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The Selfield: Optimizing Precognition Research [4]

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Abstract: We report an exploratory forced-choice precognition study based on a protocol that utilized an immersive audiovisual environment to induce a psi-conducive state in participants. Our objective was to assess whether this optimization setup would help produce significant psi results with an unselected population. We also sought to assess whether trial-by-trial feedback would produce superior scoring to no-feedback trials. For each trial, participants selected an opaque graphical sphere that they felt contained a facial image, as opposed to being empty. After selection, the program randomly determined whether the sphere would be empty or not, and whether feedback would be shown. A preset total of 3000 binary choice trials were collected from 82 participants. Each participant contributed either 1 or 2 20-trial series, based on preset scoring criteria. The total hit rate of successful trials was 50.1%, close to expectation under the null hypothesis of no psi effect. Hit rates for feedback and no-feedback trials were in the predicted direction (51.0% vs. 48.6%). A post-hoc analysis showed that hit rates for feedback trials increased over the 20-trial series, suggesting that participants may have progressively found a mental strategy for improved scoring. Additionally, a subgroup of 26 experienced meditators had a hit rate of 52.1%, a result consistent with previous literature that suggests that meditators are particularly good participants for psi research.
Keywords: precognition, optimization, forced-choice, feedback, meditators

A recent meta-analysis (Storm, Tressoldi, & Di Risio, 2010) provided evidence that experimental psi research has benefited from participant optimization or 'noise-reduction' procedures - hypnosis, relaxation, meditation, or the ganzfeld. In particular, the authors show that free-response protocols including such optimization procedures are more likely to yield positive results than free response protocols with no such procedures. In a later meta-analysis the same authors (Storm, Tressoldi, & Di Risio, 2013) show a positive cumulative effect for forced-choice studies as well, but note that their effect sizes are quite small - a full order of magnitude inferior to those of the free-response / optimization studies.

As the authors state, several factors could explain this difference. One of these is that free-response/optimization experiments typically create a meaningful setting for participants, with tasks that are unique and experientially interesting. For example, in a typical Ganzfeld trial participants are likely to remain engaged and "present" throughout the session; by contrast, participant attention and mo-

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tivation will tend to decline during a session of repetitive ESP card-guessing trials. Nevertheless, from an investigator's viewpoint, the very strength of free-response/optimization protocols is a weakness, in terms of data-collection efficiency. Data collection for an adequately powered study can be long and arduous, insofar as a single ganzfeld trial can take 1 to 2 hours to complete. By contrast, forced-choice protocols can produce several trials per minute; at the study level, the data collected can be one to two orders-of-magnitude higher than in free-response studies.

From the perspective of both proof- and process-oriented research, it clearly would be desirable to find a way to combine the data-collection efficiency of forced-choice approaches with the participant-optimization qualities of free-response studies. This strategy, however, faces a key challenge: how to induce and maintain participants' optimized state throughout a session, despite the repetitive nature of forced-choice tasks and the stress induced by repeated hit/miss feedback?

Our initial response to this challenge was a within-subjects forced-choice telepathy study (Varvoglis et al., 2013) comparing optimization and control conditions. Each condition involved two participants who, over the course of 20 trials, alternately acted as sender (attempting to "transmit" either a randomly selected visual target or a neutral cloudlike image) or receiver (deciding whether the sender was indeed experiencing a target or just the neutral image). For each trial, the program provided both participants real-time feedback concerning the receiver's choices. The optimization procedures, experienced by both participants, included an immersive head-mounted system to enhance absorption, an initial relaxation sequence, hypnotic task and feedback displays, and a short audiovisual sequence between trials to renew participants' motivation and attention. The 20-trial control session involved a simplified forced-choice task without any of the above optimization procedures.

