European Journal of Parapsychology
Vol. 14, 1998-99, 52-67

A DMILS Training Study Utilising Two Shielded Environments

Deborah L. Delanoy and Robert L. Morris
University of Edinburgh, UK, and Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP), Freiburg i. Br., Germany

Abstract: A thirty-six session DMILS (direct mental interaction with living systems) study was conducted with agents attempting to activate and calm the electrodermal activity (EDA) of a receiver, at pseudo-random intervals. Both participants were housed in special electromagnetically and acoustically shielded environments. Experimenters were drawn from an experimenter training course conducted at the Institut für Grenzgebiete der Psychologie und Psychohygiene. Each experimenter conducted six DMILS sessions acting as the experimenter. To gain experience in all aspects of the DMILS environment, the experimenters took turns acting as agent and receiver for the first half of the study. During the second half, experimenters worked with other friends and colleagues. Overall there was a non-significantly greater level of EDA during the activate periods than the calm (Stouffer Z= 0.94; effect size (*r*) = .16). In the 18 sessions conducted among the six trainee experimenters also acting as agent and/or receiver, the results showed slightly greater EDA during calming periods (Stouffer Z = -0.082; *es* (*r*) = -.02). In the 18 sessions where friends/colleagues participated, greater EDA was found during the activate periods, with the difference between activate and calm approaching significance (Stouffer Z = 1.417, *p* = 0.07, 1t; *es* (*r*) = .33). A significant release-of-effort effect (Stouffer Z = 1.826, *p* = 0.03,1t; *es* (*r*) = .43) was found for the non-experimenter population, and in both populations the release-of-effort effects were larger than the primary effects. These findings suggest the possible utility of longer interaction periods and advise against the use of shorter rest periods. Local sidereal time (LST) effects were explored for the first time in a DMILS study. Preliminary findings (with very small *n*'s) support those obtained from anomalous cognition studies by Spottiswoode (1997), with an approximate 400% increase in mean session z within +/- 2 hour period of LST 13.5 (N = 3, mean z = 0.629; where the overall N = 36, mean overall session z = 0.157). Similarly, z's from sessions conducted within +/- 2 hours of LST 18.5 (N = 4, mean z = 0.076) were lower than the overall mean session z.

Introduction

Living systems have been used as targets in psi research for many years (see Morris, 1977 for a summary of early work) and this work is intimately linked with various notions of psychic healing (e.g., Solfvin, 1984). This research has recently grown in popularity due to the successful outcomes of a progressive research program carried-out by William Braud and his colleagues

Acknowledgements: The authors thank those members of the IGPP staff, M. Binder, H. Bösch, L. Hofmann, U. Kodjoe, G. Mayer, and R. Schneider, who participated in this study as experimenters, agents and receivers, for their generous contribution of time, effort and skill. We are most grateful to the IGPP for their funding and support of the study. Also, we are obliged to James Spottiswoode who kindly provided the LST information and calculations for our study. Thanks also to Paul Stevens for programming.
A previous version of this paper was presented at the 41st Annual Convention of the Parapsychological Association, held in Halifax, Nova Scotia in August 1998.

(for an overview, see Braud & Schlitz, 1991, and Schlitz & Braud, 1997). Braud further developed existing methodologies for working with living systems, and labelled the basic procedure as DMILS (direct mental interaction with living systems) studies (e.g., Braud, 1994). Currently, DMILS protocols are being increasingly used to address process-oriented questions (e.g., Watt, C., Ravenscroft, J. and McDermott (in press); Delanoy & Sah, 1994).

Of special interest are the procedures involving an agent who attempts by mental intentions to selectively activate or calm a sensorially-isolated receiver, as measured by shifts in the receiver's electrodermal activity (EDA). These effects have been obtained both by Braud and associates (Braud & Schlitz, 1991; Braud, Shafer & Andrews, 1993a, 1993b) and by others (e.g., Radin, Taylor & Braud, 1993; Schlitz & La Berge, 1994; Delanoy & Sah, 1994; Watt et al., 1997). Although its potential artefacts require consideration, nonetheless EDA is a non-intrusive, accessible measure and one of the more straightforward physiological indicators of arousal (see, e.g., Dawson, Schell & Filion, 1990, for a methodological review).

The current study is in part an attempt to obtain evidence of an agent-mediated effect upon a receiver's EDA in a new laboratory, with multiple experimenters and unusually stringent sensory shielding between the agent and receiver. Effects obtained in parapsychology have usefulness in process-oriented research primarily to the extent that they can be conceptually replicated and extended in other laboratories, with different experimenters and experimental facilities. The authors have been involved in the development of a new multi-purpose interpersonal psi testing facility at the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP) in Freiburg, Germany, including the training of new researchers via an experimenter training course and hands-on experimental participation. The first study conducted in the new facility, reported herein, utilised an EDA DMILS procedure. The study involved interested IGPP staff as both experimenters and research participants, to provide them with further training as parapsychological researchers. The experimental setting, described below, incorporates the use of state of the art shielded rooms for both agent and receiver, as well as computer-controlled psychophysiological monitoring and management of experimental conditions. The primary goals of this study were threefold: firstly, to attempt replication of the basic EDA DMILS effect with new experimenters in a new facility; secondly, to provide an opportunity to evaluate the new facility for its appropriateness for DMILS and related research; and, thirdly, to train potential new parapsychological researchers by providing first-hand experience with a challenging research protocol while gaining familiarity with various roles, as experimenter, agent and receiver, and also to provide experimenter experience working with a more usual participant population.

In achieving the first goal, various effects noted in other EDA DMILS studies would be sought. For example, Radin et al. (1993) found a significant release-of-effort effect in the first DMILS study conducted at the Edinburgh University Koestler Parapsychology Unit (KPU), where the activate or calming intentions appeared to be carried over into the following rest periods. As similar effects had been informally noted by the authors in other Edinburgh DMILS studies, it was of interest to see whether these effects would be present in the Freiburg data. Also, as the standard Braud DMILS study has the experimenter also acting as the agent, it was of interest to explore the outcomes of the experimenters' own data (who would be contributing sessions both as experimenter and as agents / receivers), to look for similarities and/or differences between the two data sets. Different agent and receiver populations would be used in this study, with one population comprised solely of the trainee experimenters and the other involving non-trainee receivers and agents. Therefore, the two populations would be explored for any scoring differences. The sessions contributed by each individual experimenter would also be examined for differences in their overall outcomes, to follow up on the differences between the outcomes obtained by different experimenters found in the Wiseman and Schlitz (1996) EDA DMILS (remote staring detection) study. Finally, the data would be explored for any relationship among local sidereal time (LST) and DMILS session outcome to follow up on the relationship between LST and anomalous cognition session outcomes found by Spottiswoode (1997) wherein sessions conducted within a two hour window of 13.5 LST (+ / - 1 hour of 13.5 LST) showed a general average increase in psi scoring of 400 percent overall increase over the mean session scoring, and a decline in scoring was associated with 18.5 LST.

