

# 65th Annual Convention of the Parapsychological Association

Fanehallen (The Banner Hall)

Oslo, Norway

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## INTRODUCTION From the Program Chair

*Jacob W. Glazier*  
Program Chair

“We hear only those questions for which one is able to find answers.”

Frederick Nietzsche (1974, p. 206)

I am delighted to welcome you to the *65th Annual Convention of the Parapsychological Association* at Fanehallen (The Banner Hall), hosted by the Norwegian Parapsychological Society. The above aphorism may serve well as a watchword, I hope, in reminding us of the limits of our hearing. That is, as we move into this honored space of scholarly sharing and collegiality, those novel and frontier questions that advance scientific and conceptual inquiry *remain unheard* when we presuppose the answers. Indeed, parapsychology, at its best, listens to these queries seeking innovative solutions to problems that often defy or elude the mainstream. Parapsychologists unsettle and even challenge the *status quo*.

The convention this year, our first in-person convention since the coronavirus pandemic, features scholars, scientists, and students from around the world who will showcase the most recent parapsychological research. This has resulted in a program of presentations that contains a mixture of full papers and research briefs, an invited talk, the J. B. Rhine Address, and the Presidential Address. All of these will be delivered in the beautiful city of Oslo, Norway, at the historic Fanehallen (The Banner Hall), which is situated in the Akershus Fortress, a landmark that showcases the military evolution of Norway from the

Viking age to the present day. This location provides the perfect backdrop for exhibiting the evolving nature of parapsychological research, evident in the program through the blend of experimental and quantitative methods with others that embrace language, subjectivity, and qualitative data.

I am extremely grateful to the Program Committee for assisting with the review and feedback of the submissions. I want to thank the Session Chairs for agreeing to help facilitate and structure the presentations. Fulfillment of my responsibilities would not have been possible without the assistance of the Convention Committee, including the guidance and direction of the PA Executive Director, Annalisa Ventola, the suggestions and inspirations offered by the PA President, Helané Wahbeh, and my partner in crime, so to speak, Jon Mannsåker, the Arrangements Chair, who has meticulously planned to help ensure the success of the convention. The assistance offered in editing and compiling the program by Felicity Woodhouse, the Program Assistant, and Ramsés D'León, PA Office Manager, was immense and integral. Finally, the guidance and advice offered by John Kruth and Christine Simmonds-Moore ultimately persuaded me to accept the invitation to become this year's Program Chair.

I want to request that we pause briefly in order to reflect and meditate on our role as parapsychologists. Similar in spirit to the inaugural Nietzschean critique, we would be remiss to apply those methods and models that will only yield the answers we have come to expect - or, rather, that beforehand structure the way we are able to *hear the paranormal*: What have we misheard? What has yet to be heard? And how can we more favorably respond to this kind of call and articulation? Hearing differently and hearing anew, I suggest, would only further our exploration of the paranormal. It is my great honor to unveil the program and the abstracts of the presentations.

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## J. B. Rhine Speaker The Day Before the Paradigm-Shift

*Terje Toftenes*

*New Paradigm Films  
Oslo, Norway*

We now see it from so many sources in parapsychology, quantum mechanics, new biology, cognitive sciences, etc., that there is good evidence for the existence of a deeper level of reality than the material. Everything points to it, but mainstream science is still reluctant because it will turn so much upside down. Are we now approaching a tipping point for this new understanding—the monumental paradigm shift—and how will it affect both science and our society?

## **PA Invited Speaker**

### **Traversing Boundaries and Accessing the Invisible**

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In this presentation, I will explore the idea that [receptive] psi emerges in the context of healthy mind-body-other systems that are open, porous, sensitive, and strongly interconnected. Such systems may also be associated with richer fractal signatures. Syncretic tendencies (including synesthesia) contribute to facilitating the conscious awareness of some usually invisible or intangible information, that otherwise may remain inaccessible or invisible. Several correlates of psi will be discussed from this perspective.

## **ABSTRACTS OF PRESENTED PAPERS**

### **Detecting Psi-Missing in Forced-Choice Data**

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**Introduction:** Forced-choice experiments have long been a standard in psi research (Storm et al., 2012). Forced-choice psi tasks involve an intervention (choice) that yields an outcome that is deemed successful or not (hit or miss). Examples are various tests of PMIR, some precognitive experiments of Bem and others, online RV studies, etc. Experiments often give trial-by-trial feedback, and this may evoke unconscious participant responses, which lead to psi-missing. Psi-missing is characterized as outcomes where psi operates opposite the intended direction of the task. Psi-missing is generally recognized as a possible experimental outcome, but it is often considered a nuisance that can obscure the presence of psi when psi-hitting is the primary test of evidence.

Here, I describe ways to detect psi-missing when studies run sessions with multiple trials, and each trial is a forced-choice psi task. Because analyses usually look for psi-hitting, a mixture of hitting and missing can cause tests to lose power, even when strong psi is present. I present models of psi-missing, along with ways to detect it statistically. It's found that the raw variance and trial autocorrelations can detect psi-missing in a wide range of scenarios. Of course, when psi-missing is absent, traditional mean tests are far more powerful.

The tests can be combined to attain a broader reach without too great a cost in statistical power. This is helpful for framing hypothesis tests in a parsimonious way. The model-based approach can also guide post-hoc analyses that aim to determine how psi-hitting and psi-missing are distributed in data. This can provide helpful input to psychological theories of psi performance. Examples on real data will be presented.

**Methods:** *Models.* The models are related to how the data are structured. Let a study have  $N$  sessions, with each session comprised of  $T$  trials. A single participant contributes to each session. For concreteness, consider the case of binary outcomes with a Null MCE of 50% hits. The data are then structured as a matrix with  $N$  session vectors of  $T$  binary outcomes, with 1 or 0 representing a hit or a miss. Models of psi for this data structure are:

M0: Null model. All trials independent and distributed as Bernoulli[1/2] ( $B[0.5]$ ).

M1: Stable psi-hitting. All trials distributed as  $B[p]$ , where  $p > 0.5$  is the hit rate.

M2: Session-stable Psi-hitting/missing. Sessions have either psi-hitting or have psi-missing. Trials of each session are distributed as  $B[p_H]$  or  $B[p_M]$ , where  $p_H$  and  $p_M$  are the hitting and missing probabilities  $\neq 0.5$ . A parameter  $\alpha$  controls the relative frequency of hitting and missing sessions.

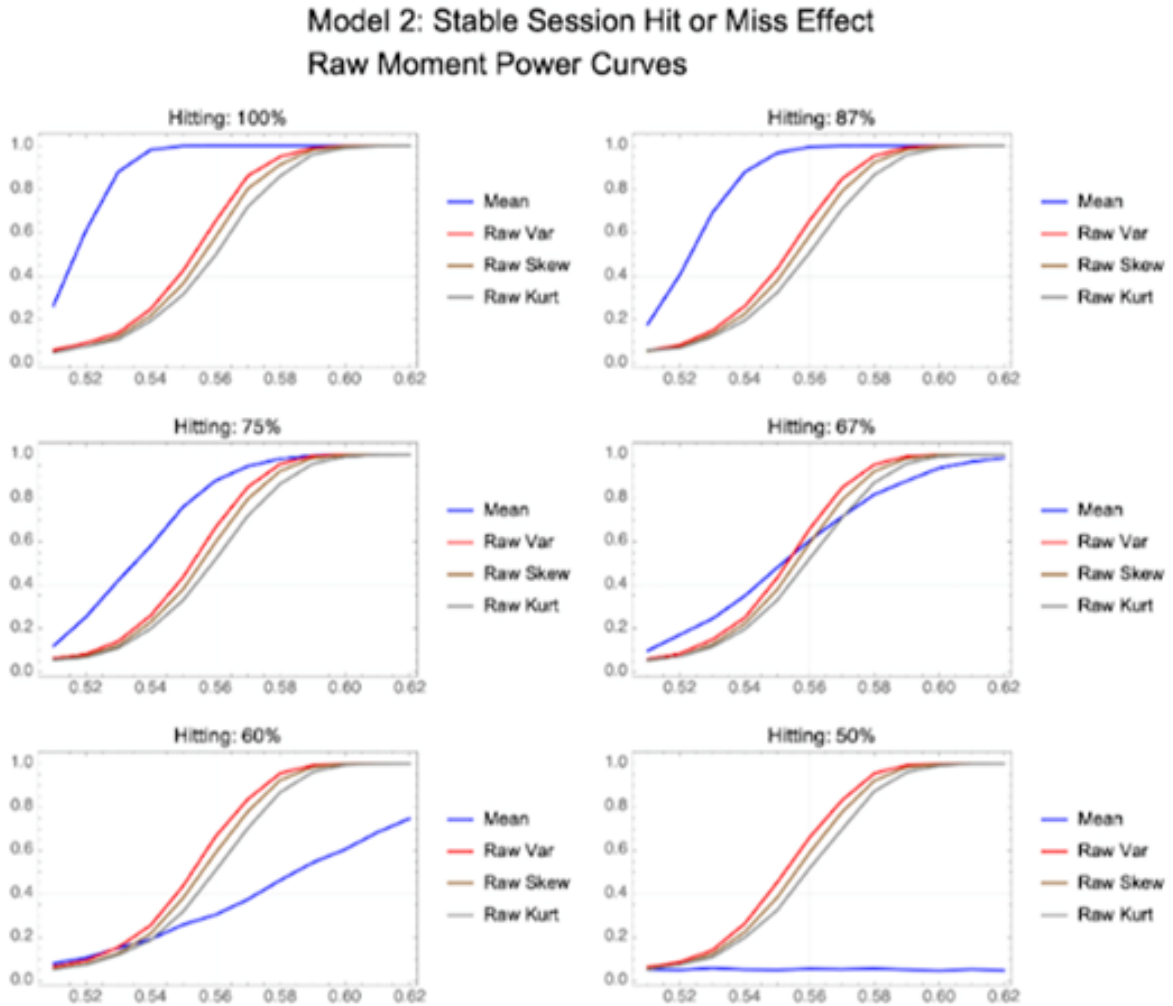
M3: Bi-stable Session psi-hitting/missing. Each session has a mixture of hitting and missing. Participants may start a session with hitting and then change to missing or vice-versa. For concreteness, the model assumes equal portions but randomizes the onset of, say, hitting to begin at any point in the session.

The models are idealized cases. More realistic scenarios can be modeled as mixtures of these. For example, pure hitting (M1) but with a range of hit rates (i.e., due to subject variability) can be well-approximated by M1 using just the average hit rate. More extreme cases where a few participants in an experiment exhibit strong psi and the rest can't be modeled as a mixture of M0 and M1. And so on. Therefore, models can be thought of as 4 basis 'states' that can be linearly combined to model a general scenario. From that perspective, it's useful to know how psi can be statistically detected for each model. The behavior and power of the tests are studied via Monte Carlo simulations. The simulations use 100 experimental sessions of 20 trials each.

**Results:** *Tests of trial distributions.* Numerous distribution tests exist. Most of these are goodness-of-fit tests that compare Null and empirical CDFs.<sup>1</sup> Some, like Pearson ChiSquare are quite general and hence not very powerful – at least for the data typically generated in psi experiments. Others, like Kolmogorov-Smirnov are most sensitive to a particular moment (the mean in the case of KS). Here, the approach is to look at tests of the first 4 distribution moments: Mean, Variance, Skewness, and Kurtosis.

For constant hitting (M1), the preferred test is a direct binomial test on all trials. This is the best test under the assumption of no psi-missing. With psi-missing (models M2 and M3), mean tests like the binomial quickly lose power as the proportion of missing increases, and the power is zero if hitting and missing are balanced. Under this scenario, tests of higher moments can still reveal the presence of psi. Variance,

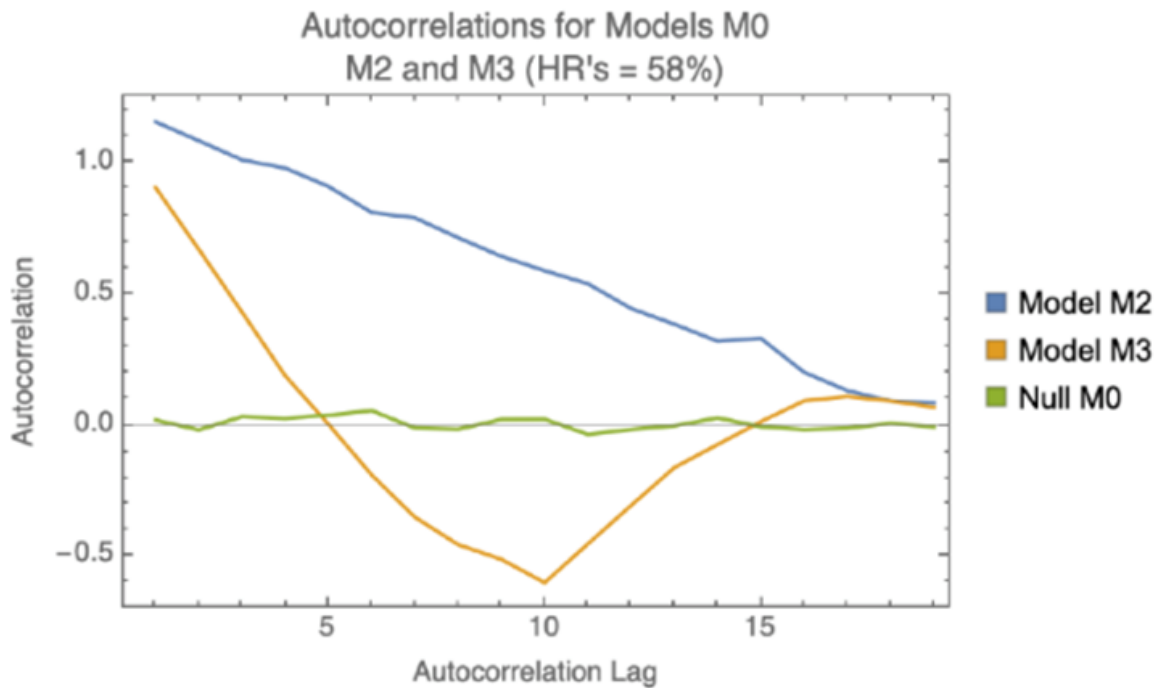
skewness, and kurtosis are usually taken as central moments (i.e., relative to the sample mean). To test against the null, however, it's important to use modified raw moments,  $m(n) = \Sigma(|x - \mu_{Null}|^n)$ . The moment is calculated with respect to the null mean,  $\mu_{Null}$ . Under model M2 and for  $n = 2, 3$  and  $4$ , these moment statistics have constant power as the hitting fraction varies from 100% to 50%. The raw variance,  $n=2$ , has the best power. Mean tests have far more power when the hitting fraction is high, but when the hit/miss ratio lowers to about 2:1, the raw variance has comparable power. Thus for M2, the raw variance is the best moment test. Its power is independent of the relative amount of psi-missing in the data.



**Figure 1.** Power curves for the first 4 raw moments under model M2. Mean tests have greater power when the hit/miss fraction is above 2:1, and zero power when hitting and missing are at 50%. Higher raw moments are unchanged as the hitting fraction decreases from 100%, with the variance the most powerful. This gives an advantage to using the raw variance as a pre-stated test when psi-missing seems a possibility for an experiment. The power curves are generated by Monte Carlo simulations for 108 sessions of 20-trials each.

*Tests of trial autocorrelations.* When psi-hitting and missing occurs within a session (M3), tests based on moments will lose power as the hit/miss ratio approaches 1. In this context, psi can still be detected through the autocorrelation. Expected autocorrelations for M2, M3, and the Null models are shown in Figure 2. Note from the figure that the trial autocorrelation can detect psi (i.e., is distinct from

the Null) under both models M2 and M3. The best statistic for this purpose is the regression slope, which I note as LRm. For model M2, LRm has more power when regressed on the full autocorrelation; for M3, the regression is taken on the first half (up to Lag 10 or 11, in this example). This gives two correlated test statistics, the first of which has greater power under M2. The LRm for the truncated autocorrelation is more sensitive to M3.



**Figure 2.** Expected trial autocorrelations across sessions for the different models. In these simulations, the hit rate parameter is set to 58% for M2 and M3 and is 50% by definition for M0. The inflection point for M3 (yellow trace) is built into the model, which specifies equal amounts of hitting and missing runs within each 20-trial session. The inflection will be less well-defined if the model randomizes this hit/miss proportion across sessions. The curves average 1000 MC simulations with 108 sessions of 20 trials.

**Discussion:** Forced-choice type experiments can produce psi-missing, which hides the presence of psi effects. Trial-by-trial feedback may be particularly conducive of psi-missing due to its potentially strong impact on the psychological state of participants during sessions. Psi effects can still be detected if tests adapted to the possibility of psi-missing are used. In devising these tests, it has been useful to model different scenarios for psi-missing and examine tests and statistical powers accordingly.

Future directions for this work are to detail the powers of tests as a function of study size and of session size. Preliminary work indicates that experiments in this class that run fewer than 20 trials/session risk a severe loss of statistical power. It may be preferable to have even more trials per session. Fears that too long a session will lead to the lowering of participants' performance may be mitigated by adapting the autocorrelation tests. These issues can be addressed by more power studies on the statistics.

The PA presentation will show how the tests can be applied to some recent psi experiments, revealing psi effects that can be hidden if psi-missing analyses are not fully employed.

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## Psi@Home: A Platform for Collaborative Psi Research

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**Introduction:** Skepticism towards psi research is reinforced by two persistent obstacles within parapsychology: the difficulty to replicate results and the lack of convincing theoretical models. The issue of replicability clearly has a direct impact on research, and it is arguably the more critical issue: to advance, theory needs experimental input. When psi effects are difficult to produce and replicability is poor, this input can be blocked.

The Psi@Home program seeks to ameliorate the replicability problem by building a new experimental paradigm for parapsychology. In our view, for a psi protocol to be fully successful and counter unreasonable skepticism, it must do more than produce consistent results. Protocols must also be replicable from a *practical* standpoint. But has parapsychology really produced an adequately practical protocol in this sense? A case in point is the auto-Ganzfeld. A well-powered replication (with effect size  $\sim 0.1$ ) requires over 500 Ganzfeld sessions, each taking several hours to set up and run. Such an undertaking would need several years to accomplish and require considerable prior experience on the part of the researchers. This sets an overly high bar for outside researchers to enter the field. Thus, practical protocols are required so that scientists both within and outside of parapsychology can undertake reliable experiments without such onerous overhead.

The Psi@Home research program aims to develop a new experimental paradigm, rather than a particular protocol. We seek an approach that can be adapted to the many experimental questions that need to be addressed. The paradigm thus must be flexible enough to allow for a wide range of experiments. Experiments must also be realizable by outside researchers. This means that studies need to be both practical, given typical resources, and also achievable for scientists new to the field. We term this aspect protocol transferability, and it is a crucial element of our program.

The Psi@Home paradigm takes a modular approach, designing protocols that aim to be reliable, flexible, and transferable. To achieve this, we focus on three basic protocol elements and innovate on each: the psi subjects, the psi task, and the experimenter's role.

**Methods:** The notion of subject is replaced by that of a 'proficient' cohort, with members selected for their potential to produce psi effects or to meet psychological criteria of psi performance. Cohort members are available for experiments on an ongoing basis. Cohort management is achieved through web technologies, with a sophisticated website that allows for informing, contacting, and scheduling cohort members. Zoom meetings are used to create a personal rapport with each member, an aspect that is key to psi experimentation.

The Psi@Home paradigm uses at-home, autonomous data collection to lessen the demand on resources and reduce laboratory overhead. Because people the world over can participate, highly selective criteria can be employed to create better-performing cohorts, which enhances protocol reliability. The psi task is integrated into a downloadable application installed on subjects' home computers. The task can be modified to address different experimental questions.

Psi@Home protocols address different hypotheses by modifying one or another of these elements. Studies can be completed rapidly by scheduling participants in parallel. Transferability is ensured since the psi application, cohort management system, and the cohorts themselves are available to outside researchers. However, they must first collaborate with the Psi@Home team so that the tacit knowledge of working with psi participants can be transferred as well.

Experiments involve deploying the application to a cohort and managing a study's progress. Generally, studies finish in a couple of months. The rapidity is possible because cohort members can produce multiple sessions in parallel.

The paradigm's modular aspect is evident when designing new studies. 1) New psi tasks can be developed for the application, either by the project team, collaborators, or outside contractors. Applications can be tested with cohort volunteers during development. 2) New cohorts can be created. 3) Previous cohort data are available to facilitate the development of test statistics and power estimates.

Outside collaborators are welcome to use the Psi@Home infrastructure. For access, experimenters must be first trained by Psi@Home staff on the technical aspects and then learn how to interact with Cohorts by collaborating on a pilot study.

**Results:** To date, we have collected data from over 200 experimental sessions, involving 3 separate cohorts. Further studies are ongoing. The cohorts currently consist of advanced, long-time practitioners of meditation (Meditator Cohort), those with training or professional activity in remote viewing or other psi techniques (Psi Arts Cohort), and people who are open and interested in psi phenomena in a general sense (the Open Cohort). The data produced so far show a rich variety of psi effects, including evidence for psi-missing for the current forced-choice psi task. Deviations from the Null hypothesis in a pilot study were at 3.6 standard deviations. This encouraging result is the impetus for our continuing work on the Psi@Home project.

**Discussion:** A review of the first Psi@Home study and ongoing studies will be presented, along with the latest analyses and assessments of the Psi@Home program.



## **Vegetarians and Meat Eaters: Testing Relative Performance in a Precognitive Ganzfeld Remote Viewing Task**

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**Introduction:** We present an analysis of an experiment to test the relative performance between vegetarians and meat eaters at a precognitive ganzfeld remote viewing task. A number of spiritual traditions include accounts of supernormal powers that are sometimes associated with vegetarianism; for example, yogis who are strict vegetarians are said to exhibit powers such as mind-reading (Lamb, 2011); and several authors have related vegetarianism to both spirituality and psi (e.g. Blavatsky, 1889; Carrington, 1920; Cousens, 2009). At the SSE-PA conference in 2021, we presented an analysis of interviews with psi adepts who use vegetarianism and fasting to enhance sensitivity to psi (Daw et al., 2021). At last year's SSE-PA conference, we presented an analysis of surveys that showed self-reported psi experiences to be positively associated with vegetarianism, fasting, and other dietary practices among selected samples (Daw et al., 2022). This paper builds on these studies to explore whether such findings might persist in a test of psi under controlled laboratory conditions.

**Methods:** The ganzfeld remote viewing protocol employed in this study involved inducing in the participant a mild altered state of consciousness by minimizing stimulation through dispersed red lighting and relaxing sound, during which the participant provides information through creative open-ended response related to a future 'target' about which it is not possible to ascertain any information through normal sensory means. Meta-analytic results for protocols such as this reach high levels of significance and mean effect sizes of up to .15 for ganzfeld and .39 for remote viewing (Cardeña, 2018).

Following recent similar studies (Roe et al., 2020; Watt et al., 2020), we adopted a precognitive design involving one participant per trial (as opposed to telepathic designs, which typically involve two) because this simplifies recruitment, avoids the potential for collusion between participants, and allows for robust mechanisms to rule out any possibility of experimenter fraud. We used five pools of four photographs of physical locations from Google Earth. What the participant relates during the session is transcribed by the experimenter as a 'mentation'. When the session was over, one of the 20 locations was randomly selected as a target and shown to the participant. Soon after the session, without knowing which location was the target, an independent judge was asked to assign similarity scores for the mentation against each of the four possible targets in the selected pool, allowing the target location to be ranked 1-4.

