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Examining The Role Of Neutral Versus Personal Experimenter-Participant Interactions: An Eda-Dmils Experiment - electrodermal activity

Journal of Parapsychology, The, June, 2000 by Rainer Schneider, Markus Binder, Harald Walach

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ABSTRACT: The aim of this exploratory study was first, to confirm the results found in EDA-DMILS research and, second, to examine the role of experimenter-participant interaction, as this is viewed to play a crucial role in parapsychological experiments. In a total of forty sessions, a pair of participants was each randomly assigned to either a personal or a neutral condition. In the personal condition, the experimenter tried to create a psi-conducive atmosphere. In the neutral condition, participants were given a computerized presentation in order to keep the interaction with the experimenter to a minimum. Our results yielded a nonsignificant effect (Wilcoxon statistic) of ES = .17. Furthermore, the quality of the experimenter-participation interaction was of minor importance for the agent's success in calming or activating the receiver. Interestingly, the effect size obtained from the Wilcoxon statistic for the neutral condition was three times larger than that for the personal condition (ES = .25 vs ES = . 08). The results are discussed with regard to methodological and psychophysiological considerations. First, since we can assume to have properly and successfully implemented the two conditions (by analyzing post-session questionnaires) our findings are hard to reconcile with what is reported about the importance of a psi-conducive atmosphere. Second, it is suggested that for future DMUS experiments the EDA equipment, parametrization, and data-processing be adjusted to psychophysiological standards. For example, in EDA-DMILS research, tonic components of the EDA are of interest (i.e., no stimuli are presented). Therefore, it is necessary to separate the electrodermal level from spontaneously occurring electrodermal fluctuations. In so doing, we will be able to examine any ostensible EDA-DMIIS effect more thoroughly.

There exists an encouraging body of evidence regarding the ability of humans to interact mentally under circumstances that preclude all conventional means of information conveyance (for a summary, see Braud & Schlitz, 1991; Schlitz & Braud, 1997). Specifically, distant intentionality efforts of a physically isolated person (agent) have shown to co-vary with responses of the autonomic nervous system of another person (receiver [2]) - In a typical protocol, an agent tries to influence the receiver according to a randomly assigned sequence of activate and calm periods to which the receiver is kept blind. Together with several peripheral measures (e.g., heart rate or blood volume), electrodermal activity (EDA) has been the most favored one due to its lability and sensitivity (cf. Braud & Schlitz, 1991). Moreover, outcomes from distant intentionality studies (if not of any parapsychological experiment at all) have been conceived as being subject to special characteristics of the experimental setting that contributes to what is called a psi-conducive atmosphere (e.g., Delanoy, 1997; Targ, Braud, Stanford, Schlitz, & Honorton, 1991). Specifically, it has been suggested that a personal, supportive, warm, empathetic, and open interaction between experimenter and participants is more productive to elicit a DMILS or Remote Staring effect than a neutral and objective one.

Studies reporting significant results for samples with different experimenters (Wiseman & Schlitz, 1997, 1999) usually refer to experimenter effects as possible cause after having ruled out alternative (post hoc) explanations. Such experimenter effects are, to some extent, related to the experimenter's attitude towards psi. However, to date there is no DMILS/Remote Staring study which systematically manipulated, let alone assessed, the demeanor of the experimenters involved. Thus, these differences are rather observational than experimental in nature and call for more systematic follow-up studies.

Nonetheless, in EDA-DMILS studies the experimental setting is deemed crucial, and experimenters are thought of having to possess special skills when interacting with participants. As a consequence, in the Freiburg laboratory only experimenters who are intrinsically motivated and who underwent a special training are involved in running experiments. Although previous studies conducted in Freiburg could not reveal any EDA-DMILS effect (Delanoy & Morris, 1998, 1999) the authors have no justification to assume any difference between the experimenters regarding their attitude toward the existence of a DMILS effect.

Therefore, rather than altering the experimenters' very attitude (which was psi-favorable), we tried to assess the quality or importance of experimenter-participant interactions. Unlike similar studies (e.g., Crandall, 1985; Honorton, Ramsey, & Cabibbo, 1975), where participants were either treated in a friendly, enthusiastic manner or in a cold, hostile one, our aim was to compare a personal versus a neutral form of interaction.