Method

The study was designed as a straightforward replication of Braud and colleagues' standard EDA-based DMILS procedure, comparing activating and calming periods within sessions (see Braud & Schlitz, 1991). However, unlike Braud's traditional EDA studies, the experimenter did not also serve as the agent, except in one session. Instead an experimenter worked with two participants, an agent and a receiver, as in some previous Edinburgh DMILS studies (e.g., Delanoy & Sah, 1991). Experimenters would first conduct sessions amongst themselves, trading roles as experimenter, agent and receiver (within-experimenter sessions). When they were confident acting as experimenters, they were to bring other IGPP colleagues and friends to be agents and receivers.

Participants

Six interested IGPP staff members, who were participating in an experimenter training course (offered by the authors), each agreed to act as experimenters in six sessions. Furthermore, they agreed to serve as agents and receivers in six other sessions conducted by the other experimenters. They were encouraged to serve three times each as an agent and a receiver. After conducting three sessions as experimenters with their co-workers (within-experimenter sessions), they were to serve as experimenters in three further sessions involving other friends and colleagues as participants. None of the experimenters had previous experience working in a DMILS study; two had prior experience in psi studies, one with RNG-PK studies, and another with an ESP study. The first author participated as an observer / trainer working with the experimenter in the initial within-experimenter sessions (approximately 6 sessions), and participated as an agent or receiver in four other within-experimenter sessions.

Experimental Facility

All sessions were conducted in an experimental suite of three rooms on the first floor at offices of the Institut für Grenzgebiete der Psychologie und Psychohygiene, located in an office building in downtown Freiburg. Each end room of the three room suite contains a customised acoustically and electromagnetically shielded cabin, purchased from the German branch of the international Industrial Acoustics Company (IAC; Industrial Acoustics Company, Gmbh, Sohlweg 17, 41372 Niederkrüchten, Germany). See Appendix 1 for a floor plan of the laboratory facility.

The receiver's cabin is double-walled with a well-padded reclining chair, dimmer lights adjusted to the receiver's preference (a relatively bright level was suggested to help the receiver maintain alertness), and a computer monitor display showing a pleasant abstract screen saver with randomly changing patterns. The agent's cabin is triple-walled with a reclining chair identical to the receiver's, dimmer ceiling lights lit to the agent's preferred degree of brightness, and a computer monitor displaying a graphical representation of the receiver's on-going EDA and agent activity instructions. The central room contains the experimenter's console and computer equipment, as well as a comfortable meeting area with an upholstered sofa and armchairs. Acoustical attenuation tests have been conducted between the shielded rooms as well as from inside to outside of each room. Between cabins (from the interior of the agent's cabin to that of the receiver) the acoustic shielding ranged from approximately 65dB at 60 Hz to between 90 - 100dB from 100 - 6000Hz. Also, the rooms have partial electromagnetic shielding (contact the first author for further shielding specifications).

Psychophysiological Monitoring System

The EDA (skin conductance) data were collected using a I-410 General Purpose System (produced by J & J Engineering, Inc.), supplied, with computer and applications, by Physiodata, Inc. (Bainbridge Island, WA, USA). Paul Stevens (of the Koestler Parapsychology Unit, Edinburgh University) created a program to monitor and process the experimental data acquisition and control the presentation of pseudo-randomised instructions to the agent. The data from each session was automatically saved onto the computer's hard disk, onto a Zip file, and hard copy was automatically printed of each session. Psychophysiological monitoring was accomplished by electrodes (10 mm, silver/silver chloride electrodes) attached to the distal phalanges (finger pads) of the non-dominant hand, as recommended by Boucsein (1992), by means of Velcro bands. Electrode paste (i.e., Sigma Creme; Parker Laboratories, Inc. and Femilind Gel, Johnson and Johnson) was used to improve conduc-tivity. EDA was sampled 18 times per second, and activity summed to create an overall activity level for each interaction period.

The receivers' EDA was recorded for 17.7 minutes during each session. During this period there were 40 agent / receiver interactions periods, comprised of 10 activate and 10 calm sending periods, interspersed by 20 rest periods, where each period was of 26.6 seconds duration (e.g., rest — activate — rest — calm — rest — calm — ...). Paired activate and calm periods were presented to the agent in a pseudo-randomised order within each session and from session to session. The randomisation was controlled by an algorithm which was programmed to ensure a counterbalanced ordering of the calm and activate periods. At the end of the study, the pseudo-randomised schedule for each session was checked by D.D. and no deviations from the counterbalanced ordering was found. No experimental participants (including the experimenter) were aware of the ordering before the session. The agent became aware of the randomised order only as the intentional instructions were presented to them during the session; the experimenter and receiver remained blind to the ordering throughout the data acquisition period.

A monitor display conveyed to the agent a graphical representation of the ongoing EDA of the receiver, providing the agent with nearly simultaneous feedback of the receiver's EDA. The EDA display would restart from the left of the screen, at the start of every 26.6 second period. A written message at the bottom of the monitor display would inform the agent of the intention goal of each period (i.e., calm, activate, or rest).

Procedure

For training purposes, all sessions were handled as if the participants were coming to the lab to take part in a session for the first time, even for the within-experimenter sessions where the agent and receiver were trainee experimenters. Experimenters would greet participants at the IGPP entry door, and then escort them to the lab suite. They would be offered refreshment (i.e., juice, coffee, tea, biscuits, etc.) and would be seated in the sitting room area of the central room of the lab suite. Session description and instructions were interspersed with general conversation about various topics, to enable the experimenter to establish a friendly and trusting rapport with the participants and to help them become relaxed in the experimental environment.

Descriptions of the session and study aims were tailored to meet the specific interests of the participants when possible (i.e., the medical implications could be stressed to someone involved with heath care or interested in healing; interconnectedness issues discussed with someone interested in spiritual matters; teachers and/or counsellors could be told about the findings showing interpersonal helping/assisting effects in dyadic situations, etc.). The task was presented as a joint effort, involving equal contributions from the agent and receiver. The participants were asked to decide who wished to act as the agent and who as the receiver. If the participants were not sure about this, it was suggested that someone who was a good communicator (good at getting their ideas and wishes across to others) might most enjoy the agent's role, whereas the receiver role could put greater emphasis upon being attentive and responsive to the communications of others, and of being open and receptive. It was also suggested that the receiver might wish to share with the agent some suggestions that might help the agent convey the activate and calm instructions, i.e., receivers could tell the agent about situations that they found emotionally exciting and exhilarating, and also about ones they thought would calm them.

Receivers were instructed to be passively open and receptive to the states being conveyed by the agent during the session. They were to make no attempt to become consciously aware of the agent's intentions at any given time during the session, but rather to trust that their body would unconsciously respond appropriately. Receivers were asked to remain alert and to let their mind wander during the session, without dwelling too long on any one topic.

The agent was encouraged to think of things other than the receiver or the study during the rest periods and was given the following strategies to help them convey the appropriate state to the receivers during the calm and activate interaction periods:

1. Achieve the desired state in their own body with the goal of conveying this to or sharing it with the receiver.

2. Imagine the receiver in the appropriate state. This may involve imagining the receiver in a suitable activity, e.g., an exhilarating situation, such as scoring a goal, for the activated condition; and a very quiet, relaxed state, such as sleeping for the calm condition.

