

Yogic Attainment in Relation to Awareness of Precognitive Targets¹

S.M.Roney – Dougal, Psi Research Centre, Britain
J. Solfvin, Centre for Indic Studies, USA

Abstract: This study explored whether long-term yoga/meditation practice facilitates psi awareness. Data were collected in an Indian ashram setting in 2003 and 2004 from yoga practitioners with three levels of initiation: students (ST) (0.3–15 years practice); sanyassins (SN) (1-10 years practice); and swamis (SW) (4-33 years practice). These preliminary experiments focused on adapting Western laboratory procedures to the ashram setting with a Macintosh laptop serving as a portable laboratory. Each participant had a short meditation followed by an awareness period to precognitively perceive a target video clip that they would see at the end of the session. They then rated four target clips on a 1 – 100 scale for similarity with their awareness experience. A re-analysis (using effect size r) showed no overall significant effect in either year (2003: $r = -0.09$; 2004: $r = 0.08$). Advanced practitioners (SW) in both years showed non-significant psi-hitting (2003: $r = 0.21$; 2004: $r = 0.07$), whereas the other two groups (SN & ST) were more variable in their scoring (2003: SN $r = -0.23$ & ST $r = -0.38$; 2004: SN $r = 0.05$ & ST $r = 0.13$). In 2003, in the line with the hypothesis, the advanced group (SW) scored significantly better than SN ($p = .05$) or ST ($p = .04$). In 2004 these differences became non-significant. Implications and possible explanations are explored.

During the 1970s interest in maximising psi awareness focused on altered states of consciousness (Braud, 1974, 1978; Honorton, 1977; Tart, 1969, 1975; Ullman & Krippner, 1979). Part of this programme of research investigated meditation as a psi-conducive state (for reviews see Honorton, 1977; Braud, 1989; Schmeidler, 1994). Most of the research used beginners in meditation and only a handful of studies were run, with mixed results, that do however give highly significant results on a combined analysis (Honorton, 1977).

Consciousness research is central in parapsychology. In the 1970s, Braud (1974) introduced the concept of the psi - conducive state. This is a model which has driven much of the parapsychological research into altered states of consciousness as a state conducive to the experience of psychic phenomena. The model states that psi functioning is enhanced when there is:

- 1) cortical arousal sufficient to maintain conscious awareness;
- 2) muscular relaxation;
- 3) reduction of sensory input;
- 4) internal attention.

¹ Grateful thanks to Paul Young for his financial assistance; also to the Perrott-Warwick fund and Bial Foundation, whose financial assistance helped with funding Jerry Solfvin to complete the statistical analysis; to Paul Stevens for his ESP programme, to Jez Fox for his Precog programme, to David Luke for help with the questionnaire, to Chris Roe for so very much help in so many ways – primarily for initiating the statistical analyses and for help with writing up the paper and grant applications; to BYB for permission and facilitation to do this research, and to all the participants who gave so much and without whom it could not have happened. Deep gratitude also to the editor and two referees whose comments were of inestimable value and have improved the paper enormously. Earlier versions of this paper were presented at the 25th Society for Psychical Research Conference, Manchester, England, Sept. 2003 and Yoga and Parapsychology Conf., Andhra Pradesh, India, January 2006, and the complete version including tables is published in the Journal of Parapsychology (2006), 70 (1), 91-120 .

In other words, when the receiver is in a state of sensory relaxation and is minimally influenced by ordinary perception and proprioception (Braud, 1975).

At the same time Honorton (1981) was developing his model of internal attention states from his readings of the classic yoga text known as Patanjali's sutras. These sutras (Satyananda, 1982) state that, when one attains samadhi the "siddhis" (psychic powers) manifest. Meditation techniques take us in to a state of consciousness that is considered traditionally to be a heightened, or even advanced, state of consciousness. In meditation there is internal noise reduction, external noise reduction, and various psycho-physiological correlates, e.g. alpha rhythm, increased skin resistance, which have been found to be associated with greater psi awareness (Honorton, 1977). A full discussion of Patanjali's yoga sutras in relation to psi research has been done by Braud (2006).

LITERATURE REVIEW

During 1970's – 1980's, several experiments were conducted which suggested that meditation might help one to attain a state of consciousness conducive to psychic (psi) awareness.² In this early research, the unspoken assumption was that merely practicing meditation would enhance psychic awareness. The first study was by Schmeidler (1970). She reported that students gave significant ESP scores ($p=.01$) after they had been instructed by a swami in pranayama (breathing techniques) and meditation. The pre-meditation scores were at chance. Dukhan and Rao (1973) also tested for pre- and post-meditation psi scoring. They worked with Western and Indian students in an ashram in South India using a combination of meditation practices. Beginners and more advanced meditators both obtained highly significant psi-missing prior to meditation (beginners $p=10^{-6}$; advanced $p=.012$) and significant psi-hitting after meditation (beginners and advanced $p=10^{-4}$). Roll and Zill (1981) also found a significant difference, with the participants once again scoring negatively before the meditation and positively after. They do not specify the degree of meditation skill of the participants. They state that they consider that these results are more due to the participants conforming to the experimenters' wishes than to the effect of meditation per se, because the significance of the study was primarily due to the decreased scoring before the meditation. Compliance with experimenters' wishes is an effect of which one must always be aware.

In contrast, Stanford & Palmer (1973) worked with a single subject (Bessent) who meditated before the ESP session and whose EEG was being monitored. In those sessions in which he produced relatively high alpha waves, he showed stronger psi ($p<.005$).