We adopted a quasi-experimental design with vegetarianism as our primary independent variable leading to two equal-sized participant groups. Our main hypothesis was that vegetarians would perform better than meat eaters. Secondary independent variables and associated hypotheses (which were not controlled through recruitment) included those related to fasting and other dietary practices. We recruited 40 participants through convenience and snowball sampling, each of whom took part in a single trial. No other pre-selection was applied, although participants were at least interested in the study's topic and so open to the possibility of psi. We were aware before the experiment took place that this

number of trials is underpowered and would be unlikely to yield results reaching statistical significance. The study was preregistered (Daw, 2022) and is also to be included in a prospective meta-analysis of ganzfeld studies (Watt, 2017).

**Ethics:** Ethical approval was from the University of Northampton (ETH2122-0096). Participants were over 18 and were asked to confirm that their participation was voluntary; that the ganzfeld may cause them to feel drowsy; and that they would not be able to see results of their individual performance. Participants could withdraw at any time for up to seven days after their trial, and their data anonymized. Participants did not change their diet for the purposes of this study.

**Results:** As specified in preregistration, our two primary techniques for analysis were sum of ranks (Palmer, 1986, p. 148), and mean z-scores for target locations, calculated using similarity scores where a higher z-score for the target equates to a more accurate correspondence with the mentation (Palmer, 1986, pp. 145-146). In common with other ganzfeld studies, we also report direct hit rates against a mean chance expectation (MCE) of 25%. All probability values are conservatively set as two-tailed.

Tables 1 and 2 show our sum of ranks and mean z-score results for the whole sample and for our main participant groups. The result for the whole sample is a direct hit rate of 28%, which does not differ significantly from MCE (binomial  $p = .830$ ).

Whilst vegetarians performed better than meat eaters as hypothesized, neither sum of ranks result is significant, although the finding for vegetarians is suggestive ( $p = .058$ ). Vegetarians achieved a hit rate of 40% and meat eaters 15% (The sub-group of vegans alone [ $n = 15$ ] achieved a hit rate of 47%). None of these results is significant (for vegetarians, binomial  $p = .204$ ; for vegans,  $p = .113$ ). Neither of the mean z-scores for the two main participant groups is significant, although for vegetarians, it is suggestive ( $p = .072$ ). No selection differences between the two main groups were found to be significant.

Other notable results include a significant finding for participants who conducted their session in a fasting state and suggestive findings for those who habitually abstain from alcohol. None of the individual characteristics that have previously been hypothesized to affect performance in psi tasks, such as belief in psi, extraversion, personality, and creativity, approached significance.

**Table 1*****Ranks for target locations***

	n	First	Sec- ond	Third	Fourth	Sum of Ranks	z-score	p	ES
All	40	11 (28%)	14 (35%)	9 (23%)	6 (15%)	90	1.34	.180	.21
Vegetarians	20	8 (40%)	6 (30%)	4 (20%)	2 (10%)	40	1.90	.058	.42
Meat eaters	20	3 (15%)	8 (40%)	5 (25%)	4 (20%)	50	.10	.920	.02

Note. n = size of sample. ES = effect size, calculated using  $z/\sqrt{n}$ . p = probability value (two-tailed)

**Table 2*****Mean z-scores and one sample t-tests***

	n	M	SD	T	df	p	ES
All	40	0.17	1.0	1.1	39	.292	.17
Vegetarians	20	0.42	1.0	1.91	19	.072	.43
Meat eaters	20	-0.08	0.98	-0.38	19	.709	-.09

Note. M = mean. SD = standard deviation. t = test statistic for one sample t-test against a test value of zero. df = degrees of freedom. ES = effect size

**Discussion:** We believe that this experiment represents the first time that diet has been tested for its effect on psi under controlled conditions. Despite the lack of confirmation of our main hypothesis, results were nevertheless suggestive. Vegetarians achieved an effect size for sum of ranks (.42) that exceeds the equivalent effect size of previous similar studies (.40 for Roe et al., 2020, and .21 for Watt et al., 2020), and also the mean effect sizes found in Cardeña's (2018) meta-analyses of various types of ESP experiments, which range between .03 and .39. Results cannot be explained by any of the other individual characteristics often suggested as important in performance in a psi task that we measured. That vegetarians perform better at psi than meat eaters is in accordance with much historical and contemporary literature and with findings we presented at previous SSE-PA conferences in 2021 and 2022. Findings from this current study provide some justification for the future inclusion of measures with respect to vegetarianism and meat-eating (and perhaps other aspects of diet) in experiments that test psi performance in order to confirm the exploratory findings presented here. We note a comment made during the review of this paper that our procedure could have been improved by using more than one person to judge participant mentations.

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## Macro-PK Experiments: Level of Control - Repeatability - Distance Effect - Confinement Effect

*Eric Dullin, David Jamet, & Steeven Frosio Roncalli*

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**Introduction:** In different publications like in the *Journal of Scientific Exploration* (Dullin & Jamet, 2018), in the *Journal of Parapsychology* (Dullin & Jamet, 2020) or presented at the SSE-PA Connections Conference (Dullin et al., 2021), methodologies and results concerning the study of macro-psychokinesis on lightweight spinning objects, in a non-confined environment, were presented.

The results obtained tend to prove that the motion of the target in these experiments cannot be attributed to thermal/aerodynamic effects. Compiling all the facts from the beginning of this research, discarding the different classic physical causes of the movement, the hypothesis of some macro-PK effects has been placed.

In order to better qualify these effects, this paper presents ongoing research that was conducted since 2021 in different directions: the ability or not for the putative PK-agent to control the movement, the level of repeatability of the experiments, the impact of the distance of the PK-agent from the target, and the impact of the confinement of the target.

Some research was conducted by the Rhine Research Center in 2014, particularly on macro-PK effect in a confined environment, and the impact of the mood of the agent (Black & Carpenter, 2014). For the distance effect, following his work on RSPK cases, G. W. Roll proposed an attenuation effect (attenuation of the number of incidents with increased distance from the agent) (Roll, 1977).

**Methods:** Most of the experiments presented are exploratory experiments. The PK-agent follows a simple protocol to conduct the experiment. Two other researchers (in different places in France) work with them to analyze the results, conduct control experiments, and improve the research process.

For the experiments on the level of control, the PK-agent introduces a warming-up (15'), without any goal attached. Then they try to define his mood state/confidence, place the target, set up video equipment (smartphone), sometimes two, with two different angles of view, to have a better survey of what's going on.

Then, the PK-agent conducts the experiment, including sometimes several trials, explaining what is happening from their perspective.

These experiments have been done several times a week.

Then they produce a short report with the videos attached which are put on a shared drive.

Each video is reviewed and analyzed at least by one other researcher (Ph.D. level) to detect any anomalous event, and a parallel report is produced associated with the initial report. Some videoconference meetings are done along the road to exchange the results obtained and to frame the research process for the next steps.

Also, some control experiments are conducted in parallel on the same material used by the PK-agent to compare results obtained by the PK-agent with a "normal" situation.

This is an ongoing process with improvement on the equipment and the reporting process.

The targets are either a plastic hemispheric dome weighing 2.45g (for more detail, see Dullin & Jamet, 2020) or a psi wheel weighing 0.15g. For the experiments concerned for this presentation, the psi wheel (very sensitive to air currents) is only used in a confined environment.

**Results:** Here are the main results following more than 230 trials since 2021:

- The PK agent showed some capacity of control, which could not be explained by anomalous cognition. This will be detailed during the presentation.
- A clear repeatability using a plastic dome target in a semi-confined environment has been obtained on 12 sessions totalizing 80 trials with 76 successes (95%), success measured as the set in motion of the target on at least one continuous turn. A control experiment without the PK agent showed no movement of the same target in the same configuration.
- Six trials show the continuous spin (stopped manually after around 2.5mn) of the plastic dome (2.45g) at a distance of four meters with a speed of up to 20s per turn. In three of these trials, the target was in a reversed jar (so opening on the top).
- Nine trials showed continuous spin of a psi wheel during 1 to 9mn after the initial stabilization within a double jar confinement. One psi wheel was running while another psi wheel in the same jar was standing still. For three trials, the PK agent left the room and closed the door with the psi wheel still spinning without visual connection with the targets.
- The lack of confidence at the start of the trials didn't seem to be the main inhibitor for success. The mood factor (agitated, nervous, stressed) looks to be more important.



**Figure 1.** PK experiment on aluminum psi wheels with a double jar confinement and the PK agent leaving the room.

**Discussion:** These results are preliminary and need to be confirmed by some control experiments on the site of the PK-agent (done successfully in May 2023). However, the following points can be mentioned:

- The methodology used with PK-agent experimenting from home gives the capability of multiple experiments. Since November 2022, we are on the basis of one report a week (outside the vaca-

tion period). Even if it could not be considered lab experiments, the process is improved regularly in order to give enough external review of these experiments. Also, the PK-agent doesn't do other experiments outside the one reported that avoids the file drawer effect.

- The repeatability obtained with detailed documentation (videos, report) seems to be in contradiction with the elusiveness principle often attached to these phenomena.
- Although some precedent experiments done in our lab seems to present a decline effect with the distance, confirming the attenuation effect proposed by G. W. Roll, these new experiments with this PK-agent didn't show an impact of the distance on the rotational speed of the target. This has to be confirmed/infirmated by further research.
- The experiments with the psi wheel within double jar confinement and PK-agent leaving the room demonstrate that the effect can be obtained without any visual contact with the target.

To better understand this putative PK-effect, on the confinement factor, a new experiment is in development using a sufficient vacuum to eliminate any potential air action on the target, and, on the distance factor, some experiments are conducted through the internet.

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## Research with the Questionnaire on the Phenomenology of Exceptional Experiences: From PAgE-R to PExE-II

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**Introduction:** We present a validated and, for the second time, revised and redesigned version of the “Questionnaire on the Phenomenology of Exceptional Experiences.” The instrument has previously

been known as PAgE, which is the German acronym for “**Ph**änomenologie **A**ussergewöhnlicher **E**rfahrungen,” and is now abbreviated as PExE in the English translation. The construction of the questionnaire is based on a phenomenological classification system for exceptional experiences (ExE) developed by Fach (2011). It is inspired by Metzinger’s (2003) theory of mental representations but, in contrast, remains neutral with respect to the ontological status of ExE. According to his approach, the human mental system produces a *phenomenal reality-model* comprising the totality of all mental states consciously experienced at a given time in a *self-model* and the *world-model* as its fundamental components.

With a response format of a five-point frequency scale, it captures exceptional phenomena, i.e., mental representations that constitute exceptional experiences (ExE), in four basic classes: (1) *external phenomena* located in the world-model (e.g., poltergeist phenomena); (2) *internal phenomena* located in the self-model (e.g., ego-dystonic phenomena); (3) *coincidence phenomena* as exceptional connections between the self-model and the world-model (e.g., extrasensory perceptions); (4) *dissociation phenomena* as exceptional separations of the self-model and the world-model (e.g., out-of-body experiences).

The PExE was first revised in 2011, redesigned as PExE-R, and translated into English (Fach et al., 2014). Since then, it has been used in a number of studies (e.g., Fach et al., 2013; Landolt et al., 2014; Schmidt et al., 2019; Wyss, 2016). Unterrassner et al. (2017) ignored the purely phenomenological intention of the PExE-R, i.e., its independence from psychopathological categories, and equated exceptional phenomena with subclinical symptoms on a psychosis continuum. Using factor analysis, they identified three dimensions, which they labeled “odd beliefs,” “dissociative anomalous perceptions,” and “hallucinatory anomalous perceptions.” With these factors, they questioned the content validity and theoretically presupposed dimensionality of the ExE construct. However, their approach suffered from technical flaws, and their use of the factors as scales without conducting the required item and scale analyses does not meet test-theoretic standards. We conducted a validation study that showed that the ExE construct had the expected dimensionality after appropriate selection of weak and ambiguous items. As a final result, the PExE-R was revised again and transformed into the PExE-II. The new questionnaire and the results of a follow-up study that reconfirmed its validity are presented in detail.

**Methods:** We first examined the validity and reliability of the PExE-R with factor analyses, item analyses, and scale analyses on samples from four studies in different research contexts: (1) clients of the IGPP who reported ExE ( $n = 270$ ; Fach et al., 2013); (2) participants in an online survey on near-death experiences ( $n = 176$ ; Nahm et al., 2020); (3) students ( $n = 333$ ) who completed the PExE-R during lectures at the university of Giessen (Ott, 2011-2014) and presentiment experiments at the IGPP (Siller et al., 2015); (4) a sample of the Swiss general population surveyed as part of a study at the Psychiatric University Hospital Zurich ( $n = 1352$ ; Landolt et al., 2014). After improving construct validity and reliability of the scales, we designed a new questionnaire format and retested the PExE-II on three samples from four subsequent studies: (1) clients of the IGPP and the parapsychological counseling service (directed by von Lucadou and also located in Freiburg) surveyed in an online study on meaning in life and ExE ( $n = 193$ ; Zwickel, 2019); (2) students ( $n = 450$ ) participating in questionnaire studies on correlates of ExE with personality traits respectively the Big Five (Krischke, 2018) and absorption capacity (Szkotnicki, 2018); (3) individuals who reported sleep paralysis in an online study ( $n = 380$ ; Mayer & Fuhrmann, 2022).



**Results:** The initial structural analysis with all 32 items covering exceptional phenomena revealed heterogeneous patterns and multiple factor loadings across the four samples. After reducing the item pool by removing 12 weak and problematic items with multiple loadings, a solution with one global factor and four subdimensions proved to be the most robust and generalizable model for all samples. Based on the factors and item analyses, reliable scales for *externality*, *internality*, *coincidence*, and *dissociation* of exceptional phenomena in ExE were constructed. Further changes in response format and design constitute the new PExE-II. The questionnaire now consists of 20 randomized items to assess the (1) frequency of exceptional phenomena in four basic classes, 8 items on the (2) temporal occurrence of ExE, 16 items on the (3) circumstances of their occurrence, and 11 items to assess (4) sociodemographic data. In the three-sample follow-up study, the Cronbachs- $\alpha$  values of the subscales with 5 items each ranged from .79 to .84 in the ExE sample, from .67 to .72 in the student sample, and from .66 to .78 in the sleep paralysis sample. The internal consistency of the 20-item global scale achieved  $\alpha$ -values between .86 and .89.

**Discussion:** Because the results are based on a principal axis factor analysis, the factors can be interpreted as latent dimensions underlying the manifest basic class phenomena of ExE. In summary, the factor analysis yields a bifactorial model with one global factor that can be differentiated into three or four stable subfactors, depending on the size of the sample and the frequency with which ExE occurs in it. The occurrence of the factors was consistent with the theoretical assumptions in all samples. The items of the basic classes postulated to be complementary, i.e., *internality vs. externality* and *coincidence vs. dissociation*, never formed a common factor. Considering that the stable 4-factor solutions occur in completely different samples, the four factors can be understood as generally valid structural determinants or ordering principles of the mental representation of ExE.

In collaboration with colleagues, the PEXE-II has now been translated into English (Christine Simmonds-Moore), French (Renaud Evrard), and Italian (Patrizio Tressoldi). Initial data from studies with subjects from these countries are already available. Further translations and studies are to follow. Future research will have to show whether the universality of the structural determinants can be confirmed in international studies beyond the European and Western regions. We assume that the foundations of the mental representation of ExE are universal and apply to all people who have a phenomenal model of reality that distinguishes between self and world, as is the case in any modern society. In all samples studied to date, including meditators and a sample of the U.S. population, we have found comparable proportions of phenomena in the four basic classes (Atmanspacher & Fach, 2019). Accordingly, coincidence phenomena are the most common, followed by internal and external phenomena with lower but similar frequency, and dissociation phenomena, which are by far the least common. In other cultures, there could be deviations from this distribution. Differences could also exist in the specific phenomenology of ExE and in the frequency of certain ExE-patterns. We hope to address these questions in future collaborations with other researchers.

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## Individual Difference Factors Affecting ESP Performance Following Ganzfeld Stimulation: A Meta-Analysis

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**Introduction:** The ganzfeld technique has been used since the 1970s as a means of eliciting extra-sensory perception effects under controlled laboratory conditions (Braud, Wood, & Braud, 1975; Hon-

orton & Harper, 1974; Parker, 1975). This method entails seating participants in a reclining chair so that they are relaxed and comfortable. Eye shields are placed over the eyes so as to evenly distribute light from a red lamp across the visual field. Headphones are used to play progressive relaxation instructions followed by continuous white noise. Providing such homogenous visual and auditory stimulation is believed to lead to habituation; as attention shifts away, pattern-less, information-free channels help re-orient towards inner sources of information. ‘Sensory hunger’ is believed to encourage internally-generated imagery that could incorporate psi-mediated information (for a longer discussion of the rationale, see Roe, 2009, Williams 2011). This experimental approach has been popular in parapsychology: Tressoldi and Storm (2021) identify 113 experiments consisting of 4,841 trials that have been reported in 78 papers by 46 different principal investigators. This database yields a mean hit rate of 31.4% where chance expectation is 25%, a difference with odds against chance of approximately  $1.88 \times 10^{-24}$ , leading them to conclude that “there is sufficient evidence to claim that it is possible to observe a non-conventional (anomalous) perception in a ganzfeld environment” (p. 11). Storm, Tressoldi, and Di Risio (2010) found that effect sizes of experiments using the ganzfeld technique compare favorably against other noise reduction and free response research methods.

However, reviewers have also noted that experimental outcomes are heterogeneous, and some attention has been given to identify factors which may contribute to that variability. One such factor is the use of selected participants. Storm et al. (2010) compared ganzfeld experiments that involved selected and unselected participants; the former yielded a mean hit rate of 40.1%, corresponding to an effect size of 0.26, whereas the latter yielded a mean hit rate of 27.3%, corresponding to a significantly lower effect size of 0.05. While this certainly presents an encouraging case for the practice of preselecting participants for ganzfeld studies, it begs the question concerning which criteria should be used to make those selections.

The recommendation to screen participants can be traced at least as far back as Bem and Honorton (1994), who found that successful performance of novice participants was significantly predicted by reported personal experiences, involvement with meditation or other mental disciplines, and high scores on the feeling and perception (FP) factors of the Myers-Briggs Type Inventory. They also noted that this pattern of performance had been independently replicated by Broughton and colleagues in a different laboratory (though this was not the case by the time that study was completed – see Broughton & Alexander, 1997). However, when Honorton (1997) sought to identify a “recipe for success” for ganzfeld novices who participated in the PRL series of experiments, he conceded that none of the four factors he identified (the three factors described by Bem and Honorton, plus prior psi testing) was able unilaterally to differentiate between successful and unsuccessful studies; rather, he recommended a multi-factor approach in which novices would have to meet three or four of these criteria in order to participate. In the discussion, he added extraversion to this list, based on outcomes from a meta-analysis by Honorton, Ferrari, and Bem (1998), but did not indicate whether participants would therefore need to meet three, four, or all of these criteria to qualify.

Nevertheless, in Storm et al.’s (2010) review paper, studies were deemed to have used participant selection if at least one participant factor was used as the basis for recruitment or as a planned covariate for analysis. The paper contains a list of examples that includes three of the four factors sug-

gested by Bem and Honorton (1994) — FP is excluded — but adds belief in the possibility of psi. The wording suggests that the listing is not intended to be exhaustive. Other proponents for selection have also included variables that go beyond Honorton's recipe for success. For example, Parker, Frederiksen, and Johansson (1997) recommend that student samples are avoided, while Baptista, Derakhshani, and Tressoldi (2015) included creativity as an additional factor to their three-predictor model, but then argued that "investigators should strive to use participants who are artists, musicians, twins, those who are biologically-related, emotionally close, have prior psi experience, mental discipline practice, prior psi training, belief in psi, and/or other critical characteristics" (p. 199), which implies an additive model. However, when Watt, Dawson, Tullo, Pooley, and Rice (2020) selected participants based on Baptista et al.'s recommendation, they only required that participants reported "at least one of: practice of a mental discipline; previous psi belief or experience; and creative/artistic ability" (p. 25). In summary, then, although a number of researchers have argued strongly for participant selection, there does not seem to be a clear consensus on the specific factors that should be used for inclusion, or whether they can be used singly as *sine qua non* or should be used additively so that only participants who have a threshold number of a range of predictors would be included.

Consequently, we aimed to produce a comprehensive meta-analytic review of the free-response ganzfeld literature, modeled on Zdrenka and Wilson's (2017) review of forced-choice studies, to determine which individual difference variables reliably predict psi performance.

The study is exploratory, so no formal hypotheses are stated. Rather, the degree of association between each individual difference factor and ganzfeld performance will be computed as a weighted effect size derived from correlation or group difference statistics reported in the curated papers.

**Methods:** A comprehensive database of ganzfeld studies has been produced by Tressoldi and Storm (2022), and we are grateful to them for allowing us access to this resource. They carried out an online search with Google Scholar, PubMed, and Scopus databases of all papers from 1974 to 2020 including in the title and/or the abstract the word "ganzfeld." Identified studies were included in the database if they met the following criteria:

- Studies related to anomalous perception in a ganzfeld environment;
- Studies must use human participants only (not animals);
- Number of participants must be in excess of two to avoid the inherent problems that are typical in case studies;
- Target selection must be randomized by using a Random Number Generator (RNG) in a computer or similar electronic device, or a table of random numbers;
- Randomization procedures must not be manipulated by the experimenter or participant;
- Studies must provide sufficient information (e.g., number of trials and outcomes) for the authors to calculate the direct hit-rates and effect size values, so that appropriate statistical tests can be conducted;

- It is not a requirement for papers to have been peer-reviewed, so reports that appear only in “research in parapsychology” and “PA Proceedings” will be included.

Articles in the Storm-Tressoldi database were independently reviewed by the current authors to remove those studies that did not include at least one individual difference variable, either as a correlate of ganzfeld performance or as an independent variable that specifies discrete groups or conditions, or did not report on analyses involving these variables. Following Zdrenka and Wilson (2017, p. 12), individual differences were defined as variables that denote relatively stable personal characteristics, including demographic (e.g., age, gender), personality (e.g., extraversion, neuroticism), and experiential (e.g., prior experience, skills/practices) factors, but not situational factors (e.g., measures of responsivity to ganzfeld stimulation). Any discrepancies were resolved through discussion. Where possible, overlapping individual measures (e.g., different measures of belief) were grouped into families of similar constructs.

The study design and analysis strategy were pre-registered with the KPU Study Registry Study (<https://koestlerunit.wordpress.com/study-registry/registered-studies/>), ID 1065.

**Ethics:** Because the study involves secondary analysis, ethical approval was not sought.

**Results:** Reported effect sizes that describe the association between individual differences factors and ganzfeld performance were converted to a common effect size,  $r$ . Combined effect sizes, weighted by sample size, were calculated for all variables that are reported in at least one published paper. Effect sizes with 95% confidence intervals will be reported for the following factors: paranormal belief; extraversion; neuroticism; openness to experience; conscientiousness; agreeableness; practice of a mental discipline; prior experience creativity; dissociation; and transliminality. Recommendations will be made with respect to the factors that appear to be reliably related to performance, and for the adoption of a multivariate approach where participants could be selected on the basis of a combination of factors rather than individual factors.

