Exploring the Relationship between Tibetan Meditation Attainment and Precognition

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Abstract—This study of advanced practitioners of meditation extends our earlier work testing the hypothesis that meditation enhances psychic awareness or "psi" (Roney-Dougal, Solfvin, & Fox, 2008). Ten (male) Tibetan Buddhist monks participated individually in eight sessions, each comprising a meditation period and a computerized test of precognition in which they were asked to rate each of four pictures on a 100-point scale in terms of how likely it was to be randomly selected as the "target" to be displayed at the end of the session. The normalized rating assigned to the target itself was defined as the "psi" score, where a score of zero is chance expectation. Overall, psi scores did not exceed chance expectation, $t(79) = 0.70$, $p = 0.49$, 2-tailed, $r = .08$, and the type of meditation (mantra or visualization) did not make a difference. The correlation between years of meditation practice and psi scores was in the predicted direction but not significantly different from zero ($rho = 0.28$, $p = 0.22$). Nevertheless, the two most experienced meditators, both Nyingma lamas, achieved significant mean psi scores, $t(15) = 2.25$, $p = 0.04$, 2-tailed, $r = 0.50$, confirming a similar finding from our earlier work.

Keywords: precognition—meditation—Tibetan Buddhist monks

Introduction

Research into the effect of meditation with practitioners of many years suggests that meditation may affect consciousness in some way that gives more reliable conscious psychic awareness (psi) (Roney-Dougal & Solfvin, 2006, Roney-Dougal, Solfvin, & Fox, 2008). There has, however, been no research on what it is about meditation that is psi-conducive. This study is a preliminary foray into that area, working with (male) Tibetan Buddhist monks.

Tibetans use many different types of meditation. There are, however, two basic types: shamatta, which is where the meditator focuses in one-pointed concentration on an object of some sort, such as the breath; and vipassana, otherwise known as insight meditation, where you let your mind contemplate a specific topic. Most early research into meditation and its effect on psychic awareness (see Roney-Dougal & Solfvin, 2006, for a survey of psi research with meditation practitioners) has used shamatta-type techniques, such as Transcendental Meditation (TM) and other yogic meditation techniques. More recent research (e.g., Bierman, 2007) has used vipassana practitioners.

The Yogic and Buddhist teachings state that it is the shamatta techniques that result in psi once you have attained Samadhi (the state of total awareness beyond thought), the Yogis calling the resulting psi *siddhis* and the Buddhist teachings calling it *clairvoyances*. There is a further requirement among Tibetan Buddhists of attainment in "vipassana on emptiness" (special insight), and overcoming the obstacles of the desire realm, after the attainment of Samadhi (Khangser & Khensur Rinpoches, 2006). Both teachings are very clear in stating that the aim of meditation is enlightenment, that psychic abilities manifest as part of the increase in subtle awareness, and that this needs to be recognized and dealt with appropriately.

However, these shamatta techniques are very varied, so it was decided that, while we had the opportunity of working with more advanced practitioners, we would ascertain if there was a differential effect dependent on the type of meditation: mantra or visualisation. Mantra is used by all Tibetans whether lay person or monastic, and is the practice of chanting, either mentally or out loud, a specific phrase while keeping count on a special bead necklace (mala), similar to the Christian rosary. Mantra meditation is called a "ngondro," which is a technique that is a required preliminary for Tibetans prior to practicing other meditation techniques. Mantra is also used in the yogic traditions where it is called japa yoga, and again is considered to be a preliminary method. This technique was popularized in the West in the 1970s by the Maharishi who set up schools in TM, a personalized mantra meditation. In contrast, visualization meditation techniques are used more extensively within the Tantric traditions of both Yogis and Tibetan Buddhists, and tend to be used by more advanced meditators. In visualization meditation, one visualizes a specific object, for example the Buddha, and aims to hold this visualization for a certain period of time. Some Tibetan Tantric visualization practices can be extremely complex.

Participants who consider themselves to be clairvoyant state that they rely on visualization to a certain extent (White, 1964). In general, altered states such as dreaming and the psychological technique of the "Ganzfeld," which supposedly facilitate visualization, have been found to be psi-conducive techniques (Ullman, Krippner, & Vaughan, 1973, Radin, 1997).