As well as exploring with different types of participants, experimenters also worked with both forced-choice and free-response methodology. Rao, Dukhan and Rao (1978) used both methods testing participants both before and after a half-hour meditation session. The participants scored significantly higher on both types of test after the meditation. Braud and Boston (1986) used free-response methodology with a relaxation tape session, and obtained significant scoring with 25 meditators. They used trained meditators from the Center of Healing and Enlightenment in Houston, but to what degree and what sort of meditation is not specified. Harding and Thalbourne (1981) tested people trained in Transcendental Meditation

² In the current studies 'psi awareness' is operationally defined as the score achieved on the psi task. As this score is related to the task in which the participant is asked to become aware of the target picture after the meditation session and prior to viewing the pictures on the computer, there is a suggestion that, in line with Yoga Psychology theory, there is some level of cognitive awareness of the target picture through psychic means when the person does accurately describe and choose the target picture at the end of the session. While 'awareness' has other implications in other contexts, that is beyond the scope of the current research.

(TM), using 3 groups: non-meditators, ordinary TM meditators and siddhas (advanced TM meditators). Again they used both forced-choice and free-response methods, but they obtained null results. They considered that this was because the meditators had not really wanted to participate and considerable persuasion had been used to obtain participants for the study. Like Harding and Thalbourne, Rao and Rao (1982) used people who had trained in TM, though in this case only for a week. They compared those who had done no meditation with those who had done the one-week course. They were tested for both ESP and subliminal perception. The meditators scored above chance with both forms of target, whilst the controls scored at chance.

Rao and Rao's (1982) study suggests that in meditation one is learning to become aware – this awareness and openness being a generalized form of sensitivity to incoming information whether of the subliminal or psychic form. Some meditation practices result in habituation to external signals, e.g. yogic, where attention is inward, and others, e.g. Zen, show no habituation at all (Murphy, Donovan & Taylor, 1999). The yogic teachings stress again and again that one is learning to become more aware at all levels. They state that removing the noise of the internal dialogue allows greater sensitivity and awareness in general, of which psi awareness is an aspect that occurs at a certain stage in meditation attainment. Whilst meditation has been linked with other psi-conducive states techniques, such as the Ganzfeld, it may be a very different state in that the person is being trained to go 'beyond mind,' into a state of pure awareness where there is very little or no thought. Honorton (1996) reports on his Ganzfeld database collected during the 1980s, and finds that practice of a mental discipline helps novice Ganzfeld participants to score better on the initial session. However, meditation is not partialled out from hypnosis, relaxation or biofeedback exercises, so in this analysis we cannot specifically see the effect of meditation on novice Ganzfeld participants.

A meta-analysis of all the research by 1976 shows that overall there were 9 significant meditation psi experiments out of a total of 16, giving an overall $p = 6 \times 10^{-12}$ (Honorton, 1977). Schmeidler (1994) who summarises the research from 1978-1992 concludes that: "meditation is conducive to ESP success if (and only if) the meditators wholeheartedly accept the experimental procedure and the goals of the research."

The Ashram Studies

A so far unexplored hypothesis, which comes directly from Patanjali's sutras, is that *degree* of meditation attainment is related to enhanced psi functioning. Patanjali states that the 'siddhis' (psychic faculties) manifest on attainment of Samadhi. There are two possibilities here: one is that as one practices meditation, so one gradually develops greater one-pointedness and greater awareness and bit by bit greater psi awareness, which is the hypothesis that parapsychological research has used so far. The other is that *only* when one attains Samadhi (total one-pointed concentration) does the psi awareness manifest. Local folklore considers that the more adept one is as a yogi, the more psychic one is, but this has never been explored scientifically.

An invitation to teach parapsychology at a university in an ashram (a yoga monastery) in India enabled this research to be conducted with experienced practitioners, swamis (yogic monks and nuns) as well as with inexperienced practitioners (students). This is essentially field research, taking the methodology, which has been designed in Western laboratories, and adapting it so that we could work with the participants in their own setting.

In 2002, a number of different possible experiments, were run with students (Roney-Dougal, 2002). The design of the two studies being reported here emerged as being the most suitable for development. Only students participated and static pictures were used as a target in a telepathy design. They did not give any significant results, but gave a suggestion that this

topic was amenable to research and that the free-response method was suitable for research in the ashram setting.

Building on these findings, a preliminary experiment was run from January to March 2003, with individuals who were living and working in the ashram. Changes in methodology were made in order to tighten up the procedure and a computer programme (Precog) was designed. Otherwise the basic free-response design was kept the same, to see if significant results would emerge in this situation, and if it was feasible to run a more tightly controlled experiment in future years, when circumstances permitted.

Then in 2004 the final ashram ESP experiment was run using equal numbers of participants in each of the three groups that were identified in 2003, each participant undertaking six sessions. A modified version of the Precog programme was again used as this had shown considerable suitability for work in this setting.

Hypothesis

The hypothesis for these experiments was:

Those with a greater level of yogic attainment; i.e. more years of practice and greater degree of attainment, will show greater psi awareness, such that the swamis will rank the target correctly, significantly more often than the students.

This hypothesis was decided upon prior to the preliminary studies being undertaken. The design, procedure, computer programme, questionnaires, etc., were all then developed, dependent on what was appropriate for this particular setting, changes being made year by year. Then, when Bial funded a formal continuation of these studies, J. Solfvin joined the team as statistical analyst, and this paper is a result of his reanalysis of the data in preparation for the more formal studies being undertaken at present. The hypothesis being tested has however remained consistent throughout.