3. Interact with the feedback EDA display — "will" it to move a lot in the activate condition and to remain flat and still during calm periods.

Agents were encouraged to use the display of the receiver's on-going EDA as feedback regarding the success of their sending strategies. The three suggested strategies were presented as guidelines to be used as seemed most appropriate and effective, e.g., the strategies could be used alone or in combination with each other. Also, agents were free to devise their own strategies.

To help enhance expectations of and desire for success in the session, the positive outcomes of many other similar studies were mentioned. Also, it was noted how the findings from this study would add Germany to the list of places where such research was being successfully carried out.

When the participants fully understood the session procedures, they were given a tour of the rooms (including, for training purposes, the sessions where all participants were experimenters). First all three visited the shielded cabin in which the agent would be housed. The screen display was briefly described as were other technical aspects concerning the use of the shielded cabins, such as the opening of the doors and the location of the button to contact the experimenter. It was mentioned that the shielded environments provided a beneficially quiet environment for the two participants, free from outside distractions, and also served to deal in advance with later questions about possible non-psychic, sensory ways in which the participants might have been able to communicate with each other.

After being shown the experimenter's area, the participants were taken to the receiver's shielded cabin. The receiver sat in the chair and the experimenter attached the electrodes (always referred to as "sensors") to the receiver, explaining that they should try to keep their hand relatively still during the interaction period. After checking that there were no further questions and that the participants were ready to start the session, the experimenter and agent wished the receiver well, and requested them to make a gentle wish that their body would respond unconsciously to the remote intentions of the agent. The door was then closed.

The agent and experimenter returned to the experimenter area to check that the electrodes were recording properly. Then the agent was escorted to the other shielded cabin. By this time a display showing the actual, on-going EDA of the receiver was on the monitor screen. After answering any final questions, the experimenter left the cabin and closed the door.

The experimenter then returned to the control area and hit a key to start the data collection. Thus the experimenter decided once exactly when to hit the key to start the session, initiate the randomisation of the calm and activate periods, and so on.

The end of the session was signalled to the experimenter via a computerised voice. The experimenter then collected the agent, and both proceeded to the receiver's cabin. The electrodes were removed and all returned to the experimenter's area. The experimenter prompted the computer to display a summary of the findings on a monitor. Thus all three participants received feedback as to the session outcome at the same time. The session data were automatically backed-up on to a Zip drive, in addition to hard disk storage. Another computer prompt produced five copies of the summary analyses of the session. The two participants were each given a printout; one lodged with the investigator (DD), one kept by the experimenter, and a third put in the session log book.

The participants were then offered further refreshments, and the session discussed in as much detail as desired. The experimenter ensured the participants had a realistic perspective of their performance during the session before they left the lab, e.g., that the session results should not be taken necessarily as a valid indicator of their ability to perform any such DMILS functions in the course of their daily lives.

Hypotheses and Planned Analyses

1. The primary hypothesis was that significantly greater EDA would be elicited during the activate periods than during the calm periods, over all the sessions. The main, planned method of analysis would be a Wilcoxon matched-pairs sign test for each session's data, with the overall measure for the study being a Stouffer Z of the combined sessions' Wilcoxon z's. Effect size (r) would be reported, where effect size (es) = Stouffer Z / sqrt (n). Wilcoxon based analyses have been used in previous Edinburgh DMILS studies and elsewhere.

For comparison purposes, the analysis and effect size measure used by Braud and his colleagues would also be conducted (described in Braud and Schlitz, 1991). Thus for each session a "percentage influence score" (PIS) was calculated where all the activate data from a session would be summed and then divided by the sum of both the activate and calm data (MCE = 50%). A single sample t-test (testing session PIS against MCE) was used to determine overall, across session outcome (effect size $r = \text{sqrt}\,[t^2 / (t^2 + df)]$).

2. Using the primary (Wilcoxon/Stouffer Z) method of analysis, the data would be explored for various internal effects. One-tailed tests were used as directional effects (active EDA > calm EDA) were expected, although given the small sample sizes it was not anticipated that outcomes would actually reach significance at the .05 level.

2a. The results from individual trainee experimenters would be examined, both when acting as experimenter and when filling other participant roles.

2b. The results from the different participant populations (i.e., trainee experimenters vs. others) would be explored for differences. (For comparison purpose, PIS-based outcomes will be reported also.)

2c. Wilcoxon/Stouffer Z analyses will be used to look for release-of-effort effects (Radin et al., 1993) in the rest periods following each interaction period.

3. The data would be examined for the local sidereal effects found by Spottiswoode (1997).

Results

(Note: Probability values will only be given for both primary analyses (i.e., 1. below) and where the outcome is or is nearly significant. While one-tailed tests were used given the hypothesised outcomes, negative outcomes are reported on a post hoc basis.)

1. The primary hypothesis was not supported, with the difference of EDA during activate and calm periods being in the right direction, but not to a significant degree ($n = 36$, Stouffer Z = 0.942, $p = 0.174$, one-tailed). The associated effect size was .16.

The PIS-based analysis showed a similar non-significantly greater degree of EDA in the activate periods ($df = 35$, $t = 1.176$, $p = 0.124$, one-tailed), with an effect size = .19.[1]

2a. As anticipated, no individual obtained a significantly greater degree of EDA in activate periods across the six sessions for which they were the experimenter. Five of the experimenters obtained results in the expected directions (activate EDA > calm EDA), with one experimenter obtaining overall results slightly in the opposite direction. Two experimenters obtained effect sizes larger than the mean EDA DMILS study effect size (Schlitz & Braud, 1997) of .25 (i.e., .36, and .42). See Table 1 for experimenter details.

Looking at the experimenters' performances when acting as agent or receiver, four obtained results relatively consistent with those they obtained when acting as experimenter. One had a considerable improvement in overall effect size (experimenter *es* = .05, agent / receiver *es* = .70), whilst another obtained a similarly dramatic decrease in scoring, reversing the scoring direction obtained as an experimenter (experimenter *es* = .36, agent / receiver *es* = - .69).

The combined session Stouffer Z of one experimenter, who obtained consistently high effect sizes both as experimenter (*es* = .42) and when acting as agent or receiver (*es* = .55), did reach marginal significance (N = 13, Z = 1.77, $p = 0.04$, one-tailed; *es* = .49).

2b. The comparison between the two kinds of sessions (i.e., the within experimenter sessions and those involving at least one non-experimenter as agent or receiver) showed superior results with non-experimenters. When working only amongst themselves, the experimenters scored in the opposite direction to that hypothesised, eliciting marginally greater EDA during calming than during activate periods (N = 18, Stouffer Z = -0.082, *es* = -.02). When working with at least one non-experimenter participant (as agent or receiver), overall results approached significance (activate EDA > calm EDA), with N = 18, Stouffer Z = 1.417, $p = 0.07$; *es* = .33. (*Note:* in 14 of the 18 sessions, both the agent and receiver were non-experimenters).