The line of reasoning to do so was twofold. First, we did not want to deceive or compromise volunteering and interested participants. Second, we sought to determine the importance of a personally biased, thorough, and extensive interaction for successful DMILS experiments. So far, this question has not been addressed by DMILS researchers, and the results from similar studies are heterogeneous. In the above-mentioned Crandall study, a favorable condition, where the experimenter was warm, friendly, and enthusiastic, led to a smaller number of hits on ESP targets than an unfavorable condition, where the experimenter was cold, hostile, and indifferent. Although they were not significantly deviant from MCE, the means were "... uncomfortably close to being significant from each other" (Crandall, 1985, p. 32). Yet, Honorton et al. (1975) found a friendly, casual, and supportive conversation between experimenter and participant to be associated with a positive deviation from binomial expectation in an ESP task, wher eas an abrupt, formal, and unfriendly conversation led to a significant negative deviation.

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Our approach to compare an allegedly psi-conducive (personal) condition with a neutral (matter-of-fact) one was realized by manipulating two important variables. First, we varied the amount of time available for both parties to interact. Second, we altered the quality of interaction itself. Specifically, in the "personal" condition the experimenter-participant interaction was individually arranged; the experimenter tried to meet participants' needs and interests as well as to enhance motivation (for instance, by alluding to the potential value of such research). In contrast, in the "neutral" condition the interaction was more formally arranged. Here, the experimenter's time spent with participants was reduced to an absolute minimum and to technical details of the experiment. Participants were not, however, treated in an unfriendly or disrespectful way.

The two female experimenters involved were selected due to their experience in conducting DMILS experiments, their social competence, their interest in the DMILS area, and their everyday experience in interacting with and helping others (one experimenter is a language teacher and the other is a body therapist). In order to contrast the two conditions, the two female experimenters arranged the personal interactions according to their subjective conception of a psi-conducive procedure by specifying in advance (i.e., before running any sessions at all) relevant components in a detailed protocol. In contrast, the neutral condition consisted of an introduction to the experiment via a task-specific presentation (i.e., agent or receiver) on a computer screen. Special care was taken that this presentation included all necessary information for participants to carry out their role-specific task. Although these conditions were designed to reveal the importance of the quality of the experimenter-participant interaction , no assumptions were made as to which of these two was more psi-conducive.

METHOD

Subjects

Eighty volunteers (forty pairs, 21 men acting as agents and 9 acting as receiver; 19 women acting as agents and 31 acting as receivers) from the local area of Freiburg were recruited through newspaper advertisements. Only participants interested in the study and known to each other (e.g., friends, relatives, acquaintances) were included. Additionally, participation was restricted to individuals who had never taken part in a DMILS experiment before. According to local standards, they were remunerated for their participation with twenty

Marks each.

Design

Participants were randomly assigned to the experimental conditions according to a computer algorithm of a statistical program (SPSS) by the first author two weeks before the sessions took place. To further minimize any contact between experimenters and participants, as well as between the first two authors and the experimenters, a third person (the "coordinator" B.F.) initially contacted the volunteers, assigned them to the prespecified order of conditions (i.e., personal vs. neutral) and sent them an informational flyer about the procedure of the experiment. Sessions were scheduled according to the availability of both participants and experimenters. In total, forty sessions were conducted, with twenty run by each experimenter. In the personal condition, each experimenter established a good personal rapport with their participants (n = 10 pairs each) before the experimental data were collected. The two protocols for the personal condition were prerecorded and filed away. This was done in order to ensure tha t neither the authors nor B.F. could gain knowledge of the two personal styles or any possible differences between them. In contrast, the interaction between the two experimenters and participants (n = 10 pairs each) in the neutral condition was restricted to the mere technical course and kept to an absolute minimum. Participants, however, were provided with the necessary information via a computerized, easy-to-handle presentation. The dependent variable consisted of the receivers EDA (skin conductance level).

