, or acquaintances of the experimenters.

Procedure

Subjects sat with their backs to the experimenters, who sat approximately three feet from the subject. The experimenters read the identical set of prepared instructions described in Experiment 2 above.

At the end of the experiment, subjects were asked to estimate their percent accuracy (from 0% to 100%, where 50% would be chance). In addition, subjects filled out a brief Openness to Spiritual Beliefs and Experiences Scale — OSBES shown in Table 2.

Experimenters recorded the subjects' guesses and confidence ratings on a standardized sheet that contained the order of trials. The experimenters also filled out the OSBES at the end of the experiment.

Results

Figure 3 displays the average percent correct and percent incorrect responses for the 18 stare and 18 intend trials.

TABLE 2
Openness to Spiritual Beliefs and Experiences Scale — OSBES

For the following questions, answer each using the numbers 1 to 7 as indicated below:

1 = Definitely No	5 = Possibly Yes
2 = Probably No	6 = Probably Yes
3 = Possibly No	7 = Definitely Yes
4 = Maybe	

1. Do you believe in the existence of "God" or a "Higher Power"? _____
2. Do you believe in survival of consciousness after death? _____
3. Do you believe in the existence of "angels" or "guides"? _____
4. Do you believe in "ESP" or "parapsychology" between people? _____
5. Do you believe that prayer can have an effect on health and well being? _____
6. Have you ever *experienced* the presence of "God" or a "Higher Power?" _____
7. Have you ever *experienced* the presence of someone who has passed away? _____
8. Have you ever *experienced* the presence of an "angel" or "guide?" _____
9. Have you ever *experienced* "ESP" between people such as connecting with a loved one from a distance or having a predictive dream about someone? _____
10. Have you ever *experienced* prayer help promote health and well being? _____

Note: When the scale is administered, the scale is untitled.

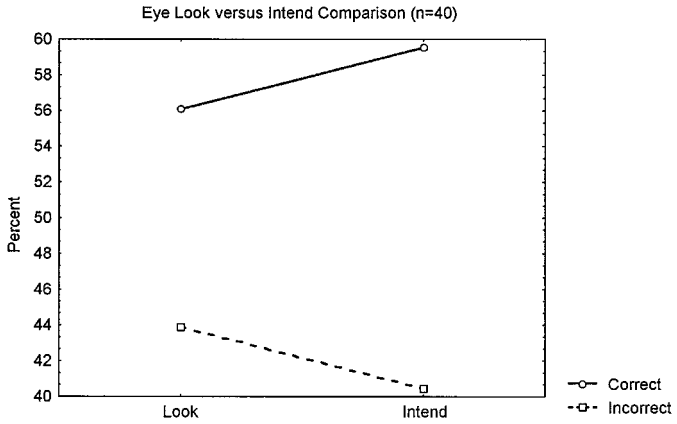

Fig. 3. Percent correct (solid line) and incorrect (dashed line) for eye gaze detection and intended eye gaze detection conditions (total $n = 40$).

Analysis of variance revealed that the main effect for percent correct versus incorrect was highly significant ($F = 18.47$, $df = 1,39$, $p < .0001$) and that the percent correct by stare versus intend interaction was not significant ($F = 1.26$, $df = 1,39$, $p = .268$).

Subjects' average estimate of their performance was 55.2% compared with the average of their actual performance which was 57.6%. Again, there was no correlation between their actual performance and the estimates of their performance ($r = -.10$, $df = 39$, $p = .532$). However, in this experiment, subjects who

were more accurate in detecting the presence of the stare were not significantly more accurate in detecting the intention ($r = .18$, $df = 39$, $p = .262$).

Table 3 presents the mean, variance, standard deviation, item-total correlation, and Cronbach's alpha, when each of the 10 numbered questions in the OSBES (Table 2) are deleted, for the subjects. The average Cronbach alpha was .85. The split-half reliability comparing the belief versus experience items was .80 The average Cronbach alpha for the experimenters was .90. The split-half reliability comparing the belief versus experience items was .83.

Total performance (stare and intended trials combined) was correlated with each of the individual items of the OSBES, the belief and experience subscales, and the total OSBES score. Beginning with the total OSBES, subjects who showed higher overall performance rated themselves higher in their overall openness to spiritual beliefs and experiences ($r = .45$, $df = 36$, $p < .005$). This relationship was observed separately for spiritual beliefs ($r = .46$, $df = 38$, $p < .004$) and spiritual experience ($r = .40$, $df = 36$, $p < .02$). The total OSBES relationship was observed separately for stares ($r = .43$, $df = 36$, $p < .008$) and intention ($r = .31$, $df = 36$, $p < .06$).