There is a Tibetan tradition of chanting mantras while undertaking a clairvoyant task, as witnessed with one of the Dharamsala oracles, Youdrun-Ma (Roney-Dougal, 2006). Tibetans also chant mantras when doing "Mo divination" (a Tibetan divination practice), as witnessed on two occasions with different practitioners, Geshe Topgyal-la and Drakser Rinpoche (Roney-Dougal, 2006). We therefore ran this series of sessions as purely exploratory with no specific hypothesis regarding the efficacy of either technique.

One of the problems encountered in our previous studies was how to accurately assess meditation attainment. Up to now we have used a meditation attainment questionnaire (MAQ), but there are intrinsic problems with self-report. So it was decided to see if the Stroop test could provide an objective measure of shamatta meditation attainment. The "Stroop effect" (Stroop, 1935) is the delay in responding correctly to the color the word is written in, when the word itself is a different color (incongruent word). The Stroop effect is highly correlated with attention and is often used to measure fatigue or distractibility of one's attention. It was hypothesized that more meditation experience would lead to a greater ability to hold one's attentional focus, as measured by a decrease in reaction times to the incongruent words, and an increase in accuracy of response. It was therefore included in this series as a measure of focus and concentration, a possibly objective measure of change in conscious awareness as a result of meditation, in line with research done by Mind–Life scientists with Tibetan Buddhist meditators (Field, 2008).

Hypotheses

1) Confirmatory

Meditation attainment will correlate significantly with performance on the psi task. The previous studies indicated that there are two suitable methods for assessing meditation attainment:
  a) official status within the monastic hierarchy: comparison of the psi scores of the different groups according to their official status.
  b) self-report on the MAQ, in particular correlation of the psi score with the number of years of meditation practice.

2) Exploratory

  a) Mantra versus visualization instructional set will differentially affect psi scoring.
  b) Other measures on the MAQ may show a relationship with psi scoring.
  c) Years of meditation practice will correlate with reduced Stroop effect scores, and hence psi awareness will correlate with reduced Stroop effect scores.

Method

Design

A basic free-response precognition design was used in which all participants were required to complete eight sessions (trials): four mantra and four visualization. In each session, a precognition computer program (preCOG) chose a target set at random from a pool of 25 sets, which were pictures of Tibet and India, appropriate for Tibetan monks living in India. There were four pictures in each set. Target selection was a two-stage process: firstly a selection of the target set was made, such that the participant never received the same set more than once, then a random selection of the target from within the set. The participant aimed to choose the target correctly from the set.

PreCOG was used so that the sessions could be run without any assistants, enabling the author to work with the percipients at any time that was mutually convenient for them and under whatever conditions there might be. As the target was chosen by the computer, this precognition design has both a randomized double-blind design and in-built fraud control, so there is no need for specially designed rooms, multiple linked-up computers, or any of the other laboratory facilities. Therefore, it is ideal for research "in the field." It is also a suitable method to use with Tibetans who have a tradition of precognition (oracles and Mo divination) being used by both monks and lay people (they are therefore very open to the possibility of precognition). For further details of these practices, see Roney-Dougal, 2006.

With regard to the two different sorts of meditation technique being compared (mantra or visualization), for each participant the first four of the eight trials involved one of the meditation types, randomly determined, and the last four trials involved the other. The participants were given the printed instructions in Tibetan, to which the experimenter was blind, prior to the first and fifth sessions.

Participants completed the Stroop effect test immediately prior to each of the eight psi testing sessions. Participants completed a 10-trial practice run in the first session, followed by one 10-trial plus two 20-trial runs (beginner, intermediate, and advanced). Subsequent sessions dropped the practice run. This resulted in a total of 410 trials per participant. A control sample of ten student monks (who were not meditators and so did not participate in the psi sessions) also did the Stroop test eight times.

The MAQ was administered after completion of all eight sessions, together with an interview concerning the participant's experience.