For comparison with earlier PIS-based findings, the within-experimenter sessions

[1] Three completed sessions were not included in the study analyses for technical and protocol reasons. In one session, the data was not saved onto any source due to an incorrect session entry (with no available data, no z could be calculated for this session). In the other two sessions, the experimenters did not adhere to the pre-arranged protocol: in one case, an extra session was run by an experimenter ($z = -0.866$); and in the other, the agent received no EDA feedback from the receiver ($z = -0.663$). All three sessions were run by different experimenters; two involved only trainee participants.

obtained a marginally positive (activate > calm), nonsignificant outcome (*df* = 17, *t* = 0.392; *es* = .09), and the sessions involving non-experimenter agents / receivers obtained a non-significant, positive outcome, with an effect size similar to the mean of previous studies (*df* = 17, *t* = 1.227; *es* = .28).

2c. The analysis looking for release-of-effort effects focused on comparing the rest periods following the activate periods (a-rest), and the rest periods following the calm (c-rest). Overall, the a-rest period showed marginally greater EDA activity than the c-rest (Stouffer Z = 0.305; *es* = .05). This represents a lower level effect than the .16 effect size found in the comparison of the actual activate / calm periods.

The data from the two agent / receiver populations showed similar scoring direction to those obtained in the primary activate / calm analyses, but the magnitude of effects increased, substantially so in the experimenter's data. For the experimenter population, non-significantly greater EDA was elicited during the c-rest than during the a-rest periods (Stouffer Z = -1.394; *es* = -.33). For the non-experimenter population, there was a significant difference (activate > calm) between the a-rest and c-rest periods (Stouffer Z = 1.826, *p* = 0.03, one-tailed; *es* = .43). Thus, for the experimenters, the magnitude of the negative activate / calm *es* changed from -.02 to -.33 during the rest periods; for the non-experimenters, the positive activate / calm *es* of .33 increased to .43.

3. Focusing on the local sidereal times (LST) of 13.5 and 18.5, identified by Spottiswoode (1997) as relating most strongly to the anomalous cognition database, we had too few sessions for more than just a descriptive analysis. Indeed a four-hour window was selected in order to capture even these few data points. As with the earlier results, there was a high mean session z produced at LST 13.5 +/- 2 hours (z = 0.629, N = 3) and a low mean session z at LST 18.5 +/- 2 hours (z = 0.076, N = 4). The overall mean session z = 0.157 (N = 36).

Discussion

While the overall measure did not reach significance, the effect size of .19 from the PIS analysis is comparable to the mean study effect size .25 (Schlitz & Braud, 1997; primarily derived from PIS analyses) from other DMILS EDA studies. One question of interest to the authors is whether the PIS or Wilcoxon analyses are best applied to these studies. The PIS would be more sensitive to a large deviation at any time during a session than would the Wilcoxon, while the Wilcoxon could be more sensitive to small but consistent differences between the calm and activate periods. In a previous study

Table 1
Results of six experimenter participants (Pp) when: 1) acting as experimenter; 2) as agent or receiver; and 3) when the two sets of outcomes are combined (all the sessions in which they participated).

	Acting as experimenter			Acting as agt. or rec.			All sessions combined		
Pp	Session N	Stouffer Z	(*r*) *es*	Session N (agt/rec)	Stouffer Z	(*r*) *es*	Session N	Stouffer Z	(*r*) *es*
A	6	0.250	.10	4 (1/3)	0.102	.05	10	0.258	.08
B	6	0.291	.12	5 (1/4)	0.225	.10	11	0.366	.11
C	6	0.125	.05	5 (2/3)	1.573	.70	11	1.153	.35
D	6	1.040	.42	7 (5/2)	1.445	.55	13	1.767	.49
E	6	0.874	.36	5 (3/2)	-1.553	-.69	11	-0.402	-.12
F	6	-0.273	-.11	10 (7/3)	-0.0003	-.0001	16	-0.167	-.04

(Delanoy & Sah, 1991) a significant overall outcome was obtained with the Wilcoxon ($p = 0.04$ 1-t; *es* = .31), but not with the PIS ($p = 0.08$; *es* = .25). In the present study this trend was reversed, with slightly higher scoring obtained by the PIS method. Looking at the successful non-experimenter agent/receiver sessions, the Wilcoxon measure produced a larger effect than the PIS measure. The data from the within experimenter sessions displayed only marginal departures from chance expectancy, with the PIS measure obtaining a slightly positive outcome and the Wilcoxon a slightly negative result. Thus, the question of which measure may be the more sensitive when applied to EDA DMILS is still open. Also, the above effects should be interpreted with caution given the low power of this study.

While the overall results were not significant, those involving the non-experimenter agent and receiver populations were more encouraging. The trials involving the experimenters as agents and receivers were intended as training sessions, to familiarise the experimenters with all aspects of the methodology. Also, it was wished to provide them with the experience of learning how to act as an experimenter, therefore making them comfortable with the role, before they worked with the general public. Whilst it was disappointing that their scores when working with each other were slightly opposite to the hypothesised direction, these sessions were conducted primarily as preparation for their working with other participants. The preparatory nature may have had a variety of psychological effects on the participants; or perhaps we are seeing a learning effect, as the within-experimenter sessions generally preceded the sessions where others acted as agent or receiver (i.e., all of the first 16 sessions of the study involved only experimenters as participants). Additionally (as discussed below), the equipment problems that plagued the earlier sessions may have had a negative impact upon session outcome.

The effect size (.33) from the sessions with non-experimenter participants compares favourably with the mean DMILS EDA study effect size of .25, and the result approached significance with an N of only 18. Thus, the hypothesised outcome was obtained in the sessions which most resemble the usual DMILS environment. While undoubtedly there were psychological differences between the purely training sessions and those involving other members of the public, this study was not designed to explore such differences and further speculation about possible causes would be unwarranted. However, there were numerous equipment problems en-countered in the earlier stages of the experiment, which were essentially sorted out before non-experimenter participants were involved in the sessions.

As indicated, this study was most useful in helping to further refine the equipment and software controlling the data collection. Problems were encountered in the course of the study, especially during the earlier within-experimenter sessions. Ten sessions were abandoned due to equipment failure. In these 10 sessions, the system would most commonly crash before any data for the trial was collected, but after the pre-session talks had been given and the agent and receiver were located in their respective shielded rooms. These problems could have impacted negatively on the scoring rate, as it was very frustrating for the experimenters to gather for a session, proceed through the initial pre-session chat, advance to the data collection stage, only to have the system crash at the critical moment. These problems were due to a programming error that was eventually identified and remedied. Also, minor modifications of the software program were made to simplify the set-up program entry procedure for the experimenters.

This is the first time that two acoustically and electro-magnetically attenuated rooms were used to house the agent and receiver in a DMILS study. The outcomes suggest that these unusually stringent security measures appear to provide no obstacle in obtaining standard DMILS effects, as demonstrated by the non-experimenter agent / receiver sessions.

Furthermore, we were pleased to discover via post session discussion that participants did not find the use of such imposing structures intimidating or problematic in any noted respect.