Interestingly, the highest correlations of total performance with spiritual belief items was for belief in "survival of consciousness after death" ($r = .36$, $df = 38$, $p < .02$) and belief in "ESP or parapsychology between people" ($r = .36$, $df = 38$, $p < .02$). Moreover, the highest correlations of total performance with spiritual experience items was for experience of "someone who has passed away" ($r = .40$, $df = 36$, $p < .01$) and experience of "ESP between people" ($r = .47$, $df = 38$, $p < .002$). The lowest items (which were positive but did not reach significance) were belief and experience items that related to "God or a Higher Power" and "prayer."

Since the correlation between stare and intention performance did not reach significance in Experiment 3, it was possible to perform medium splits on their stare and intention performance, and create four groups of subjects: high stare–high intention, $n = 8$; high stare–low intention, $n = 8$; low stare–high

TABLE 3
Means, Variances, Standard Deviations, Item-Total Correlations, and Cronbach's Alpha*

Question	Mean	Variance	St. Dev.	It-Tot *r*	Alpha
Q1	39.35135	134.8225	11.61131	.517912	.840879
Q2	40.62162	140.5595	11.85578	.354424	.853891
Q3	40.48649	122.5741	11.07132	.714964	.822397
Q4	40.86486	134.6034	11.60187	.531603	.839831
Q5	40.54054	133.2213	11.54215	.567254	.836996
Q6	41.67567	124.7597	11.16959	.665965	.827224
Q7	41.97297	128.7831	11.34826	.530546	.840343
Q8	42.05405	122.1592	11.05257	.691001	.824410
Q9	41.02703	132.8371	11.52550	.523849	.840344
Q10	41.02703	133.9723	11.57464	.441177	.848203

*When each of the 10 questions in OSBES are deleted.

intention, $n = 10$; and low stare/low intention, $n = 11$. A 2×2 between groups analysis of variance was performed with total OSBES as a dependent variable. The main effect for stare ($F = 3.93$, $df = 1,33$; $p < .056$) and for intend ($F = 4.42$, $df = 1,33$, $p < .04$) were significant. The means for the four groups are displayed in Figure 4 (the OSBES total scores are displayed as averages on the 1 to 7 scale).

It can be seen that stare performance and intention performance effects were additive in relation to scores on the OSBES. Subjects who performed below average in both the stare and intend conditions had the lowest OSBES scores, whereas subjects who performed above average in both the stare and intend conditions had the highest OSBES scores. Subjects who scored above average in one condition and below average in the other conditions had moderate OSBES scores.

Figure 5 examines the individual question concerning experience of someone who has passed away. Subjects were split into those who reported probably or definitely no ($n = 17$), possibly no, maybe, and possibly yes ($n = 14$), and probably or definitely yes ($n = 9$). It can be seen that performance on both stares (eye looks) and intention were highest in the maybe and yes groups.

Figures 6 and 7 display the histograms of stare and intend performance, combining Experiments 2 and 3. These graphs illustrate the range of scores observed in the two experiments.

Discussion

Experiment 3 generally replicated and extended Experiment 2. When the design was replicated with more subjects and more trials, the findings for

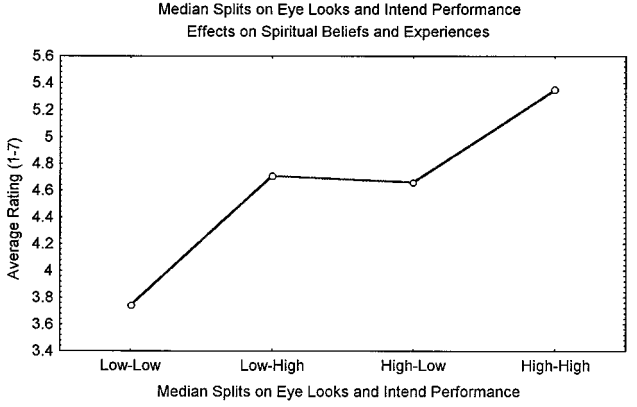

Fig. 4 Average ratings on OSBES in four subgroups of subjects created by performing median splits on eye gaze detection accuracy (low versus high) and intended eye gaze detection accuracy (low versus high) (total $n = 40$).