Overall results were non-significant in both the optimization condition and in the control conditions. Secondary analyses, on the other hand, pointed to significant score variability specifically in the optimization condition and none in the control condition, suggesting that our optimization procedures may have had an effect, but in an unstable manner. Post-session debriefings provided clues as to the possible reasons for this outcome. Over half the participants reported that the head-mounted display system - intended to enhance immersion in the audiovisual displays and tasks – was uncomfortable and distracting, particularly in the latter parts of the session. They also found that the hit/miss trial-by-trial feedback, provided simultaneously to sender and receiver, disrupted the "flow" state and induced an overly stressful performance-oriented mindset. Over half the participants stated that they would have preferred to receive no real-time feedback at all. Finally, from our own perspective as researchers, the setup was demanding and stressful, with challenges that were technical (e.g., frequent desynchronization of the local network connecting the 3 computers) and human (e.g., for each session we had to coordinate the agendas of 2 participants and 3 experimenters).

The Selfield was largely designed to correct the shortcomings of this earlier study. Changes focused on several key areas: a) improving the immersive technologies used, so as to enhance participants' "flow" experience; b) better aligning the audiovisual induction and feedback elements with the psi task; c) redesigning the target set, to render targets more arousing and impactful; d) simplifying administration of experimental sessions by shifting from a dyadic-participant protocol (telepathy) to a single-participant precognition protocol that could be run by a single experimenter.

This shift towards a precognition protocol also reflected the field's current interest in this area of research, as witnessed by the growing database of presentiment studies or time-reversed social psychology studies by Bem and others. Meta-analyses of both these lines of research (Bem, Tressoldi, Rabeyron & Dugan, 2016; Mossbridge, Tressoldi & Utts, 2012) clearly suggest that precognition may be among the more promising approaches for experimental research. In particular, the apparent success of Daryl Bem's studies, often involving college students, could potentially lead to a protocol that produces replicable results with unselected participants.

Precognition protocols are also interesting for theoretical reasons. Marawha and May (2015) have recently suggested that most results of psi research (telepathy, clairvoyance, microPK, even survival) can be reduced to a single anomaly - retrocausation. Thus, in spontaneous psi, the physical experience of an unexpected event (e.g., an accident) can be seen as retrocausally triggering an earlier premonitory dream or presentiment of the event. In experimental research, feedback concerning a trial at time T_2 may retrocausally inform the participant's or experimenter's choices at an earlier time T_1. According to this model, the experience of a result, in one form or another, would be a necessary condition for precognition to occur.

Irrespective of whether or not such retrocausal models are valid, from a pragmatic perspective we need to better understand and manage the psychological or cognitive impact of feedback upon psi scoring, particularly in multiple-trial psi tests. On the one hand, feedback can clearly help engage individuals vis-à-vis the psi task, and even serve as a learning support; over time, it can help them to zero-in on intuitive strategies that seem to produce positive results. On the other hand, as suggested in our earlier study, repeated hit/miss feedback in multiple-trial tests may be experienced as discouraging or create a counterproductive performance-oriented mental set, which could lead to null or even negative scoring.

The current study seeks to neutralize the potentially negative impact of feedback in several ways. First, unlike the previous experiment, in which each person's performance was immediately shown to his or her partner *and* remotely monitored by experimenters, in the Selfield the participant alone knows his or her results in real-time; this may encourage a mindset that is favorable to exploration and learning rather than focused on performance. Second, in the current experiment we randomly intersperse feedback and no-feedback trials over the course of the session, so that participants cannot know in advance which condition to expect; this is intended to alleviate the cumulative stress associated with repeated feedback.

In summary, the current study is a follow-up of our telepathy study, but redesigned as a precognition task, with improvements in terms of the immersive environment, the feedback approach and the targets used, and with an explicit assessment of feedback vs. no-feedback conditions. Our key objectives were to:

1. develop a simple yet powerful tool for research, one that allows both for a psi-conducive participant state and efficient data-collection;
2. assess whether our approach is indeed conducive to success in a multiple-trial precognition task and provide an estimate of the effect size (hit rate);
3. assess whether trials with hit/miss feedback produce superior scoring over no-feedback trials.