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Procedure

Upon arriving at the Institute, participants were welcomed by the experimenter and escorted to the laboratory. In the personal condition, an informal chat preceded the actual experiment. In order to make participants feel at ease, both experimenters created a friendly, welcoming, and lively atmosphere by offering refreshments and cookies and by responding to their needs and interests. The experimenters' efforts were to create a good rapport with the participants and to present any DMILS effect as "natural" and "normal." Furthermore, they tried to evoke curiosity rather than exerting any pressure on them to succeed in the DMILS task. Only when all parties felt ready was the actual experiment started. In contrast, in the neutral condition participants were given a computerized presentation about their role-specific task (note that participants in this condition were requested to discuss the assignment of roles beforehand, i.e., after having received the flyer). Specifically, conversation between experimenters and participants was restricted to the technical course of the experiment and, consequently, no personal conversation took place. Participants browsed through the computer presentation at their own pace without being given the opportunity to inquire from the experimenter about any additional experiment-related issues. When they felt they had been sufficiently informed they met the experimenter in the lobby. Both agent and receiver were then housed in two acoustically and electromagnetically shielded rooms at approximately 10 meters distance. They sat in comfortably padded reclining chairs, approximately five feet in front of a monitor. The monitor in the receiver's room displayed a screensaver (Northern Light) producing colorful random patterns. The monitor of the agent's room provided the agent with a real-time EDA feedback displayed as a moving curve lasting for 60 seconds. Since participants in earlier studies felt that the duration of the epochs was too short, the length of the epochs in this study was do ubled (i.e., from SO sec. to 60 sec.). To keep the duration of the session to a tolerable length, the number of epochs was reduced (i.e., from 10 activate/lo calm epochs to 6 activate/6 calm epochs). Each set of epochs was generated seperately for each experiment when the program was initiated. The programmed algorithm counterbalanced activate, calm, and rest pairs, so that six quadruplets of 0 (RARC) and 1 (RCRA) sequences occurred in any given session. Doing so ensured that any effect was not confounded with any artifactual drift in EDA over time. Contrary to other EDA-DMILS studies, no session-by-session feedback was given to either the experimenters or the participants. This was done in accordance to the experimenters' wishes to be blind to the sessions' outcome until all sessions were completed. Most importantly, the authors think that immediate feedback should not be provided as long as the data for all sessions are collected, because singular session outcomes cannot be reasonably interpreted. All indiv iduals involved, however, were provided with the study's outcome upon completion of the analyses. In the personal interaction condition, participants were given the opportunity for a debriefing and discussion of their experiences during the experiment. In the neutral condition, interaction was kept to remunerating them and wishing them a good day.

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Equipment/Assessment

All procedures and the equipment followed the protocols as adopted by the Koestler Parapsychology Unit at the University of Edinburgh according to previous standards. Specifically, the skin conductance level (micro Siemens or [micro] mho) was assessed by a steady current flow of.15 volt between two reusable 10mm silver-silver chloride electrodes, attached to the index finger and middle finger of the nondominant hand by velcro bands. A highly conductive EGG electrolyte (Signa Creme) was used to improve electrical contact with the skin. It should be noted that the use of an EGG cream is not common standard in psychophysiology since it does not minimize the interaction between skin and electrolytes (Boucsein, 1992) and can result in considerable changes in skin conductance (Schmidt & Walach, 2000). However, the protocols from the Koestler Parapsychology Unit at the University of Edinburgh (pretreatment of the skin, signal processing, and parametrization) were adopted to provide direct comparison. The receiver's skin was cleaned only when he or she had oily hands.

The average temperature in the receiver's room was 21.6[degrees]C. The physiological measure was taken with a sample rate of 1024 Hz and filtered with a 10 Hz low-pass filter (Physiological Data System I-410 BCS by J&J Engineering). Subsequently, 64 values were averaged and the signal was recorded with a sample frequency of 16 Hz. The maximal resolution of the system was .0488 [micro]mho.

In addition, agents and receivers were asked to complete a postexperimental questionnaire assessing the clarity of the information provided by the flyer, as well as the computer presentation/pre-experiment chat, and their impression of the experimenter. The experimenters were asked to rate the extent to which they adhered to condition-specific behavior for every single session. These data were analyzed descriptively in order to check for the successful implementation of the conditions.

Prespecified Analyses

EDA data were explored according to the current methods of EDA-DMILS experiments. Whereas the PIS (see below) measure was used in the earlier DMILS studies as well as in both meta-analyses, later studies (e.g., Radin, Taylor, & Braud, 1993) have proposed the Wilcoxon matched-pairs signed rank test to mitigate extremely successful/unsuccessful epochs which can obscure the overall result obtained from the PIS [3]. Therefore, the Wilcoxon score was chosen as primary statistical measure. It was transformed into a z-score for every single session and, to obtain a summary statistic for the entire experiment as well as for the specific experimental conditions, transformed into a single Stouffer Z (SZ) score. The effect size was calculated as ES [4] SZ/[square root]N, where N is the number of sessions.