The study of Wiseman & Schlitz (1996) indicates that some experimenters may be more likely to obtain significant results from their participants than others in DMILS studies, lending further support to similar "experimenter effect" findings from other areas of psi research. The investigation of individual experimenters was conducted in part to see if any tendencies for especially good or especially poor outcomes were associated with any individual experimenter. We looked at their performance both when acting as experimenter and when acting as agent or receiver, as these roles are difficult to separate in the traditional DMILS design (e.g., in the Wiseman and Schlitz study) as often in these earlier studies the experimenter also acted as the agent. In the present study, one experimenter appeared to excel in both roles, obtaining an unexpected overall significance when combining all their sessions (p = .04, one-tailed; *es* = .49). Further examination of this individual's data revealed a general tendency, both as experimenter and agent / receiver, to obtain small, above chance deviations from MCE (of 12 sessions, only two were slightly in the wrong direction, and only two obtained z's in excess of 1.00). Five of the six experimenters showed similar directional effects in both sets of sessions (experimenter and agent / receiver sessions), with one showing a much greater magnitude of effect in their sessions as agent/receiver. Only one experimenter showed a reversal of effects between their sessions as an experimenter and those as agent and receiver (*es* for experimenter sessions = .36; *es* for agent / receiver sessions = -.69). Excepting the one instance of reversal of outcome direction, these findings suggest that more data needs to be collected where the role of the experimenter and agent are clearly differentiated before understanding whether the Wiseman & Schlitz findings are best interpreted as effects stemming from the experimenter, from the agent or from some interaction between the two.

While of potential interest, the role that gender may play in the agent / receiver pairing, or in acting as experimenter with different combinations of agent / receiver gender pairings, could not be addressed due to insufficient sample sizes. Of the six experimenters, only two were female, and they each worked primarily with two different males in the experimenter sessions. The agent / receiver gender pairing was generally mixed in the non-experimenter agent / receiver sessions. Looking just at the data each trainee experimenter produced while serving as experimenter, one male and one female produced effect sizes above the mean study effect size of .25 (*es* = .36 and .42, respectively). Considering all the sessions in which the experimenters participated (as experimenter and as agent / receiver), the only independently significant overall results for an individual experimenter were produced by a male; the two overall negative Stouffer Z's were produced by a male and a female. It is hoped to explore gender issues more thoroughly in future DMILS studies.

The release-of-effort findings suggests that the intentionality effects may have carried-over into the subsequent rest periods. Within both agent / receiver groups, the magnitude of the apparent DMILS effects were greater in the rest periods, than in the preceding "intentionality" period (non-experimenter group effect size increased from .33 to .43; experimenters changed from -.02 to -.33). Indeed, in the sessions which showed the greatest evidence of a positive DMILS interaction (i.e., the non-experimenter agent / receiver sessions), the release-of-effort effect reached significance in the expected direction (p = 0.03). From this it appears that the lack of a release-of-effort effect in the overall session data was due to a cancellation effect from the scoring of the two agent / receiver populations.

These findings lend support to the significant release-of-effort effect reported by Radin et al. (1993), although it should be noted that Radin's analysis was based on the first 10 seconds of their 30 second rest period, where as in the present study, the whole of the 26.6 second rest period was used, due to problems in isolating just 10 seconds of data given the software program controlling the data collection. The outcomes may suggest that DMILS EDA effects could be increased by lengthening the period of the traditional 30 second interaction periods. Also, it argues in favour of retaining at least a 30 second rest period between each interaction period to ensure there is no carry-over of effects from one intention period (i.e., activate) to another (i.e., calm). Indeed, there may still be a carry-over effect with 30 second rest periods. The apparent release-of-effort effect requires further confirmation and exploration in future studies.

The LST findings are potentially very intriguing. This is the first time that DMILS data has been explored for LST effects, and the results show a similar pattern to those from the anomalous cognition database (Spottiswoode, 1997), including a 400% scoring increase over the mean session scoring in the few sessions falling with +/- 2 hours of 13.5 LST, and a decrease at +/- 2 hours of 18.5 LST. However, the sample sizes in this study are obviously too small to allow any conclusions to be made. Further analyses of existing and new DMILS databases are planned for the near future.

In conclusion, this study fulfilled the primary goals for which it was intended. The effect sizes from the set of sessions most representative of the norm were above that of the mean for existing EDA DMILS studies. Additionally, some interesting internal effects were found, consistent with those from existing studies. Actual and potential equipment shortcomings were identified and corrected. And several of the IGPP staff who took part in the study as experimenters will be working in future DMILS studies. We are encouraged by these outcomes, and anticipate fruitful findings in the future DMILS studies which are planned for this facility.

References

Boucsein, W. (1992). *Electrodermal Activity*. New York: Plenum Press.

Braud, W.G. (1994). Can our intentions interact directly with the physical world? *European Journal of Parapsychology*, 10, 78-90.

Braud, W.G. and Schlitz, M.J. (1991). Consciousness interactions with remote biological systems: Anomalous intentionality effects. *Subtle Energies*, 2:1, 1-46.

Braud, W., Shafer, D. and Andrews, S. (1993a). Reactions to an unseen gaze (remote attention): A review, with new data on autonomic staring detection. *Journal of Parapsychology*, 57, 373-390.

Braud, W., Shafer, D. and Andrews, S. (1993b). Further studies of autonomic detection of remote staring: Replication, new control procedures, and personality correlates. *Journal of Parapsychology*, 57, 391-409.

Dawson, M., Schell, A. and Filion, D. (1990). The electrodermal system. In J.T. Cacioppo and L.G. Tassinary (Eds.) *Principles of Psychophysiology*. Cambridge: Cambridge University Press, 293-324.

Delanoy, D.L. and Sah, S. (1994). Cognitive and physiological psi responses to remote positive and neutral emotional states. *Proceedings of the 37th Annual Convention of the Parapsychological Association*, Amsterdam, The Netherlands, August, 1994, 128-139.

Morris, R.L. (1977). Parapsychology, biology, and anpsi. In B. Wolman (Ed.) *Handbook of Parapsychology*. New York: Van Nostrand Reinhold Co., 687-715.

Radin, D.I., Taylor, R.K. and Braud, W.G. (1993). Remote mental influence of human electrodermal activity: An experimental replication. In M.J. Schlitz (Ed.) *Proceedings of Presented Papers of the Parapsychological Association 36th Annual Convention*. August, 1993, Toronto, Canada, 12-23.

Schlitz, M. and Braud, W. (1997). Distant intentionality and healing: Assessing the evidence. *Alternative Therapies*, 3:6, 62-73.

Schlitz, M.J. and LaBerge, S. (1994). Autonomic detection of remote observation: Two conceptual replications. *Proceedings of the 37th Annual Convention of the Parapsychological Association*, Amsterdam, The Netherlands, August, 1994, 352-360.

Solfvin, J. (1984). Mental healing. In S. Krippner (Ed.) *Advances in Parapsychological Research*, 4. Jefferson, N.C: McFarland and Co., 31-63.

Spottiswoode, S.J.P. (1997). Apparent association between effect size in free response anomalous cognition experiments and local sidereal time. *Journal of Scientific Exploration*, 11:2, 109-122.

Watt, C., Ravenscroft, J. and McDermott, Z. (in press). Exploring the limits of direct mental influence: Two studies comparing 'blocking' and 'co-operating' strategies. *Journal of Scientific Exploration.*

Wiseman, R and Schlitz, M. (1996). Experimenter effects and remote detection of staring. In E.C. May (Ed.) Proceedings of Presented Papers of the Parapsychological Association 39th Annual Convention, San Diego, CA, August 1996, 149-157.