Our protocol and procedures were submitted to, and approved by, the Ethical Committee of the Institut Métapsychique International, consisting of 6 members (none of whom were Selfield investigators). The study was pre-registered at the Koestler Parapsychology Unit online study registry (KPU-1032).

Method

Study Length and Participants

The number of trials was set in advance. To estimate this number, we had previously conducted pilot sessions to determine the maximum number of trials we could reasonably introduce per session, before participants began to feel bored or lose their motivation. In parallel, we examined the effect sizes in free-choice and forced-choice research paradigms to help define the power requirements for this study. Free-choice effect sizes provided an upper bound to *d* (ES: $d = Z/\sqrt{N}$, where the ES is taken as Cohen's *d*, Z is a study Z-score, and N is the number of trials). An estimate of ~0.14 was taken from ganzfeld databases, as these tend to have among the highest reported values (Storm, Tressoldi, & Di Risio, 2010; Bierman, Spottiswoode, & Bijl, 2015). Forced-choice studies provided a lower bound of $d = 0.02$ (Storm, Tressoldi, & Di Risio, 2013). The ES have a simple relation to the total binary hit rates (HR): $HR = 0.5+d/2$ and we use both notations, for convenience. The forced-/free-choice estimations in terms of HR are 51% and 57%, respectively. As the objective of our protocol is to achieve an intermediate HR, we took a modest value of 53% as a target HR for power considerations. Based on these criteria, we preset the total number of trials to 3000, to be collected through 150 20-trial series, with participants contributing either a single or double series (20 or 40 trials). Applied uniformly to all trials the target HR yields a 95% power at a 5% level and an 80% power if only the feedback trials (expected N~1800) are associated with the psi effect.

Given these constraints, we recruited 39 male and 43 female participants ranging in age from 25 to 84 years old. Participants were selected from among the experimenters' personal or professional acquaintances, and included 26 meditation practitioners in the Shambhala lineage of Tibetan Buddhism, as well as the two main experimenters (PAB and MV).

Set and Setting

Although all authors of this paper participated in the development phase of this study, the actual sessions were run by the first two. Peter Bancel has conducted parapsychology research since the late 1990s, and Mario Varvoglis since the mid 1970s. Both were moderately optimistic about the study's outcome, with an expectation of 4 out of 5 that the study would yield positive results. We sought to induce a friendly and relaxed ambience for the participants, both in the preparatory phases of the session and during data collection, and to convey to them our confidence that the experiment would constitute an agreeable experience.

Equipment and Experimental Layout

The Selfield was conducted at the Institute Métapsychique International (IMI). The participant room was outfitted with a reclining relaxation chair, headphones, a MacMini computer, a handheld

input device, and a monitor housed within a custom-made immersive display system. This system consisted of a trapezoidal "dark chamber", 1 meter in length, extending outward from the monitor to the level of the participant's temples, mounted on an articulated, extendible arm that can be readily pushed forward, backward, and sideways, as well as allowing for vertical adjustment of angle of view. Internally, the dark chamber is lined with black photographer-cloth that absorbs light and minimizes reflection. The system thus visually isolates participants from the surroundings and enhances the impact of the image displayed on the monitor. A second monitor plus keyboard and track pad were also located in that room; these were used for the preliminary training demonstration, as described below. The administrative post, situated down a short hallway, included a MacMini computer, keyboard, trackpad, and screen and was linked to the participant's computer via a Local Area Network using an Ethernet connection.

Materials

Questionnaires. One or two days before their scheduled session, volunteers received a link to an online poll with 17 questions regarding their belief in psi, prior spontaneous experiences of psi, familiarity with meditation and other mental disciplines, and their susceptibility to absorptive states. Immediately following the experimental session, a 6-item exit questionnaire was filled out; the questions asked participants to rate their experience of the session (agreeable/disagreeable; too long/too short; etc.). All questions for both questionnaires were rated from 1 (low) to 6 (high).