Since the Wilcoxon is likely to be the more appropriate statistical test, the PIS (percent index score) is reported only for comparison purposes (calculation of t-tests and effect sizes) with the results from the two meta-analyses (Braud & Schlitz, 1991; Schlitz & Braud, 1997). The PIS is derived from [sigma]A/([sigma]A [sigma]C) where [sigma]A represents the sum (i.e., the integral of skin conductance level [SCL] and skin conductance reactions [SCR]) of all activate periods, and [sigma]C the sum (integral of SCL SCR) of all calm periods, respectively. To test for a significant overall deviation from chance expectation (i.e., 50%), a two-tailed t-test was applied. The effect size was calculated according to the formula

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ES = [square root][t.sup.2] / ([t.sup.2] df).

Hypotheses

Overall, it was expected that the receivers' EDA would show a significant deviation from mean chance expectation for both the Wilcoxon and the PIS statistics.

Furthermore, it was expected that a significant deviation from mean chance expectation would be obtained for the receivers' EDA in at least one of the interaction conditions.

Independent of the predictions of an overall significant deviation from mean chance expectations (Hyp. 1 & 2), it was expected that there would be a significant group mean difference between the two interaction conditions.

Note that although no differences between the two experimenters in either the second or the third hypothesis were assumed, we performed the same sets of analyses, respectively. This was done to assess whether any potential interaction effects were due to experimenter effects.

RESULTS

When testing for overall significance, the Wilcoxon statistic yielded z = 1.06, p = .29, ES = .17, indicating that there was no significant difference in receivers' EDA between activate and calm periods. Thus, the first hypothesis could not be confirmed. Furthermore, for each experimental session, a PIS score was obtained including all 12 recording epochs (six activate and six calm). Since the EDA data were normally distributed, K-S-Z = .855, p = .458, parametric statistics were used to test for significant deviations from mean chance expectation. The observed mean was 50.53, with an associated t-value of 1.644 (df = 39), p = .11, two-tailed, ES = .25.

When testing the second hypothesis, the obtained Stouffer values were z = 1.13, p = .26, ES = .25, for the neutral condition, and z = .38, p = .70, ES = .08 for the personal condition. Thus, the assumed significant effect in either of the interaction conditions could not be confirmed. The mean PIS for the neutral condition was 50.50, t(19) = 1.077, p = .30, ES = .24. Likewise, the PIS of 50.56 for the personal condition, t(19) = 1.22, p = .24, ES = .27

also failed to reach statistical significance.

For the subsample of participants interacting with experimenter S.H.K., a Wilcoxon SZ of 1.27, $p = .20$, and an associated ES = .28 was observed; the respective Stouffer Z for her counterpart was .23, $p = .82$, with an ES = .05. Thus, in no experimenter-participant condition was there a significant difference in receivers' EDA between activate and calm periods. Additionally, the mean PIS for the subsample of receivers interacting with experimenter S.H.K. was 50.68, $t(19) = 1.56$, $p = .14$, ES = .33; the mean PIS for the receivers interacting with experimenter B.B. was 50.37, $t(19) = .78$, $p = .45$, ES = .17.

A two-way ANOVA was computed to test hypothesis three. The differences for the two main effects (interaction and experimenter) were too small to produce any significant main effect for the Wilcoxon measures. Main factor "experiment": $F(1,36) = .414$, $p = .52$, ES = -.01. Main factor "condition": $F(1,36)$ .219, $p = .64$, ES = -.06. For PIS "experimenter": $F(1,36) = .232$, $p = .63$, ES = -.05. For PIS "condition": $F(1,36) = .007$, $p = .93$, ES = -.23. The interaction of the main effects "condition" versus "experimenter" was nonsignificant for both the Wilcoxon values $F(1,36) = 1,809$, $p= .19$, ES = .14, and the PIS value $F(38) = 2.99$, $p= .09$, ES = .25.

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Post Hoc Analyses

As can be seen from Table 1, we found a reversal of effects for the experimenter/condition subsamples. Whereas for experimenter S.H.K. a higher Wilcoxon mean (ES = .44) was found in the personal condition and a lower ES in the neutral condition (.12), the reverse held for experimenter B.B., who showed a higher Wilcoxon mean in the neutral condition (ES .38) and a lower Wilcoxon mean (ES = -.28) in the personal condition. However, neither the primary measure (Wilcoxon) nor the secondary measure (PIS) turned out to be significant. For the secondary measure, the PIS for experimenter S.H.K. in the personal condition marginally reached significance.