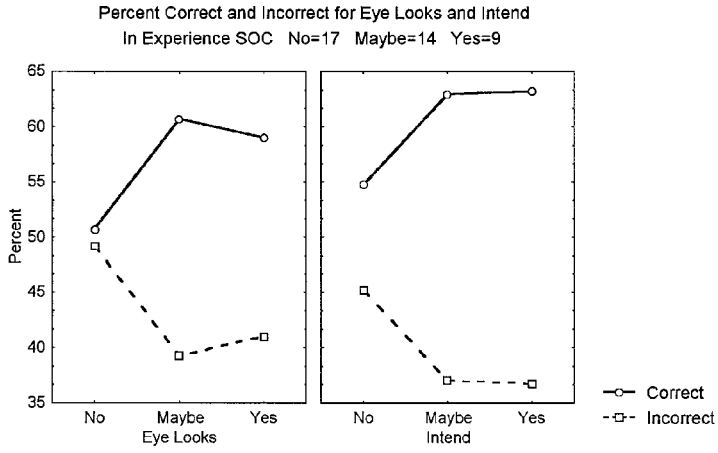

Fig. 5. Percent correct (solid lines) and incorrect (dashed lines) for eye gaze detection (left panel) and intended eye gaze detection (right panel) in three subgroups of subjects split on their response (no = 1 or 2; maybe = 3 or 4 or 5; yes = 6 or 7) to item 7 from Table 2 ("Have you ever experienced the presence of someone who has passed away?") from the OSBES (total $n = 40$).

correct detections of stares and intentions became highly significant. Subjects were once again not able to correctly estimate their actual performance.

As shown in Figures 6 and 7, subjects varied greatly in their percent accuracy (the range of these scores is similar to the range of scores observed by Schwartz *et al.* for interpersonal hand registration). Interestingly (and impor-

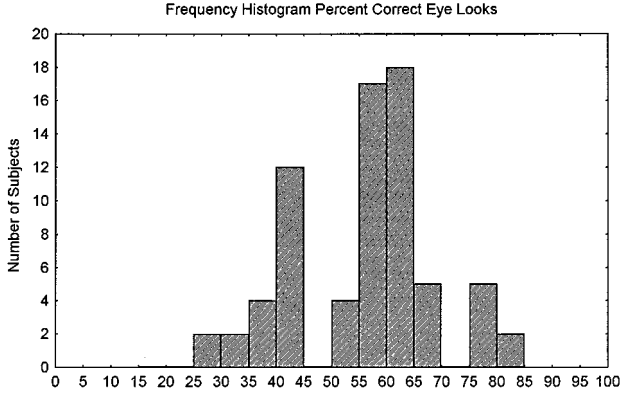

Fig. 6. Frequency histogram (from 0% to 100% correct) of eye gaze detection accuracy. Bars represent number of subjects in 5% bins (total $n = 71$; Experiments 2 and 3 combined).

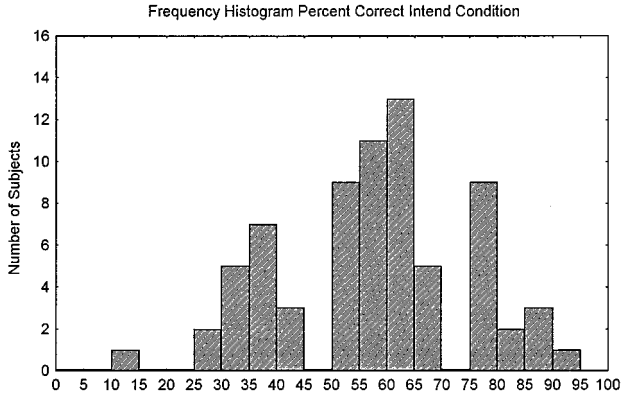

Fig. 7. Frequency histogram (from 0% to 100% correct) of intended eye gaze detection accuracy. Bars represent number of subjects in 5% bins (total $n = 71$; Experiments 2 and 3 combined).

tantly), individual differences in stare performance and intend performance were positively correlated with individual differences in openness to spiritual beliefs and experiences.

It is also interesting (and potentially important), that individual differences in the *subjects'* performance were not correlated with the *experimenters'* OSBES scores (all correlations were small and non-significant). This observation implies that individual differences in the experimenters' OSBES beliefs and experiences were not mediating the individual differences in the subjects' performance. The individual difference effects in performance are more likely to be intrapersonally mediated (within subjects) than interpersonally mediated (between the subjects and the experimenters).

General Discussion

The present set of experiments, taken together, suggest that untrained subjects have the potential not only to detect above chance levels the physical presence of a person's hand placed near their head versus the small of their back, but they have the potential to detect above chance levels whether someone is staring at their head versus the small of their back, and even imaging (intending) to stare at the head versus the small of their back. Subjects do not appear to be consciously aware of how successful (or unsuccessful) they are in making these detections. However, individual differences in their ability to detect actual and intended eye gaze appears to be related to their openness

to spiritual beliefs and experiences, especially interpersonal ESP and survival of consciousness after death.