Robert Morris & Deborah Delanoy
Koestler Parapsychology Unit
University of Edinburgh
7 George Square
Edinburgh EH8 9JZ
SCOTLAND, UK

& Institut für Grenzgebiete der Psychologie
und Psychohygiene (IGPP)
Wilhelmstrasse 3A
79098 Freiburg i. Br.
GERMANY

email
rlmorris@ed.ac.uk
ddelanoy@ed.ac.uk

Een DMILS-Experiment met Onderzoekers in Opleiding

Samenvatting: In dit DMILS-onderzoek (Direct Mental Interaction with Living Systems) van 36 sessies probeerden "zenders" met pseudo-random intervallen de electrodermal activity (EDA) van een "ontvanger" te verhogen en te verlagen. Beide proefpersonen zaten in elektromagnetisch en akoestisch afgeschermde ruimten. De experimentatoren waren deelnemers aan een opleiding tot onderzoeker aan het Institut für Grenzgebiete der Psychologie und Psychohygiene. Elk van hen fungeerde in 6 DMILS-sessies als experimentator. Om ervaring op te doen met alle aspecten van een DMILS-experiment waren zij de tijdens de eerste helft van het onderzoek beurtelings zender en ontvanger. Tijdens de tweede helft van het experiment werkten de onderzoekers met vrienden en collega's. In totaal was het EDA-niveau hoger tijdens activerings-perioden dan tijdens remmingsperioden, maar het verschil was niet significant (Stouffer $z = .94$; effectgrootte (r) = .16). In de 18 sessies waarin de 6 in opleiding zijnde experimentatoren tevens als zender en/of ontvanger werkten, was er een iets hogere EDA tijdens remmingsperioden (Stouffer $z = -.082$; ES (r) = -.02). In de 18 sessies met vrienden/collega's was de EDA hoger tijdens activeringsperioden en verschilde die significant met de remmingsperioden (Stouffer $z = 1.417$, $p = .07$, enkelzijdig; ES (r) = .33). Deze resultaten zijn consistent met die in ander DMILS-onderzoek en de effectgrootte ligt in het betrouwbaarheidsinterval van 95% dat in een recente meta-analyse op DMILS EDA (Schlitz en Braud, 1997) werd afgeleid. Voor de groep die niet tot de cursisten behoorde, werd een significant effect van het stoppen met activeren gevonden (Stouffer $z = 1.826$, $p = .03$, enkelzijdig; ES (r) = .43). In beide groepen waren die effecten groter dan de primaire effecten. Deze resultaten ondersteunen het mogelijke nut van langere interactieperioden en pleiten tegen het toepassen van korte rustperioden. Voor het eerst werden "Local Sidereal Time"-effecten (LST, methode van tijdmeting op basis van positie van vaste sterren) onderzocht in een DMILS-setup. Voorlopige resultaten (met een zeer klein aantal proefpersonen) ondersteunen de bevindingen van Spottiswoode (1997) in onderzoek naar "anomalous cognition", met een toename van ongeveer 400% van de gemiddelde z-waarde voor de sessies binnen +/-2 uur van LST 13.5 (N = 3 gemiddelde $z = .629$, N totaal = 36, totale gemiddelde z-waarde sessies = .157). Zo waren ook z-waarden voor sessies binnen +/-2 uur LST van 18.5 (N = 4, gemiddelde $z = .076$) lager dan de totale gemiddelde z-waarde.

Ett DMILS-Experiment med Forskarstuderande

Sammanfattning: I denna DMILS-undersökning med 36 sessioner (Direct Mental Interaction with Living Systems) försökte "sändare" med pseudo-slumpmässiga intervaller förstora och öka och minska en mottagares elektrodermala aktivitet (EDA). Båda testpersoner befann sig i speciella rum som skyddade mot elektromagnetiska fält och akustik. Experimentatorer var forskarstuderande vid "Institut für Grenzgebiete der Psychologie und Psychohygiene". Varje forskarstuderande fungerade i 6 DMILS-sessioner som experimentator. För att få erfarenhet av alla aspekter i DMILS-omgivningen, var forskarstudenterna både sändare och mottagare i undersökningens första. Del. I andra delen jobbade experimentatorerna med vänner och kolleger. Sammanlagt fanns det inte signifikant mer EDA under aktiveringsperioder än under hämmande perioder (Stouffer $z = .94$; effekt (r) = .16). I de 18 sessioner i vilka de 6 forskarstuderande fungerade båda som sändare och/eller mottagare, fanns det lite mer EDA under hämmande perioder (Stouffer $z = -0.082$; ES (r) = -.02). I de 18 sessionerna med vänner och kolleger, fanns det mer EDA under aktiveringsperioder. Skillnaden mellan aktiveringsperioder och hämmande perioder var nästan signifikant (Stouffer $z = 1.417$, $p = .07$, *1t*; ES (r) = .33). Dessa resultat överensstämmer med de i andra DMILS-undersökningar och effektstorleken befinner sig i det 95 % pålitlighetsintervall härleddes från en nyligen genomförd DMILS EDA meta-analys (Schlitz och Braud, 1997). För gruppen som inte hör till forskarstuderande fanns det en signifikant "release-of-effort"-effekt (Stouffer $z = 1.826$, $p = .03$, *1t*; ES (r) = 0.43) och för varje grupp var denna effekt större än de primära effekterna. Resultaten indikerar att längre interaktionsperioder kan vara bra och avråder från mindre rastperioder. Local sidereal time (LST)-effekter (metod av tidmätning på basis av stjärnornas position) undersöktes för första gången i en DMILS-undersökning. Preliminära resultat (med mycket få testpersoner) stödjer resultaten från "anomalous cognition"-undersökningar av Spottiswoode (1997), med ungefär 400 % ökning i genomsnittligt z-värde i +/- 2 timmars period från LST 13.5 (N = 3, genomsnittligt z = .629; N totalt = 36, genomsnittligt z-värde sessioner = .157). Z-värden för sessioner i +/- 2 timmars period från LST 18.5 ($N = 4$, genomsnittligt z-värde = .076) var mindre än det totala genomsnittliga z-värdet från sessionerna.