METHOD

A basic free-response design was used in which a computer programme chose a video clip at random from a pool. After meditating, the participants aimed to visualise this target, and after that saw a set of four video clips one of which was the target clip. These were rated on a 100-point scale according to similarity with the visualization experience. The target picture was then shown.

Materials

A precognition computer programme (Precog) was designed by Jezz Fox, from Liverpool University, for an Apple Macintosh G4 Powerbook.

In 2003, the Kathy Dalton set of dynamic targets (Dalton, Steinkamp & Sherwood, 1996), which has 25 sets of 4 video clips, was used. In 2004, an adapted set of the University College Northampton target set, which has 23 sets of 4 video clips, was used. These were amended so as to contain primarily pleasant or neutral material, with no overt violence or sexual content.

A yogic attainment questionnaire (YAQ) was designed in 2002 with the help of the students, and amended in line with improvements whilst using it that first year, and later with help from David Luke. This amended questionnaire was used in 2003 and then further developed for use in 2004, again with the assistance of David Luke. This questionnaire has two main parameters: the first is the number of years the participants have practised different yogic disciplines, such as physical asanas, breathing techniques (pranayama) which are thought to be related to the emotions, and meditation, which works at the mental level. There

are also cleansing practices (shatkarmas), which were included in the 2004 questionnaire, as yogic theory states that these facilitate the manifestation of psi. This enabled the degree of yogic attainment to be clearly specified, each participant estimating the number of hours per day or week that they practised the various techniques, as well as specifying the number of years for which they have practised them. In addition they stated whether or not they were practising regularly at the time of doing the research. In 2004, a second part of the questionnaire addressed a specific meditation practice (antar mouna) and the level the participant had attained with this practice.

Design

A precognition design was used so that the sessions could be run without any assistants, enabling SRD to work with the percipients at any time that was mutually convenient for them. By its very nature precognition is double-blind, thus allowing full control with minimal need for the usual laboratory facilities of sound-proof rooms, etc. Further details are given in the procedure section.

The programme chose a target set, such that the participant never received the same set more than once. The participant was shown all four video clips, which they rated on a 1–100 point rating scale. The programme then showed the target video, chosen at random out of the four in the set.

As the 2003 sessions were completely exploratory, attempting to find a methodology that worked in the ashram situation, SRD accepted anyone who wished to take part and ran as many sessions with them as they were able to do. This enabled 102 sessions to be run in an 8-week period.

In 2004, the design was tightened in that there were equal numbers in each of the three groups identified in 2003, and each person did six trials so that a more reasonable estimate of their psychic awareness could be assessed. This resulted in a total of 108 trials run in a 10-week period.

In both years, the yogic attainment questionnaire (YAQ) was completed by each participant. In 2003 this was after the first session, as each participant completed different numbers of sessions and some did only one session. In 2004 they completed it after their final session, when they were also interviewed.

Participants

In 2003, the study included any visitors (V), students (ST), sannyasins, (SN, those who have taken some degree of yogic initiation; jigyasu and karma sannyasins), and swamis (SW, also known as poorna sannyasins, as they have taken full yogic initiation) who wanted to participate, with a range of 4 months to 33 years experience of yoga. This permitted a good spread of degree of yogic attainment to be accessed, though inevitably there was overlap between the groups both in terms of number of years of practice and some students had received some degree of initiation. In these cases they were assigned to the sannyasin group. The numbers “by chance” turned out to be very even with a total of 34 people participating, of whom 12 were students or visitors, 10 were initiated to some degree (jigyasu and karma sannyasins), and 12 were swamis. Between them they completed 102 sessions, which again were “by chance” very evenly balanced, with the swami and sannyasin groups doing 35 trials each and the students 32 trials. Considering that this was not pre-planned at all, it is very pleasing to have such equivalent numbers. The swamis were older on average and more female than male swamis participated, whereas gender numbers were fairly even for the other two groups. Another difference is that the swamis were, in general, Westerners, whilst the other two groups were composed primarily of Indians. Thus, there were demographic differences between the swamis and the others.

In 2004, 6 students, 6 sannyasins and 6 swamis did six sessions each, making a total of 108 sessions. The swamis are once again clearly a different group from both the students and the sannyasins in terms both of age and of number of years of practice. Also, the swamis were entirely Westerners, whilst the other two groups were once again primarily Indians. Whilst gender was equal for both sannyasins and students, only one male swami participated.

Procedure

In 2003, on arrival the participant was told the basic design and hypothesis of the experiment, and their details were written into the computer. The experiment was discussed until the participant felt comfortable. A candle and incense were lit to create a conducive environment and the participant then settled down to meditate for 10 minutes. Some used the candle for their meditation, but each person was free to choose what meditation technique they used, how they sat, etc., as there was such a wide range of expertise.

After 10 minutes SRD entered the room and guided the participant through a “sankalpa,” or resolution, in which they repeated a positive statement of intent to become aware of the target video clip that the computer would show them at the end of the session. They then had a 4-minute awareness session in which they were instructed to become aware of the chidakasha, which is the space one sees behind one’s closed eyelids, and to become aware of any impressions they experienced whilst looking into their own mental space.

After this period they were asked to complete their meditation and then went through to the computer. There was a 5-minute period in which they were encouraged to draw out and to describe any impressions they had received. They then saw four video stills on the computer. The participant chose which video they wanted to watch and this played as a full screen video. They then chose their second video to watch, etc. SRD discussed the four videos with the participant in the light of their impressions, and the participant rated the videos. The computer then showed the target video, which was discussed. After the first session, the participant then completed a yogic attainment questionnaire.