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## Revisiting Sheldrake's Theory of Morphic Resonance

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We should like to acknowledge the kind support of the Parapsychological Association Research Endowment fund, which has enabled us to conduct the current study.

**Introduction:** Rupert Sheldrake continues to be one of the most influential thinkers with respect to phenomena that are difficult to account for in terms of conventional models of psychology and physics. His recent book, *The Science Delusion*, sold out within just four days of publication. He is perhaps best known for proposing experimental protocols that enable the scientifically untrained to investigate common anomalous phenomena for themselves using intuitive and straightforward methods that nevertheless afford some degree of scientific control (e.g. Sheldrake, 2002). But his most significant contribution might be an empirically testable theory for anomalous communication among genetically similar organisms, which he calls morphic resonance (Sheldrake, 2009). Sheldrake's theory describes how the thoughts or behaviors of physically isolated individuals might converge in a manner that is reminiscent of ESP because they are able to draw on a "morphic field" that acts as a record of an organism's or species' previous behaviors.

Sheldrake's potentially powerful theory makes testable predictions that, until recently, have resulted in surprisingly few formal experiments. Those that had been conducted gave a fairly consistently positive picture, tending to confirm predictions derived from morphic resonance, but were undermined by the tendency for results to be reported in popular accounts (e.g. Sheldrake, 2009) rather than peer-reviewed journal papers. We felt it important to replicate this work with word-based stimuli in a laboratory-based study that was designed to meet stringent scientific standards so that it could be submitted for journal publication as a full paper, irrespective of outcome. In our first such study (Robbins & Roe, 2010), sixty participants were exposed to genuine and imitative Chinese characters and then had to identify which characters they could recognize from a sheet that also included decoys. As predicted by the theory of morphic resonance, participants accurately recognized significantly more of the genuine than false characters, but also were more likely to report false memories (i.e., claim that they recognized items that were never presented) that were genuine characters than false ones. Participants' transliminality scores were also significantly related to their performance with presented characters but not with decoy characters.

These findings were interpreted as being consistent with Sheldrake's theory of morphic resonance rather than as a confirmation of it because the theory is as yet too poorly specified to rule out some artifactual causes. For example, despite special care being taken to ensure that the false characters were adapted from genuine stimuli and appeared plausible to a native Chinese speaker, it was possible that the genuine characters were inherently more memorable than those contrived, especially for the study, perhaps on aesthetic grounds. Any such difference could be restricted to just one or two of the stimuli used here, but since all participants were presented with the same small sample of five real and five false characters, even this could be sufficient to generate an overall difference between conditions.

In a replication study (Roe & Hitchman, 2011), we addressed these shortcomings by drawing upon a larger set of more systematically manipulated genuine and imitative characters, and using a more comprehensive system of randomizing across participants. One hundred and one participants were shown eight genuine and eight imitative characters and then took part in a distractor task before being presented with symbols in pairs (one genuine and one imitative) matched for complexity. Contrary to the previous study, participants correctly identified a similar number of real and imitative characters, and in fact, exhibited more false memories for the imitative; no relationship was found between performance and scores on measures of transliminality and openness to experience.

The most likely explanation would seem to be that the more thorough method in experiment 2 effectively removed weaknesses in the original design that produced an artifactual difference in memorability of genuine and imitative characters. However, it is also possible that the second experiment introduced some feature that inhibited performance at the task. For example, in shifting from a recognition task in which an array of symbols are presented simultaneously to a task in which symbols are presented with a matched pair, the recognition element may have been made too easy or may have encouraged guessing behavior so that there was no scope for performance to be enhanced by a morphic resonance effect. Alternatively, it may be that some of the genuine symbols employed in experiment 2, which had to meet strict criteria in terms of properties of the head component and number of additional strokes, were rarer or less salient than some of the symbols from experiment 1, and so did not benefit from a 'strong' morphic field.

**Research Aims:** The present study was designed to account for the discrepancy between experiments 1 and 2 by discriminating between the competing interpretations described above. This was achieved by adding the symbols from experiment 1 to those used in experiment 2 so as to determine whether participants would continue to show better performance for the former stimuli when they are presented to the same participants under the same experimental conditions.

We have also explored the effect of the form of recognition task on performance by including three recognition conditions: selection from among an array of simultaneously presented symbols, as in experiment 1; selection from between paired symbols as in experiment 2; and rating of familiarity for symbols when presented singly. These variables are investigated using a 2x3 mixed design in which participants experience both sets of stimuli (from experiment 1 and experiment 2, respectively) and one of three recognition formats. We have retained the individual differences measures utilized in experiment 2, namely transliminality and openness to experience.

**Data and Methodology:** The research project received ethical approval from the University of Northampton and an interim report was given at the PA convention in 2019 (Hitchman & Roe, 2019), but data collection was still ongoing when the UK went into lockdown in response to the covid epidemic. In 2023 we appointed a research assistant and were in a position to complete the study. We should like to report on the final findings from this project.

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## **“It’s Chaos and Peace”: Unexpected Mediumship Awakenings After the Loss of a Loved One, and Implications for Mental Health Practice**

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**Introduction:** Ample research has explored the phenomenon of mediumship (i.e., the ability to dynamically communicate with deceased people), with most literature centering on “born” mediums, or



those who have been aware of their abilities from early on in life. Sudden awakenings of mediumship in adulthood have been less explored, and when they are, tend to be in the context of near-death experiences (e.g., Greyson, 2021) or, to a lesser extent, the end of one's own life (e.g., Kessler, 2014).

In a related vein, studies on the afterlife have explored receiving signs from deceased loved ones (e.g., Dagget, 2005; Kwilecki, 2011) and sensing their presence after death (e.g., Keen et al., 2013). There has been less consideration, however, of awakenings of a bereaved person's mediumship—a deeper, more interactive experience than receiving signs or sensing a deceased person.

The aim of this study, therefore, is to understand the phenomenon of unexpected mediumship awakenings after the loss of a loved one. This study was inspired by the lived experience of the author, a researcher/practitioner and professional working medium, whose ability suddenly awoke when her late husband passed away.

**Methods:** This paper presents preliminary results from the study's first wave of data collection, which began in February 2023. Twenty-six individuals participated in this wave (two men; twenty-four women). Participants came from various countries, including the United States, England, Ireland, and France. The research was conducted in English.

The participants self-identified as one of four types of mediums: (1) professional practicing mediums, (2) developing mediums in training, (3) "informal" mediums who have not trained but conduct mediumship readings for others (e.g., friends or family), and (4) "informal" mediums who have not shared their abilities.

Participants were recruited by responding to an invitation to participate, which the author disseminated via her email listserv and professional social media accounts. Approximately 2500 individuals were reached. Other researchers and practitioners in the mediumship/spirituality space also shared the invitation with their networks.

Data collection was conducted through two instruments: (1) an online qualitative questionnaire, which screened for meeting inclusion criteria and collected descriptions of participants' mediumistic abilities; and (2) individual follow-up interviews. The interviews were conducted online via Zoom and digitally recorded, lasting between one to two hours.

Interpretive phenomenological analysis (IPA) was used to analyze the data, yielding the following results.

**Results:** Participants reported receiving information from their loved ones through a variety of modes, including clairvoyant visions, voices, and other auditory communications, telepathic conversations, intuitive "knowings" or "downloads," and clairsentient interactions. The communications were repeated, dynamic (i.e., two-way conversations), intelligent (i.e., beyond the experiencers' conscious thoughts), and oftentimes verifiable with objective information. All participants communicated with their deceased loved one, and some were able to communicate with other deceased people as well.

Within these experiences, two main themes with sub-themes were identified: *chaos and disruption* caused by the dual experience of suddenly awakened mediumship amidst the loss of a loved one; and

*peace and knowing* that despite their chaotic nature, the mediumistic experiences were “very real” and a way forward in grief.

*Theme 1: Chaos and Disruption.* All participants discussed the chaos of suddenly being able to communicate with deceased people, in addition to the pain and trauma of losing a loved one.

The participants discussed feeling like they were “going crazy,” and some questioned whether they had developed a mental health condition (*fear of being mentally unwell*). Some described their sudden mediumship as unnerving and even frightening and wondered if the trauma of grief had manifested the interactions. Initially, participants were unsure how to manage and understand their newfound abilities and where to go for help.

Participants described a juxtaposition between knowing that the messages received from the spirit communicators were “very real” but nonetheless doubting the validity of their experience (*uncertainty and self-doubt*). Some wondered if their experiences were “just grief.”

Participants also discussed feeling alone in their grief and in their mediumship experiences (*isolation*). Some kept their mediumship hidden out of fear of being judged. Others shared that people in their support system, including friends, family, and even grief counselors, doubted or dismissed them and suggested that the participants were “holding onto something that was not there.” This made the participants question their mediumistic experiences—and mental health—even more.

Various aspects of the participants’ lives were uprooted by their dual experience, which caused shifts in their identity, career, relationships, and belief system (*an obliterated worldview and sense of self*). They were existing in the world in a completely new way; what was “real” before was no longer reality, and what was reality now did not exist before. While they were uncertain of who they now were, they knew they could not go back to who they were before.

*Theme 2: Peace and Knowing.* Although the awakening was chaotic and disruptive, the participants found hope, guidance, and tremendous healing in their communications as well as the strength to “move forward.”

Participants still felt pain from the loss, even many years after, but the dynamic, continued interactions with their loved ones and other spirit communicators brought a sense of peace (*easing the pain of grief*). Many participants believed they would not have survived acute grief if not for their mediumistic connections. All participants expressed knowing that their loved ones were still actively with them and felt supported and guided by them.

With time, healing, and the development of their abilities, the mediumistic connections became less about survival and more about reintegrating the relationship, albeit in its new energetic form (*moving forward through continued connection*). Participants discussed healing with their deceased loved ones as well as working and growing together.

Most participants felt that their abilities and loved ones were leading them towards a particular purpose, be it a specific calling in life or developing the continued connection (*newfound meaning and*

*life orientation*). The participants who became practicing mediums explained how this led them to formally develop and that their loved ones played a role in their professional work.

Finally, the participants found belonging among other bereaved people with similar mediumistic experiences (*community and support*). Finding these connections, however, was a painstaking process; few people in the grief space were talking about such experiences.

**Discussion:** Not only does the phenomenon of sudden mediumship awakenings in grief exist, but it is also poised to be a transformational and healing experience for those undergoing it. However, the experience is also destabilizing, especially at the beginning of the awakening/in acute grief. For the participants in this study, their mediumship was inextricably linked to their grief and loss, and vice versa. These findings echo previous research that mediums tend to experience a higher prevalence of traumatic life events (Andrew et al., 2008) and mental health stressors (Roxburgh & Roe, 2013).

As much as participants' grief was tied to their mediumship, so was their healing. However, there was a lack of understanding of mediumistic experiences in the traditional grief and mental health space. Going forward in mental health practice, there is potential for clinicians informed by a parapsychology framework to help support clients going through this experience. Important points of intervention include normalizing mediumship openings and addressing concerns around mental unwellness (Wilde et al., 2019), as well as connecting the individual to the mediumship community to help them understand their abilities and integrate them into their lives.

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## Magic and Its Evaluation – Reports and Views of Practitioners

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**Introduction:** Magic and paranormal phenomena are inextricably linked. There is a scientific interest in magical practices and rituals as a research subject. The approaches are mainly historical or anthropological, or they come from religious studies or esoteric studies perspective (e.g., Otto & Stausberg, 2013). However, the basic assumption of these approaches is almost always that magic does not work, or else this question is ignored.

Parapsychologists have a reflexive and comprehensive approach to this topic, reaching from skeptical to experimentally driven inquiries. Although here, too, much in such fictional narratives is regarded as fantastic and not very realistic, phenomena that cannot be explained with conventional models of classical physics are not automatically excluded from the considerations. We find convincing evidence of the existence of telepathy, psychokinesis, and precognition from laboratory experiments (Cardeña, 2018) and from well-investigated case studies outside the laboratory (e.g., Mayer [Ed.], 2019). There are authors who explicitly seek to compare mythical and ethnographic accounts of magic and parapsychological findings (e.g. Radin, 2013, 2018).

In Western secularized societies, there is a more or less unbroken tradition of occult-magical practice (e.g. Hanegraaff, 2003). Contemporary magicians in such societies, who do not only practice magic for entertainment but turn to it in a committed way, then often called “magick,” seem to be well educated. While each of these committed magicians may have very different approaches to magic, most of them are probably aware of the apparent inconsistency of the magical worldview with the scientific models that govern society. At least, this is what the results of my study suggest (cf. Mayer, 2008, 2009). The goals of magical practice and rituals can be very different for each individual. This is already clear from the common distinction between high magic and low magic. Some use magic rituals to achieve pragmatic goals such as passing a good exam or finding a nice rental apartment. Others use it to promote the creative process in artistic work or to advance to new dimensions of consciousness. Yet others see magical practice as a means to progress on their spiritual path (Mayer, 2009).

**Methods:** In my previously conducted study among magick practitioners in German-speaking countries between 2004 and 2005, a larger part of the now presented data were already gathered, but the results have only been published as part of a German-language monograph. The data set consisted of 11 in-person interviews ranging in length from two to four hours, following a biographical-reconstructive approach. Nine of the interviewees were male, two female; the average age was 38. They were self-proclaimed magicians with occult practice of several or many years, which had become or still is relevant for them in everyday life. Persons who perform magical acts only in the context of religious practice, such as in Paganism, were excluded, as were so-called teen witches. The main aim of the series of guided semistructured interviews was to contribute to the understanding of contemporary forms of Western magic and the understanding of the “personality” of the magician. The questions addressed in this presentation about the evaluation of magical practice as well as extraordinary experiences in

this context represented only one aspect of data collection. To explore these questions in more depth, I conducted further interviews with two very experienced German magicians (in-person) as well as a younger practitioner (via Skype) who, however, also has several years of intensive practical experience. The interview guide for the recent interviews was based on the corresponding parts of the thematically structured guide from the first data collection. All interviews were recorded, and the recordings were transcribed. Due to the exploratory nature of the qualitative study, the results are largely descriptive.

**Results:** Examples of paranormal effects and experiences reported by the interviewed magick practitioners that they have causally related to their rituals can be categorized as “situation influencing,” “weather influencing,” “synchronistic events,” “psychokinesis and RSPK,” and “ASW.” Some reports are quite impressive such as weather influence, but usually a causal connection to magical practice cannot be proven. “Of course, it could also have been a coincidence,” I heard accordingly often in the interviews. The evaluation of efforts to perform magick is a central problem, not only from an external perspective but also for the magicians themselves. Similar to parapsychology, displacement effects (Irwin & Watt, 2007) or trickster effects (Hanson, 2001) are observed. This makes it difficult to objectively assess the success of a magick ritual.

However, other than parapsychologists, magicians only have to convince themselves and not others. Many of them seem to know about the usual cognitive biases such as over-generalizations, confirmation bias, autosuggestion, Barnum effect, etc., which may distort a realistic assessment. In order to get a feeling for the success of a magical ritual, the sensitization for the perception of synchronicities in the sense of Carl Gustav Jung (cf. Gieser, 2005) plays an important role for many – with the danger of deluding and prettifying oneself. Here it seems useful to distinguish between two classes of exceptional experiences (ExEs), even if the transitions are fluid (cf. Mayer & Gründer, 2011). Experiences of the first class have a largely *confirmatory* quality, i.e., they show that magic seems to “work” somehow. The assumed effects of magical practice typically manifest themselves in synchronistic events. In contrast, experiences of the second class, such as objects moving only through the power of thought, are likely to be intersubjectively interpreted as (physical) anomalies, independent of a particular worldview. ExEs of both classes occur, with the first class being experienced much more frequently in the context of magical practices.

**Discussion:** The results of the interview study show that it is not possible to generalize the person of the magician because the personalities, approaches, and experiences are too heterogeneous. However, it would be wrong in any case to regard these persons as superstitious cranks who are not to be taken seriously. Despite the aforementioned problem of evaluating the success of magical rituals, dedicated magicians could be of interest in parapsychological experiments because they are trained to focus their minds and develop vivid imaginations – qualities that could be advantageous when searching for particularly gifted subjects.

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## A Thematic Content Analysis of Near-Death Experience Aftereffects

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**Introduction:** This presentation is on the qualitative analysis of the open response questions from the first study of my doctoral thesis, *Wellbeing Impacts and Clinical Implications of Near-Death Experiences* (Pratte, 2021). The statistical findings of the first study were presented at the 62nd Annual Convention of the Parapsychological Association in 2019 (Pratte, 2019).

**Methods:** In this study, a 67-item online questionnaire was employed. Fifty-one people who identified as near-death experiencers (NDErs) participated. Questions were a mixture of multiple choice and open response to investigate how NDEs, as a whole, impact people along four dimensions:

1. Long-term and continuing changes in current sense of happiness and life satisfaction
2. Long-term and ongoing changes in perception of life's purpose
3. Long-term and ongoing changes in social relationships in general (e.g., relationships with family, friends, co-workers, etc.)
4. friends, co-workers, etc.)
5. Long-term and ongoing changes in mood

Written response questions were asked of the participants to facilitate a deeper and more personalized glimpse into reported changes after an NDE. Each of these questions was preceded by a closed-question/scale related to their respective dependent variable (e.g., relationships, careers, etc.). Thus, each written response question complemented a scale item to provide unique details relevant to the participant. Any participant who marked, "Somewhat negative changes that I see as undesirable;"

“Moderate negative changes that I see as undesirable;” or “Very negative changes that I see as undesirable,” to one of the questions related to aftereffects, was put into the Negative NDEr group.

Thematic content analysis (TCA) was employed to utilize the benefits of both thematic analysis (TA) and content analysis (CA). I used the inductive method, reading and re-reading the answers multiple times to familiarize myself with the data, noting my thoughts and reoccurring words (including their synonyms) and phrases and tallied their frequency amongst all the participants in each group. I then looked over this first draft of codes and condensed them further by identifying those which could be considered similar enough to be synonymous (e.g., hope and optimism were originally two separate codes/key concepts but in context, were similar enough to warrant their combination). I then tallied the codes/key concepts repeatedly until I reached a point where I was consistently getting the same amount/types of codes each time. In total, I checked frequencies and codes through six rounds of analyzing the data. Keeping in line with identifying aftereffects as positive, neutral, and negative, I then put the key concepts under these categories. Thus, each theme potentially had a mixture of positive, neutral, and negative aftereffects.

Through this, I uncovered six themes, three sub-themes, and 32 key concepts.

**Results:** The table below shows the results of the thematic content analysis; it presents the themes, followed by subthemes. Key concepts (codes) are organized under these subthemes and are categorized as neutral, positive, or negative, based on how the participants discussed them. In the fourth and fifth columns, are the percentage and number of Positive/Neutral NDE participants and Negative NDE participants who discussed, either via manifest or latent content.

Theme	Sub-theme	Category of After-effect	Positive/Neutral NDE Group (n = 36)	Negative NDE Group (n = 8)	Key Concepts
Making Sense of Life After Near-Death	Meaning Making	Neutral	33 (91.6%)	8 (100%)	Existence/personal experience
		Positive	32 (88.9%)	7 (87.5%)	Spirituality
	Reality	Neutral	31 (86.1%)	7 (87.5%)	Perception of reality
		Positive	23 (63.8%)	4 (50%)	Reality is a dream/Only love/spirit (God) is real
		Negative	-	2 (25%)	Reality is a nightmare*
	Reason for Living	Neutral	24 (66.6%)	7 (87.5%)	Purpose/mission/destiny
		Positive	17 (47.2%)	5 (62.5%)	Service/work

Theme	Sub-theme	Category of After-effect	Positive/ Neutral NDE Group (n = 36)	Negative NDE Group (n = 8)	Key Concepts
		Negative	-	3 (37.5%)	Gap in what one is doing vs should be doing*
Struggles with Emotions: Negative Feelings		Negative	13 (36.1%)	3 (37.5%)	Homesick
		Negative	5 (13.8%)	2 (25%)	Intolerance to certain feelings or behaviour (e.g., anger)
		Negative	2 (5.5%)	6 (75%)	Loneliness/isolation
		Negative	1 (2.7%)	4 (50%)	Depression/dread
		Negative	1 (2.7%)	2 (25%)	Fearfulness/distrust
		Negative	-	2 (25%)	Shame*
Seeds of Growth: Positive Feelings		Positive	17 (47.2%)	4 (50%)	Empathy
		Positive	16 (44.4%)	4 (50%)	Love/altruism
		Positive	15 (41.6%)	1 (12.5%)	Hope/optimism
		Positive	14 (38.8%)	3 (37.5%)	Appreciation/gratitude
		Positive	11 (30.5%)	3 (37.5%)	Fearlessness
		Positive	4 (11.1%)	1 (12.5%)	More patience/forgiveness
How I See Myself: Self-Concept & Self-Awareness		Neutral	20 (55.5%)	6 (75%)	"Knowing"
		Positive	19 (52.7%)	4 (50%)	Self certainty/esteem
		Neutral	14 (38.8%)	6 (75%)	"Feeling Different"
		Neutral	11 (30.5%)	3 (37.5%)	Antisocial/introverted
		Neutral	7 (19.4%)	3 (37.5%)	Particular about people
		Neutral	5 (13.8%)	3 (37.5%)	More scientific/sceptical
		Negative	-	4 (50%)	Needing to hide true self*



Theme	Sub-theme	Category of After-effect	Positive/Neutral NDE Group (n = 36)	Negative NDE Group (n = 8)	Key Concepts
How Others See Me: Perception by Others		Negative	8 (22.2%)	7 (87.5%)	Misunderstood
		Negative	4 (11.1%)	2 (25%)	Lying (people believe the NDEr is lying)
		Negative	-	5 (62.5%)	Mentally ill/pathologized*
Sensitive in More Ways Than One		Positive	16 (44.4%)	5 (62.5%)	Paranormal/psychic/exceptional experiences
		Neutral	4 (11.1%)	2 (25%)	Hypersensitivity (physical)

There are key concepts present in the Negative NDE Group that are not present in the Positive/Neutral NDE Group; the key concepts are, “reality is a nightmare (n = 25%)”; “gap in what one is doing vs should be doing (n = 37.5%)”; “anxiety (n = 37.5%)”; “shame (n = 25%)”; “needing to hide true self (n = 50%)”; and “mentally ill/pathologized (n = 62.5%).”

**Discussion:** The key outcomes of the TCA included the following:

- The overwhelming majority of NDEr participants discussed the key meaning-making concepts of “existence/personal experience,” and “spirituality.” The majority of participants also discussed their “perception of reality,” with most of the Positive/Neutral Group and half of the Negative Group identifying it as positive and interpreting reality as a dream, love, and/or God.
- Identifying reality as a nightmare was exclusive to the Negative NDEr, with a quarter of the group identifying reality as such. Their perspective was related to aspects of the NDE itself being “nightmarish” but they also identified how socially unaccepted their experiences have been by their family.
- The majority of NDEr participants discussed how they came back for/with a purpose. Almost half of the Positive/Neutral NDEr and over half of the Negative NDEr identified this purpose as being of “service” to others.
- The negative concept of believing there is a “gap in what one is doing versus should be doing,” was exclusive to the Negative Group, with 37.5% identifying with this. These participants identified this as a major struggle, socially and psychologically.
- There were large discrepancies in the amount of negative feelings the Positive/Neutral Group experienced compared to the Negative Group. The Negative NDEr had much higher rates of

“loneliness/isolation,” “depression/dread,” and “fearfulness/distrust.” These feelings were mainly social in origin, in that the participants struggled with social distance, unacceptance and stigma which resulted in these emotions.