Materials

The precognition computer programme (preCOG) was written by Jezz Fox for an Apple Macintosh MacBookPro with OsX. Custom written software, using RealBasic (www.realbasic.com), was developed for the presentation of the materials and recording of data. This guided the researcher and participant through the procedure, beginning with a data entry screen to enter trial and participant details. A configuration file allowed specifics of the design to be set including: 1) the number of trials each participant would take part in; and 2) the point in the procedure at which the target would be selected (before the trial period for a clairvoyance protocol, after the trial period for a precognition protocol, or randomly before and after). The after selection was used in this study.

For the judging/rating stage, preCOG displayed the four pictures initially simultaneously at half size, and then one at a time on the screen at their full size. When all four had been viewed, they were again displayed simultaneously on the screen at half size for rating on a scale of 1 to 100, with the restriction of each item having to be awarded a unique rating. Following the ratings the data were recorded to disk before providing feedback to the participant by displaying the target for the session. All the randomization was performed using pseudo-random algorithms. (A pseudorandom number generator (PRNG) is an algorithm for generating a sequence of numbers that approximates the properties of random numbers. The algorithm was tested for adequate randomness for the initial Indian research (Roney-Dougal & Solfvin, 2006).)

The participant's mentation was recorded throughout the session, which permits qualitative analysis as well as the more customary quantitative statistical analyses.

The MAQ was designed with help from David Luke. This questionnaire assessed the number of years the participants had practiced different disciplines, such as physical asanas (yoga practices), breathing techniques (pranayama), and meditation, including the different types of meditation practice the person had done. It also assessed the preliminary practices (ngondros), which all monks must complete prior to starting meditation practices and which are often done in a retreat situation. This enabled the amount and type of meditation practice to be clearly specified. Each participant estimated the number of hours per day or week that they practiced the various techniques, as well as specifying the number of years for which they had practiced them. In addition, they stated whether or not they were practicing regularly at the time of doing the research.

The Stroop test was designed for Tibetans by a team of University Massachusetts at Dartmouth, upper-level computer science students. In this

version, the names of the colors blue, green, red, and orange were printed in Tibetan characters. The participant read the word and was asked to respond by indicating on the computer keyboard the color in which the word was printed. Sometimes the color names were the same as the color in which the word was printed (congruent) and sometimes the color name was different (incongruent).

Participants

The study included any Tibetan monks who had done at least five years meditation practice, other than the one Rinpoche (a Rinpoche, also called tulku, is considered to be a reincarnation of a high lama and therefore to already be a high adept). There were a total of ten participants, who completed eight sessions each. These comprised two Nyingmapa Lamas (a Lama is a monk who has completed a three-year, three-month, and three-week retreat), one Gelugpa Rinpoche, and seven Gelugpa Geshes (a monk who has a degree, equivalent to a Ph.D., in Buddhist philosophy). Geshes do not normally start practicing meditation until completion of their studies, which sometimes includes an extra year in Tantric college. Only some Geshes practice meditation regularly. Most are more involved in teaching Buddhist philosophy or other work. Nyingma and Gelug are two sects within Tibetan Buddhism. They have different training in meditation.

Sampling was conducted by personal visits to two Tibetan Buddhist monastic universities in Bylakuppe, South India: Sera Jey, a Gelug monastic university with approximately 5,000 monks, and Namdroling, a Nyingma monastic university with approximately 3,000 monks. The director (in Sera Jey this was the monastic abbot, and in Namdroling His Holiness Penor Rinpoche, who was head of the Nyingma sect) had been contacted for the first study, the project described, permission formally requested, and assistance solicited in locating potential participants. A personal meeting with potential participants was arranged, normally by the translator, who was the English teacher at the Secondary school in Sera Jey and a student monk in Namdroling. The project was described in detail, and an invitation to participate was made. Any candidate who volunteered was included in the study.

As described in the previous study (Roney-Dougal, Solfvin, & Fox, 2008), the Tibetans were very reluctant to participate for a variety of reasons, and it was only in the second year of doing this research that we managed to get any participants, thanks to the great kindness of Khangser Rinpoche. By the time we reached this final study, time and finances were severely limited; it took six months to work with the ten participants.

Procedure

The procedure for each session was the same. The same time of day and location was used, wherever possible, for each session with a given participant. Participants did only one session per day. On arrival for the first session the participant was fully informed of the protocol and what was expected of them.