In 2004 the major change to this procedure was that the meditation period was 15 minutes and a specific meditation technique (ajapa japa) was done by all participants, with a 4-minute awareness period following. Also, the amount of discussion during the judging process was decreased from 2003, the participants doing the judging more or less on their own, after an initial training session.

RESULTS

The analyses for this study are primarily descriptive in line with the exploratory nature of the study. The underlying data for the psi scoring are the ratings (1-100) assigned to a pool of four possible targets for each trial. We converted ratings into ranks for simplicity of analysis.

Part 1: Data from 2003

The data in show the predominant tendency towards psi-missing. With the chance level being mean rank of 2.5, and with *lower rank* scores indicating *psi-hitting*, it can be seen that three of the subgroups are very close to chance expectation on psi scoring (male & female SW, male ST), and the remaining three groups are psi-missing, but not significantly so. Thus, there’s no suggestion of any subgroup scoring significantly different from chance expectation, nor is there any indication of between-group differences. Even the deceptively large visual difference in Figure 1 between male and female students does not approach

statistical significance.

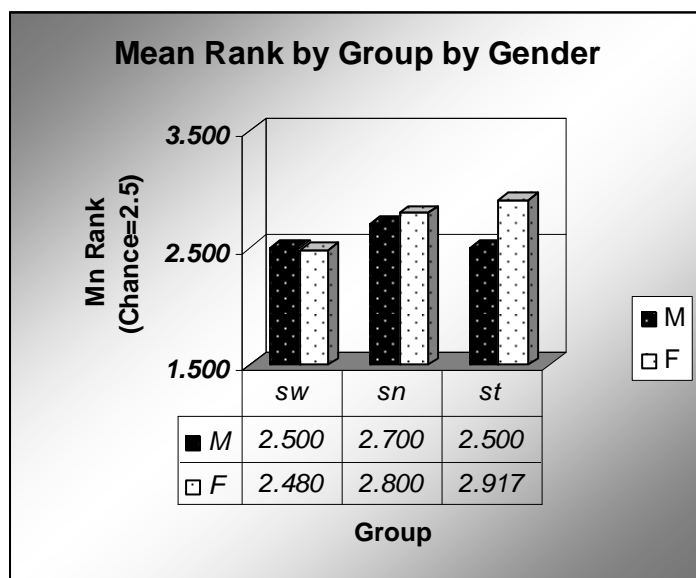


Figure 1. 2003 Mean Rank for Participants(excluding visitors)

However, the picture changes if we note that those subjects who completed only one or two trials gave poor and inconsistent results, leaving the 17 subjects who did 3 or more trials, which is arguably a more valid sampling. In terms of years of yogic practice the demographics change slightly: students have practiced between 0.6 – 6 years; sannyasins from 2 – 10 years; and swamis from 10 – 33 years.

All participants who completed at least 3 sessions averaged 2.60 (sd=1.13) on the psi task for the 73 sessions, so there is still non-significant psi-missing overall. However, Figure 2 shows a different pattern than Figure 1. Eliminating the subjects with less than 3 trials has little effect upon the psi scoring for the male and female sannyasin and student groups, as can be seen by comparing the graphs, but both male and female swamis can be seen to have performed much better than previously revealed. The swamis mean rank score of 2.26 (sd = 1.16) is in the psi-hitting direction ($t(26) = -1.08$, $p = .392$, two-tailed). When compared to sannyasins and students, we find swamis performed significantly better than each of the other groups (SW vs. SN: $df=55$, $p = .05$, one-tailed; and SW vs. ST: $df=41$, $p = .04$, one-tailed).

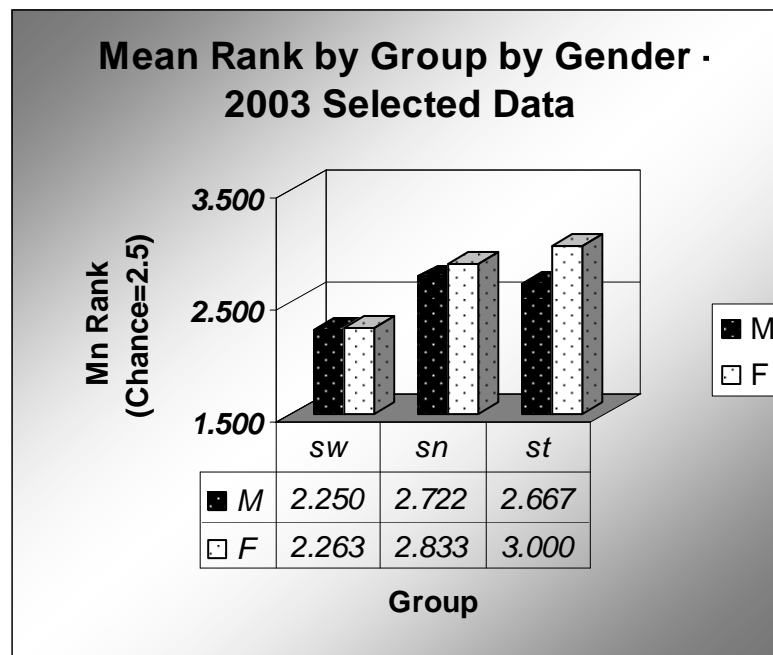


Figure 2. Mean Rank for Selected Participants

It seems reasonable to assume that excluding those who did not complete at least 3 sessions gives us a more valid indicator of psi-scoring for the groups which they represent. This view is bolstered by reiterating that those participants with only one or two trials, regardless of group assignment, performed highly variably on the psi task. Thus, to eliminate them is to reduce extraneous variance in the psi data. As an added bonus to this “cleaning” of the dataset, a hitherto unseen trend becomes visible, the trend for swamis to perform better than sannasins and students.