- The concept of “shame” was exclusive to the Negative Group with a quarter of Negative NDEs indicating that due to social stigma from family, they felt ashamed of their experiences.
- Positive feelings of “empathy,” “love/altruism,” “appreciation/gratitude,” and “fearlessness” were discussed by both groups with similar rates.
- “Hope/optimism” was also discussed by both groups but very disproportionately; 41.6% of the Positive/Neutral Group and only 12.5% of the Negative NDE Group identified as having hope or optimism. Hypothetically, the higher rates of “loneliness/isolation,” “depression/dread,” and “fearfulness/distrust,” in the Negative NDE Group may be involved in inhibiting the ability to develop “hope/optimism.”
- There were similar rates between the groups regarding being more “antisocial/introverted.” Both groups identified this neutrally. However, the key concept of “needing to hide true self” was only identified amongst the Negative NDEs with 50% reporting it.
- In a similar vein, negative perceptions by others were identified by both groups but disproportionately. Less than a quarter of the Positive/Neutral Group and almost 90% of the Negative Group reported feeling “misunderstood. Being perceived as “mentally ill” was exclusive to the Negative Group at 62.5%.
- Exceptional experiences and self-reported psychic abilities were identified by both groups and were perceived as positive. However, these experiences/abilities were noted by both groups, but primarily by the Negative Group, to cause negative challenges socially, and thus psychologically.
- While “empathy” and “love/altruism” were reported by almost half of the members of each group and were identified as positive by them, many of the participants remarked that these aftereffects/abilities caused them to be more “introverted/antisocial” and “particular with people.” This was not problematic if they had a healthy and close circle of support but was socially and psychologically problematic for those who did not.

Per these findings, social struggles are the prominent issue amongst the NDEr participants. These social issues, in turn, contribute to psychological struggles. Even when aftereffects are identified as positive and overall beneficial to the NDEr, the social ramifications may be negative, and offset the social and psychological dimension of the person’s wellness, which is a similar hypothesis proposed by Greyson (Greyson, 1994). This seems to be particularly true with people who had their NDE as children or teenagers, as per the quantitative analysis, people who had their NDE as children or teenagers tended to report more negative social aftereffects. These findings hone in on the social and psychological struggles of NDErs, offering groundwork into the exploration of what mental health professionals need to be aware of when working therapeutically with this population.

Limitations of this study include the relatively small sample size and the use of one researcher to analyze the data, but “trustworthiness” was ensured via credibility, transferability, dependability, and confirmability, which will be discussed in the presentation.

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## A Representative Sample Survey of Paranormal Beliefs and Experiences

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**Introduction:** Parapsychology is concerned with making sense of beliefs in and experience of phenomena which are often labeled “paranormal” and can be defined here as phenomena that seem to involve events or abilities that conflict with what C. D. Broad (1949/1953) called the “Basic Limiting Principles” of science. Broad described principles that he believed to be “so overwhelmingly supported by all the empirical facts ... that it hardly enters our heads to question them”. These principles and the experiences that seem to contradict them are listed in the following table:

<b>Broad's principle</b>	<b>Apparent exceptions</b>
Causes must come before effects	Premonitions, such as dreams that refer to (are caused by?) a future event
A person's mind cannot produce any direct change in the material world except those caused via the brain/sensorimotor system	Psychokinetic events, where people claim to have moved or distorted some object through an act of will; instances of healing intention

<i>Broad's principle</i>	<i>Apparent exceptions</i>
Any mental event is an event in the brain of a living body	Out of body experiences, where the center of experience seems to be located away from the body. Near-death experiences, where mental events seem to occur when the brain is inactive Mediumship communications purportedly from deceased persons
All knowledge of the world comes to us through our conventional senses or by inference from known facts	Telepathy, where people seem to know directly what is in the mind of another person Clairvoyance, where people acquire information from the environment not known by anyone

Prominent scientists have proclaimed that such phenomena are impossible and have no scientific basis. For example, Richard Dawkins (1998) concluded, "The paranormal is bunk. Those who try to sell it to us are fakes and charlatans, and some of them have grown rich and fat by taking us for a ride." Such beliefs and experiences are often described by skeptics as "anomalous" or "extraordinary," suggesting that they are rare aberrations, falling outside of the normal range of healthy human experience. However, this view seems to be true only for the academic mainstream.

The general public tends to believe that such phenomena are real and frequently claims to have had personal experience of them. For example, two representative surveys of UK residents conducted by the market research company Ipsos MORI (1998, 2003) found that up to two-thirds of their sample reported that they believed in various paranormal phenomena. Gallup polls with US samples (Moore, 2005; Newport & Strausberg, 2001) give a similar profile of belief to that of the UK.

Perhaps unsurprisingly, the most influential factor with respect to levels of paranormal belief is personal experience. McClenon (1982) found that 54% of those who expressed a favorable attitude towards the reality of psi cited personal experience as influencing their opinion, and Blackmore (1984) reported that of the 36% in her sample who professed belief in ESP, 44% cited their own experience as the main reason. This tendency is also true for the Ipsos MORI surveys cited earlier: of those who declared a belief in ghosts, a remarkably high 37% of the 1998 sample and an even higher 49% of the 2003 sample reported that they had had personal experience of ghosts; similarly high figures are reported for telepathy (35% and 41%), premonitions (41% and 48%), precognitive dreams (42% and 58%), among others. A positive correlation has also been reported between the number of subjective paranormal experiences and the strength of paranormal belief (Glicksohn, 1990; Musch & Ehrenberg, 2002).

More recently, Castro, Burrows, and Wooffitt (2014) commissioned Ipsos MORI to conduct face-to-face interviews with 4,096 adults, in which they were asked about their experience of five types of

phenomena: 24.1% reported experience of precognition; 12.8% of ESP; 12.4% had had mystical experiences; 11.5% had experienced telepathy; and 10.4% of after-death communications (ADCs). It is unclear how “ESP” was distinguished from telepathy and precognition. Interestingly, experiencers quite often reported experiences of more than one type of phenomenon: 17.5% reported one type, 10% two, 5.1% three, 3% four, and 1.3% all five. Castro et al. (2014) concluded that reporting of paranormal experiences is common within Great Britain and noted effects upon incidence of sociological variables (gender, age, and geographical region). Schmied-Knittel and Schetsche (2005) similarly surveyed a representative sample of 1,510 people and then interviewed 220 respondents reporting exceptional experiences, of whom 73% experienced at least one of the set phenomena (ESP-dreams, strange coincidence, crisis-ESP, animal psi, apparition, déjà vu, haunting, and other/miscellaneous extraordinary experiences). Again, multiple experiences were common: the mean number of experiences was 2.8, and 25.7% of respondents reported personal experiences of four or more types. Finally, Dagnall, Drinkwater, Parker, and Clough (2016) reported on a university-based sample of 1,215 adults in which 42% reported at least one spontaneous paranormal event. They included a much broader measure of paranormal phenomena that included psychokinesis, witchcraft, out-of-body experience, haunting, extra-terrestrials, and astrology. Although the sample was not constructed so as to be generally representative, the incidence of experience is comparable with other surveys described here: 23% of respondents claimed experience of ESP; 4% of PK; 9% NDE/OBE (conflated); 14% haunting; and 13% contact with the dead (unspecified).

Taken together, these findings demonstrate that so-called paranormal experiences are quite common. But while they allude to the experiences that have shaped the respondents’ paranormal beliefs, actual details of those experiences are very limited (Schmied-Knittel & Schetsche, 2005 refer to follow-up interviews, but these are described only in general terms). The aim of the current project was, therefore, to (i) look to confirm the high incidence of paranormal belief and experience among a representative sample; (ii) solicit accounts of those experiences to derive a better sense of their perceived evidentiality and impact.

**Methods:** The survey was conducted by the market research company YouGov, with a total sample size was 2,019 adults. The survey was carried out online between 11th and 12th March 2019. The data have been weighted so as to be representative of all GB adults (aged 18+).

A questionnaire was designed by the current author in consultation with YouGov so that it was consistent with their omnibus survey tool. To normalize the phenomena and to encourage people to disclose experiences they might be concerned about would identify them as credulous or suffering from some form of pathology, the survey was introduced with the opening statement, “we are interested in your beliefs in, and experiences of, a range of phenomena that have been reported among people from a wide range of backgrounds and cultures.” Participants used a 5-point Likert scale to indicate the degree to which they agreed with statements about a range of paranormal phenomena. All statements were positively worded so that agreement indicated belief in or experience of the phenomenon. Phenomena included were: telepathy; precognition; PK; psychic claimants; post-mortem survival; deathbed phenomena; NDEs; ghosts and apparitions; ADCs; mediumship; OBEs; and paranormal healing. For

items that participants indicated belief, participants had a follow-up question that asked if they had personal experience of it. If they responded affirmatively, they were given the opportunity to provide a description of their experience. Additionally, where participants had consulted a medium, a psychic, or a healer, they were asked whether the experience had been beneficial.

**Results:** Data collection is complete, and analysis is ongoing. In this talk, I will summarise the incidence of belief and experience, give a breakdown according to demographic factors, and offer a thematic analysis of the volunteered experiences.

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## **An Online Survey Investigating Sensory Processing Sensitivity, Transliminality, and Boundary-Thinness as Predictors of Anomalous Experience, Belief And Ability**

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**Introduction:** Sensory Processing Sensitivity (SPS) is a temperament trait identified by deeper processing of information, being easily overwhelmed by stimulation, greater empathy and emotional reactivity, and being able to sense subtleties in the environment (Greven et al., 2019). Aron and Aron (1997) devised a questionnaire called the Highly Sensitive Person Scale to measure high sensitivity, and the Highly Sensitive Person (HSP) is used to describe an individual who experiences SPS. Preliminary research suggests that HSPs may be more likely to experience anomalous experiences (AEs), and that further research is warranted to establish if there is a relationship between AEs and SPS (Irwin et al., 2014; Williams et al., 2021). Sensitivity is also part of the transliminality personality construct (Thalbourne & Delin, 1993). Highly transliminal people are susceptible to the occurrence of large amounts of imagery, thought, and emotion and tend to pay more attention to their inner processes, which resonates with the characteristics of SPS. Another personality concept associated with sensitivity is Hartmann's (1991) "boundary thinness," which is characterized by openness and ease of entering an altered state of consciousness, and significantly thinner boundaries have been identified in persons reporting AEs (Rabeyron & Watt, 2010; Simmonds-Moore, 2009). We might expect HSPs to have thinner boundaries and be highly transliminal given their differential sensitivity to external and internal stimuli. Further, studies have found an association between transliminality, schizotypy, and paranormal belief (Dagnall et al., 2010) and that transliminality and transpersonal self-expansiveness predicts paranormal belief (Rock et al., 2021) but have not yet explored transliminality or boundary thinness alongside SPS in relation to anomalous experiences, beliefs, and ability. As such, this study consisted of an online mixed methods survey including standardized measures of SPS, boundary-thinness, and transliminality as independent variables and a measure of anomalous experiences, beliefs, and ability as the dependent variable to predict whether sensitivity/personality variables contribute significantly to reporting of anomalous experiences, beliefs, and ability. We also conducted correlations between the sub-scales of the HSP-12 (Ease of Excitation, Low Sensory Threshold, and Aesthetic Sensitivity) and each of the AEI scales. In addition, three mediation analyses were carried out, with HSP as the predictor variable, RTS as the mediator and anomalous experience, belief and ability for each moderation. Open-ended responses gathered qualitative data from participants about their personal anomalous experiences and beliefs, and their experience of SPS if they identified as HSP.

**Methods:** This was an exploratory study pre-registered with the Koestler Parapsychology Unit (ref#1064) and ethical approval was received from the Ethics Committee at Canterbury Christ Church

University and the University of Derby. The survey included a demographic section, a measure of sensitivity (Highly Sensitive Person Scale - Brief Version, HSP-12; Pluess et al., 2020), a measure of anomalous experiences, beliefs, and abilities (Anomalous Experiences Inventory; Gallagher et al., 1994), a measure of transliminality (Revised Transliminality Scale; Lange et al., 2000), a measure of boundary thinness (Boundary Questionnaire Short-Form; Kunzendorf et al., 1997), and open-ended questions on sensitivity and AEs. Information about the survey was distributed to staff and students at both universities, posted on social media and sensitivityresearch.com, and shared on the Society for Psychical Research website. Data collection continued until 200 participants had completed the survey. There were 151 females, 41 males, 6 non-binary, and 2 preferred not to say, with an age range of 18 to 80 years ( $M = 32.23$  years,  $SD = 15.28$  years).

**Results:** The internal consistencies (Cronbach's alpha) of the AEI subscales were anomalous beliefs,  $a=0.81$ ; anomalous experiences,  $a=0.82$ ; anomalous abilities,  $a=0.84$ ; HSP-12: sensory processing sensitivity,  $a=0.86$ ; BQ-18: boundary thinness,  $a=0.77$ ; RTS: transliminality scale,  $a=0.83$ . There were significant correlations between all variables apart from the EOE subscale of the HSP-12 and anomalous abilities. Linear multiple regression utilized a forced entry approach to examine whether scores on the three sensitivity measures (i.e., HSP-12, BQ-18, and RTS) significantly predicted scores on the AEI subscales of belief, experiences, and ability. The model explained 28.3% of the variance and was a significant predictor of AEI-Belief. However, the analysis showed that only RTS ( $t(198) = 5.51, p < 0.001$ ) and BQ-18 ( $t(198) = 2.53, p < 0.05$ ) were the significant predictors, with no contribution made from HSP-12 ( $t(198) = -0.65, p = 0.52$ ). The model explained 43.8% of the variance and was a significant predictor of AEI-Experiences. However, analysis showed that RTS ( $t(198) = 9.74, p < 0.001$ ) was the only significant predictor and that both BQ ( $t(198) = 1.28, p = 0.20$ ) and HSP ( $t(198) = -1.56, p = 0.12$ ) did not make any significant contribution to the model. The model explained 33.2% of the variance and was a significant predictor of AEI-Abilities. However, analysis showed that RTS ( $t(191) = 7.45, p < 0.001$ ) was the only significant predictor and that both BQ ( $t(191) = 0.63, p = 0.55$ ) and HSP ( $t(191) = -0.03, p = 0.97$ ) did not make any significant contribution to the model. In addition, three mediation analyses were carried out, with HSP as the predictor variable, RTS as the mediator, and anomalous experience, belief, and ability for each moderation. All three analyses show that transliminality significantly mediates between HSP and anomalous experience, belief, and ability. In response to the open-ended question, "Do you think being HSP makes you more likely to have anomalous experiences? If so, please state why that might be," participants mentioned the following: "Because we pick up on things other people might miss," "Can detect subtle changes in environment," "Heightened state of awareness," "I think if you are open to things, you are more likely to experience them," "Senses are always active," "I think I am more aware of my surroundings when I get around other people, and I think it is almost chemical, as if I smell a change in mood, danger, or someone."

**Discussion:** Correlation analysis showed a clear linear relationship between each of the three personality predictor variables and the subscales of the AEI apart from anomalous abilities and the EoE subscale of the HSP-12. EoE is characterized by a tendency to feel overwhelmed by internal and external stimuli, which may indicate that this dimension needs to be low (i.e. reducing internal and external stimuli) for people to report anomalous abilities. This aligns with the "noise reduction" approach, which proposes that psi information is subtle and likely to remain nonconscious unless overwhelming sensory



inputs are reduced (Honorton, 1977/1986). The finding that SPS correlates with AEs is consistent with previous research (Irwin et al., 2014; Williams et al., 2021). Both transliminality and boundary thinness positively predicted anomalous beliefs with transliminality being the stronger, which is a similar finding to Rock et al. (2021) and Dagnall et al. (2022). However, only transliminality predicted anomalous experiences and anomalous abilities. Therefore, it is proposed that transliminality plays a mediating role between SPS and anomalous experiences, belief, and abilities, and is a possible explanation for the relationship between SPS and anomalous experience, belief, and ability.

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## Who's Calling? Evaluating the Accuracy of Guessing Who is on the Phone

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**Introduction:** “Telepathy” was coined in 1882 as “the communication of impressions of any kind from one mind to another, independently of the recognized channels of sense” (Myers, 1903). Approximately 37 - 78% of respondents in the United Kingdom (Sheldrake, 2000) and California (Brown & Sheldrake, 2001) endorse experiencing “telephone telepathy” or knowing who is calling them.

In formal studies evaluating this phenomenon, researchers assessed the callee’s hit rate for guessing who of four people was calling them (Sheldrake & Smart, 2003a). In 571 trials, the overall success rate was 40%, significantly above the expected chance success rate of 25% ( $p = 4 \times 10^{-16}$ , CI = 36 - 45%). Further investigations by the same authors showed similar findings and were well-documented (e.g., videotaped and with similar study designs using text messages, emails, and automated protocols on smartphones) (Sheldrake et al., 2004, 2009, 2015; Sheldrake & Avraamides, 2009; Sheldrake & Beharee, 2009; Sheldrake & Lambert, 2007; Sheldrake & Smart, 2003b, 2005).

Other investigators have replicated these findings (Lobach & Bierman, 2004), but not all laboratories have found above-chance effects (Schmidt et al., 2004, 2009). Our understanding of the potential mechanisms underlying this apparent phenomenon is still in its infancy. For example, whether callee and caller familiarity or physical distance are essential factors is unclear. Building on these previous studies, this study aimed to evaluate the accuracy of guesses for who was calling and its relationship to genetic relatedness, emotional closeness, physical distance, and communication frequency.

**Methods:** We conducted a cross-sectional study enrolling triads (i.e., three individuals varying in relatedness) and examined their accuracy in guessing who was calling them. The Institute of Noetic Sciences (IONS) Institutional Review Board (IORG#0003743) approved all study activities, and the study was pre-registered at the University of Edinburgh’s Koestler Parapsychology Unit Study Registry (Wahbeh, 2021), including the analyses included here. Inclusion criteria included: 1) adults 18 years or older, 2) possession of a smartphone, and 3) English competency. Exclusion criteria, determined by self-report, included: 1) acute medical illness that would decrease the likelihood of study completion, and 2) mental illness such that symptoms would preclude participation. Ninety participants were recruited and were compensated for their participation. Participants registered their triad and answered questions about genetic relatedness, physical proximity, emotional closeness, and communication frequency of each pair within the trio.

All experimental trials were undertaken from an Amazon web hosting service using PHP and Twilio, an online telephone and SMS texting service with scripts to place calls, connect individuals, and send text messages. The automated procedure for the calls (12 trials for each triad) consisted of two randomly selected paths: 1) six trials where a computer randomly chose the caller *before* the callee’s guesses were made (pre-selected or telepathy) and 2) six trials where a computer randomly chose the caller *after* the callee’s guesses (post-selected or precognition; see Figure 1).

Statistical analyses were conducted using Stata 15.0 (Statacorp, College Station, TX) and MATLAB 2022a (The MathWorks, Inc., Natick, MA). A Kruskal Wallis equality-of-populations rank test was performed to evaluate differences in these variables for completing participants compared to non-completing participants. Categorical variables (gender, ethnicity) were evaluated for differences between completing and non-completing participants using the Pearson Chi-Square test.

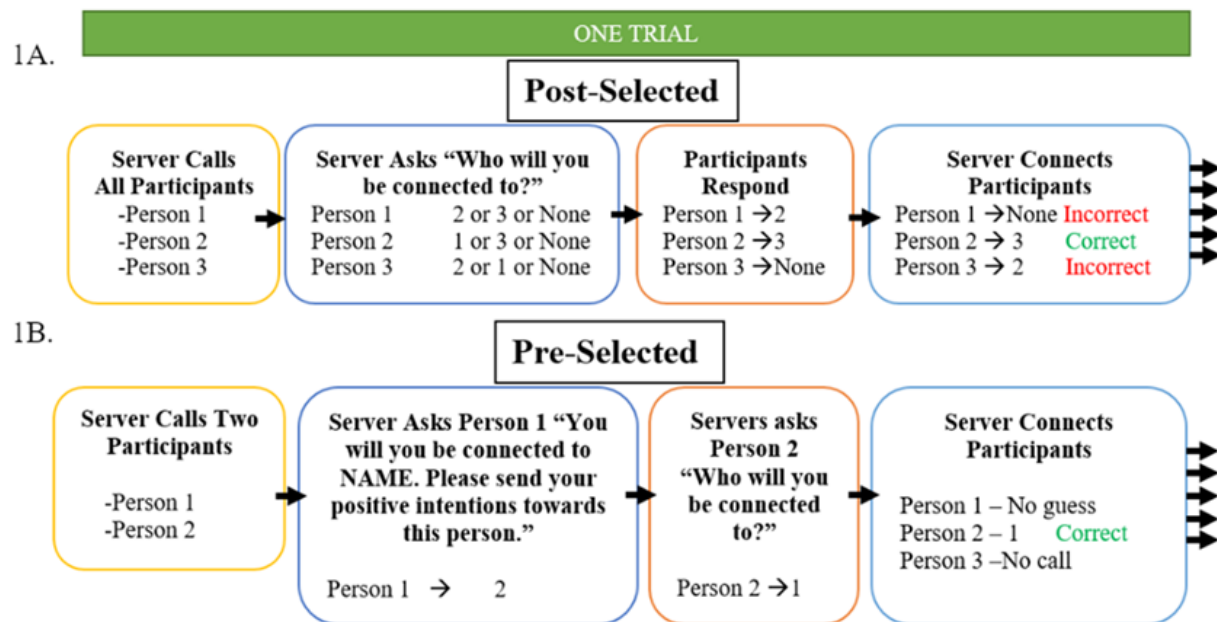
Accuracy was evaluated with exact binomial tests and 95% Agresti–Coull binomial confidence intervals (CI) for post and pre-selected trials. A repeated measures analysis was conducted to evaluate the difference in accuracy between the pre- and post-selected paths was conducted. The Wald Chi-Squared was used because the accuracy variable is binary. The accuracy variable was the dependent measure, as measured by the percentage of correct trials for a given individual. The path (i.e., pre- or post-) was the factor variable. The individual was included as a repeated measure variable (i.e., to account for repeated measures of the same person). Multilevel mixed-effects logistic regression was used to estimate and compare three models, predicting accuracy from (1) genetic relatedness, (2) genetic relatedness and trial type, and (3) genetic relatedness, trial type, and covariates - emotional closeness, communication frequency, and physical distance. Accuracy was the dependent binary variable (i.e., correct, not correct). The path was a binary factor variable (i.e., pre- or post-). Genetics was a categorical variable with four levels (i.e., 0%, 12.5%, 25%, and 50%). The covariates were coded as continuous variables from 0 to 100. For trials in which one participant was connected to no one, the genetics variable and three covariates were set at 0.