Analyses of the agents' and receivers' postexperimental questionnaire showed that all participants in the personal group conceived the experimenter as friendly (100%), 87.5% as caring for the participants questions and concerns. Eighty-five percent thought the experimenter did a good job in creating a good rapport with them, and 95% considered themselves as having been taken seriously by her. In no case were the experimenters viewed contrary to the condition's purpose. In the neutral group, 92.5% regarded the experimenters as friendly, 95% regarded them as objective, 72.5% as matter of fact, 90% as competent, and 80% as minimizing the interaction.

Post Experimental Experimenters' Ratings

When screening the experimenters' post-session ratings about the successful implementation of the neutral condition, both experimenters had no problem at all in keeping the interaction to a minimum and in reducing the interaction to the mere technical course (95%). In only one case did one experimenter evaluate the implementation as "satisfactory." In the personal condition the experimenters' estimations were more varied ranging from satisfactory (15%) to good (45%) and very good (40%). In no case, however, was the implementation deemed bad.

DISCUSSION

Our main findings failed to confirm a significant DMILS effect. In the meta-analysis by Schlitz and Braud (1997), a highly significant Stouffer Z and an effect size of .25, for a total of 19 DMILS-EDA experiments, was reported. The effect size of ES = .17, which we found in our study, was smaller. Since no confidence interval of effect sizes is provided by Schlitz and Braud, the obtained effect size is difficult to evaluate. The effect size obtained with the secondary statistics, the PIS, however, is numerically the average of effect sizes reported in the meta-analyses of DMILS studies (Braud & Schlitz, 1991; Schlitz & Braud, 1997). Effect sizes, however, in these meta-analyses varied from ES -.25 to ES = .72. This variation is an indicator of considerable heterogeneity, which should have been analyzed either in terms of a random-effects model of meta-analysis, or in terms of meaningful subgroups of studies (cf. Hunter & Schmidt, 1997). Until this has been achieved, we do not know what the "true" DMILS effect measured with EDA as dependent variable really is. Meanwhile, we can only say that our study has added another data point to the collection of DMILS data, which happens to be the arithmetic mean of DMILS studies. The power to detect an effect of this magnitude with 40 sessions, ES = .25, equivalent to d = .50, is 1-beta = 3. [5], if one uses two-tailed tests. Therefore, our study was clearly under-powered. This, however, is true for most EDA-DMILS studies, which used sample sizes from 10, 15, to 40 sessions (Schlitz & Braud, 1997). Thus, the largest study reported there was far from fulfilling the criteria of a reasonable power of 1-beta = .80. The two largest DMILS studies conducted so far (Delanoy & Morris, 1999), with a session N of 80, both failed to reach significance and produced much lower effect sizes: ES .04 (Stouffer 2) and ES = -.001 (PIS) for the Freiburg study; ES = -.04 (Stouffer 2) and ES = -.15 (PIS) for the Edinburgh study. Interestingly, earlier studies by Braud et al. (see Braud & Schlitz, 1991; Schlitz & Braud, 1997) yielded considerable effect sizes with an N of only 10 sessions. Therefore, when reconsidering this issue, the sample sizes of the two conditions (N = 20) in our study appear to be more than sufficient. In sum, these facts and considerations show that effect sizes in DMILS studies are varied and elusive. Hence, it is difficult to say what basic effect size should be taken as the basis for power-analysis and calculation. We can say from our data that, using a standard DMILS procedure, using EDA equipment and data-processing that is clearly suboptimal but closely matches former procedures, using a sample size of sessions which is representative of former DMILS research, and varying only one basic parameter, namely the personal style factor from psi-conducive to neutral, we could not show a significant DMILS effect. In order to find a DMILS effect of that magnitude in a subsequent study, should it be at all reproducible, one would have to run at least 50 sessions per condition to ha ve a fair chance of finding this effect. The overall effect size from our data, when using the PIS method, was exactly the same. It is interesting to note though, that the Wilcoxon test, which is referred to as the more appropriate statistical method (cf. Radin, Taylor, & Braud, 1993), revealed a smaller effect size of .17.