Using Effect Size Display

At this point it's useful to convert the psi scores from average rank to effect size in order to get a truer picture of the strength of these data. Effect size facilitates comparisons between groups with unequal n's and with data from other years or experimenters.

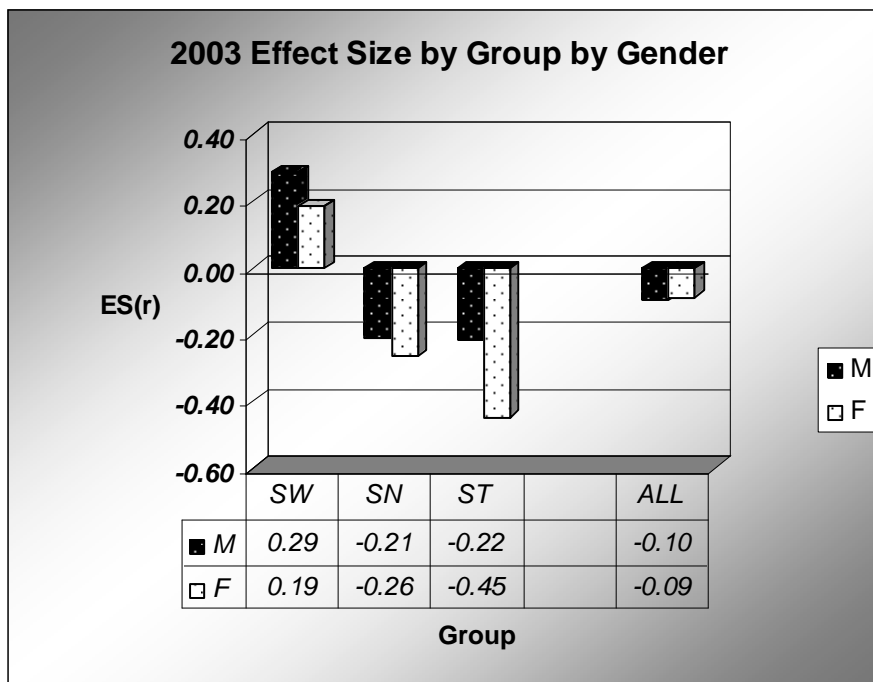


Figure 3. 2003 Effect Sizes for Selected Participants

The figure above shows the same data as in Table 2, but displaying effect size, where positive effect size indicates psi-hitting while negative effect size indicates psi-missing. In this effect size display, it can be seen that the 2003 data show some interesting (absolute value) effect sizes. Psi scoring in parapsychology ranges widely but generally a psi effect size of .25 to .35 would be considered “successful”. We can see above that the male and female swami groups show *small* but respectable positive effect sizes, while the sannyasins and particularly students had negative effect sizes (psi-missing tendency). Even in the absence of statistical significance these effect sizes can be helpful in planning subsequent research.

We must keep in mind that these results are post-hoc, there have been multiple analyses and the p-values above are only presented as a rough indicator of the magnitude of the relationships under discussion.

Additional Analyses

In the data analyses above, there is a potential confound that clouds the interpretation. In the refined sample, those remaining in the swami group tend to be older with slightly higher yogic attainment scores (YAQ). Could this be responsible for the apparent shift in psi scoring in the swami group? If so, it is in line with the hypothesis that yogic attainment level is related to psi awareness.

Additional analyses were conducted to shed light on this. First, simple Pearson correlations were computed between the mean psi rank, age, gender, years of practicing yoga, and YAQ. In this correlation matrix, psi score is not significantly related to age ($r = .15$, $t(15) = 0.59$, $p = 0.561$, two-tailed), but is significantly related to YAQ ($r = .57$, $t(15) = 2.69$, $p = .017$, two-tailed). Higher YAQ corresponds to better psi scoring as was hypothesised. The YAQ also shows a positive, though non-significant, relationship with age ($r = .33$, $p = .19$, two-tailed), and years of practice is significantly related to age and YAQ ($r = .67$ and $r = .65$, respectively, both $p < .01$, two-tailed).

Finally, using multiple regression to predict psi score based upon both these predictors, we find that the YAQ accounts for virtually all of the explained variance, and age

does not contribute significantly. Thus, age of participants is not a confound in this data. Yogic attainment, as defined by the questionnaire used in this study, may be. We can't be certain whether it accounts for the different psi scoring of swamis, sanyassins, and students, with these small sample sizes.

Part II: Data from 2004

In 2004, overall, the 18 participants (108 sessions) tended toward non-significant psi-hitting (mean rank = 2.41, sd = 1.12). The 2003 overall results tended towards non-significant psi-missing. The difference in scoring between the two studies is not significant.

Effect Size Analysis

The comparison of the groups for 2003 and 2004 can best be viewed by effect size. Figure 4 compares the '03 and '04 group/gender breakdown.