Targets. We constructed a novel target set for the current study, consisting of 50 facial photographs of animals or people - either famous personalities, or people from different cultures with intense facial characteristics. The images were high-resolution photos freely available on the internet. A key criterion of selection was that the person's or animal's eyes should be staring directly at the observer.

Additional audiovisual materials. A 4-minute introductory video sequence was created, to be shown once the volunteer was installed in the immersive space but before actual data collection began. This sequence was based on images taken from the American television series Cosmos and from NASA footage of the sun. The sequence concludes with an image of the rotating Earth, which then fades into the animated graphic of a spherical "image-container" used in the psi task. This introductory sequence was meant to suggest an outer-space/inner-space voyage and help participants shift away from their day-to-day perspective on time.

Software

Programming language: Data collection was automated and run by custom software developed in-house on the Quartz Composer (QC) development platform. Quartz Composer is a free visual programming language, part of the Apple Xcode development environment. It is used primarily for processing and rendering graphical data in real-time (such as animated screen savers or music visualizers). The experiment's software consists of several modules, installed either on the administrator station or in the participant room.

Administrative modules: these are used to input participant and experimenter data, and monitor the unfolding of the experimental session. The administrative post informs the experimenter of the trial

number and time elapsed between trials, but provides no hit or miss information. Experimenters are thus masked to the session results, which are only available by opening the experiment's data file.

Psi-task program. Once initiated, the software controls all aspects of the session, including data acquisition, the sound environment, generation of the background star-field, and various feedback displays. The program also generates the animated blue spherical image-containers that are the focus of the participant's psi task.

Pseudo-random number generation. The computer program uses a 10-7-1 linear feedback shift register (lfsr) as the pseudo-random algorithm for deciding the hit/miss outcome. The lfsr produces a pseudo-random bit string with a 1023-bit cycle length, with its phase determined by an input seed. A new input seed is generated for each trial from the mouse click's input by the participant. The procedure is as follows: A pretrial graphical sequence is launched by the participant via a mouse click; a second click by him/her (to open the target container) initiates the actual trial and feedback sequence. At each of the two clicks, the computer's internal clock is read out in milliseconds and this value is returned modulo 1023. The first value seeds the algorithm and the second is used to select which of the 1023 generated bits should be used for the binary choice of image/no-image. The determination of whether a given trial is followed by feedback or not is made using a native javascript pseudo-random generator seeded once at the beginning of each session. The generator was set to produce a 60-40 ratio, on average, of feedback to no-feedback trials.

Procedure

Prior to the participant's arrival, the designated experimenter confirmed reception of the online pre-test questionnaire and set up the session using the administrative module. Following arrival and some time spent chatting, the experimenter led the participant downstairs to the session room, sat him or her in front of the monitor, and explained the general purpose of the experiment and unfolding of the session. It was first explained that considerable data, both anecdotal and experimental, support the reality of precognition and that the study aimed to further explore its mechanisms. It was also explained that some trials would be followed by feedback and others not, but that in all cases it would be useful to remain in an engaged but fluid state and treat this session as a means to test different strategies for succeeding in precognition. A short training program was then launched, allowing for several simplified trials, while the experimenter explained the user interface and the meaning of the hit, miss, and no-feedback animations.

Following this, the participant moved from the monitor post to sit comfortably in the reclining chair, while also being fitted with the headphones and the immersion environment. The experimenter then handed him/her the input device, turned off the lights and exited the room, taking along the keyboard and trackpad. The participant launched the session with a single button-press that started the introductory video. After 4 minutes, this faded into the animated star-field from which a blue sphere emerged, slowly traveling toward the participant. If s/he did nothing, the sphere wandered off the screen foreground, appearing to bypass him or her, and, a few seconds later, a new one appeared and followed a similar trajectory. When the participant first decided to click the input device, the blue sphere came immediately towards him/her and wavered in the foreground, waiting for the confirmatory second click that initiated a trial (if there is no second click within 25 seconds, the sphere retreats and a new emerges). Once the trial was confirmed, the pseudo-random generator selected a target from

the image pool, decided on a hit or miss outcome, and determined whether or not feedback should be provided. After these random parameters were determined, the program launched the appropriate audiovisual animation:

Hit: The sphere opens and a portrait appears and grows, seemingly approaching the observer; it then slowly fades out. The sound of a gong accompanies this visual.