Initially the participant completed the Stroop test. When this was complete, they were set up for the main psi test and the experimenter and translator left the room. The procedure was recorded on the computer in English and on tape in Tibetan, which guided the participant through the session. This procedure was also written in Tibetan for the participant to refer to if needed. There was a 5-minute relaxation period, a statement of intent to become aware of the target picture, followed by a 15-minute meditation practice. At the end of this, there was a 4-minute awareness period in which they were instructed to allow their mind to go blank and allow any target-related experience to occur.

On completion of the awareness period, the participant made a drawing of their experience relating to the target. They then asked the experimenter and translator to return and described the experience to them. This was recorded on the computer. The participant then saw all four pictures starting with picture A, and rated them on a 1–100 point rating scale, according to the degree of confidence with which they considered the picture to be the target. Finally the computer showed the actual target picture. This self-judging method is in line with Tibetan practice.

After they had completed all eight sessions, they completed the MAQ and a short interview asking them about their previous experience of, and belief in, psychic abilities, as well as various aspects of the present study.

Results

Overall Results of Current Study

The dependent variable for this study was psi scoring on the free-response test, which was the participant's rating of the target picture for the session. This was normalized by a score, called TrDev, which is standardized relative to the mean and standard deviation of all the ratings assigned in the trial as follows:

$$\text{TrDev} = \frac{\text{Target rating} - \text{Mean of trial ratings}}{\text{SD of trial ratings}}$$

where:
Target rating: the rating (1–100) assigned to the target picture
Mean of trial ratings: average of all four ratings assigned to trial set pictures
SD of trial ratings: standard deviation of all four ratings assigned to trial set pictures

This variable was developed and used in the previous Tibetan study (Roney-Dougal, Solfvin & Fox, 2008), and is essentially a standard normalization procedure, akin to a z-score. This method of analyzing free-response ratings was first developed and used by Stanford and Sargent (1983). There are problems with all the methods used for analyzing free-response data. We decided to use this method because it is the most sensitive to the participant's clarity of choice of the target.

1) Confirmatory Hypothesis—Relationship of Meditation with Psi

a) Comparison of Psi Scores in Relation to Monastic Hierarchy

Overall, the psi scores were at chance expectation ($t(79) = 0.70$, p = 0.49, 2-tailed, effect size r = 0.08). In previous studies it was found that monastic hierarchy related to a difference in psi scoring as per Tibetan tradition. This result is once again apparent in this study. The mean psi scores for the participants according to their official status, Lamas, Rinpoche, and Geshes, are shown in Figure 1.

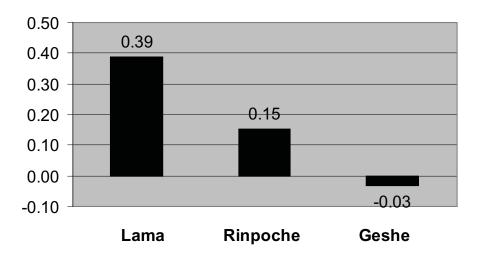## Psi Scoring (Ave. TrDev) of Monks by Official Title

Figure 1. Psi scoring according to monastic rank.

The hypothesis that meditation attainment as measured by monastic rank is related to increasing psi scoring was tested out with monastic rank (Geshe, Lama, Rinpoche) × session (8) mixed ANOVA with repeated measures (Bruning & Kintz, 1987, section 2.7). The average psi scores for the Lama, Rinpoche, and Geshe groups were 0.39 (SD = 0.69), 0.15 (SD = 0.88), and −0.03 (SD = 0.93), respectively. The results showed no significant main effect for monastic rank ($F_{(2,7)} = 0.07$, $p = 0.93$) or session × rank interaction ($F_{(14,49)} = 0.77$, $p = 0.77$). However, the psi scores for the two Lamas in this study were significantly greater than chance expectation ($t(15) = 2.25$, $p = 0.04$, 2-tailed, effect size $r = 0.50$). While this was not specifically hypothesized for this study and hence is a post-hoc analysis, it does confirm the higher psi scoring shown by the Lamas in the previous study. No statistically significant psi scoring was found in the other two groups, although the one Rinpoche who participated in this study had a 50% rank 1 hit rate, as can be seen in Table 1 below.