Ein DMILS-Experiment mit Nachwuchs-Experimentatoren

Zusammenfassung: In dieser 36 Sitzungen umfassenden DMILS-Studie (Direct Mental Interaction with Livung Systems) versuchten "Sender" in pseudo-zufälligen Zeitabständen die elektrodermale Aktivität (EDA) eines "Empfängers" anzuregen bzw. beruhigen. Beide Teilnehmer befanden sich in speziellen elektromagnetisch und akustisch abgeschirmten Räumen. Die Untersucher entstammten einem Ausbildungskurs für Experimentatoren am Institut für Grenzgebiete der Psychologie und Psychohygiene. Jeder von ihnen leitete 6 DMILS-Sitzungen als Untersucher. Um Erfahrungen mit allen Aspekte eines DMILS-Experiments zu erwerben, agierten die angehenden Experimentatoren in der ersten Hälfte der Untersuchung abwechselnd als Sender und Empfänger. Während der zweiten Hälfte der Untersuchung arbeiteten diese Experimentatoren mit anderen Freunden und Kollegen zusammen. Insgesamt ergab sich ein nichtsignifikant höheres EDA-Niveau während der "Anregungs-" als während der "Beruhigungs-Periode" (Stouffer $z = .94$; Effektgröße (r) = .16). In den 18 Sitzungen, die von den sechs angehenden Experimentatoren geleitet wurden, während sie selbst als Sender und/oder Empfänger agierten, wiesen die Resultate geringfügig höhere EDA innerhalb der Beruhigungsperioden auf (Stouffer $z = -.082$; Effektgröße (r) = -.02). In den 18 weiterem Sitzungen, an denen Freunde/Kollegen beteiligt waren, ergaben sich höheren EDA während der Anregungsperiode, wobei der Unterschied zwischen Anregung und Beruhigung die Signifikanzschwelle erreichte (Stouffer $z = 1.417$, $p = .07$, einseitig; Effektgröße (r) = .33). Diese Befunde entsprechen denen anderer DMILS-Studien, die Effektgrößen innerhalb des 95%igen Konfidenzintervalls aufwiesen, das sich aus einer kürzlich durchgeführten DMILS-EDA-Meta-Analyse (Schlitz und Braud, 1997) ergeben hat. Ein signifikanter Effekt nachlassender Bemühungen ("release of effort") fand sich (Stouffer $z = 1.826$, $p = .03$, einseitig; Effektgröße (r) = .43) bei den Teilnehmern, die nicht dem Versuchsleiter-Kurs entstammten, und in beiden Gruppen war dieser "Release-of-Effort"-Effekt stärker als der Primäreffekt. Diese Resultate legen die mögliche Nützlich-keit größerer Interaktions-Perioden nahe, und lassen kürzere Ruheperioden nicht ratsam erscheinen. "Local-Sidereal-Time"-Effekte (LST, ein an Fixsternpositionen orientiertes Verfahren der Zeitmessung) wurden hier erstmals in einem DMILS-Experiment untersucht. Erste, vorläufige Ergebnisse (mit sehr kleinen N) unterstützen jene, die sich in Spottiswoodes (1997) Studien zur Untersuchung von "Anomalous Cognition" ergeben haben, bei einer Zunahme von annähernd 400 Prozent der gemittelten z-Werte für Sitzungen binnen +/- 2 Stunden von LST 13.5 (N = 3, z gemittelt = .629; N gesamt = 36, über Sitzungen gemittelt z insgesamt = 0.157). In ähnlicher Weise waren z-Werte in Sitzungen binnen +/- 2 Stunden von LST 18.5 (N = 4, z gemittelt = .076) niedriger als die gemittelten z-Werte insgesamt.

Uno Studio DMILS con Studenti Sperimentatori

Sommario: E' stato effettuato uno studio in 36 sessioni dell'interazione mentale diretta su sistemi viventi (DMILS), con agenti che tentavano di attivare o di placare l'attività elettrodermica (EDA) di un ricevente, ad intervalli pseudocasuali. I due partecipanti si trovavano in stanze particolari, schermate elettromagneticamente e acusticamente. I soggetti erano i partecipanti a un corso di addestramento per sperimentatori tenuto all'Institut für Grenzgebiete der Psychologie und Psychohygiene. Ogni partecipante al corso ha condotto, in qualità di sperimentatore, 6 sessioni DMILS. Per acquisire esperienza su tutti gli aspetti del contesto sperimentale, per la prima metà dello studio i partecipanti hanno assunto il ruolo di agente e poi quello di ricevente; nella seconda metà, gli sperimentatori lavoravano con amici e colleghi. Nel complesso durante i periodi di attività si è ottenuto un livello di EDA non significativamente maggiore rispetto a quello dei periodi di soppressione (z di Stouffer= -.082; ES (*r*) = -.02). Nelle 18 sessioni alle quali hanno preso parte amici e colleghi, è stata ottenuta un'EDA maggiore durante i periodi di attivazione; la differenza tra il tentativo di placare e quello di aumentare raggiungeva il livello di significatività statistica (z di Stouffer = 1.417, *p* = .07; ES (*r*) = .33). Questi riscontri sono consistenti con quelli ottenuti in studi simili e le dimensioni dell'effetto cadono entro gli intervalli di confidenza del 95% calcolati in una recente metanalisi di lavori sull'EDA in DMILS (Schlitz e Braud, 1997). Un significativo effetto alla sospensione del tentativo (z di Stouffer=1.826, *p* = .03, a 1 coda; ES (*r*) =.43) è stato ottenuto nel gruppo dei soggetti non addestrati, mentre in entrambi i gruppi questi effetti erano maggiori dell'effetto primario. Tali dati suggeriscono la possibile utilità di periodi di interazione più lunghi e sconsigliano l'uso di periodi di pausa inferiori. Per la prima volta in uno studio DMILS sono stati presi in considerazione gli effetti del tempo siderale locale (LST). I primi dati preliminari (relativi a pochissimi soggetti) avvalorano quelli ottenuti da Spottiswoode (1997) in studi sulla cognizione anomala, con un incremento di circa il 400% in uno z medio di sessione entro l'intervallo di ±2 ore dal LST 13.52 (N =3, z medio=0.629; con un numero totale N = 36, z medio complessivo della sessione=.157). Analogamente, i valori z delle sessioni condotte ±2 ore dal LST 18.5 (N=4, z medio=.076) erano inferiori a quello complessivo della sessione.

Une Étude DMILS Conduite par des Expérimentateurs en Formation

Résumé: Nous avons conduit une étude DMILS (Interaction Mentale Directe avec les Systèmes Vivants) dans laquelle l'agent tentait soit d'exciter (période d' "activation") soit de calmer (periode d' "apaisement") l'activité électrodermique (EDA) d'un récepteur, selon des décisions pseudo-aléatoires. L'agent et le récepteur était chacun situés dans une chambre électromagnétiquement et accoustiquement isolée. Les expérimentateurs étaient recrutés dans un cours sur la méthodologie expérimentale de l'Institut für Grenzgebiete der Psychologie und Psychohygiene (Freiburg, Allemagne). Chaque stagiaire jouait le rôle d'expérimentateur pendant 6 sessions. Durant la première moitié de l'étude, les stagiaires alternaient également entre le rôle d'agent et celui de récepteur afin d'expérimenter les différents facettes de l'expérimentation DMILS. Durant la seconde moitié de l'étude, d'autres amis et collègues jouaient le rôle de récepteurs et d'agent. Globalement, nous avons trouvé une augmentation non-significative de l'activité électrodermique pendant les périodes "activation" par rapport aux périodes "appaisement" (Stouffer z = .94; taille d'effet (*r*) = .16). Durant les 18 sessions dans lesquelles les 6 stagiaires / expérimentateurs jouai-ent également le rôle d'agent ou de récepteur, l'activité électrodermique était largement supérieure