Miss: The sphere retreats back into the darkness where it came from. A low-frequency, rather disapproving sound is heard.

No-feedback: The sphere remains where it is but slowly dissolves into nothingness; a subtle whooshing sound is heard.

Finally, the program updated the trial counter, stored all data and launched the new visual sequences (with a blue sphere emerging from the background). After 20 such trials, the first series ended, the participant monitor displayed the number of hits (for feedback trials only) and the administrator post indicated to the experimenter whether the participant's hit rate exceeded a criterion level of 35% hits (for the feedback trials only). If so, the experimenter invited the subject to do a second session (under the null hypothesis, roughly 85% of volunteers would pass the second-session criterion.). Participants could decline the invitation for any reason (such as feeling pressed for time, finding the experience unpleasant, etc.). If they accepted, the session continued with a second series. The pause between series one and two was limited to a few minutes to ensure that the participant remained relaxed and engaged with the experiment. Once the second series was completed, the number of hits was displayed to the participant as before (again, for feedback trials only) and the experimenter was notified via the administrator post. After coming out of the immersive environment, the volunteer was taken upstairs to complete the exit survey.

Experimenters were masked to results until the completion of the experiment. Although occasionally participants spontaneously mentioned the number of feedback hits to the experimenter at the end of a session, this did not reveal the session outcome: the experimenter knew neither the total number of feedback trials, nor did the subject receive any information about no-feedback trials.

Analyses

Four analyses were planned and pre-registered. Confidence intervals for the binomial hit rates were estimated using Gaussian distributions with variances of $1/4N=p*(1-p)/N$, where p is the binomial probability = ½.

1. One-tailed binomial *p*-value and 90% CI of the total trial hit rate.
2. One-tailed binomial *p*-value and 90% CI of the separate hit rates for feedback and non-feedback trials.
3. One-tailed binomial *p*-value of the difference hit rate between feedback and non-feedback trials.
4. One-tailed binomial *p*-value and 90% CI of all trials from participants responding 6 (the highest level) to a questionnaire item regarding mental disciplines: "I practice or have practiced a discipline such as meditation, yoga, tai chi or qi gong."

Three exploratory analyses were undertaken.

1. To assess whether hit rates shifted over the course of the session, the 20 sequential trial-by-trial hit rates for all 150 runs were fit with a linear regression, and the two-tailed *p*-value of the regression slope was determined.
2. One-tailed binomial *p*-value and 90% CI of the separate hit rates for feedback and non-feedback trials for the mental discipline subset of participants.
3. One-tailed binomial *p*-value and 90% CI of the total hit rate and the separate hit rates for feedback and non-feedback trials for 26-participant subset of the mental discipline group. These participants are meditators within the Shambhala lineage of Tibetan Buddhism and are personally known by PAB to have maintained committed practice for at least 5 years.

Results

Main results:

For all trials combined, the hit rate was 50.07% (p = 0.464; CI[48.6, 51.6]; N = 3000). The hit rate for feedback trials was 51.0% (p = 0.18; CI [49.1, 52.9]; n = 1828), which exceeded the no-feedback trials 48.6% (p = 0.82; CI[46.7, 50.55]; n = 1172). The 90% CI's for the two hit rates overlap, and the one-tailed difference p (favoring feedback) = 0.10 .

Secondary results:

To assess whether hit rates shifted over the course of the session, we fit a linear regression to the total trial-by-trial hits in sequence over all 150 runs of 20 trials (Figure 1). The regression has a positive slope m = 0.41, (t(18) = 2.06; p = 0.54) indicating an average increase of 5.5% in the hit rate over the course of a 20-trial run. The 90% CI of the increase is CI[1.1, 9.9].