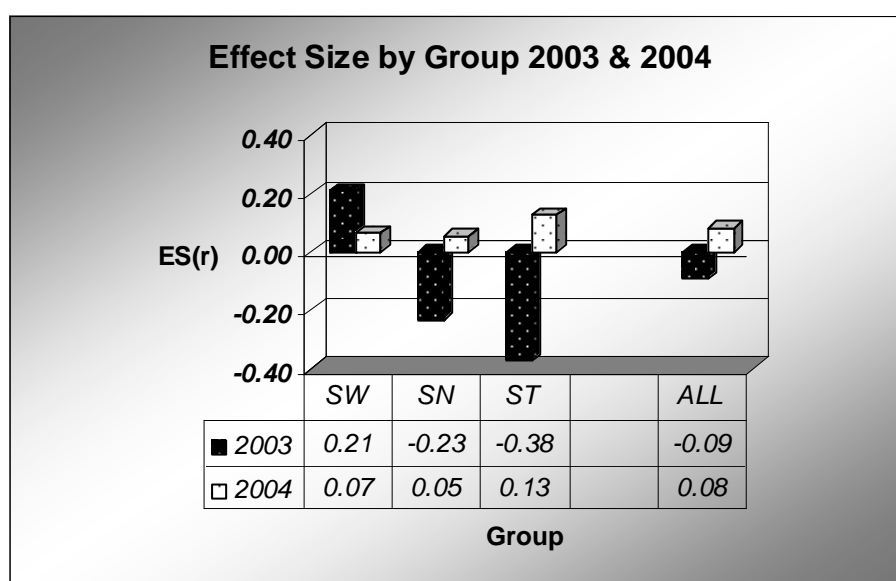


Figure 4. Effect Size for 2003 and 2004

This graph shows that while the 2003 data was overall negative, it actually had the largest (absolute value) effect sizes. The swamis in 2003 scored at $r = .21$, a *small* but respectable positive effect, while the students and particularly sannyasins were scoring rather strongly in the opposite direction. In 2004 all groups show non-significant scoring in the psi-hitting direction.

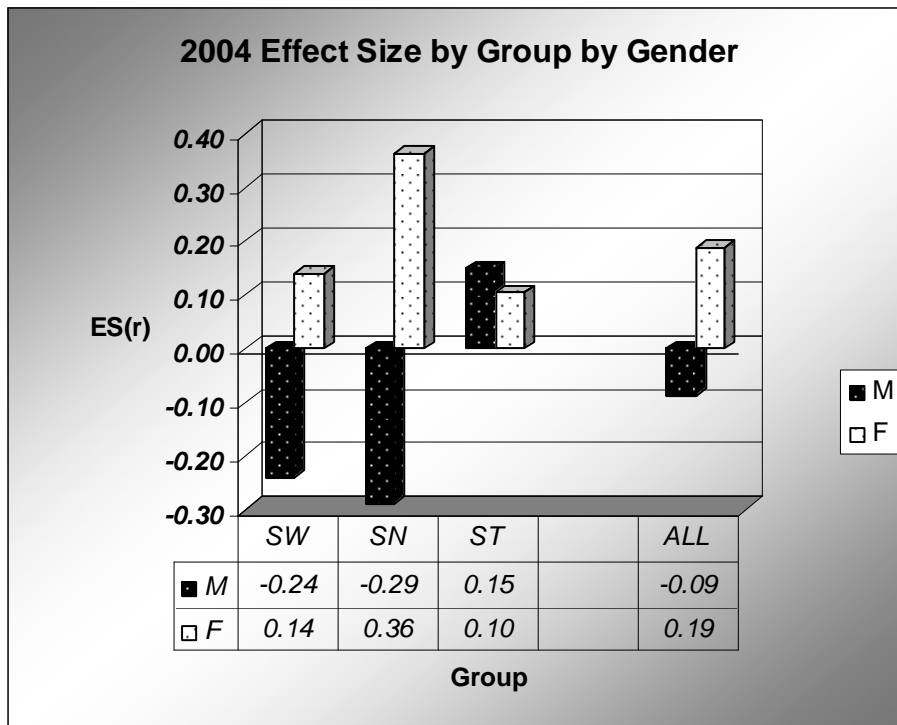


Figure 5. 2004 Effect Size by Group by Gender

Figures 3 and 5 show the gender breakdown effect sizes for 2003 and 2004 data, respectively. While males and females scored about the same levels in their respective groups in 2003, that was not the case in 2004. Overall, in 2004 the females in all three groups scored positively, though non-significantly (mean rank = 2.29, E.S. = 0.19, $t(65) = -1.54$, $p = .12$, 2-tailed). Males in 2004 score slightly negatively (mean rank = 2.60, E.S. = -0.09). The overall male-female difference in 2004 is not statistically significant ($p = .17$, 2-tailed).

In 2004, female sannyasins score strongest (mean rank = 2.11, $t(17) = -1.61$, $p = .12$, 2-tailed). This is an effect size of $ES(r) = .36$, in the range often associated with “good” psi performance. With male sannyasins scoring nonsignificantly negatively (mean rank = 2.78, E.S. = -0.29 , $t(17) = 1.25$, $p = .23$, 2-tailed), there is a significant difference between the male and female psi scoring ($t(34) = 2.03$, $p = .05$, 2-tailed). This gender effect does not hold for the other groups (SW, ST) and may be an artifact of fortuitous sampling.

The final question for 2004 data is whether the correlation between psi score and yogic attainment score observed in 2003 was continued. In 2004, psi scoring is slightly correlated with gender, but near-zero with YAQ, and age, although both are in the hypothesised direction. Participants who were older and had higher YAQ scores tended to give more positive psi results. However, YAQ and age are correlated even more strongly in 2004 than in 2003. Thus, this is a complicated situation for which we have too little data and too many variables. The most we can hope for here is to shed some light on this issue for planning our future studies. We already know that gender is a factor in this study from our earlier considerations. Now we can see that this is not entirely clear either. Gender correlates in 2004 with age (which was a potential confound in 2003) and with YAQ – female participants tend to be younger and have lower YAQ scores.