pendant les periodes "apaisement" (Stouffer z = -.082; taille d'effet (*r*) = -.02), tandis que pour les 18 sessions impliquant d'autres personnes, le EDA était plus important pendant les périodes d'activation, et ceci à un niveau presque significatif (Stouffer z = 1.417, *p* = .07, 1t; taille d'effet (*r*) = .33). Ces données sont cohérentes avec les résultats d'autres études DMILS: les taux d'effets obtenus ici sont comparables (avec une confiance de 95%) à ceux trouvés dans une récente méta-analyse d'études impliquant l'EDA. Nous avons aussi trouvé un effet statistiquement significatif de lâcher-prise (Stouffer z = 1.826, *p* = .03, 1t; Taille d'effet (*r*) = .43) en particulier pour les participants qui n'étaient pas stagiaires. Pour les stagiaires et les non-stagiaires également, les effets lâcher-prise étaient plus importants que les effets primaires (c.à.d., pendant les periodes d'influence), ce qui indique la nécessité de périodes d'influence plus longues, séparées par des périodes-témoins plus importantes. Enfin, pour la première fois dans une étude DMILS, nous avons exploré les effets du Temps Sidéral Local (TSL). Les résultats préliminaires (avec très peu d'essais) corroborent les études de Spottiswoode (1997), indiquant une augmentation de 400% pour le score-z moyen, pour chaque session ayant eu lieu 2 heures avant ou après TSL 13.5 (N = 3, z moyen = .629; vs. avec un total de N = 36, le z moyen = .157). De même, les scores-z des sessions conduites jusqu'à 2 heures avant ou après TSL 18.5 ont montré des scores au-dessus de la moyenne (N = 4, moyen z = .076).

Un Estudio de DMILS con Experimentadores/as en Entrenamiento

Resumen: Se llevó a cabo un estudio de DMILS (interacción mental directa con sistemas vivos) con agentes que trataban de activar y calmar la actividad electrodermal (EDA) de un receptor en intervalos pseudo-aleatorios. Ambos participantes estaban en habitaciones especiales aisladas en términos electromagnéticos y acústicos. Los/as experimentadores/as fueron obtenidos de un curso para entrenar experimentadores/as presentado en el Institut für Grenzgebiete der Psychologie und Psychohygiene. Cada persona en entrenamiento llevó a cabo 6 sesiones de DMILS como experimentador. Para obtener experiencia en todos los aspectos del ambiente de DMILS, las personas en entrenamiento tomaron turnos actuando como agentes y receptores/as durante la primera mitad del estudio. Durante la segunda mitad, los/as experimentadores/as trabajaron con otros amigos/as y colegas. En general hubo un nivel mayor no-significativo de EDA durante los periodos de activación que en los de calma (Stouffer z = 0.94; tamaño del efecto (*r*) = .16). En las 18 sesiones con los 6 experimentadores en entrenamiento que también eran agentes y/o receptores/as los resultados mostraron una leve EDA mayor durante los periodos de calma (Stouffer z = -0.082; ES (*r*) = -.02). En las 18 sesiones en las cuales amigos/as y colegas participaron, se encontró un EDA mayor durante los periodos de activación, y la diferencia entre activación y calma fue casi significativa (Stouffer z = 1.417, *p* = .07, *1t*; ES (*r*) = .33). Estos hallazgos son consistentes con los de otros estudios de DMILS, pues se obtuvieron magnitides de efectos entre el 95% de los "confidence intervals" derivados de un reciente meta-análisis de DMILS EDA (Schlitz & Braud, 1997). Se encontró un efecto significativo de "release-of-effort" (Stouffer z = 1.826, *p* = .03, *1t*; ES (*r*) = .43) para la población de los/as que no estaban siendo entrenados/as, estos efectos fueron mayores que los efectos primarios. Los resultados sugieren la posible utilidad de periodos de interacción más largos y sugieren que no se deben usar periodos cortos de descanso. Se exploraron efectos de tiempo sideral local (LST) por primera vez en un estudio de DMILS. Hallazgos preliminares (con Ns muy pequeñas) apoyan los resultados de Sppottiswoode (1997) con estudios de cognición anómala con un aumanto aproximado de 400% en el promedio de *z* por sesión dentro de un periodo de +/- 2 horas de LST 13.5 (N = 3, promedio z = 0.629; en el cual la N total era 36, promedio de sesión general z = 0.157). De forma similar, las z de sesiones llevadas a cabo entre +/- 2 horas de LST 18.5 (N = 4, promedio z = 0.076) fueron menores que el promedio de sesión general de las z.

Um Estudo de DMILS com Experimentadores em Treinamento

Resumo: Um estudo de 36 sessões de DMILS (do inglês *direct mental interaction with living systems*, ou seja, interação mental à distância com sistemas vivos) foi conduzido com agentes tentando ativar e acalmar a atividade eletrodérmica (AED) de um receptor, em intervalos pseudo-aleatórios. Os participantes foram alojados em salas acústica e eletro-magneticamente isoladas. Os experiment-adores foram recrutados de um curso de treinamento conduzido no Institut für Grenzgebiete der Psychologie und Psychohyhiene. Cada estudante conduziu 6 sessões de DMILS atuando como experimentadores. Para obter experiência em todos os aspectos do ambiente DMILS, os estudantes fizeram turnos agindo como agentes e receptores na primeira metade do estudo. Durante a segunda metade, os experimentadores trabalharam com outros amigos e colegas. Em geral houve maior nível não significativo de AED durante os períodos de atividade do que durante os períodos de calma (Stouffer $z = -.94$; medida de magnitude (r) =16). Nas 18 sessões conduzidas com os seis experimentadores em treinamento também atuando como como agentes ou receptores, os resultados demonstraram levemente maior AED durante os períodos de calma (Stouffer $z = -.082$; ES= (r) - .02). Nas 18 sessões em que amigos/colegas participaram, uma maior AED foi encontrada durante os períodos ativos, com a diferença entre a significação da abordagem ativa e calma. (Stouffer $z = 1.417$, $p = .07$, *1t*; ES (r) = .33). Esses resultados são consistentes com aqueles de outros estudos DMILS, tendo medida de magnitude caindo dentro dos intervalos de confiança de 95% derivados de uma recente meta-análise de DMILS e AED (Schilitz e Braud, 1997). Um efeito de liberdade de esforço (Stouffer $z = 1.826$; $p = .03$; *1t*; ES (r) = .43) foi encontrado para a população que não estava em treinamento, e, em ambas as populações, os efeitos de liberdade de esforço foram maiores do que os efeitos primários. Esses resultados sugeriram a possível utilidade de períodos de interação mais longa e advertiu contra o uso de menores períodos de descanso. Os efeitos do tempo sideral local (TSL) foram explorados pela primeira vez em um estudo de DMILS. Resultados preliminares (com Ns muito pequenos) sustentam aqueles obtidos em estudos de cognição anômala por Spottswoode (1997), com um aumento aproximado de 400% na sessão z média dentro do intervalo +/-2 horas de TSL 13.5 (N = 3, média $z = .629$; onde o total foi N =36, média total da sessão $z = .157$). De modo semelhante, os "zs" das sessões conduzidas dentro do intervalo de +/- 2 horas do TSL 18.5 (N=4, média $z = .076$) foram mais baixos do que a média total da sessão z.