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From our point of view, one of the major problems with the reported EDA-DMILS effect stems from the fact that the physiological methodology applied does not meet the standards required by mainstream psychophysiology (cf. Boucsein, 1992; Edelberg, 1967; Fowles, Christie, Edelberg, Grings, Lykken, & Venables, 1981). Schmidt and Walach (2000), who checked the methods section of all studies using EDA as dependent variable between 1995 to March 1999, found that no single EDA-DMILS study can be deemed sufficient as far as EDA methodology is concerned. Thus, the reported EDA-DMILS effect does only allow for a tentative interpretation regarding its origin or nature (e.g., in terms of an experimenter dependency). Therefore, we strongly recommend that future EDA-DMILS studies adjust their physiological methodology standards. This will allow EDA data to be explored in a more appropriate way and to meet the required standards of the psychophysiological community. Furthermore, this would allow for more sensitive analyses . For example, since participants in an EDA-DMILS experiment are not exposed to any sort of distinct external stimuli (as in orienting response experiments) the effect we are dealing with has to be related to tonic measures of the EDA signal. Therefore, it is of utmost importance to separate nonspecific skin conductance responses (NS.SCRs) from the skin conductance level (SCL). Both parameters are tonic components of the EDA but the former only differs from phasic components (skin conductance reactions or SCRS) in that it occurs spontaneously without being dependent on external stimuli at all.

Furthermore, respiratory or movement artifacts should be controlled for, since it is well known that these parameters have an impact on skin conductance (Boucsein, 1992). Unfortunately, the physiological device used for this study did not allow for a separation of the signal. Therefore, any post hoc application of a threshold criterion would have been completely arbitrary. Also, depending on the kind of threshold, it could have led to a high dropout rate of participants (Wackermann, Delanoy, & Morris, 1999). It is conceivable that a more refined and precise way of parametrization could have led to a totally different result.

Concerning the second aim of our study, no significant effect was observed for the experimental conditions (i.e., neutral vs. personal). Specifically, the type of treatment had no impact on the participants' performance. Given that a psi-conducive environment is viewed as an important prerequisite for a successful outcome in DMILS research (perhaps any parapsychological experiment), this result is rather surprising and counter-intuitive. Thus, several factors could have accounted for the observed zero effect. For example, one could argue that the experimental design failed to sufficiently contrast the two treatments. Possible causes for this could have been due to shortcomings in the experimenters' following the protocol or in providing the participants with the same amount of information relevant for the experimental task. Analyses of the postexperimental participant ratings, however, indicated that the vast majority of either group (95% in the personal vs. 100% in the neutral condition) had no problems in understanding both the purpose and the course of an EDA-DMILS experiment. Also, further analyses of items referring to the preliminary chat versus the computerized introduction revealed that any open questions participants had upon arriving at the institute (about 30% in each condition) were sufficiently answered, and participants entered the experiment confidently (more than 90% in each condition). This could suggest that personal interaction does not particularly increase the participant's confidence when compared to computerized instructions.

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Also, there was no reason to assume that the experimental design failed to successfully implement the two distinct types of conditions. The analyses of the participants' anonymous post-experimental ratings on several experimenters' attributes indicated that the latter were perceived in accordance with the conditions' purpose (87% on average in the personal condition and 86% on average in the neutral condition). This line of reasoning was further confirmed by the analyses of the experimenters' self-reports on the extent to which they themselves estimated their success to follow the experimental protocol (limited to a minimum versus extensive and personal). In no case did the experimenters feel that they experienced any difficulties in successfully doing so. Moreover, in approximately 90% of all sessions they rated their success as being at least good.

Clearly, in DMILS experiments more is needed to enhance the likelihood of a significant outcome than just focusing on the experimenter-participant interaction. When reconsidering this issue on the basis of the results of our study, however, the importance of what is called a psi-conducive environment, attributed to the quality of experimenter-participant interactions, seems to have played a minor role. As can be seen from the effect size derived from our primary statistical measure, the Wilcoxon method, a (nonsignificantly) better result was obtained for the neutral condition (ES = .25) than for the personal condition (ES = .08). Since this is the third DMILS study carried out in Germany, it is debatable as to whether or not we are dealing with a cultural peculiarity about how cheering or motivating a DMILS setting has to be. Future research conducted in Freiburg will be needed to answer this question more thoroughly.

(1.) The authors are indebted to the Institut fur Grenzgebiete der Psychologie undFurthermore, we are grateful for the work and support of Robert L Morris and Deborah L. Delanoy in setting up the new lab in Freiburg, Germany. Many thanks go to Bernhard Frenzel for recruiting participants and coordinating sessions, and to Birgit Bruemmer and Sibylla Huerta Krefft for running the experiments. Finally, we very much acknowledge the comments of two anonymous referees on the first draft of this paper, which was published in the Proceedings of Presented Papers: The Parapsychological Association 42" Annual Convention, as well as the comments of another two referees on the draft submitted for publication in The Journal of Parapsychology.