DISCUSSION

These studies have been a preliminary exploration of the hypothesis that increasing yogic attainment may be related to increasing psi awareness. In line with this hypothesis, in 2003, with participants who did at least 3 sessions, there was a significant difference between the swamis and the other two groups identified on the basis of yogic initiation level, which was corroborated by the significant correlation between the YAQ and psi score. This was not replicated in 2004. The significant difference in 2003 between the swamis and the other two groups occurred primarily because the other groups scored non-significantly in the psi-missing direction, whereas in 2004 all groups scored at chance in the psi-hitting direction. Whilst the scores of the student and sanniyasin groups are non-significant in themselves, the trend we see is a variability in scoring common to research with unselected participants. Perhaps the effect of many years of meditation is indicated by the consistency in scoring exhibited by the swamis as shown in figures 1, 2, 3 & 4, which, whilst non-significant in these short studies would, if sustained over a longer period, show the cumulative deviation exhibited by such studies as those of the PEAR laboratory (Jahn, Dunne, Nelson, Dobyns & Bradish, 1997).

In the process we have found a methodology that is appropriate for an ashram situation, so that controlled experiments can now be run. There was a wide range in nationalities and ages taking part in this research, so we are far removed from the typical university experiment that uses undergraduate students as participants.

The significant difference between the swamis and the other groups in 2003 occurred primarily because of the non-significant psi-missing of the students and sanniyasins. The participants felt that they “weren’t doing well” and so this was addressed at a qualitative level, looking to see what possible reasons there might have been for this. The following areas were identified and addressed:

1) Negative emotionality of targets was a contributor to some psi-missing with certain people. Though from a Western perspective the Kathy Dalton set of video clips are not particularly violent or negative, for people living in an ashram where there are no films, television, radio or newspapers, to see a tidal wave drowning people, or a person in battle with a monster, was a shocking experience. Swamis, who have lived in an ashram for many years, have not been exposed to modern television and films and so have a very low threshold to the emotional tension in films that most modern Western people would hardly notice. There were a number of comments in which people ranked these targets fourth just because they did not want to see them again! Therefore, in 2004 a target pool was created that had only positive emotional or neutral targets, drawn from the Northampton University target set.

There is also a possibility that cross-cultural differences affect people’s responses to the target pools. The participant pool comprised Indians from all parts of India, Australians, New Zealanders, British (both Anglo and Carribean), Swiss-Indian, Italian, Serbian, etc. Only one Indian participant stated that he had no connection with the targets because they were outside his culture, so this factor appeared to play a minor role.

2) One possible problem occurred at the judging stage. Because the participants were novices with regard to free-response methodology, SRD worked with them at the judging stage. Some participants found this intrusive and unhelpful, though many said it was helpful. This is an aspect of the free-response design that has not been sufficiently investigated, and which is of great importance. Free-response methodology is a two-stage process, the first stage requiring open holistic, intuitive, global, dream mind for reception of the information; the second using the analytical, logical, judging mind to decide whether the information is relevant to the actual target. In the “Ganzfeld-type” of design used here, the participant does their own interpretation with or without assistance from the experimenter. In the remote-viewing design

the experimenter helps during the awareness period and someone else does the judging. Which method is preferable is open to debate, but the degree of assistance given by experimenters is rarely mentioned in reports and deserves to be. One early Ganzfeld study which does address this issue is that of Palmer, Khamashta & Israelson (1979), in this case by comparing participant's own scoring with that of independent judges.

3) It is possible that social and cultural dynamics were exhibited most strongly by the students, e.g. age and gender dynamics, ashram rules. The participants were working in SRD's room. The ashram has a rule that no one is allowed into anyone else's room. SRD was in the guesthouse and her room was being used as an office and SRD had permission to run the experiment there. However, some people were uncertain as to the permissibility of entering her room and there could well have been a level of discomfort.

It is also possible that, as the hypothesis was a comparison, the students unconsciously psi-missed so as to enable the swamis to score better! There is a strong element of compliance in Indian society – a desire to please however that may manifest, in this case supporting the hypothesis by psi-missing. As discussed in the introduction, this element of compliance in a comparison design engendering psi-missing was also found by Dukhan & Rao (1973) and Roll & Zill (1981).

4) Related to this is the possibility of an experimenter effect. SRD noticed that she was more relaxed about the psi-missing tendency of the students. However, there was tension around the psi-missing in general, and this is dealt with when looking at the karma yoga attributes below.

This experimenter effect obviously has greatest chance to affect results at the judging stage. As mentioned in section 2 above, SRD had to help the participants at the judging stage so that they could fully understand what they had to do, especially on their first session - and some participants only did one or two sessions. At no time did she intervene in the participants' choice of target, but her presence did influence some of the participants, and may well have influenced their ratings. Whilst SRD may at times have thought that a picture was the target, she made no conscious choice at any time and so there is no record of whether she was using accurate psi during this process. This is an obvious psychological experimenter effect, and there may also have been psychic influences.