All rating scores can be depicted in terms of rank, i.e. the picture chosen as the one the participant thought would be the target is given the highest rating and so can be ranked as their first choice; the next highest rating is ranked their second choice, and so on. This is less sensitive than the rating scores but does give a clear picture of the participants' scoring levels. The raw data for the eight sessions in terms of ranking are shown in Table 1.

TABLE 1
Rank Scores for All Participants

Monastic Status	Rank			
	1	2	3	4
Lama 1	2	3	3	0
Lama 2	3	3	0	2
Rinpoche	4	0	2	2
Geshe 1	3	2	1	2
Geshe 2	2	2	3	1
Geshe 3	2	0	2	4
Geshe 4	3	1	0	4
Geshe 5	2	2	1	3
Geshe 6	3	2	1	2
Geshe 7	1	2	2	3
Total	25	17	15	23

From Table 1 it can be seen that overall the participants chose the target picture correctly as their first choice 32% of the time, where mean chance expectancy is 25%. This level of scoring is close to the average for altered states receptive psi research (Radin, 1997:84), and is the same as that found with the swamis (Yogic monks and nuns) in the earlier ashram studies (Roney-Dougal & Solfvin, 2006).

b) Correlation of Psi Score with Number of Years of Meditation Practice

This was designed to replicate a statistically significant positive correlation between the psi scoring of the 11 monks in Study 1 and the number of years that they had practiced meditation, as measured on the MAQ. However, the psi-meditation correlation from Study 1 (Roney-Dougal, Solfvin & Fox, 2008) was potentially inflated by one subject (a Lama), who had far more years of meditation practice than anyone else (32 years), and who had the most positive psi score. To remove the potential artefact, this data was re-analyzed using Spearman (rank) correlation. The revised psi scoring versus years of meditation correlation for Study 1 was still statistically significant (rho = 0.80, n = 11, p = 0.003, 2-tailed.)

In the current study (Study 2), we have a similar situation with the participant (another Lama!) with the most years of meditation practice (40 years) also having the highest psi score (TrDev mean (M) = 0.51). Therefore, this hypothesis has been analyzed using Spearman's (rank) correlation of the participants' overall psi scores with years of meditation practice. The results show a non-significant positive correlation (rho = 0.282, n = 10, p = 0.22, 1-tailed). This correlation is depicted in Figure 2.
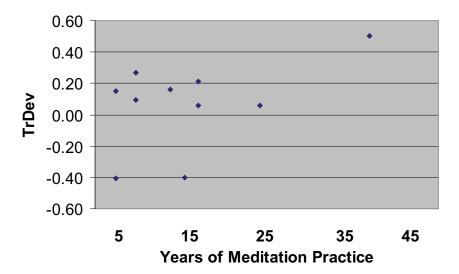
Psi Score (TrDev) by Years Meditation

Figure 2. Correlation of psi score with years of meditation practice..

2) Exploratory Hypotheses

a) Comparison of Mantra and Visualization Meditation Technique

The mantra versus visualization hypothesis was analyzed using a participant (10) × instruction set (2) ANOVA with repeated measures. The results show no significant main effects or interaction. The average psi scores were 0.02 (SD = 0.90) and 0.12 (SD = 0.89) for the mantra and visualization instructional sets, respectively (F(1,79) = 0.26, p = 0.61). Thus, the hypothesis is not confirmed, and the two different sorts of meditation practice did not have a significant impact on the results.

b) Correlation of the other MAQ Variables with Psi Score

The MAQ variables concerning length and frequency of various practices were tested using Spearman's (rank) correlation coefficient for the same reason. The results are shown in Table 1, grouped by length, frequency, and type of practice. None of these variables reached statistical significance when Bonferroni correction (Shaffer, 1995) for multiple analyses is applied. Thus, this hypothesis is not confirmed. In Study 2, we found no significant relationship between psi score and length, frequency, or type of meditation practice. These correlations are shown in Table 2.

TABLE 2
Spearman Correlations (rho) of Psi Score with MAQ Variables

	MAQ Variable[a]	Spearman rho with Psi Score
Years of practice	Meditation years	0.282
	Asana years	0.601[1]
	Prana years	0.230
Total hours of practice	Meditation hours	0.455
	Asana hours	0.647
	Prana hours	0.421
	Ngondros hours	0.620
	Retreat hours	0.624
	Total hours	0.539
Types of meditation	Type 1 (shamatta)	0.351
	Type 3 (visualization)	0.488
	Type 4 (vipassana)	0.190

[1] Note: n = 10 for all correlations except "Asana Years" (8) and "Prana Years" (9).