(2.) It is the common standard in DMILS research to use the terms agent and receiver for the participants' role in the experiment. However, we did not use them to provide any theoretical or explanatory framework.

(3.) Note that only little is known about the nature of the DMILS effect. Therefore, this assumption will underestimate the effect when strong EDA deflections account for it.

(4.) The effect size reported constitutes Rosenthal's r (Cohen, 1988) and is used in accordance with the DMILS tradition (cf. Braud & Schlitz, 1991; Schlitz & Braud, 1997). The relationship between rand d (which is an ES index for t tests of means) is r = d/[square root][d.sup.2] 4

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(5.) 1-beta indicates the probability of identifying an effect, should one exist. As a general standard, power is Set at 80%. An optimal sample size provides that any given significance test leads to a significant result with a probability of 80%, whereas the risk to falsely assuming an effect, i.e., when the null hypothesis is true, is 5% or 1%.

REFERENCES

BOUCSEIN, W. (1992). Electrodermal activity. New York: Plenum Press.

BRAUD, W. G., & SCHLITZ, M.J. (1991). Consciousness interactions with remote biological systems: Anomalous intentionality effects. Subtle Energies, 2, 1-46.

CRANDALL, J. E. (1985). Effects of favorable and unfavorable conditions on the psi-missing displacement effect. Journal of the American Society for Psychical Research, 79, 27-38.

DELANOY, D. L. (1997). Important psi-condusive practices and issues: Impressions from six parapsychological laboratories. European Journal of Parapsychology, 13, 63-70.

DELANOY, D. L., & MORRIS., R L. (1998). A DMILS study with experimenter trainees. Proceedings of Presented Papers: The Parapsychological Association 41st Annual Convention, 22-35.

DELANOY, D. L., & MORRIS, R. L. (1999). Unpublished Project Report. Institut fur Grenzgebiete der Psychologie und Psychohygiene, e.V., Freiburg, Germany.

DELANOY, D. L., MORRIS, R. L., BRADY, C., & ROE, A. (1999). An EDA DMILS study exploring agent-receiver pairing. Proceedings of Presented Papers: The Parapsychological Association 42nd Annual Convention, 68-82.

EDELBERG, R. (1967). Electrical properties of the skin. In C. C. Brown (Ed.), Methods in psychophysiology (pp. 1-53). Baltimore: Williams and Wilkins.

FOWLES, D. C., CHRISTIE, M.J., EDELBERG, R., GRINGS, W. W., LYKKEN, D. T., & VENABLES, P. H. (1981). Publication recommendations for electrodermal measurements.

Psychophysiology, 18, 232-239.

HONORTON, C., RAMSEY, M., & CABIBBO, C. (1975). Experimenter effects in extrasensory perception. Journal of the American Society for Psychical Research, 69, 135-139.

HUNTER, J. E., & SCHMIDT, F. L. (1997). Meta-analysis: Correcting errors and bias in research findings. London: Sage Publications.

RADIN, D. I., TAYLOR, R. K., & BRAUD, W. G. (1995). Remote mental influence of human electrodermal activity: A pilot replication. European Journal of Parapsychology, 11, 19-34.

SCHLITZ, M. A., & BRAUD, W. G. (1997). Distant intentionality and healing: Assessing the evidence. Alternative Therapies, 3(6), 62-73.

SCHMIDT, S., & WALACH, H. (2000). Electrodermal Activity (EDA): State-of-the-art measurement and techniques for parapsychological purposes. Journal of Parapsychology, 64, 139-163.

TARG, R., BRAUD, W. G., STANFORD, R. G., SCHLITZ, M.J., & HONORTON, C. (1991). Increasing psychic reliability. Journal of Parapsychology, 55, 59-83.

WACKERMANN, J., DELANOY, D. L., & MORRIS, R. L. (1999). Detecting DMILS effects in EDA records: A signal-engineering approach. Proceedings of Presented Papers: The Parapsychological Association 42nd Annual Convention, 419-432.

WISEMAN, R., & SCHLITZ, M. J. (1997). Experimenter effects and the remote detection of staring. Journal of Parapsychology, 61, 197-208.