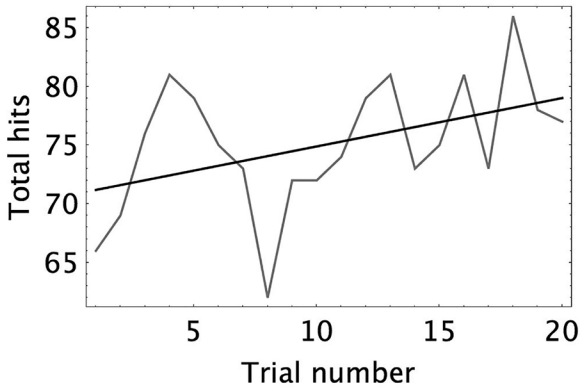

Figure 1. *Linear regression on trial-ordered data*

The 45 participants (55%) reporting the highest level on the mental discipline question had an overall hit rate of 50.9% (p = 0.22; CI[48.9, 52.9], N = 1620). The feedback and no-feedback trials had hit

rates of, respectively, 51.6% (p = 0.15; CI[49.0, 54.2], n = 1010) and 48.9% and (p = 0.52; CI[46.5, 53.2], n = 610).

The 26 participants (32%) with a long-term meditation practice had a somewhat higher overall hit rate of 52.1% (p = 0.09, CI[49.4, 54.7], n = 960). The feedback and no-feedback trial hit rates were 53.3% (p = 0.047, CI[50.00, 56.7], n = 602), and 50.00% (p = 0.479, CI[45.7, 54.3], n=358).

A further suggestion that meditation practice may be associated with psi performance comes from comparing the poll responses with hit rates. Across all 82 individuals, the 6-point scale of reported engagement with meditation correlated positively with hit rate (Spearman rank values of 0.19; p = 0.04).

We did not find other correlations between hit rates and poll responses, including a question addressing psi belief. It should be noted, however, that none of the volunteers reported below 3 on the 6-point scale, so that skepticism was poorly represented by our pool.

A debriefing questionnaire was also given, involving 6 items with ratings from 1 (low) to 6 (high). Statistics for three of these questions are worth underscoring. Concerning the question "Did you find the Selfield session agreeable", 94% gave a score of 5 or 6, and 100% answered "yes" to the question "would you like to participate in a similar experiment in the future?" Finally, concerning the question "do you think your scores would improve with continued training," 89% gave ratings between 4 and 6, and only 11% a rating from 1-3.

Discussion

Our study was designed to explore two main questions related to enhancing effect sizes in a forced choice protocol and to provide us with effect size estimates for future work. The questions we addressed are: 1) does the protocol as a whole produce an effect?, 2) do feedback trials have larger effect sizes?, and 3) do participants practicing a mental discipline have larger effect sizes?

As in the earlier Sharefield telepathy experiment, we did not find an overall effect and, hence no support for our first objective of developing a protocol that is both efficient in terms of data collection and psi-conducive for the general population. For our second objective, we did find that the feedback trials produced a larger hit rate than the no-feedback trials; also, unlike the Sharefield study, feedback here was perceived positively by participants. These results suggest that it is possible to remove the negative motivational effects of feedback and further assess its possible contributions to scoring. Better-powered studies producing similar results would suggest that feedback may constitute a support for learning, or even serve as a retrocausal trigger of precognition (whereby the outcome at time T could inform choices at time T-1).

Another point of interest in our study was the finding of a possible within-series incline effect. Although this does not necessarily demonstrate feedback-based psi-learning, it does suggest that the testing environment may have somehow helped volunteers settle into a more psi conducive mental set as the series advanced. This view is supported by the overwhelmingly positive responses

we found when participants were asked, post-session, if they felt their scores could improve with further practice.