**Results:** A total of 177 participants completed at least one trial (105 completed all 12 trials) and were included in the analyses reported here. Accuracy was significantly above chance for pre-selected (telepathy) trials (50.0% where chance expectation was 33.3%,  $p < 0.000005$ ) but not post-selected (precognition) trials (31.9% where chance expectation was 33.3%,  $p = 0.75$ ). Repeated measures ANOVA showed that the pre-selected path had significantly more correct trials than the post-selected path treating participants as a repeated measure (Wald  $X^2 = 31.4$ ,  $p < 0.000005$ ). The genetic relationship was significantly predictive of accuracy when alone in the model (Wald  $X^2 = 20.2$ ,  $p = 0.0002$ ). When covariates were included, the overall model remained significant (Wald  $X^2 = 53.0$ ,  $p < 0.000005$ ), and compared to 0% genetic relatedness, the odds of accurately identifying the caller was 2.88 times (188%) higher for 25% genetic relatedness ( $\beta = 1.06$ ,  $z = 2.10$ ,  $p = 0.036$ ), but the other genetic relatedness levels were not significant. In addition, communication frequency was significant ( $\beta = 0.006$ ,  $z = 2.19$ ,  $p = 0.028$ ) but physical distance ( $\beta = 0.0002$ ,  $z = 1.56$ ,  $p = 0.12$ ) and emotional closeness ( $\beta = 0.005$ ,  $z = 1.87$ ,  $p = 0.06$ ) were not.

**Discussion:** Future research will continue methodological improvements to replicate these findings and examine the mechanism by which people can know who is calling and nuances that may moderate the effects. For example, for telepathy trials, if all three participants were in the room, Person 1 could potentially tell Person 2 who was the caller and callee. In a post-hoc exploratory analysis, we assessed the difference in accuracy by comparing people who lived in the same home (miles = 0) to all other physical distance values and found no significant difference in accuracy for people who lived together and those who did not ( $X^2 = 1.2$ ,  $p = 0.28$ ). Videotaping the participants in future studies would provide evidence that cheating did not occur, although this is a logistical difficulty in real-world settings.

The positive result for the pre-selected versus post-selected paths is intriguing and warrants additional research to explore alternative hypotheses and confirm the findings. As far as we know, these are the first formally reported findings demonstrating a positive outcome for the pre-selected (telepathy) versus post-selected (precognition) paths. One other preliminary study using SMS texts found similar results in that 2080 pre-selected trials had over 40% accuracy ( $p = 0.00001$ ), and 722 post-selected SMS text trials were not significantly above chance (Sheldrake, 2014).

The relationship between accuracy and genetic relatedness was unclear. We observed an association when genetic relatedness was alone in the model. However, genetic relatedness was no longer significant when physical distance, emotional closeness, and communication frequency were included. Perhaps the relationship is mediated by communication frequency rather than emotional closeness or a biological component. Future mediation analyses are needed to tease apart these nuances. Continued research is needed to evaluate these findings, the mechanism by which people can know who is calling, and nuances that may moderate the effects.



**Figure 1: Randomized study paths.** Figure 1 represents the two randomized trial paths and participant instructions. For each trial, the triad is randomized to the pre- or post-selected path. Figure 1A depicts the post-selected path, where three participants are called by the service and asked who they will be connected to. Figure 1B depicts the pre-selected, where two participants are called. Person 1 directs their positive intention to Person 2. In this instance, the instructions to Person 2 are exactly the same as for post-selected. Thus, the person does not know there are only two people for that trial, and they have three answer choices for whom they think they will be connected.

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## Uncanny: A Discursive Psychological Analysis of Scientific Presentation in Paranormal Media

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**Introduction:** Within psychology, belief in paranormal and unexplainable phenomena has become an area of increasing interest (Cardeña, 2015). Research in this area is often characterized by a quantitative framework focusing on the underlying causes of paranormal belief. Cognitive deficits such as lower levels of critical thinking are robustly implicated in the development of paranormal belief (Krull & McKibben, 2006; Lindeman & Aarino, 2006; Lindeman & Svedholm-Hakkinen, 2016; Svedholm & Lindeman, 2012). This has led to paranormal belief being conceptualized as opposed to the scientific worldview that has dominated Western society since the Enlightenment (Behera, 2021). Consequently, paranormal belief has been categorized as pseudoscience (Shermer, 2011), which requires immunization through scientific education (Allum, 2010).

To further understand the relationship between science and the paranormal, qualitative researchers have focused on examining the discursive accounts provided by paranormal believers. Studies in this area highlight how believers position their arguments to improve their credibility and objectivity and thus align themselves with a scientific worldview. For instance, accounts often begin with an avowal of prior skepticism, which mitigates claims of bias against the speaker (Lamont, 2007). Believers have also been found to boost the credibility of an alleged paranormal phenomena through the assertion that they were in no way impaired during their observation (Ohashi et al., 2013), as well as through drawing upon witnesses and experts (Schmied-Knittel & Shetsche, 2005). These studies have been important in understanding the discursive features at play within paranormal accounts within interview data. The current study shifts the focus to examining the discursive features of paranormal accounts in popular media. This is significant as Hill (2012) reported that media interest in the paranormal is on the rise. This has been found to influence people's perceptions of the validity of paranormal experiences (Thomas & Cooper, 2016).

**Methods:** This study utilized a qualitative design to examine how paranormal accounts are presented in the BBC podcast *Uncanny* hosted by Danny Robins. The podcast is described as "From Ghosts to UFOs...investigates the real-life stories of paranormal encounters" (Uncanny, 2022). The typical format of an episode involves a member of the public being interviewed by Danny as they recount their paranormal experiences. Danny then consults two experts in the paranormal, one who is a self-defined skeptic and the other who is a self-defined believer. These experts discuss the phenomena and potential explanations, thus enabling an examination of how paranormal accounts are constructed and rationalized from multiple perspectives. Furthermore, this discussion provides insight into how rational explanations are accepted/rejected and the nature of scientific authority within these discussions.

The *Uncanny* podcast is made up of 15 main episodes, three summer special episodes, and a crossover episode with the BBC comedy show *Ghosts*. To ensure that the data set had a clear focus, the summer episodes were removed because they were added five months after the original podcast aired

and did not fit into the thematic structure of the original podcast series. The crossover comedy episode was excluded as this is not meant to be taken seriously as a form of paranormal investigation. A review of the 15 main episodes focused on hauntings and spectral beings. However, two episodes explored UFO sightings, which were removed from the data set. This meant that the data set was made up of 13 episodes that each lasted for around 30 minutes.

Each of the 13 episodes was transcribed verbatim, and sections of talk that had specific analytic relevance were transcribed using Jefferson transcription for close analysis using Discursive Psychology (DP). Developed in the early 1990s by Edwards and Potter (1991, 1992), DP rejected mainstream psychology's assertion that language reflects cognition and argued that cognition is constructed through language and interaction (Edwards, 2004). Consequently, a DP analysis focuses on how issues such as belief are constructed through features of talk and the social actions, such as managing stake or interest in an account, that are achieved through language (Potter, 2012). The data were analyzed using Wiggan's (2017) procedure for DP. This started with immersion in the data to gain familiarity with what had been said. The data were read more closely with a specific focus on identifying *what* was said, *how* it was said, and *when* it was said in the interview. This step allowed an examination of the version of events that was being presented. Analytic attention then turned to identifying discursive devices in the data – such as direct reported speech (when a person is quoted in an account) and the function these devices served, such as adding authenticity to an account. This enabled the focus to move to specific analytic issues to be addressed in the analysis. Data extracts exemplifying these issues were collated together to form collections of evidence from the data set. Evidence for the collections was reviewed, and extracts that best represented each collection were analyzed closely using the principles of DP.

**Interim results:** Analysis of the data is in the early stages, so specific details of the analysis cannot yet be outlined. However, the analysis will focus on the discursive strategies the expert skeptics and believers use to manage their stake (vested interest) in the interaction. More specifically, the analysis will examine how the speakers present their accounts as “factual” and head off potential criticism that their personal perspective as a skeptic or believer influences their interpretation of unexplained events. The analysis will also examine scientific rhetoric's role in skeptic and believer accounts.

**Discussion:** Findings presented in the analysis will be discussed in relation to the growing popularity of paranormal phenomena in the media. There will be a specific focus on examining the role of the media in validating or challenging paranormal beliefs. The wider implications this may have in terms of cultural and societal understandings of paranormal phenomena will be considered.

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## **Ethical Readiness and Professionalization Among Mediums and Channelers in the United States**

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**Introduction:** The mediumship and channeling field is growing, both in terms of public interest (Held, 2019) and economic impact (IBIS World, 2021). However, the field of mediumship/channeling is



young in its professionalization journey and faces significant hurdles in societal acceptance. While parapsychologists are scientists who work within the parapsychology field, there is currently no predominant term used to categorize parapsychology practitioners. This lack of basic terminology points to a gap between research and application.

Mediums are “individuals who report experiencing regular communication with the deceased” (Beischel, 2007, p. 37), and mediumship can be divided into two categories: mental and physical (Beischel & Zingrone, 2015). The current study focuses on mental mediumship. Channeling can be broadly defined as “the process of revealing information and energy not limited by our conventional notions of space and time that can appear receptive or expressive” (Wahbeh, 2021, p. 21), and more specifically, trance channeling can be defined as “a form of channeling in which an individual willingly enters degrees of trance-like states of consciousness whereby the channel connects with sources of information that appear to exist outside of their ego-awareness” (Wahbeh et al., 2019, p. 3). This study combines the two practices into the single category of mediumship/channeling because they are so tightly linked and because there is not currently a strong socially accepted professional distinction between these two occupations.

Professional mediums/channelers across the country do not practice under a unified code of ethics or regulatory structure. Moreover, while a handful of field leaders offer private mentorship training, new practitioners who do not purchase these apprenticeships may lack the integrated structure and guidance to navigate early professional life as a medium/channeler. Parapsychological mentorship is offered through the international, non-profit Parapsychological Association; however, this program is designed to connect professional scientists and scholars with college and university students and does not connect non-scientific professionals with newer practitioners entering the field (Parapsychological Association, 2010; Parapsychological Association, 2021).

The study’s research objective was to assess readiness for formalized structure within the US mediumship/channeling field. The specific aims were to: identify beliefs and practices related to research, education, and training within the field; identify beliefs related to ethical standards and scope of practice guidelines; and assess views on the development of formalized professional structure within the field.

**Methods:** The mixed methods research design included a cross-sectional survey via a self-administered online questionnaire hosted on the Institute of Noetic Sciences (IONS) website. The survey captured demographic and practice information, statements of belief, and open-ended feedback. The IONS Institutional Review Board committee reviewed and approved the research. Study participants included anonymous adult US citizens who self-identified as professional mediums/channelers, defined for this study as someone who “communicates with discarnate souls or other energies from a non-physical realm to relay information in exchange for money or money equivalent (bartering).”

**Results:** A total of 241 US respondents signed the survey participation consent, 148-150 participants completed the demographics and practice information section of the survey, while the total qualifying participant count in the statements of belief section was 140.

**Demographics:** Most respondents were middle-aged (64% between the ages of 45 to 64). Most were female (85%) and of European descent (76.1%). The educational level of participants ranged wide-

ly, with most holding a bachelor's degree or higher (80.5%). Most participants reported having received some training in mediumship/channeling (91.8%). Regarding certification related to mediumship/channeling, 85.7% reported either interest in certification, prior attendance in a certification program, or being a certification provider. For those who attended or offered a certification program, a total of 90 programs were listed, of which 58 were unique listings.

**Practice Information:** Participants referred to themselves in this professional work as “medium” (49.8%); “channeler” (6.5%); “intuitive” (10.4%); “psychic” (11.9%); and other terms. The professional time provided to paying consumers was termed as “session” (45.8%); “appointment” (9%); “reading” (36.1%), and other terms. Professional services were reported as primarily being provided through a combination of in-person, phone, and online (51.7%). The location of services provided mostly occurred from home (49%). The amount of time provided for each professional service was predominantly reported to last 45-60 minutes (90%). The average amount of money charged for each professional service was between \$100 and \$299 (56%). Most practitioners engaged in this work once per week or more (92.7%). The annual income from these services alone (and not including income from any other work) was mostly reported to be < \$50,000 (66.5%).

**Statements of Belief:** Participants rated the belief statements on a 0-100 Likert scale (strongly disagree to strongly agree). The average score for each belief is presented as B1 – B16 in Figure 1. The most strongly agreed upon beliefs included: B2) the importance of research, education, and training for field advancement [ $M = 87.8$ ,  $SD = 17.4$ ]; B4) the development of ethical standards, scope of practice guidelines, and/or similar resources [ $M = 86.2$ ,  $SD = 19.6$ ]; and B5) new field members could benefit from enhanced structure, resources, and support [ $M = 83.3$ ,  $SD = 17.3$ ].

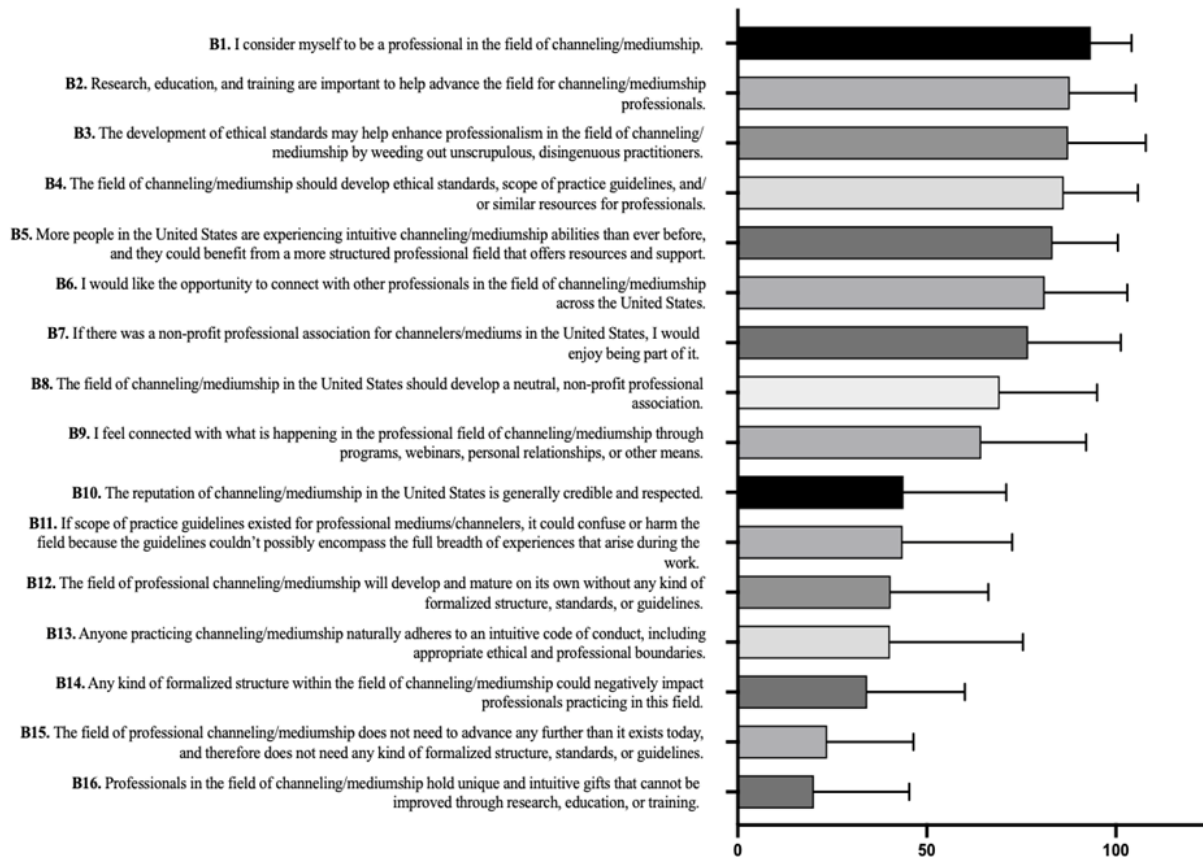
**Participant Feedback:** A total of 115 participants provided feedback across the three open-ended survey questions, totaling 290 comments. Eight major themes emerged from the combined participant feedback: “ethical responsibility” (20.2%), “professional and field development” (18.6%), “field expertise and leadership” (11.5%); “education and certification” (11.0%); “practice variability and uniqueness” (9.6%); “integrity, legitimacy, and de-stigmatization” (7.8%); “formalized structure and regulation” (7.6%); and “bad actors” (7.6%). Two minor themes from less than 5% of responses included “scientific research participation and funding” (3.1%); and “standardized practice guidelines” (2.9%).

**Discussion:** Most of the nearly 150 qualifying respondents were middle-aged, white females, and most respondents were college educated with previous training and/or certification in channeling/mediumship. A somewhat controversial topic among respondents was innate versus learned ability, and this debate may need to be settled for the field to advance toward commonly accepted education, training, and certification standards as an element of professional status.

In addition to serving as a means of analyzing and interpreting social change (Bellini & Maestripieri, 2018), professionalization can be described as the process of an occupation becoming recognized as a profession as it consolidates its status, improves its services (Neal & Morgan, 2000), and systematizes and standardizes the rules around its practices (Nicklich et al., 2020). Over the course of professionalization, professions provide a sense of order and meaning to a specific domain of society (Nicklich et al., 2020, p. 374). Professionalization is a long road involving legal, political, and societal acceptance.

Overall, most participants reported they would enjoy being part of a non-profit professional association; would support the development of a national, non-profit association; and that new field members could benefit from enhanced structure, resources, and support.

**FIGURE 1**  
**STATEMENTS OF BELIEF: MEAN SCORES WITH STANDARD DEVIATIONS**



**Figure 1.** Statements of belief: mean scores with standard deviations.

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## Are Phenomena that Constitute Exceptional Experiences (ExE) Subclinical Symptoms of a Psychosis Continuum?

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**Introduction:** Exceptional experiences (ExE) deviate from beliefs about reality of the affected individuals and/or their social environment and/or from epistemological concepts, scientific principles, and laws established in modern societies (Belz & Fach, 2015). In clinical psychology, ExE often are considered symptoms of mental disorders and, especially in psychiatry, as part of the psychosis continuum (e.g., Linscott & van Os, 2013). Psychosis is seen as an expression of a general disposition that can vary from subtle features to moderate mental disturbances to schizotypy and schizophrenia. In this sense, Unterrassner et al. (2017a) interpret ExE as “psychotic-like experiences at the healthy end of the psychosis continuum.” However, several studies show that ExE cannot simply be subsumed under clinical symptoms (Belz & Fach, 2015), and the relationship between ExE and a hypothetical psychosis continuum remains unclear. With our research, we would like to clarify the issue.

The “Phenomenology of Exceptional Experiences Questionnaire” (PExE-II) developed at IGPP (Fach, 2018) is based on a phenomenological approach and is free of psychopathological presuppositions. It allows the assignment of ExE to “externality,” “internality,” “coincidence,” and “dissociation” as four dimensions of their mental representation.

We assume that ExE has to be differentiated from psychosis-like symptoms, but an overlap is to be expected in the case of ego-dystonic internal phenomena.

To proof our hypothesis, we use the concept of psychoticism from the Alternative DSM-5 Model for Personality Disorders. The DSM-5 Personality Inventory (PID-5, American Psychiatric Association [APA],

2013), with its dimensional design across five domains, covers a continuum of maladaptive personality traits, one of which is psychoticism (see also Krüger et al., 2012). Psychoticism has particular relevance to the schizotypal personality, symptoms of which are often associated with ExE in clinical psychology. Schizotypal features, in turn, precede schizophrenic-type features on a hypothetical psychosis continuum. Facets of psychoticism include unusual beliefs and inner experiences (UBE), eccentricity (ECC), and cognitive and perceptual dysregulation (DYS). Conceptual links between UBE and ExE are obvious.

If there is a meaningful relationship between a psychosis continuum and ExE, then we should expect significant correlations between all ExE dimensions and psychoticism facets.

**Methods:** In a survey with clients of the IGPP and the parapsychological counseling service (conducted by von Lucadou and also in Freiburg,  $n = 175$ ), we used the PExE-II and psychoticism scales. Factor analyses including all items were used to determine whether the two constructs could be interpreted together or whether they should be distinguished from each other. In addition, subscale correlations of both instruments were used to determine if ExEs might be considered psychosis-like experiences.

**Results:** The factor analysis of the combined items provided a five-factor solution that could be interpreted in a meaningful way. The PExE-II items of the externality, internality, and coincidence scales formed independent factors, as in the case of a separate analysis. The items of the dissociation scale loaded on the externality and internality factors, in line with theory. The items of the ECC scale of PID-5 also formed an independent factor as well as most of the items of the DYS scale did. However, a couple of the items of the latter loaded on the PExE factors externality and internality. No separate factor was formed by the items of the UBE scale. They predominantly loaded on the PExE factors externality and coincidence.

The factors were correlated most often weakly to moderately ( $.22 \leq r \leq .44$ ). A strong correlation ( $r = .57$ ) was found between the ECC factor and the DYS factor of PID-5.

At the instrument subscale level, externality, internality, and coincidence correlated strongly with UBE ( $.51 \leq r \leq .59$ ). Internality also correlated strongly with DYS ( $r = .57$ ) and moderately with ECC ( $r = .44$ ). Coincidence and dissociation correlated moderately with DYS and ECC ( $.25 \leq r \leq .47$ ). Externality did not correlate with ECC and slightly correlated with DYS ( $r = .18$ ).

**Discussion:** Both the factorial and discriminant validity of the PExE-II can be considered to be given. The scales of the PExE-II obviously capture different constructs than the psychoticism scales. The construct unusual beliefs and inner experience in the psychoticism of PID-5, on the other hand, can be described in a more differentiated way by the PExE-II scales externality and coincidence in the present sample of clients seeking advice.

In our sample, at the subscale level, internality correlated strongly with eccentricity as well as cognitive and perceptive dysregulation. This reflects, according to our counselor's estimation, that also persons with classic psychotic symptoms keep seeking advice at the IGPP. However, reporting internal phenomena cannot be generally considered pathological. Differentiated considerations are necessary and will be discussed. Remarkably, reporting external phenomena cannot be associated with eccentricity and can hardly be associated with cognitive and perceptive dysregulation. With regard to external

phenomena, our data thus clearly argue against the assumption of a psychosis continuum. Furthermore, if we include the information provided by those seeking advice on the evaluation of their reported ExE, it becomes clear that these are not only experienced as “negatively burdensome,” as would be the case for clinical relevance, but also as “positively enriching.” It can be assumed that even if ExE and diverse mental disorders are present at the same time, the two domains interact very differently.

We continue to take a non-pathological approach to better understand ExE. Empirically, correlations of ExE patterns with relationship parameters have been observed. Based on these data, Fach (2022) developed an approach linking bonding styles to ExE patterns. In a next step, bonding styles of clients seeking advice will be assessed, and corresponding correlations will be explored.

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# ABSTRACTS OF RESEARCH BRIEFS

## Effects of Exposure to Death and Dying on Belief Systems

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**Introduction:** Everyone is going to die. With this amount of exposure to death and dying (ED&D), it raises the question of how this type of exposure affects individuals, particularly in regard to belief systems about death, the afterlife, the paranormal, and religiosity. While there has been some exploration into the psychological effects ED&D has on individuals, there is not a measure that adequately analyzes and standardizes ED&D, greatly narrowing the breadth of research being conducted in this area.