[a] Elaborating on the variables from the MAQ:
Years of meditation is years of practice of all the various meditation techniques.
Ngondros are preliminary practices such as prostrations and mantra.
Retreat hours: Many of the other variables are included in the retreats, so this variable is not included in the total hours of practice.
Total hours is meditation plus ngondros, asana, and pranayama.
Type 1 is concentration meditation, one-pointed shamatta, equivalent to yogic meditation.
Type 2 is analytic inquiry. Since the Gelugpas included their reading of scriptures, prayers, and debating practice in this type, the author and
    David Luke decided prior to analysis that it should not be included either separately in the analysis or go into the final meditation
    hours score, because while it's certainly a fine mental practice it is not what most Western people consider to be meditation.
Type 3 is visualization meditation.
Type 4 is bodhicitta (compassion) and special insight, which we put together as they are both vipassana techniques.

c) The Stroop Effect

We attempted to incorporate a new measure into this study, attentional focusing ability, assessed by the Stroop. Sadly this attempt failed due to problems with the programming of the computer-based Stroop test and the inexperience of some of the participants with computers. As a result, some of the data is either absent, error-prone, or unreliable. For our own interests, we conducted a basic set of analyses and found no significant correlations.

We believe this remains an interesting variable to include in future studies of meditation and psi. Our original motivation for using the Stroop, that attentional focus ability may play a moderator role between meditation attainment and psi scoring, has yet to be adequately tested.

3) Combining Tibetan Studies 1 and 2

Two studies were conducted with Tibetan Buddhist meditators following the same basic protocol, the Roney-Dougal, Solfvin, and Fox 2008 study and this one. These studies both tested the correlation between years of meditation practice and psi scoring. Small sample statistics are notoriously unstable, so, after having completed both studies, we decided it would be interesting to combine the data from Studies 1 and 2, in order to provide a more stable analysis. The first study originally involved six Western students, one Western nun, and 11 Tibetan Buddhist monks, comprising six Geshes, three Rinpoches, and two Lamas. This second study involved ten monks: seven Geshes, one Rinpoche, and two Lamas. In order to meaningfully combine the results of these two studies, it was necessary to retain only the data from the Tibetan Buddhist monks. This provided a grand total of 18 monks including 11 Geshes, three Rinpoches, and four Lamas, since three monks participated in both studies. Each monk completed eight psi sessions in each study to provide a grand total of 168 trials for analysis. This data is shown in Table 3 and Figure 3.

The psi score was the primary dependent variable for both studies. To combine the psi scores from the two studies, no further scaling is needed. Overall, the psi scores were at chance expectation with $M = -0.04$, $t(167) = -0.613$, $p = 0.541$, 2-tailed. This is a near-zero overall effect size of $r = -0.05$. However, in Study 1 the three Rinpoches scored significantly negatively (psi-missing), while in Study 2 the two Lamas scored significantly positively (psi-hitting). The overall average combined psi score for Lamas was $M = 0.26$, which is marginally statistically significant ($t(31) = 1.89$, $p = 0.068$, effect size $r = 0.32$).

Since three participants in Study 1 also participated in Study 2 (two Geshes and one Rinpoche), to assure that these individuals did not contribute disproportionately to their respective groups, the combined data were adjusted so that each of these three repeat participants had their two 8-session score

TABLE 3
Psi Scores for the Monastic Groups

Group		Study 1	Study 2	Combined
Geshes	M	−0.143	−0.033	−0.089
	SD	0.816	0.932	0.871
	Effect size (r)	−0.18	−0.04	−0.10
	N	48	56	88
Rinpoches	M	−0.318[a]	0.151	−0.278[b]
	SD	0.744	0.879	0.707
	Effect size (r)	−0.40	0.18	−0.37
	N	24	8	24
Lamas	M	0.136	0.386[a]	0.261[b]
	SD	0.873	0.879	0.783
	Effect size (r)	0.16	0.50	0.32
	N	16	16	32
Overall	M	−0.140	0.069	−0.043
	SD	0.812	0.890	0.841
	Effect size (r)	−0.17	0.08	−0.05
	N	88	80	144

[a] $p < 0.05$, 2-tail.