Reference Publications

0 Comments

Examining The Role Of Neutral Versus Personal Experimenter-Participant Interactions: An Eda-Dmils Experiment - electrodermal activity

Journal of Parapsychology, The, June, 2000 by Rainer Schneider, Markus Binder, Harald Walach

WISEMAN, R., & SCHLITZ, M. J. (1999). Experimenter effects and the remote detection of staring: An attempted replication. Proceedings of Presented Papers: The Parapsychological Association 42nd Annual Convention, 471-479.

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for the interdisciplinary study of religious beliefs in relation to the sciences and medicine

Harald Walach: Science and Spirituality - understanding and overcoming the taboo: theoretical and historical reflections and empirical examples

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Abstract

Scientists, especially when they are true to the tradition of enlightenment, are normally hesitant to touch on issues surrounding spirituality. In mainstream scientific circles this topic has even had a quasi-obscene touch until very recently, and still has in more traditionalist scientific circles. In this talk I will explore the reasons for this divide, offer some understanding, and finally present some examples of practical research that is trying to bridge the gap.

The taboo science has laid upon studying spirituality is easier to understand if we take a historic perspective: science grew out of the great tradition of European enlightenment that started back in the middle ages, with a first sound of the trumpet audible in the 219 theses that lead to the Paris condemnation of 1277. Already then has independent scholarship and nascent science stated its case against religious dogmatism claiming the major role in explaining life and morality. This process continued until, finally, during the 18th and 19th century science established itself as a secular, and nowadays more powerful, cultural institution in Western societies. Often this development went hand in hand with a devaluation of religious or non-scientific narratives. In its extreme form this movement has developed in to scientism, already earmarked by Husserl and Heidegger as a belief-system rather than a rational joint enterprise of humanity to understand life and living. It is scientism that creates difficulties in dialoguing with spirituality and religion, not science properly unders to od. On the other side, formal religion has retracted in to a sulking mood, with dialogue between religion and science happening rather as singular events than as a general rule. It is mainly religious dogmatism that feels threatened by the new sweeping power of the natural sciences within our culture, and scientism by the claim of spirituality.

I would like to offer one bridging element: experience. Religion can be conceived as derived from a primordial spiritual experience. Some of the initial founding narratives of the Abrahamitic religions can be read as chiffres of spiritual experience – the calling of Moses and the reception of the commandments, the baptism and temptation of Jesus, the visions of Mohammed –, and for the Eastern religions spiritual experience is the centre piece anyway. This experience is inner experience, experience of the world (and God or what is interpreted as God) from within.

Science also starts from experience, albeit from experience of the outside world. Interestingly enough, when science started to take its own route by the end of the 12 th and beginning of the 13 th century, both notions of experience were still one, and a case can be made that some attempts at integrating inner experience in to science failed. The result was the exiling of inner religious experience in to private piety and devotion, such as in the monastic movements, in the devotio moderna or other mystical circles.

An analysis of *experience as the principal epistemic mode* of both, science *and* religion, would help to bridge that gap. By reconstructing how science and religion achieve their abstractions, one discovers quite striking similarities.

Interestingly enough, spirituality seems to experience some public revival which is also gripping some scientists' imagination. At least in medicine and psychology spirituality is starting to be a potential to pic of interest. One such field is the research on mindfulness and its effects on health to which we have contributed. I will present some examples from our research.

Harald Walach is a research professor in psychology at the University of Northampton, where he is developing a postgraduate training programme for Transpersonal Psychology/Consciousness Studies. In 1990 he obtained a Ph.D. in Clinical Psychology at the University of Basle, followed in 1995 by a further Ph.D. thesis in Philosophy and History of Science at the University of Vienna. In 1998 he worked at Freiburg University on a thesis on the importance of non-specific effects of therapy in homeopathy.

He has had a long career in the study, research and teaching of research methods in complementary and alternative medicine (CAM), the philosophy of science, clinical psychology and transpersonal psychology. He is considered one of the most distinguished European researchers in the field of CAM, his main interest being the importance of non-specific and placebo effects. He is also the head of the European branch of the Samueli Institute (SIIB), president-elect of the International Society for Complementary Medical Research, and editor of the CAM research journal 'Research in Complementary and Classical Natural Medicine'.

His more recent research interest is in the connection between spirituality, mindfulness and health, and he has helped develop questionnaires to measure mindfulness and exceptional human experiences. He is vice-

president of the German Society for Transpersonal Psychology and Psychotherapy.