There are a number of limitations to the present studies that need to be considered. First, the experiments were conducted by motivated but relatively untrained experimenters. The authors were careful not to inform the experimenters about their hypotheses before the data were collected. Interestingly, the data consistently came out contrary to the authors' published predictions stemming from dynamical energy systems theory (which emphasizes biophysical energy mechanisms of interpersonal interaction). The data were also inconsistent with common sense. Common sense plus the inverse square law (*e.g.* electrostatic and temperature effects typically decrease in strength with the square of the distance), both would anticipate that hand energy detection (where the hands were placed only a few inches from the body) plus staring (since the experimenters performed the trials with eyes open) should have resulted in greater performance than staring alone. The findings in Experiment 1 were clearly inconsistent with this prediction. Hence, the findings do seem to fit an explanation of possible experimenter bias (either by the authors of the paper or the experimenters who conducted the research).

The present findings point to the importance of the information side of energetic interaction — they suggest that the intention of the information may be more salient than the intensity of the energy (a suggestion made by various authors — *e.g.* Jahn *et al.,* 1997; Rubik, 1995; Schlitz, 1996). It is possible that biophysical energy (*e.g.* generated by the brain) may be a necessary but not sufficient condition for understanding the nature of the performance reported in the present experiments, since factors other than intensity of biophysical energy are implicated.

It is worth noting that the importance of intention (above and beyond energy) may partially explain why Rosa *et al.* (1998) failed to find evidence of "energy registration" in their subjects — they are apparently a team of strongly skeptical researchers (*e.g.* they are associated with an association called "Quackwatch, Inc."), and their intentions may have interfered with their discovering a subtle but significant energy/intention phenomenon.

In the present research, the experimenters were told that the experiments were exploratory in nature, and that their task was to record the data as accurately and honestly as possible. They were told that there were no "right" or "wrong" findings. Though the experiments were a "required" part of the respective courses, the experiments were not evaluated. Moreover, experimenters' grades were not influenced by the results (in fact, even if the experimenters did not hand in the data or even complete the assignment, their grades were not affected). The emphasis was on openness, honesty, and integrity. However, the authors did encourage the experimenters to be open to the possibility that positive findings might be obtained.

Since the data were collected by experimenters in various settings, and since the subjects did not wear earphones to block auditory information, it is

conceivable (though improbable) that subtle auditory information could have cued subjects. If subtle auditory cues were involved, it would have been anticipated that actual hand and arm movement (and associated body movement) would have generated more sound than simply staring (Experiment 1), yet the performance effects comparing hand movement and staring conditions were comparable. Similarly, if subtle auditory cues were involved, it would have been anticipated that staring (moving one's eyes) would have generated more sound than imaging (with eyes closed) (Experiments 2 and 3), yet the performance effects comparing staring and imagined staring conditions were comparable.

The present data were not collected under conditions necessary to establish electromagnetic and/or parapsychological (*e.g.* intentional) mechanisms. Future research is necessary to replicate and extend the present findings under conditions appropriate to uncover possible mechanisms of communication involved.

Even if subtle cues are involved in the present findings (though no subjects mentioned such cues in debriefing), the findings are intriguing. Subjects apparently have the capability to make a subtle discrimination of which they have little conscious awareness. Some subjects are actually quite proficient at such tasks, yet lack awareness that they have such an ability. It is possible that individual differences in performance may have some stability. This is suggested in part by the intriguing finding that openness to spiritual belief and experience may be correlated with subjects' implicit performance.

Openness to experience in general is considered to be a fundamental dimension of personality (*e.g.* it is one of the five factors in the five-factor model of personality, McCrae & Costa, 1991). It is possible that openness to spiritual beliefs and experiences may be correlated with measures of openness to experience in general (Schwartz *et al.,* 1999). Openness to experience, especially spiritual beliefs and experience, may increase a person's capability to detect biophysical energy and psychological intention itself. It is possible that OSBES may predict performance on REGs, remote viewing, and performance on other parapsychological tasks.

The association between detection of actual and intended eye gaze, interpersonal ESP belief and experience (Bem & Honorton, 1994), and survival of consciousness belief and experience (Schwartz & Russek, 1997b), is especially interesting. If it turned out that interpersonal registration skills of the sort investigated here predicted ESP performance and accuracy of SOC information retrieval, such information would increase the plausibility of the ESP hypothesis (the ability of persons to detect information and energy telepathically from the living) and the SOC hypothesis (the ability of persons to detect information and energy telepathically from the deceased). Interpersonal energy/intention registration skills may also play a role in evaluating individual differences in effectiveness of intuitive diagnosticians and healers (Schwartz *et al.*, 1995). Research addressing such questions is now feasible.

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