[b] $0.10 < p < 0.05$, 2-tail.

Figure 3. Effect sizes for the three monastic groups.

vectors averaged into a single 8-session sequence. Thus, the total number of sessions is reduced for the combined scores of Geshes by 16 sessions, and Rinpoches by eight sessions.

For *part a*, testing the hypothesis that the Geshes, Lamas, and Rinpoches would show different levels of psi scoring, a three-factor mixed analysis with repeated measures on one factor was conducted (Bruning & Kintz, 1987). This was a time (Study 1, Study 2) by monastic rank (Geshe, Lama, Rinpoche) ANOVA with each participant contributing eight sessions.

The results of this analysis show a statistically significant main effect for monastic rank with no significant interactions $(F(2,15) = 4.33, p = 0.033)$. No other significant effects were found, although "time" (Study 1 versus Study 2) was marginally significant $(p = 0.062)$, reflecting the abundance of low scoring in Study 1. Specific contrasts were conducted to compare the Geshe, Lama, and Rinpoche groups. The Lama group was found to score significantly higher than the Geshe or Rinpoche groups. The ANOVA summary, with contrast analyses, is shown in Table 4 and illustrated in Figure 4.

TABLE 4
ANOVA Summary Table for Combined (Studies 1 and 2) Psi Scoring
by Monastic Group by Two Studies

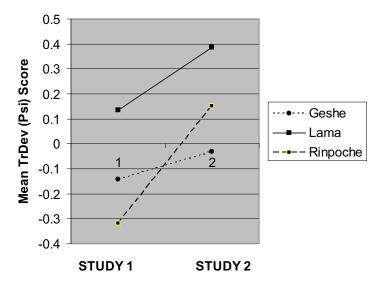| Source	SS	DF	MS	F	p-Value
Total	121.76	167	--		
Between subjects	12.86	20	--		
Time (Study 1, 2)	1.84	1	1.84	4.06	0.062
Rank (Geshe/Lama/Rinpoche)	3.93	2	1.96	4.33	0.033
Error-between	6.80	15	0.45		
Within subject	108.90	147			
Sessions	1.92	7	0.27	0.36	0.90
Time × sessions	3.62	7	0.52	0.68	0.69
Time × sessions	15.33	14	1.10	1.44	0.14
3-Way	7.96	14	0.57	0.75	0.72
Error-within	80.07	105	0.76		
Specific Contrasts					
Lamas vs. Geshes + Rinpoches combined	6.04	1	6.04	13.33	0.002
Lamas vs. Geshes separately	2.15	1	2.15	4.73	0.046
Lamas vs. Rinpoches separately	3.41	1	3.41	7.53	0.02

Figure 4. Mean psi scores for Lamas, Rinpoche, and Geshes for Studies 1 and 2.

In *part b* of the hypothesis, the Spearman correlation between years of meditation and average psi score for the combined studies is rho = 0.737, p = 0.0005, 1-tailed. Thus, the combined Studies 1 and 2 confirm that years of meditation practice is related to increasingly positive and significant psi scoring. This correlation is shown in Figure 5.
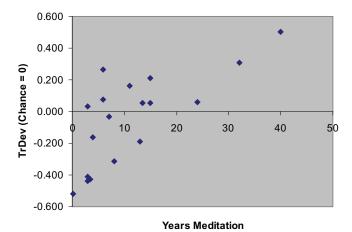

Figure 5. Correlation of psi scores with years of meditation for Studies 1 and 2.

Discussion

As in our earlier studies, the most experienced meditators showed the strongest psi-hitting. Unlike the previous study with Tibetan monks, there was no significant psi-missing, perhaps because most of the monks we worked with had at least three years of meditation practice. The two Lamas had both just completed the 3-year meditation retreat that entitles a monk to be called a Lama, and had both practiced meditation for many years, one Lama having practiced for 40 years. The fact that they showed independently significant results with so small a data sample is impressive, and is an indication of the efficacy of spending three years in silent retreat practicing meditation for 10 hours a day! The Rinpoche in Study 2 and one of the Lamas in Study 1 both, though not independently significant, obtained a pretty impressive 50% direct-hit rate, where 25% is mean chance expectancy. In Study 2, one Lama chose the target with a 100-rating three times.