5) Another factor is the yogic teaching which states that one must not put emphasis on the siddhis. Despite the head of the ashram giving permission for this research, there is a strong dictum that psi is a forbidden topic. This can be understood as a variant of the fear of psi (Tart, 1984) which is so prominent in Western society. Here it does not manifest as denial of psi, but psi is considered to be an unwise direction in which to focus one's intent, to the extent that people actively avoid the subject at every level. And yet, in Patanjali's yoga sutras, one whole chapter is devoted to a discussion of this aspect of consciousness, and it is considered that one cannot gain enlightenment without having gained the siddhis. So the active avoidance of them is possibly a mistaken attitude. They give us some of our greatest problems in terms of ego and glamour; spiritual power is even more corrosive than temporal power; and to be distracted on to the path of attaining the siddhis for their own sake is fakirism rather than the path of a yogi. But one does have to deal with the problems that the siddhis raise, and so to avoid them can be understood as a fear of them. Better to be aware of that which can give rise to problems than to be in ignorance.

6) Another factor is that of ownership resistance (Batchelder, 1984). In the sessions there was a noticeable feeling of "doing well," or the reverse. This will be dealt with more fully in the following discussion of karma yoga.

Another possible confound is that the participants were aware of the hypothesis. This may have influenced their responses to the questionnaire. The problem of assessing the degree of yogic attainment is ongoing. Ideally an independent measure would be preferred to

a self-report scale. However, as yet there does not appear to be an adequate or reliable measure. So we have here relied on two different measures – the degree of initiation, which forms the three groups so we could assess differences between the three groups; and the YAQ which is based on a self-report of their yogic practices. Neither is satisfactory.

One of the most interesting lessons to come out from these experiments was the realisation that the instructions SRD was giving to participants in the pre-trial discussion, and which often were discussed in the post-trial feedback, were remarkably similar to the attributes of karma yoga as defined by Sw. Niranjanananda Saraswati (Niranjanananda, 1993). He lists six attributes of karma yoga as follows:

1) Efficiency

“In order to be efficient, it is necessary to be keen, to have awareness, and concentration, to be one-pointed and not distracted.” (ibid) In the context of a psi session this means that one aims to become aware of the target video and not the other videos in the pool (displacement).

2) Equanimity

“This means that there is balance of mind in both success and failure. If our mind becomes disturbed by failure and success, then we swing like a pendulum, . . . from a positive and optimistic approach during success, to a negative and pessimistic approach during failure.”(ibid.)

Everyone wanted to be “successful.” Some came with an expectation of “failure.” Learning that it is the process that is important and that whatever happens is useful was very difficult for most people, including the experimenter! Problems with equanimity and its related aspects almost certainly contributed to the psi-missing. One aspect of equanimity is:

3) Absence of expectation

“Never think of renouncing action, only think of renouncing expectation of the results of the actions performed.” (ibid.) When we do research we all have our expectations, our hopes and desires, normally formally outlined in the hypothesis. The experimenter holds these expectations and the participants try to perform accordingly to please the experimenter. There were some participants who, when they did not get a direct hit, would make a remark about how they were not fulfilling the expectations of the experiment.

4) Egolessness

“Egolessness . . . implies that one has to be simple, sincere and desireless.” (ibid.) Problems with ego were present throughout the sessions for most of the participants. Ego contributes both to lack of equanimity and to expectation. These manifested as people wanting to be successful because they were a swami, thinking they were not good enough because they were a student, and so on.

5) Renunciation of limited desire

“It is understood that when we begin our journey, the motivating factor is a desire. ‘I wish to’ is the form of our desire. It is not elimination or renunciation of this desire but the renunciation of other limiting desires that is necessary. We must know which are the limiting desires that hold us back.” (ibid.)

This is an interesting factor because participants take part in research for a variety of motives. The one that seems to lead to the most positive results is one of interest in the process, in what is going on and inquiring how it works. This desire gives a motivating force that allows for equanimity. It is also a key factor in the experimenter effect, since the experimenter has the greatest desire for a particular result.

6) Duty, or dharma

The final attribute of karma yoga is considering every action to be a duty. Obviously having this attitude helps in a psi experiment because with it one has complete equanimity. Most of the swamis participated solely because their guru had asked for their cooperation – out of duty to their guru. This was not so true of the students.

These attributes of karma yoga have been outlined here as possible aspects of psi functioning, which are amenable to experimental testing under laboratory conditions. Through exploring these aspects we may well be able to understand better the dynamics involved in controlled manifestation of psi. If it is true that development of meditation, and associated states of consciousness, are related to a learned, as opposed to a spontaneous ability to become aware psychically, then this could transform parapsychology. At present we either rely on the few superstars, as in the remote viewing experiments (May, 1996), or the uncertain results from unselected participants.

CONCLUSION

These studies were a preliminary exploration. Whilst the results are not statistically significant they are all in the hypothesised direction, suggesting that more research is needed to explore possible relationships between years of living a yogic lifestyle and greater psi awareness. We are encouraged by the few tentative post hoc findings in the 2003 data we've outlined in this paper. We're encouraged by the more positive atmosphere surrounding the data collection process in 2004. We're also more aware now of the pitfalls of collecting data in cross-cultural settings, of the costs of doing so, and of the numerous potential confounds to be avoided. Based upon our experience to date, we suspect that further fine-tuning of the design and procedure may yield interesting data during the next series of experiments with Tibetan Buddhist meditators.

So far however, as most of the results have been non-significant, much more research will be needed to clarify the possible relationship between years of practise of yoga and meditation, and level of psychic awareness. Perhaps this is because in Patanjali's sutras he states that it is only when one has attained a certain level of Samadhi that the siddhis appear. It is possible that none of the participants in this study had attained that level of meditation.

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