Existing measures that examine ED&D have limitations. Some focus on exposure in the subjects' personal lives but not the professional sphere (Dutta & Kaur, 2015; Hoelter & Hoelter, 1980; Pirelli & Jeglic, 2009). Measures such as the Occupational Death Exposure scale (Linley & Joseph, 2005) only focus on exposure with the deceased but not the process of dying, whereas most others consider exposure to the dying process but not the deceased. Some, such as the Frequency of Exposure to Death Questionnaire (Kane & Hogan, 1986), have a restricted number of items in the measure, limiting the assessment of construct breadth and resulting in unidimensional scales (Jong et al., 2019; Samson & Shvartzman, 2017). Other research has explored the topic with no standardized measure at all, proceeding with assumptions that all levels of ED&D are equal (Harper et al., 1988; Hotchkiss, 2018) or assuming that everyone in a certain profession or workplace has similar ED&D (Peters et al., 2013). Because of these variants and deficiencies in measures, the need for a comprehensive, standardized measure is vital to be able to thoroughly examine how this type of exposure affects an individual's belief systems, whether practical or parapsychological, as well as to substantiate some of the preliminary findings from previous research in this area.

Even though everyone experiences ED&D in their lifetimes, some, such as first responders, hospice workers, military, morticians, etc, have much higher exposure to ED&D. It is currently unclear what effects ED&D has in formulating and upholding one's belief systems relating to death. Having a better understanding of the effects that ED&D has on those experiencing these exposures at high levels, whether those exposures are "ordinary" or contain a paranormal component, can inform mental health services for these individuals while providing a better understanding of the ways this exposure molds belief systems, paranormal belief, belief in the afterlife, and religiosity.

**Methods:** This research began with drafting a new, comprehensive measure to gauge different types of ED&D, consisting of exposure to death in addition to dying in both the personal and professional spheres, as well as exposure to one's own death, all combined. The first stage of research analyzes this new measure through convergent validity and concurrent validity with other measures commonly used alongside the insufficient death and dying exposure measures, such as the Death Attitudes Profile

- Revised (Wong et al., 1987) and the Collett-Lester Fear of Death Scale Version 3 (Lester & Abdel-Khal-ek, 2003). The comparisons between these questionnaires will validate the new measure convergently by examining the level of agreement between the new and previously used exposure to death measures and concurrently by seeing how well the new measure predicts the outcomes of the known associates. This approach will substantiate the new measure and allow for an assessment of interactions between one's level of ED&D and one's views on death and the afterlife, in addition to corroborating some of the findings of previous research in this area. It is hypothesized that higher rates of ED&D will negatively correlate with death anxieties, or in other words, the more ED&D one has, the less anxious they are about their own death and the deaths of others.

Following this, phase two of the study will use the new ED&D measure to explore the relationship between these exposures with parapsychological factors such as paranormal belief, belief in the afterlife, subjective paranormal experiences (SPE's), which are unusual experiences that cannot be explained through scientific means and are deemed paranormal in nature by the experiencer (Irwin & Watt, 2007), religiosity, and other areas. Exploring ED&D can contribute considerable insight into whether or not those exposures affect the nature, origin, and context of belief systems, when they're formed, and whether they're upheld. The focus of analysis in phase two will be on the convergent validity between the new measure and frequently used scales investigating parapsychological factors, such as the Revised Paranormal Belief Scale (Tobacyk, 2004), a Subjective Paranormal Experience scale (Dagnall et al., 2016), the Afterlife Expectation Scale (Rose & O'Sullivan, 2002), and the Centrality of Religiosity Scale (Huber & Huber, 2012). It is anticipated that these correlates will show individual differences between the level of ED&D with one's belief systems and experiences, particularly that higher levels of ED&D will correlate positively with paranormal beliefs, SPE's, belief in the afterlife, and religiosity.

This project will develop into a qualitative phase three investigating the personal accounts of ED&D, along with exploring individuals' belief systems, SPE's, and other death-related phenomena to examine how death and dying are experienced and the ways it impacts one's belief systems. This could further indicate precisely when and how ED&D becomes incorporated with one's parapsychological belief systems or lack thereof, as well as illuminate the mental health support needs of those experiencing high rates of ED&D personally and professionally.

**Results:** Currently, the initial data collection process is wrapping up, and analysis will begin in the next few weeks. Preliminary results will be available to present at the PA Conference in August.

**Discussion:** Those who work in death-related fields are an informative demographic when exploring how ED&D impacts belief systems. They are in close proximity to death, dying, unusual end-of-life phenomena, have fewer personal ties to these experiences as compared to the bereaved, and frequent locations which have the appropriate stimuli for exceptional death-related activity (Goldstein et al., 2007; Guiley, 2008; Hood, 2019; Jones, 2012; Wilson, 1981). Alternatively, paranormal beliefs have been positively correlated with emotionally-based decision-making (Irwin et al., 2016) and pathologies such as fantasy proneness (Irwin, 1990), schizotypy (Dagnall et al., 2010; Irwin & Green, 1998–1999), altered states of consciousness (Glicksohn, 1990), diminished control (Watt et al., 2007), and other faulty reasoning (King et al., 2007). All of these variables are inverse to what could be expected of those who work in death-related fields. They often require high MT, cognitive ability, critical thinking, the valuing of science, and low pathology rates in order to function in these types of careers.



Because previous research typically focuses on limited views of ED&D, the bereaved, the experience of those who are dying themselves, or cultural customs surrounding death, exploring the effects that ED&D has on those experiencing it at high levels is of the utmost importance. The pandemic has shown us that understanding how recurring exposure to death and dying affects people psychologically is of great importance, particularly in the current climate where this repeated exposure has been inevitable for the public at large.

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## Large-Scale Online Testing of Psi Abilities to Identify and Test Talented Individuals

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**Introduction:** Surveys indicate broad popular belief in exceptional intuitive abilities, including so-called psychic (psi) abilities such as telepathy. However, this type of research topic is rarely taken seriously by the scientific community. A key practical challenge faced by scientific research on psi phenomena includes the lack of easy reproducibility of claimed effects. Those with purported psi talent, if they exist, appear to be rare in the population, and testing of unselected individuals is often not successful in demonstrating psi effects. "Star Gate," the code name of the US government's now mostly declassified research and operations program of psychic espionage, which ran from 1972 to 1995, relied on a small group of individuals with purported psi talent (May & Marwaha, 2018). They claimed to produce results that were allegedly not just interesting from a scientific perspective but also useful for practical purposes. Therefore, identifying psi talent might be required to produce reliably significant results in controlled experiments. In this study protocol, we proposed testing if a small percentage of psi talents

exist in a large corpus of volunteers through five specific aims: 1) develop and integrate various psi tasks into a single online platform; 2) develop data analysis techniques to identify talents; 3) select 50 of the top-performing individuals; 4) assess if test-retest indicate consistent above-chance performance; and 5) evaluate potential predictors of high performance.

**Methods:** We intended to recruit between 500 volunteers to perform psi tasks over an 8-month period. The 50 participants with the highest scores would be identified after 8 months or after data from 500 participants were collected. The 50 selected potentially talented people would be compensated \$20 each to perform the test again. This study was approved by the IONS Institutional Review Board (reference WAHH\_2018\_01). Participants completed psychometric questionnaires and performed 8 tasks/games online as described below.

Task 1, photo guessing task - also known as the “quick remote viewing” task. This is a forced-choice photo guessing task where the participant attempts to guess a future image from five possible choices.

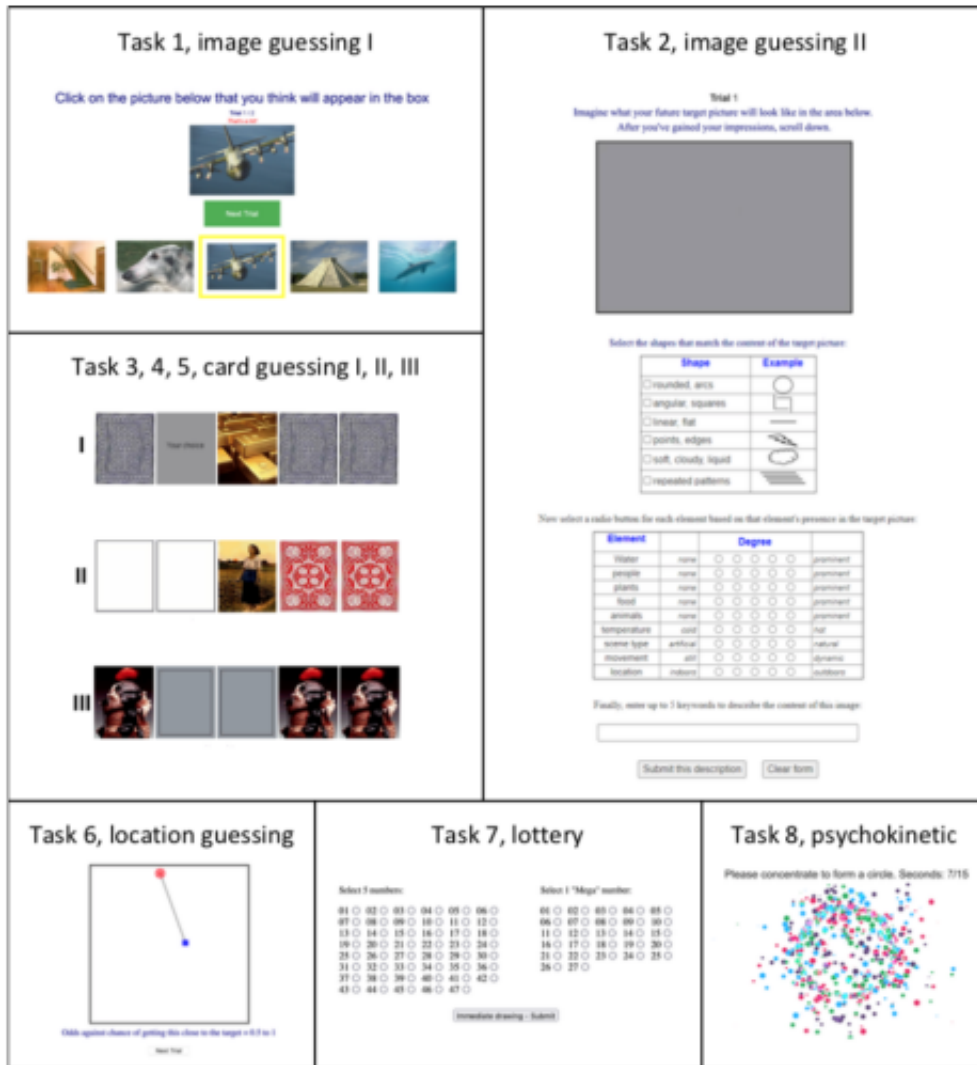
Task 2, advanced photo guessing task - also known as the “long remote viewing” task. Participants are shown a blank frame and are asked to imagine what image will appear there.

Tasks 3, 4, and 5, are card guessing tasks. These include three variations of card-guessing tasks, where participants attempt to guess which card will be selected by the webserver. In all of these tasks, five cards are initially shown “face down.”

Task 6, location guessing task - also known as a dowsing task. This task explores the participants’ ability to locate a hidden target. They are asked to select a location in a 300 x 300-pixel blank square where they think the target is hidden.

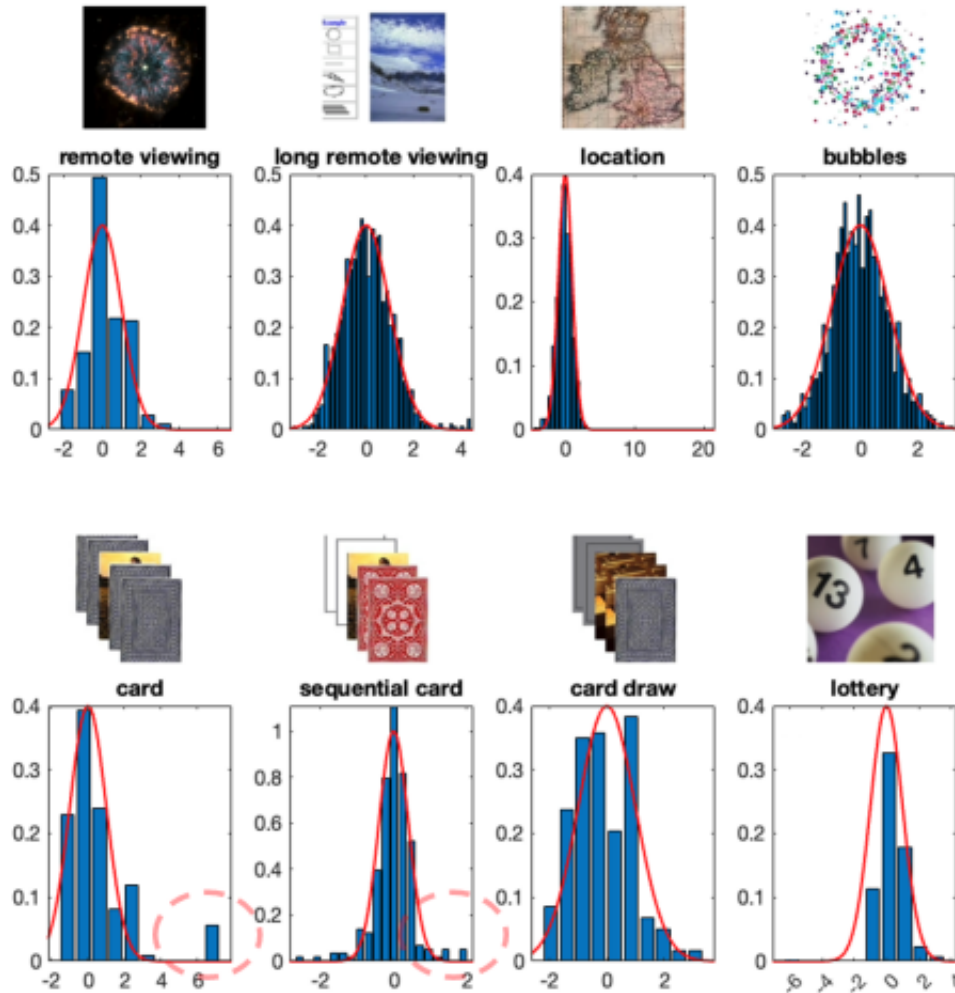
Task 7, lottery task. This task simulates the California Super Lotto Plus.

Task 8, psychokinetic task - also known as the bubble task. The participant sees small bubbles randomly moving around a bounded area of the screen. The task is to focus attention on the bubbles while holding the intention that the bubbles will coalesce into a circle.



**Figure 1.** Depiction of tasks 1 to 8. Tasks are organized on a website “dashboard.” Participants can select tasks and perform them in any order.

**Results:** The first data collection phase is almost complete, and we have started to examine the data. The figure below shows 479 participants’ performance in the eight games and the deviation from normal. Several games revealed above chance results for some participants shown below in dotted lines.



**Figure 2.** Distribution of participants' responses for the 8 tasks. Circled regions show deviation from the expected null hypothesis.

**Discussion:** Phase 2 will consist of evaluating the best participants from phase 1 on the same games to assess test-retest reliability. However, we have identified loopholes in some of the games where it was possible for participants to cheat. This does not mean that participants did cheat, but only that it was possible. It is of the utmost importance to ensure that cheating is not possible before we collect additional data. The process of closing the programming loopholes and confirming that cheating is not possible will take some time. Thus, at this point in time, we have not completed the phase 2 data collection from the psi talents. We expect to complete the programming and resume data collection for phase 2, then analyze the data before summer 2023, so we can present them at the PA conference.

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## Paranormal Folklore in Western Georgia: A Critical Narrative Investigation

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**Introduction:** This project seeks to examine paranormal folklore from a qualitative and critical perspective. Folklore may take the form of stories, myths, or legends circulating in a local community or discourse. Paranormal folklore, it has been suggested (Kripal, 2011), contains a “critical” kernel of truth whereby these forms of discourse push back against more normative accounts of reality and challenge everyday ways of understanding the self and the world. This project builds on the critical nature of folkloric stories by analyzing the way a paranormal encounter or exceptional experiences (ExEs) can develop textually, linguistically, and socially into a more widely accepted ‘tall tale’ that then takes on a certain aura (Walker, 1995). That is, we are interested in the *power effects* that paranormal folklore have with regard to shaping subjectivity and various frames of reality. What we mean by power effects is the way that those that experience ExEs and the paranormal experiences themselves can be dismissed and deemed unworthy of scholarship or further study. Previous works have cataloged some of the paranormal or, more generally, Fortean events within Georgia without connecting them to folklore per se. For example, Miles (2000) chronicles reports of various phenomena - many of which fall within Heard County or, more generally, within what is called the Troup-Heard Corridor, which encompasses some of our target area and is a hotspot of UFO activity (e.g., the ghost light of Spearman Place, p. 234) and may in part be a function of the high quartz-content of the stones in the area. Purportedly sasquatch-like cryptids such as the “Bung-a-Dingo” (p. 46), the South Georgia Pig Man of the Okefenokee Swamp (p. 48), and the Billy Holler Bugger of Dahlonga (p. 49), as well as the river monster known as Altama-ha by the Tama Native Americans (e.g., p. 67), appear in specific regions within Georgia. Additionally, endeavors such as the Bigfoot Mapping Project ([www.bigfootmap.com](http://www.bigfootmap.com)) provide up-to-date location-specific data on reported sightings of relict hominoids without focusing on folklore of the phenomenon explicitly; however, while database reports of encounters extend across all of the contiguous United States and into Alaska, only several are from the Western Georgia area. Scholar and Georgia resident Joshua Cutchin (2022) offers mythopoetic insight into Georgian lore as well as paranormal hotspots throughout the United States, pointing to a possibility of more narratives emerging from western Georgia that could be tied to liminal spaces in the area. A more robust collection of contemporary paranormal folkloric narratives in western Georgia could add greater texture to extant literature and context to endeavors such as the mapping project. While the initial study, already IRB approved, is examining paranormal folklore in the geographic region of western Georgia in the United States, in the future, we hope to expand the project and examine paranormal folklore more globally.

As a case in point, Hufford (1982) provides a constructive model for how our study might be expanded more globally in the future. The researcher examined the “old hag” phenomenon or what medically might be known as sleep paralysis by using a mixed methods approach to gather data. Our present study differs in that we are not ethnographically interviewing residents of the geographic area in order to deduce the best survey questions to ask, as in the Hufford (1982) study. Rather, we are providing the

respondents a free-response space to thickly describe their paranormal account, thereby encouraging as much detail as possible in the data (Emerson & Frosh, 2004). However, within the confines of the present study, the importance of geographic specificity is central to our hypothesis such that the fringe or even trickster-nature (Hansen, 2001) of the paranormal seems to be covered over and buried by larger meta-narratives (Lyotard, 1984) that smother what we might call the authentic exceptional experience in its originality. Some examples of these meta-narratives, from a parapsychological perspective, include materialist or physicalist science, the spectacle nature of ExEs (e.g., as depicted in ghost hunting shows), an adjournment to religious ideologies, and others. As a case in point, McClenon (2016) explores the relationship between ExEs and the creation of religious belief and ideology. Moreover, Hess (1989, 1991, 1993) provides an extensive backdrop for contextualizing how the ideological arena impacts paranormal belief using sociological methods - importantly, helping to situate the findings of the completed research project. The function of power has a long tradition in critical theory.

Foucault (2018) believed one of the core critical procedures was to excavate subjugated knowledges. These knowledges are often buried for political reasons. Parapsychology, as a science and in particular, could benefit from such an analysis insofar as it remains excluded from the mainstream scientific community. What's more, the geographic and localized nature of folklore makes this discourse especially pertinent in challenging materialistic paradigms that rendered the paranormal as such. The local specificity, in other words, grounds the discourse in a time and place, which is in stark contradistinction to the natural sciences that work to develop universal theories and truths that are applicable regardless of context, culture, and community. Qualitative research is an underrepresented methodology in parapsychology (Murray & Woffitt, 2010). As a result, this project brings to bear more recent concepts from critical theory, in particular critical narrative analysis (Emerson & Frosh, 2004), in order to better understand what counts as believable and what becomes Other, anomalous, or discarded. In fact, the very notion of what counts as science is, in many cases, presupposed by not only paranormal researchers but the wider, more mainstream scientific community. These presuppositions in parapsychology generally take their lead from a natural scientific approach (Giorgi, 1992) when the study of exceptional experiences should be more in line with a human science methodology. In so doing, we want to analyze the way that our own geographically-local situatedness impacts our findings. Given that the University of West Georgia maintains a unique position within the domains of parapsychology and consciousness studies, including the continual curation of archival collections (Olivieri, 2021) dedicated to figures such as Ingo Swann, William Roll, and other seminal scholars within these disciplines, we are uniquely poised to reflect on our particular placement within these fields and within the larger Western Georgia community through efforts such as the proposed project.

### **Methods:** *Phase 1.*

1. We have created an anonymous survey using Qualtrics. The survey's main purpose is to provide an open space for a long-narrative account of paranormal local folklore. The prompt that we provide the respondent in order to define what constitutes folklore is as follows: "The purpose of this survey is to collect paranormal folklore from Western Georgia. 'Paranormal' could include encounters with cryptids like Bigfoot, experiencing hauntings or seeing apparitions, abduction experiences or seeing unexplainable objects in the sky, encounters with nature entities like fairies or elves, and other similar kinds of

exceptional experiences.” The respondent is asked to type in using a textbox a description of their tall tale. The following is what the respondent will see in the survey:

**Table 1**

*Prompts for the respondent to enter their folklore account in the survey.*

<p>First-Hand Experience (leave blank if not applicable): Describe in as much detail as possible a paranormal story, myth, or legend that you have personally experienced in Western Georgia using the space provided. Paranormal could include encounters with cryptids like Bigfoot, experiencing hauntings or seeing apparitions, abduction experiences or seeing unexplainable objects in the sky, encounters with nature entities like fairies or elves, and other similar kinds of exceptional experiences. If you would like to submit more than one, use the subsequent questions to do so or skip them accordingly.</p>
<p>Second-Hand Story (leave blank if not applicable): Describe in as much detail as possible a paranormal story, myth, or legend that you have heard about in Western Georgia using the space provided. Paranormal could include encounters with cryptids like Bigfoot, experiencing hauntings or seeing apparitions, abduction experiences or seeing unexplainable objects in the sky, encounters with nature entities like fairies or elves, and other similar kinds of exceptional experiences. If you would like to submit more than one, use the subsequent questions to do so or skip them accordingly.</p>
<p>Story 3, specify as first-hand experience or second-hand story (leave blank if not applicable):</p>
<p>Story 4, specify as first-hand experience or second-hand story (leave blank if not applicable):</p>

The survey will also have a question that has the participant affirm the legend originates in the Western Georgia area. We define Western Georgia as roughly 30 miles in every direction around Carrollton (i.e., generally encompassing Carroll, Haralson, Douglas, Coweta, and Heard Counties in Western Georgia, as well as some of Cleburne and Randolph Counties in eastern Alabama). There will be a space to provide the zip code where the legend is primarily located. Basic demographic information will be obtained including gender, ethnicity, religious identification, and age. However, the anonymous nature of the survey will prevent these identifiers from being tied back to the participant.