The third question we examined, concerning mental disciplines, also yielded some encouraging results, especially when considered in the context of numerous studies suggesting that meditation may correlate with positive effect sizes in psi (Roney-Dougal, 2015). Of particular interest here are the results of the Shambhala meditators, who scored higher than the general test population. Although these results had not been formally predicted in our study and must be treated with caution, it should be noted that the inclusion of a substantial number of Shambhala meditators in our study was far from accidental. We were quite aware of earlier research linking meditative practice to psi scoring in forced choice tests and one of the key investigators has been intensely engaged in meditative practices for years, and conducted a rather positive pilot psi study with Shambhala meditators in the past (Bancel, 1999).

In terms of limitations, it first should be noted that any conclusions of statistical evidence regarding hit rates and effect sizes are limited, of course, by the study's size. Although a larger *N* is always desirable, we feel that the study size was adequate for this exploratory phase; we had the data to turn our three questions into hypotheses based on power analysis. A related limitation is that our considerations of effect size based on free- and forced-choice protocols could have been stated more clearly as a Bayesian prior. This is easily remedied, and the study's data will allow us to make a Bayesian update of an appropriate prior (for example, the guess of a 53% HR is well represented as a normal probability distribution, $N(\mu, \sigma) = N(53, 1.5)$. Finally, the post-hoc analysis looking at the evolution of effect size over the course of a session is certainly interesting, but it is best addressed once an effect is confirmed. It is wise to keep it in mind when designing future studies so that data can be exploitable on this question (such as standardizing the session *N*).

In general, although participants overwhelmingly rated the Selfield as motivating and affirmed their desire to renew the experience, it seems that immersive environments and agreeable psi tasks are not sufficient to produce good outcomes in the general population. Future optimization approaches should explicitly adopt a more "elitist" recruitment strategy, focusing on promising subpopulations, such as meditators, rather than unselected volunteers. Indeed, in a recent article reviewing a closely related area of research (micro-psychokinesis with random number generators) we came to an identical conclusion; the best results in repetitive psi tasks come from researchers who worked in an intensive, personalized manner with a small number of selected participants (Varvoglis & Bancel, 2016). Thus, for the future we recommend an optimization strategy that brings together three essential components: tasks encouraging a flow state, probably with a non-disruptive form of feedback; experimenters who work regularly with a small number of participants and know-how to motivate and "coach" them; and participants - such as experienced meditators or high hypnotic participants - who show a high level of attention control and absorption in the here and now.

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Le Selfield : Optimiser la Recherche sur la Précognition

Résumé: Nous décrivons une étude exploratoire de précognition à choix forcé basée sur un protocole qui utilise un environnement audio-visuel immersif pour induire un état facilitant le psi chez des participants. Notre objectif est d'évaluer si ce dispositif d'optimisation va aider à produire des résultats psi significatifs avec une population non-sélectionnée. Nous avons également chercher à vérifier si le feedback essai par essai allait produire des scores supérieurs aux essais sans feedback. Pour chaque essai, les participants sélectionnaient une sphère graphique opaque dont ils ressentaient qu'elle contenait une image de visage, par opposition à une sphère vide. Après leur sélection, le programme déterminait aléatoirement si la sphère était vide ou non, et si le feedback était montré ou non. Un total de 3000 choix binaires furent collectés auprès de 82 participants. Chaque participant a contribué à une ou deux séries de vingt essais, en se basant sur des critères de score prédéfinis. Le taux de succès total des essais réussis était de 50,1%, proche de ce qui serait attendu selon l'hypothèse nulle d'aucun effet psi. Les taux de succès dans les conditions de feedback vs sans feedback allaient dans les directions prédites (51,0% vs 48,6%). Une analyse post-hoc a montré que les taux de succès pour les essais avec feedback s'amélioraient progressivement au cours d'une série de vingt essais, suggérant que les participants pouvaient avoir trouvé une stratégie mentale pour améliorer leur score. De plus, un sous-groupe de 26 méditants expérimentés avait un taux de succès de 52,1%, un résultat conforme à la littérature antérieure qui suggère que les méditants étaient des participants particulièrement adaptés pour la recherche psi.