It was the earlier ashram studies (Roney-Dougal & Solfvin, 2006, Solfvin & Roney-Dougal, 2010) that suggested the design of participants doing multiple sessions, thus enabling a reasonable assessment of each individual's psi scoring level, and it was here that we first noticed that the more advanced practitioners showed a greater consistency in their psi scoring. In other words, the participants who had practiced meditation for only a few years showed the typical scoring patterns of sometimes below chance, sometimes at chance, and sometimes above chance, whereas the advanced practitioners consistently scored in the above-chance direction. This pattern has been repeated with the two Tibetan studies where the Lamas have consistently scored in the psi-hitting direction. Therefore, all four studies have shown a consistent psi-hitting trend from the more advanced practitioners. Of course, the experimenter effect cannot be ruled out either at the psychological or the parapsychological levels, since all studies were run by the same experimenter. However, this is perhaps lessened by the need to use a translator, and in the Tibetan studies the most significant scoring was from those participants who spoke no English at all.

Similarly, the correlation of years of meditation in itself is a reasonably strong correlation, which is non-significant in this study merely from the lack of power, and is similar enough to our previous three studies to support the conclusion that years of meditation practice is related to a shift in consciousness which enables more reliable psychic awareness to manifest, thus corroborating the Buddhist and Yogic teachings. When we combine the data from both Tibetan studies, the highly significant correlation corroborates this conclusion.

With regard to the exploration of the effect of different types of meditation, mantra versus visualisation, this is just an initial pilot study. Of all the MAQ correlations of the different meditation practices with psi score, it is the visualization practice that gives the strongest correlation, though with these

small numbers this is not significant. Thus, those people who had done the greatest amount of visualization practice were those who showed the strongest and most reliable psi, i.e. the Nyingma Lamas. So, while doing the visualization practice during the session appears to have little differential effect on psi scoring, doing it long term does possibly appear to have an effect. This ties in with the findings by Carter et al. (2005) in which the shamatta practice gave the strongest effect. It also corroborates the Yogic Tantric practices and teachings, the Tibetan practice of visualization in lakes for psychic purposes, and other traditions around the world, e.g., scrying in Britain. Of interest with regard to the Lamas is that in their meditation retreat they had practiced mantra with visualisation—chanting mantra of a deity while visualizing that deity. So they were not able to separate the two practices. They both remarked on this in the interviews with them after completion of the psi sessions.

Breaking down the meditation practice into its various components leads to some interesting, albeit very preliminary findings. The Nyingma Lamas practice included asanas, pranayama, and the retreat, all of which showed the strongest correlations with psi. The Gelugpas do not normally do these practices. Thus the significant findings for the different variables are primarily due to the Lamas. These results support the preliminary studies done in the ashram (Roney-Dougal & Solfvin, 2006), where we found positive correlations (albeit non-significant) between years of yogic practice, which includes all these practices, and psi. Thus we can tentatively say that, while meditation appears to have the most profound effect on consciousness, as measured by psi awareness, the other practices do all play a part.

Conclusions

Overall, the hypothesis, that mantra versus visualization meditation within the session would differentially affect psi scoring, was not confirmed, though lengthy practice in visualization meditation showed the strongest correlation with psi-hitting. The hypothesis that meditation attainment, as measured by years of practice, would correlate significantly with performance on the psi task, was confirmed overall when both studies are combined. Additionally, those practitioners, the Lamas, who had greater meditation experience showed independently significant psi-hitting. Thus, for a third time, this study shows that years of practice of meditation is related to a change in consciousness in which more consistent and reliable psi awareness is manifested. This confirms the Buddhist and Yogic teachings that, as you practice meditation, so, little by little, the changes occur. Finally, this study has begun a preliminary investigation into which practices are most efficacious, and tentatively suggests that it may be the shamatta meditation practice of visualisation which is the most psi-conducive meditation technique.

Acknowledgments

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