2. The survey has been advertised on social media, such as Facebook and Instagram, around the University and West Georgia, and around the local communities using the flier created by the research team. All responses are collected virtually. The fliers and other recruitment materials contain links or QR codes that direct participants to the online Qualtrics platform. If a respondent does not type anything in the textbox, their response is blank. There is no option to record audio or submit other forms of media, such as videos. The respondent is encouraged to describe in as much detail the account. We realize that writing can be a laborious process sometimes and is different from oral storytelling. However, we are requesting written accounts. The participants are not compensated for participation.

3. The survey opened in May 2022 and has remained so as this is an ongoing study. So far, we have received 34 reports. These consist of apparitions, cryptids (e.g., purported relict hominoids most



frequently named as bigfoot or abominable snowman in Western media and eyewitness accounts), unidentified aerial phenomena, and psychokinetic phenomena.

4. The collected folklore will be analyzed using the critical narrative methodology (Emerson & Frosh, 2004; Nowak-Dziemianowicz, 2020). Critical narrative analysis examines the ways that, for example, localized and indigenous accounts challenge meta-narratives about the world. Meta-narratives tend to be Eurocentric models that have the most social traction. We do not seek to collect these ourselves. Rather, based upon the corpus of critical theory, these tend to be the most popular models of reality and include physicalist science, religion, mediatic depictions, and so on. To put it as a research question, what general logic makes these stories paranormal in the first place? By general logic, we mean to denote how do respondents conceive of these events to be paranormal or, put differently, how does ideological power influence the classification of a paranormal event? This paranormal element, we proffer as our hypothesis, creates believable narratives that defy hegemonic accounts regarding the nature of the world and, as a result, posit alternative, locally situated discourses with more historical grounding. We place methodological importance and analysis on understanding believability and classification. That is to say, respondents, *prima facie*, classify their accounts as paranormal when intending to participate in the survey. How do sociological and cultural influences create this? And furthermore, in what ways do these paranormal folklore “push back” or enact their own social and cultural impacts?

5. The results will be situated within the context of relevant literature. In the future, we propose to use interviews and focus groups in order to supplement data obtained virtually.

6. The Conclusion, Results, and Discussion will be presented at professional conferences and submitted for peer-review publication.

### *Phase 2.*

1. The narratives that are collected will be moved from Qualtrics to a publicly available website and database.

2. A thematic analysis will be conducted on the narratives using NVivo in order to group the accounts according to their most general themes – e.g., apparitions, cryptids, alien encounters, nature spirits, etc.

3. This public database will be searchable and updated as more paranormal narratives are collected.

**Discussion:** Similar work has been done in collecting folklore and legends of fairies, giants, and other ecological spirits in the Tanat Valley in the United Kingdom (Hunter, 2022). Likewise, research has been conducted to collect and analyze spirits and apparitional legends in Estonia (Valk, 2006). In the United States, arguably, Skinwalker Ranch in Utah is the most widely regarded place for all sorts of strange and paranormal occurrences, including alien sightings, cattle mutilations, non-human apparitions, as well as shapeshifting animals or witches, the ranch’s lore tying back to the history of the indigenous Ute tribe who reside in the Uintah Basin wherein lies the ranch (McCue, 2015). Despite decades of research into the site (e.g., under the auspices of Bigelow’s National Institute for Discovery Science),

studies of the reported phenomena are still inconclusive and ongoing (Milburn, 2020). Indeed, such hot-spots may well serve as exemplars of the kind of high strangeness (Hynek, 1972) of certain extraordinary experiences that Hunter (2021) terms the “deep weird” (p. 5). Other regional hotspots within continental North America include the Pacific Northwest, home to such a large number of reports of Bigfoot that some areas have nicknames reflecting as much (e.g., Vancouver Island, aka “Ape Island”); other cryptids are associated with the region as well (e.g., the *sisiutl* or *wasgo*; Swords, 1991). The Southeast United States has its own share of folkloric accounts, some of which have made their way beyond the particular regions or localities from which they hail: the Skunk Ape of southwestern Florida, for example, is said to look similar to its more popular ‘cousin,’ from the northwest (i.e., Bigfoot; McClure et al., 2011), but to have a particularly strong and unpleasant odor that sets it apart from other localized accounts. Thus, academic interest in the collection and study of paranormal folklore (and its physical, psychological, and/or cultural corollaries) has enjoyed at least some limited success among Western academic and scientific circles. Yet, despite popular attempts to collate reports of the variety of such phenomena within the state of Georgia as a whole (e.g., Miles, 2000) or even to elucidate specific phenomena within certain regions of Georgia (e.g., Miles, 2017), the local folklore and legends in Western Georgia remain uncanonized without any scholastic analysis. Our study attempts to fill this gap.

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## **Unusual Experiences of The Survival Type in Brazilian and British Children: Research in Progress**

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**Summary:** Unusual experiences (UEs) or anomalous experiences may be experienced by a substantial amount of the population, but they “usually deviate from ordinary experiences or from the usually accepted explanations of reality” (Cardeña, Lynn, & Krippner, 2014, p.4). Children’s UEs are depicted in cultural productions and are referred to in the history of modern Spiritualism and in classical biographical studies of mediumship. More recent research with adults also points to the onset of UEs in childhood (Delmonte et al., 2016; Roxburgh & Roe, 2014; Wahbeh & Radin, 2018). UEs of the survival type are those that the experiencer interprets in terms of the survival of consciousness after bodily death (Rock, 2014). Mediumship, after-death communications, and poltergeists are some examples.

The beginnings of experimental research on UEs that directly involve children can be traced back to Foster (1943), a white researcher who worked with 50 Plains-Indian children in a government school in Canada. In the 1960s, Louisa Rhine (1961), through a letter collection, studied the precognitive dreams of 216 children. Louwerens (1960) experimented on precognition with 684 children in the Netherlands,

and Krippner (1965) with 40 school children in the USA. In the 1970s, Drewes & Drucker (1976) tested children's ESP using M&M candies in order to improve children's engagement in experimental tasks. In the 1980s, Blackmore (1980) researched ESP, and Morse and colleagues (1986) researched NDEs; of additional interest are children's past life memories (Haraldsson, 1995, 2003; Stevenson, 1990, 2000; Tucker, 2007, 2016), lucid dreams (Voss et al., 2012), and ESP in Brazil (Corredato, 2014). After the decline in the amount of research on children's UEs in the 2000s, there has recently been a renewed interest in this topic (Corredato, 2014; Martinez, 2020, 2021; Thomas, 2022a, 2022b, 2023), which has led to the current research project.

Initial spontaneous UEs of the survival type may be later understood and practiced as mediumship (Roxburgh & Roe, 2014; Delmonte et al., 2016). In the Brazilian and in Brazilian-African religions, such as Spiritism Umbanda, Candomblé, and Santo Daime, children participate in rituals and practices that involve mediumship (Campelo & Monteiro, 2017; Cavalcanti, 2008; Falcão, 2010; FEBtv, 2019; Oliveira, 2015). Thus, some children may have UEs, interpreted as mediumship in these contexts. In the UK, mediumship is reported and researched in adults (Roxburgh & Roe, 2014), and children do not actively participate in mediumistic contexts, although we have seen that spontaneous UEs in childhood may be later interpreted according to mediumistic beliefs.

UEs challenge scientific worldviews and may be mistrusted; however, their study in childhood is important in order to understand psychological development better (Corredato, 2014; Oliveira, 2015; Wigger, 2019), with regard to, for example, invisible companions (Adams et al., 2022; Cindy et al., 2021), identity, beliefs, and worldview formation, meaning making and facing difficulties (Martinez, 2020). In this way, UEs are pointed out as having a healing potential for children (Thomas, 2021). Concerning ontological inquiry, Pafford (1973) suggests that children would practically have the innate ability to experience the transcendental, which would tend to diminish with age as they become embedded within a secular world. In the same way, Drewes & Drucker (1991) note that children's concept of space and time would be less structured, especially at a younger age. They would be less influenced by cultural concepts about what is possible or impossible, and so children would not be negatively conditioned about psychical phenomena. However, in the modern era, children are, from a younger age, "constantly bombarded with negative content around the paranormal phenomena" (Thomas, 2023, p. 53).

Most of the research on UEs has focused on children from Western, Industrialized, Educated, Rich, Democratic (WEIRD), and English-speaking countries (Maraldi & Krippner, 2019). This research project intends to go beyond WEIRD and English-speaking populations by encompassing Brazil and cross-culturally comparing Brazilian and British data on children's UEs of the survival type. The cross-cultural comparison of British-Brazilian child's UEs could contribute to the clarification of the debate involving the cultural source hypothesis versus the experiential source hypothesis (also known as the common core hypothesis) (Maraldi & Krippner, 2019) on the occurrence, characteristics, and maintenance of UEs. Also, an investigation of this kind has the potential to explore the existence of diverse possible combinations of the two competing perspectives since it is difficult to establish a clear-cut distinction between them (Maraldi & Krippner, 2019).

In this way, the driving question of the current research project is: Which UEs of the survival type do children report, what are their impacts upon children's lives, and what role do British and Brazilian culture

play in the presentations of these experiences? The general objective is to identify, in Brazil and the UK, children's UEs of the survival type, cross-culturally compare the presentations, and cultural impacts.

The specific and complementary objectives are to:

1. Identify the presentations of UEs of the survival type in children and the role of the sociocultural context in these presentations.
2. Examine children's perceptions of the initial UEs of the survival type, on their possible continuity along the time and potential changes involved.
3. Investigate the role of social support on lived experiences.
4. Understand how the experiences are interpreted and meant subjectively by the experiencers.
5. Explore children's emotions on having these UEs.

To accomplish these objectives, we aim to gather and analyze case studies (Creswell, 2014) of children claiming to have UEs of the survival type in each country. In-depth interviews will be conducted in-person or online with children in order to privilege their lived experiences, subjective points of view, and expressions. To participate, children must be aged 8 to 11 years, have had an UE, and have permission to participate from parents or legally responsible adults. The search for participants intends to use the term "UE" in the UK, while in Brazil, the term "mediumistic experience" will be used. In Brazil, children are more integrated into mediumistic religions, while in the UK, the broader term UEs is more accepted. In the UK, children will be recruited mainly through existing networks, including social media special interest groups, the Spiritualists' National Union, and the research team's existing participant networks. In Brazil, to reach participants, social media, the Brazilian Spiritist Federation, the Spiritist Federation of the State of Sao Paulo, and the researchers' networks will work as means. In both countries, from five to eight participants will be looked for. A drawing of the UE will be asked to facilitate the communication and warm-up for the interview, which will encompass questions regarding phenomenology, the meanings and interpretations of the experiences, the emotional and mental health impacts, the history, and the psychosocial or contextual aspects.

The British phase of the research will be conducted first and is currently under review for ethical approval at the University of Northampton. Then, after the completion of the UK stage, the Brazilian phase will be carried on at the University of Sao Paulo. The data regarding UEs of the survival type (from UK) will be selected to be compared with mediumistic experiences data (from Brazil). Reflexive thematic analysis (Braun & Clarke, 2021) and data triangulation (Carter et al., 2014) will be used in the process. The target year for finalizing the research is May of 2025, at the latest, since it involves the first author's Ph.D. research in Brazil.

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## Assessing Public Perspectives of Parapsychology through Facebook: A Discourse Analysis Utilizing Graham's Hierarchy of Disagreement

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**Introduction:** Parapsychology continues to be presented as a controversial academic field online. It is referred to as a pseudoscience on platforms such as Wikipedia, with the continued perception of parapsychology as being a challenge to scientific orthodoxy (Martin, 2021; Murphy-Morgan, McLuhan, & Cooper, 2021; Weiler, 2020). This arguably makes the balanced presentation of parapsychological research and online sharing and broadcasts of related themes challenging, with implications for how the public gain access to up-to-date, accurate, and impartial information about parapsychological research. The dissemination of misinformation via *social media* is of particular interest in assessing how members of the public participate in scientific discourse. Boyd (2010) investigated the role of “networked publics” as communities that are shaped or reconfigured by technologies that themselves reconfigure the information available. This includes the means to consume, participate in, and generate information (Taddicken & Krämer, 2021). Social media encompasses diverse and rapidly evolving platforms, comprising functionalities including blogs, sharing of photos, commentary, and direct messaging where audiences are no longer passive recipients but are themselves the active generators of content (Hanna, Rohm, & Crittenden, 2011; Taddicken, & Krämer, 2021). How parapsychology is discussed on social media is seldom investigated. A recent assessment of public commentaries left on YouTube comment threads of two posted videos focusing on two scientists with opposing views of parapsychology revealed a high level of intolerance of opposing views held by others, reinforcing confirmation bias and polarisation and, in the continued perception held by many commenters, the view that parapsychology sits outside of mainstream science (Murphy-Morgan, Cooper, & Smith, 2022). As a comparative platform, polarization on Facebook is widely examined (Bessi et al., 2016; Del Vicario, 2016), but not in the context of examining what information, or misinformation, is being shared about parapsychology specifically. How individuals also construct their arguments in the discussion thread affordances of Facebook is also potentially of great interest. Facebook allows for longer and more in-depth posts than e.g., YouTube or Twitter. It also allows for discussion and debate. Graham's Hierarchy of Disagreement (2008) comprises a pyramid model exploring how argument can be constructed from “*name-calling*” as the lowest level of the pyramid to “*refuting the central point*” as the most evolved method of disagreement at the top. Graham's approach has begun to be explored in the context of interactions and commentary on social media (Pascoal, 2015). In the context of a recent analysis of YouTube commentaries (Murphy-Morgan, Cooper, & Smith, 2022), a range of arguments were used to both refute and support parapsychology as a post-materialist science, from name calling to genuinely open questions as to the nature of issues being discussed (e.g., on thermodynamics). Further examination of publicly generated information about parapsychology would potentially give greater insight into public perceptions, or misconceptions, and allow for the consideration of key challenges and opportunities for presenting parapsychology more accurately and fairly in the online space.



**Methods:** This in-progress study conducts a discourse analysis (Potter, 2003) of existing data from Facebook to assess public perceptions and knowledge levels of parapsychology. The study utilizes Graham's Hierarchy of Disagreement (2008) to assess how the online argument regarding parapsychology is constructed. An analysis of an existing Facebook dataset comprising conversation threads about parapsychology and psychical research that already exist online is examined. Discourse analysis is used to examine the first 250 posted comments in response to the question, "Is there any real evidence of psychic powers?" Data is transcribed and analyzed using the seven stages of Discourse Analysis execution (Potter, 2003) with a systematic trawl through the data to build a collection of examples of comments and conversation. Graham's Hierarchy of Disagreement is then used to categorize the types and levels of disagreements taking place.

**Results:** An initial analysis of the data indicates that polarization, confirmation bias, and misinformation are prevalent within the Facebook commentary examined. This is comparable to the previous literature assessing commentaries related to parapsychology on YouTube and additional subjects that challenge scientific orthodoxy. Evidence of lower interactions from within Graham's Hierarchy of Disagreement is also prevalent. Further analysis of the data is to be completed.

**Discussion:** The study considers the implications for how the public understands and discusses information about parapsychology, classification of disagreement, and implications for public discourse about scientific information.

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## **Prolonged Recalled Experiences of Death: “Being Alive When You are Cold and Dead”**

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**Abstract:** A major impasse in current research on Near-Death Experiences (NDEs), which are currently being reframed as “Recalled Experiences of Death” (REDs) is that the medication given at cardiac arrest severely reduces memory recall of experiences during surgical operations. A review of current research in this field reveals the enigma that veridical perceptions are often reported during these REDs, and cognitive activity is beyond what might be expected from a brain devoid of brain stem reflexes and cortical activity. Yet it can still be argued that some subcortical areas are responsible for the experiences reported, and thus the claims of ESP are illusory. It is proposed here that a means of resolving some of the basic issues is to focus on cases of resuscitation with prolonged accidental hypothermia due to drowning, snow avalanches, and similar events. In these cases, brain activity is literally frozen, and according to conventional neuropsychological belief, then REDs would not occur. *We do not know if they do.*

Interventions in Norway pioneered the use of gradual re-warming of the brain prior to the re-starting of the heart, with the record of recovery from cardiac arrest being nearly seven hours. The dictum became, “You are not dead until you are warm and dead”- which we rephrase in the title here as “being alive when you are cold and dead.” Similar interventions have been used successfully also in mountainous and lake areas in Sweden, Denmark, Germany, and Austria. Medical-induced hypothermia is, moreover, an accepted procedure in interventions where treatment CPR is applied but the treatment of arrests is delayed.

Given accident rates, it is expected that there are now at least several hundred cases during the last twenty years in the regions mentioned. It is, however, not customary in medical post-operational assessment to ask or to report patient experiences. However, the project is aided by some authoritative guidelines and recommendations for dealing with this issue of patients’ experiences that were recently (2022) published in the *Annals of the New York Academy of Sciences*. These guidelines will be followed in this project. The project aims to collect any such cases and to spread information in accordance with these guidelines. Cases will primarily be obtained through internet interest groups and journalistic contacts in the above countries mentioned. Where possible medical records would be requested in deference to the usual ethical requirements. Any resulting cases will be analyzed with the conventional scale used for REDs and compared to those obtained in cases of cardiac arrest hypothermia.

**Literature Review:** In his authoritative book *The Lazarus Effect* on resuscitation, Sam Parnia (2014) describes how many of the hundreds of dead persons from the Titanic who had been floating in the ice

for two hours could have been saved by the modern methods of resuscitation (p. 276). The major discovery here is that both the accidental cooling of the body and medically induced hypothermia reduce the brain's need for oxygen and, thereby, the risk of ischemia and cellular death. Although various methods of reversing death through cooling the body have been attempted for decades, modern medicine uses more sophisticated technology to achieve this (such as catheters) and, more crucially, to steer the gradual re-warming of the body and brain.

Much credit in accelerating this advance is due to the case of Anna Bågenholm, who, while skiing in Norway, became wedged in an ice hole and suffered severe and prolonged hypothermia (anal temperature 13.7°C). Although she received CPR from her physician colleagues who had accompanied her skiing tour, she was subject to more than 2 hours of cardiac arrest. Before her heart was restarted, her body temperature was gradually raised successively in units of ten degrees. The technique involves the use of extracorporeal membrane oxygenation, also called cardiopulmonary bypass re-warming. Remarkably, Bågenholm survived without any major sequelae. The case received much media attention, and a detailed report on the case was published in *The Lancet* (Gilbert et al., 2000). The favorable result pioneered resuscitation practice and led to a much-improved success rate in the treatment of accidental hypothermia, as shown by Norwegian follow-up studies (Hilmo et al., 2014). This has been extended to the treatment of cases due to drowning with hypothermia, cardiac arrest, and asphyxiation. Further publicized cases have been recorded in Denmark, where seven children recovered from a boating accident (Wanscher et al., 2012) and on the Swedish-Norwegian border concerning three children in a similar boating accident (Carlsen et al., 2017). The record for surviving a lengthy cardiac arrest is now given as seven hours.

Similar reports, practices, and procedures in treating hypothermia are used in the alpine regions of Austria and Italy (Brugger et al., 2012; Rausch, 2021).

What is completely lacking in the detailed medical reports (and even mass-media reports) is any experiential data reported by patients during their periods of cardiac arrest. It could naturally be so that there were no experiences to report or that it was taboo to ask.

Parnia was the project leader for the AWARE study of Near-Death Experiences involving 25 major medical centers in Europe and North America that attempted to assess the claims for continued awareness and observation of surroundings during cardiac arrest and cerebral anoxia (Parnia et al., 2014). A review of ninety reports of out-of-the-body perceptions during NDEs by Jane Holden (2009) had previously concluded that 92% of these experiences were, in fact, veridical. In the AWARE project, only 9% of the survivors of cardiac arrest reported NDEs, and although the study failed to achieve any recall from the NDEs of the target digits projected on overhead screens, one person gave an accurate description of people and activities taking place during his cardiac arrest.

Leaving the issue of apparent paranormal perceptions aside, Sam Parnia and the neuropsychiatrist Peter Fenwick (2002) express in the journal *Resuscitation* the enigma poignantly: "Many studies in humans and animals have indicated that the brain ceases during cardiac arrest, thus raising the question of how such lucid, well-structured thought processes with reasoning and memory formation can occur at such a time" (p. 5). A flat-line EEG usually occurs 15 seconds after cardiac arrest indicating cessation

of cortical activity. A major prospective study reported in *Lancet* by Pim von Lommel and his colleagues concluded that NDEs were not linked to the duration of cardiac arrest, medication, or fear of death (Lommel, 2001). Moreover, the recent book titled *After* by the psychiatrist and NDE-researcher Bruce Greyson highlights the consistency in accounts of NDEs (Greyson, 2021). Nevertheless, there are those who argue that some subcortical areas of the brain remain intact and active and are responsible for generating the NDEs. For instance, neurologist Kevin Nelson likens NDEs to lucid dreams, although the phenomenology would appear distinctly different (see discussion in Paulson et al., 2014).

A major step forward in encouraging research in this area which previously has been beset with taboos is marked by the publication in the *Annals of the New York Academy of Sciences* called "Guidelines and standards for the study of death and recalled experiences of death...." The authors suggest a renaming of NDEs for greater accuracy as "Recalled Experiences of Death" (REDs) and developed a scale to measure the themes associated with these experiences (Parnia et al., 2022). It is a scale that will be used in the current project.

One of the major difficulties hampering any further study of these experiences is the current use of the sedative midazolam administered in medical procedures involving possible cardiac arrest. Midazolam hinders the recall of memories, which may account for the low rate of recall in the AWARE study. This is one argument for focusing on accidental prolonged cardiac arrest where this potential memory loss is circumvented. Moreover, studies of hibernation suggest that hypothermia may release proteins that actually facilitate post-hibernation memory recall.

**Research Plan:** What is being proposed here is a qualitative and quantitative study of the potential reports related to prolonged periods of cardiac arrest, with the major focus being on the experiences of patients who were subject to periods of hypothermia. There is evidence that the neural activity of the entire brain is severely reduced in prolonged hypothermia and according to the current neuropsychological models, cognitive brain functions would be virtually eliminated. The research questions are simple: Do "recalled experiences of death" still occur? If so, with what frequency and in what detail do they occur, to what variables do they relate? How do they contrast with those experiences occurring during cardiac arrest without hypothermia?

The above-mentioned *Lancet* study by van Lommel and his colleagues did not find the duration of cardiac arrest to be related to the occurrence of NDEs, but his data were taken from hospital emergency units and show the average period of cardiac arrest to be a mere four minutes (no standard deviation given).

Cases of resuscitation following prolonged hypothermia occur in several contexts, such as skiing, snow avalanches, and drowning. Medically induced hypothermia or cooling is also increasingly used during the lengthy transport of patients to emergency treatment units and in lengthy cardiac operations.

**Method:** The proposal involves the diplomatic spreading of information concerning the above-mentioned guidelines to emergency units in Scandinavia and Austria. However, data protection laws and patient confidentiality mean that the appeal for specific cases will be directed primarily to internet interest groups and through extensive personal contacts with journalists in Scandinavia, Germany, Austria, and

Italy. We have, for instance, collaborated with Thomas Breinholt, a chief executive with Danish Television, and taken part in numerous Swedish television programs.

The obtained cases will be analyzed with respect to the content and detail of the experiences using the above-mentioned RED scale and to variables concerning the degree of hypothermia, the duration of the cardiac arrest, and the period of administration of CPR. After gaining permission to use the RED Scale, this will be administered to those reporting prolonged experiences, which will enable further analysis in terms of themes and the contents of experiences. Where possible, we would also encourage those with interesting experiences to request their medical records and ask for access to these. The use of this and others will follow the customary **ethical practices** of anonymity and confidentiality of records.