Das Selfield: Zur Optimierung der Präkognitionsforschung

Zusammenfassung: Wir berichten über eine explorative Forced-Choice-Studie, basierend auf einem Protokoll, das mittels einer immersiven audiovisuellen Umgebung bei den Teilnehmern einen psi-begünstigenden Zustand induziert. Unser Ziel war es, einzuschätzen, ob diese Optimierung dazu beitragen würde, signifikante Psi-Ergebnisse bei einer unausgewählten Population zu erzielen. Wir untersuchten auch, ob ein Feedback nach jedem Trial zu höheren Treffern führt als bei Durchführung ohne Feedback. In jedem Durchgang wählten die Teilnehmer eine opake grafische Kugel aus, die nach ihrer Meinung einen Gesichtsausdruck enthalten würde, anstatt einfach nur leer zu sein. Nach der Auswahl des Probanden erfolgte jeweils zufällig die Auswahl der Kugel mit oder ohne Gesicht und ebenfalls zufällig, ob ein Feedback gegeben würde. Eine vorher festgelegte Gesamtzahl von 3000 binären Einzelversuchen kam mit 82 Teilnehmern zustande. Jeder Teilnehmer steuerte entweder 1 oder 2 Durchgänge zu je 20 Einzelversuchen bei, die auf vorher festgelegten Bewertungskriterien beruhten. Die Gesamttrefferrate der erfolgreichen Einzelversuche betrug 50,1% und lag damit nahe der Erwartung unter Geltung der Nullhypothese, dass es keinen Psi-Effekt gebe. Die Trefferraten für die Feedback- und Non-Feedback-Trials lagen in der erwarteten Richtung (51,0% vs. 48,6%). Eine Post-Hoc-Analyse zeigte, dass die Trefferraten für Feedback-Trials im Laufe der Serie von 20 Einzelversuchen gestiegen sind, was darauf hindeutet, dass die Teilnehmer nach und nach eine mentale Strategie zur Verbesserung ihrer Trefferleistungen gefunden haben könnten. Eine Untergruppe von 26 erfahrenen Meditierenden erzielte eine Trefferquote von 52,1%, ein Ergebnis, das mit der bisherigen Literatur übereinstimmt, die darauf hindeutet, dass Meditierende besonders geeignete Teilnehmer für Psi-Experimente sind.

El Selfield: Optimizando la Investigación de la Precognición

Resumen: Describimos un estudio exploratorio de precognición de elección forzada basado en un protocolo que utiliza un entorno audiovisual inmersivo para inducir un estado facilitador de psi en los participantes. Nuestro objetivo fue evaluar si esta configuración de optimización ayudaría a producir resultados significativos de psi en una población no seleccionada. También intentamos evaluar si la retroalimentación prueba por prueba produciría una puntuación superior a las pruebas sin retroalimentación. Para cada prueba, los participantes seleccionaron una esfera gráfica opaca que creían que contenía una imagen facial en lugar de estar vacía. Después de la selección, el programa determinó aleatoriamente si la esfera estaría vacía o no, y si se daría retroalimentación. Un total preestablecido de 3,000 ensayos de elección binaria se obtuvieron de 82 participantes. Cada participante contribuyó con 1 o 2 series de 20 pruebas, según los criterios preestablecidos. La tasa de aciertos totales de las pruebas elegidas exitosamente fue del 50.1%, cercana a la expectativa según la hipótesis nula de que no hay efecto psi. Las tasas de aciertos para la retroalimentación y los ensayos sin retroalimentación fueron en la dirección prevista (51.0% vs. 48.6%). Un análisis post-hoc mostró que las tasas de aciertos en los ensayos de retroalimentación aumentaron durante la serie de 20 pruebas, lo que sugiere que los participantes pueden haber encontrado progresivamente una estrategia mental para mejorar la puntuación. Además, un subgrupo de 26 meditadores con experiencia tuvo una tasa de aciertos del 52.1%, un resultado consistente con la literatura anterior que sugiere que los meditadores son participantes especialmente aptos para la investigación de psi.