It is difficult to estimate the number of cases that can be accrued this way, but a reasonable estimate would be in the region of 30 to 50 cases. These cases can then be compared with those of recalled death experiences with lengthy cardiac arrests occurring in circumstances other than hypothermia.

A **limitation** of the project is that in many cases it may be impossible to verify which point in time their experiences relate to, which renders the possibility that they might occur prior to the hypothermia or even after resuscitation. A further complication concerns the loss of sense of time in those having these experiences (Greyson, 2021), so the length of accounts may not relate at all to external events.

Since the study is exploratory, it is anticipated that there will be various previously unpredictable difficulties to resolve and further details to be worked out.

The **financial support** being sought for the project is quite modest: a half-time position for two years (and some project leader consult hours) with minimal resources being used from the Psychology Department (thereby avoiding costly overheads). The potential benefit of gaining insight and furthering research in this area is large.

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## Specification Curve Multiverse Meta-Analysis of the Psi Ganzfeld

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**Introduction:** The psi ganzfeld is arguably the most replicated finding in psychology (Baptista et al., 2015), with many meta-analyses supporting such a statement (Baptista et al., 2015). However, conventional meta-analyses do not consider different decision paths when selecting data or how the data can be analyzed (Plessen et al., 2022). The specification curve meta-analysis of the psi ganzfeld will assess which factors, such as which data to analyze and how to analyze, this data can influence meta-analysis outcomes and conclusions. Thus, the purpose of this study is to conduct a specification-curve multiverse meta-analysis of ganzfeld psi studies. This analysis will provide an overview of the past forty-plus years of psi ganzfeld research and highlight the variations in previous meta-analyses.

**Methods:** Meta-analyses in psychological research are often criticized regarding study inclusion criteria and which meta-analytical strategy is most appropriate or optimal. Voracek and colleagues (2019) put forward the notion of the specification-curve multiverse meta-analysis. Instead of presenting a single meta-analysis and defending the choice of model specification, inclusion criteria etc., it is better to assess all possible study subsets (combinatorial meta-analysis) and focus on the relevant and justifiable meta-analysis specifications (specification-curve multiverse analysis; Voracek et al., 2019).

A multiverse analysis is a method to perform all appropriate analyses across the whole range of alternatively processed data sets corresponding to a large set of reasonable scenarios (Stegen et al., 2016). A multiverse meta-analysis can provide the entire picture and robustness of findings (or lack

of) by conducting all reasonable meta-analyses at once by being less dependent on subjectivity in the selection of studies and availability of primary studies (Plessen et al., 2022). The specification-curve analysis provides an adaption of the inferential statistical test, via parametric bootstrapping, to aid the visual identification of the source of variation in results across the model specifications (Plessen et al., 2022; Simonsohn et al., 2020).

Meta-analyses in psychological research are often criticized with regard to study inclusion criteria and which meta-analytical strategy is most appropriate or optimal. Voracek and colleagues (2019) put forward the notion of the specification-curve multiverse meta-analysis. Instead of presenting a single meta-analysis and defending the choice of model specification, inclusion criteria, etc., it is better to assess all possible study subsets (combinatorial meta-analysis) and focus on the relevant and justifiable meta-analysis specifications (specification-curve multiverse analysis; Voracek et al., 2019).

**Planned analysis:** The statistical analysis will follow the analytical steps performed by Voracek et al. (2020) in their publicly available and reproducible code to replicate their visualizations for assessing variation between model specifications. Due to the novelty of this analysis, all analyses are purely exploratory.

The analysis involves three steps:

1. Creating a list of all reasonable model specifications.
2. Conducting inferential statistical tests via parametric bootstrapping.
3. Visualizing the multiverse meta-analysis via descriptive and inferential statistical specification curve plots.

The first step is the most important part of the analysis, which involves identifying and listing “Which” and “How” factors. “Which” factors refer to which data to analyze, focusing on relevant study features such as study target group, control conditions, country, etc. The “How” factors refer to how to analyze the data, particularly which meta-analytic model (e.g., fixed-effects). The early decisions around which factors to include in a meta-analysis frequently generate more result variation than the statistical modeling (Goodyear-Smith et al., 2012).

As the project currently stands, we have identified the five “Which” factors:

1. *Study design.* Researchers may focus on one particular ganzfeld study design only, or all types of extrasensory perception. We include all ganzfeld study designs: (1) precognition, (2) telepathy, (3) clairvoyance, (4) all designs.
2. *Study mechanism.* Earlier ganzfeld studies were manual and have since become more automated due to progression in computer technology. Given the development of technology, there may be an increased focus on auto-ganzfeld methods only, as automated procedures should reduce fraud. We include all study mechanisms: (1) manual, (2) auto-ganzfeld, (3) mixed (partially manual/automated), (4) not specified.
3. *Quality assessment measure.* Published meta-analyses have used different quality assessments, with some using Bem et al.’s (2001) quality criteria, which has known limitations. We include: (1)

Bem et al. (2001) criteria and (2) other (this includes ones used for an individual meta-analysis, created by the author/s), (3) none specified/none used.

4. *Randomization method.* Pool and target selection and target presentation order has evolved from manual to true randomization (i.e., electronic random number generator). This feature will assess if researchers' inclusion criteria assessed the randomization strategy utilized in primary-level studies. We include (1) Manual randomization only, (2) true (automated) randomization only, (3) any type of randomization, (4) not specified.
5. *Inclusion of unpublished studies.* Given the small field of researchers using the ganzfeld method, unpublished studies (e.g., doctoral thesis, undergraduate dissertations) are often included in meta-analyses and regularly cited in parapsychology literature. We include: (1) yes (includes unpublished studies), (2) no (does not include unpublished studies), and (3) not specified.

And two "How" factors:

1. *Choice of meta-analytical model.* We will assess three different models: (1) random-effects model (REM), (2) fixed-effect model, and (3) unweighted model (UWM).
2. *Effect size measure.* We will assess three different effect sizes: (1) approximated binomial z-score as used by Storm and colleagues (2010), (2) the study hit rate (proportion; Pooley et al., in press), and (3) treating the study hit rate (proportion) as a mean (Pooley et al., in press).

**Results:** This study is currently under consideration for pre-registration,<sup>1</sup> and, hence, there are no results as of yet. Voracek and colleagues (2019) use visualizations to make their conclusions; we intend to do the same. See Figures 1-3 below.<sup>2</sup>

**Discussion:** Voracek and colleagues (2019) outline why specification-curve multiverse meta-analysis is justified for contentious arguments as:

1. Conflicting meta-analyses are often rooted in controversies in their respective literature, which they attempt to synthesize and clarify.
2. Multiple meta-analyses can fail to resolve contentious issues that pervade corresponding primary research.
3. This can lead to debates, which can be agonizing and fruitless.

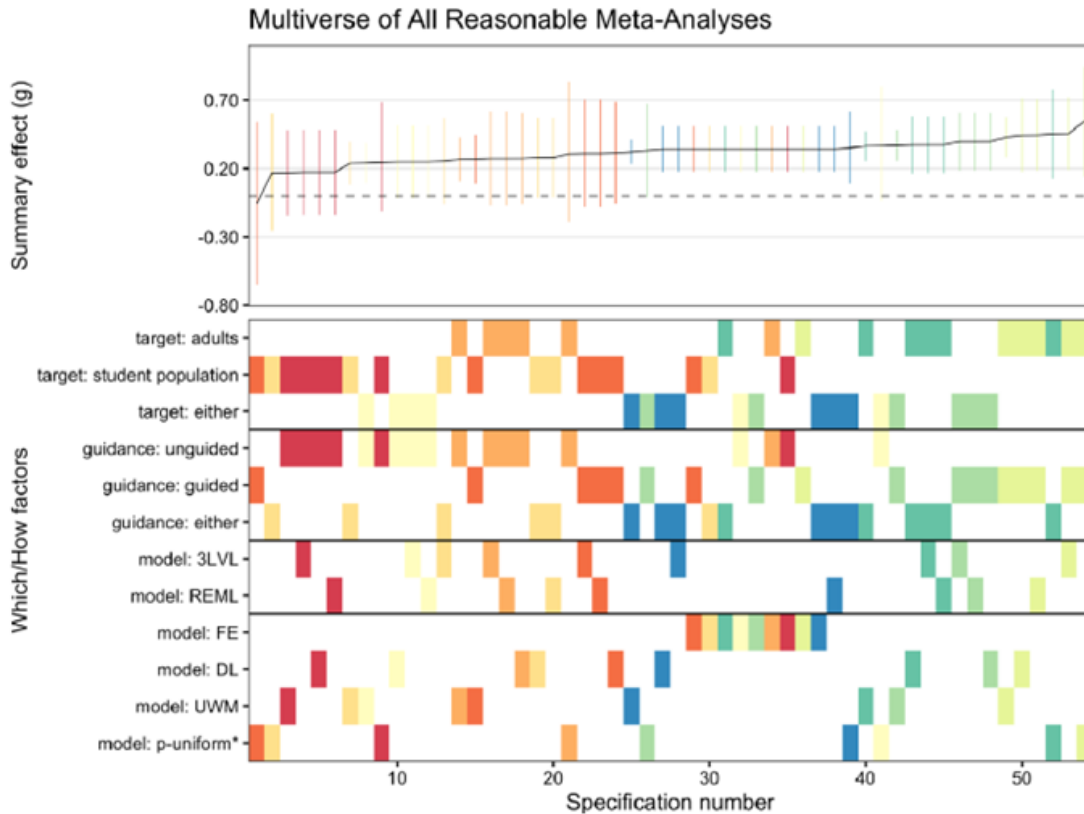
Voracek and colleagues (2019) identify three contentious examples in psychology, including the relationship between violent video games and aggressive behavior, ovulatory cycles in women affecting their mating preferences, and the relationship between brain size and cognitive abilities (IQ). Given these examples, the psi ganzfeld debate is a prime candidate for the outlined analysis given the rich history of results, debates, and viewpoints surrounding the psi ganzfeld hypothesis. Nonetheless, this analysis cannot resolve the psi ganzfeld debate but can facilitate the debate by demonstrating the flexibility with conventional meta-analyses and why they produce contradictory results (Plessen et al., 2022) given the often subjective decisions researchers must make when conducting a meta-analysis.

<sup>1</sup> Currently under review at the Koestler Parapsychology Unit: <https://koestlerunit.wordpress.com/study-registry/>

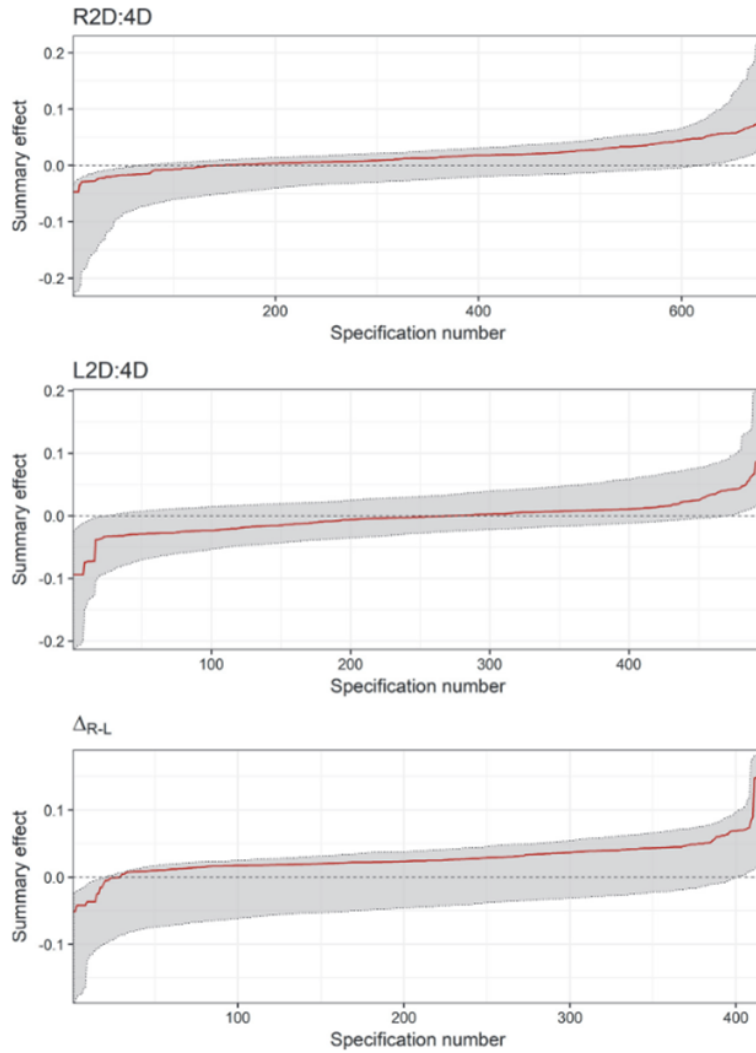
<sup>2</sup> These figures are extracted from Plessen et al. (2022) and Voracek et al. (2019) and are for illustrative purposes only.



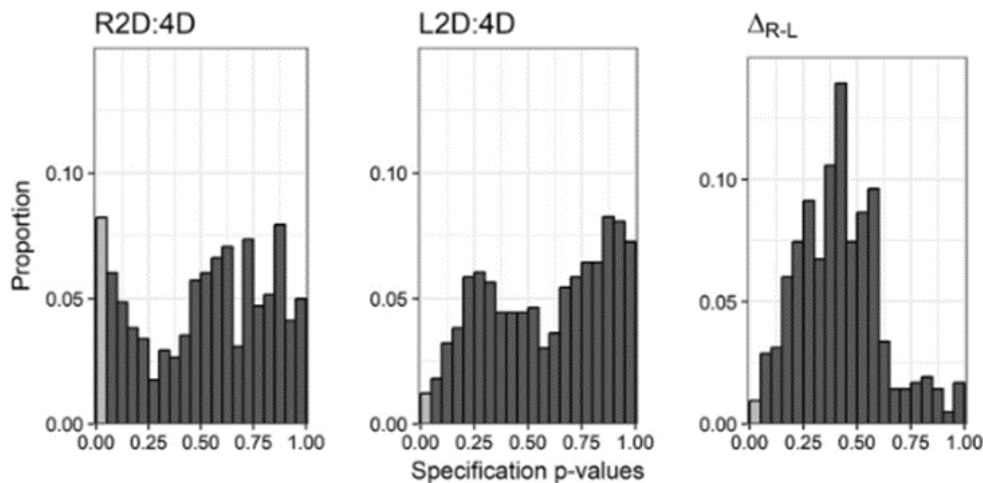
**Descriptive meta-analytic specification plots with simulated data. DL, Der-Simonian-Laird estimator; FE, fixed effect; REML, restricted maximum likelihood estimator; UWM, unweighted mode: 3-LVL. three-level model.**



**Figure 1.** Descriptive meta-analysis specification plots that display the specification curve meta-analysis and shows the summary effects for each specification curve and 95% CIs. The dashed horizontal line represents no effect (i.e.  $g = 0$ ). The vertical lines in the bottom represent factor combinations of ‘How’ and ‘Which’ factors that comprise a given specification. These vertical columns are color coded, with blue and cooler spectral colors representing larger numbers of included samples and the red and hotter spectral colors representing a smaller number of included samples in a specification



**Figure 2.** Inferential meta-analytical specification plots that show specification curve of the magnitude-sorted meta-analytic summary effects for all specifications. Included are the corresponding pointwise 2.5% and 97.5% quantiles of 1000 specification curves, simulated under the null hypothesis for a given specification number using parametric bootstrapping. Exceeding these limits provides evidence against the null.



**Figure 3.** Histograms of the  $p$ -value distributions for the summary effects for all meta-analytic specifications. The histograms of  $p$ -values for all meta-analytical specifications testing whether the meta-analytic summary effect differs from zero. We will also highlight the nominally significant values ( $p < .05$ ).

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## Psychiatry and The Colonization of Spiritual Possession

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Spiritual possession is an authentic exceptional experience. This presentation will deconstruct the mysterious mental disorder Dissociative Identity Disorder (DID), offering an alternative perspective. In contrast to the typical psychiatric explanation, I will be exploring the underlining cause of multiple identities dwelling within a single person. Modern psychiatry removes the spiritual aspects of the human experience in its explanatory models when, at times, spirituality should remain central. Moreover, for fear of being labeled unscientific, paranormal researchers have eschewed a more spiritual model in favor of the psychiatric one. Extant research emphasizes the parallel characteristics of DID and cases of spiritual possession suggesting that multiple, distinct separate identities are the result of the mind enabling the potential of connecting with a higher level of consciousness on a spiritual plane of existence therein allowing for the possibility of multiple consciousnesses to coexist within one human body.

I will discuss the impact of contrasting cultural beliefs and how they influence the way spiritual possession is explained. As a case in point, even in belief systems such as Catholicism where possession is recognized as a spiritual phenomenon, possession is seen negatively with no recognition of any polarity; by contrast, indigenous belief systems that include spiritualism and animism view possession as an honorable gift. Shamans and healers in these indigenous communities prepare the chosen hosts to maintain boundaries with the spirits they will invite to temporarily possess and use the host's physical body while still maintaining the power to expel any spirit if negative feelings or distress begin to materialize within the host at any point during a ritual.

In addition, I will introduce case studies of both a diagnosed case of DID in a Western society along with a case of ritualistic possession in an indigenous community and explain the concept of invited experiences of possession versus uninvited experiences of possession. In doing so, I will not only emphasize the similarities but also propose a means of differentiating between these two types of possession cases. For example, uninvited cases of possession are often accompanied by feelings of emotional and psychological distress along with the host experiencing a loss of control of their physical bodies.

I will discuss the subdiscipline of clinical parapsychology within the field of parapsychology. A brief discussion on what this subdiscipline aims to achieve will unite parapsychology's understanding of exceptional human experiences with clinical psychology's therapeutic environment. In unifying these two into the niche of clinical parapsychology the integrated theoretical foundations work in tandem for the greater good of those who experience distress following an anomalous experience with intentions to help make meaning and validate the experience.

Through a clinical parapsychological lens, Western societies that label uninvited possession cases as Dissociative Identity Disorder leads to the afflicted being institutionalized and considered to be a danger to society. This is due to a perceived absence of control over any other co-consciousnesses living alongside the host in a single physical vessel. However, I propose that psychiatric practitioners could in-

roduce techniques used by indigenous cultures to allow the host to reclaim the control they have lost. I will describe how introducing a clinical parapsychological perspective to Western cases of Dissociative Identity Disorder, wherein one embraces the methods used in invited ritualistic possession cases, hope may be regained by those who are haunted by the label of a life-limiting and lifelong diagnosis who, without holistic intervention, fear they may never be able to integrate back into society.

## A Pilot Self-Study Exploring the Influence of Fractals on Clairvoyance

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**Introduction:** Fractals are mathematical patterns that exhibit recurring, self-similar repetitions at various scales of magnitude and time scales (Marks-Tarlow, 2020). Fractals are a signature of living and natural (rather than artificial) systems that range from coastlines, mountains, and rivers to plants (e.g., ferns) and animals (e.g., seashells) and structures within the human body, including the nervous system (cf. Smith et al., 2021). Fractal signatures have also been observed in human (and animal) behaviors and experiences, including altered states of consciousness (Walter & Hinterberger, 2022; Varley et al., 2020a; Varley et al., 2020b) and consciousness (Varley et al., 2020a). People tend to have a natural affinity for fractal imagery, which has a range of positive psychological effects on participants (Robles et al., 2021). Fractals have previously been applied to transpersonal experiences (see Marks-Tarlow et al., 2020) and to parapsychological experiences (cf. Marks-Tarlow & Shapiro, 2021). In their article, Marks-Tarlow and Shapiro (2021) suggest that a fractal epistemology allows for access to a larger (non-local) reality within subjective space, which they refer to as *transsubjective* (reality is extended beyond usual subjective boundaries) due to accessing information patterns that bridge and repeat across objective, subjective, and intersubjective domains. The association between fractals and psi has not yet been empirically explored. It is possible that those who experience thicker “fractal” minds and bodies may be more likely to access “fractal” states of consciousness and participate in a connected system that is more likely to encourage anomalous information transfer (Simmonds-Moore, 2019). Engagement with fractal imagery such as the Mandelbrot zoom (a dynamic video display that invites the person or people to enter into the infinite) may help the person to experience a relaxed state of consciousness and encourage the transcendence of temporal and spatial boundaries. In turn, these may encourage the emergence of psi. The current exploratory study explores how exposure to fractal imagery compared to watching a blank screen in terms of performance on a web-based clairvoyance task. It was hypothesized that the SOR would be calculated for both conditions, predicting a deviation from chance in both fractal and control conditions but with a stronger effect for fractals. This was done as there is good argument for the idea that psi works better as a signal in the noise, rather than an all or nothing event (Milton & Stevens, 1997). In addition, a comparison was planned between scores for fractal and control conditions (using a cross tabulation and chi square).

**Methods:** This study has a N of 1 (the author), who engaged in a series of clairvoyance trials during March and April 2023. For each trial, the participant watched either a control or fractal video and then engaged in a web-based ESP task. The Mandelbrot zoom used in this study may be found at the following link: <https://youtu.be/b005iHf8Z3g>

The zoom video lasts one minute and 45 seconds. A control video was made via a powerpoint presentation consisting of a dark screen presented and recorded for one minute 45 seconds as an MP4 zoom and then uploaded to youtube: <https://youtu.be/oF7IPgsQ6sU>

The psi task is a clairvoyance task designed by Michael Daniels and is available on Daniels' website at the following URL: <https://psychicscience.org/esp4>. This was selected such that the participant had no prior knowledge of the target pool or the individual target sets. The task begins with a sending period, in which the target is selected in real-time. Sending periods can be selected by the person taking the test, but for this experiment, a sending period of one minute was selected. A few practice trials were conducted on March 21st (without keeping track of psi scoring). Following this, an additional set of five pilot sessions were conducted (on March 22nd) such that the participant could become more familiar with the ESP protocol and explore the feasibility of running more than one trial at a time. After the pilot sessions, it was planned that five trials would be run on days when the participant has no teaching commitments (Mondays, Wednesdays, and Fridays) starting on Friday, March 24th. A total of 40 experimental trials were planned, including 20 trials following exposure to a Mandelbrot zoom (one minute and 45 second exposure) and 20 trials without exposure to a Mandelbrot zoom (participant watches a video of a black screen for 1 minute and 45 seconds). The order of trials was determined by a random process (Research Randomizer where 1 = control and 2 = mandelbrot zoom) and was generated as follows: 1, 2, 2, 2, 2, 1, 1, 2, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 2, 1, 2, 2, 2, 2, 1, 2, 2, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1. Notes were taken during each session regarding imagery and impressions and the rank allocated to the image that was the target for each session. The date and time of day were also recorded.

**Results:** Results (the ranks given to the target image) will be presented for the two conditions (Mandelbrot zoom exposure or watching a blank screen), and the results of a sum of ranks analysis (SOR) for each condition will be given. The results of a frequency analysis will also be presented alongside qualitative examples.

**Discussion:** Results will be discussed and linked to prior research and theory.

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## **Testing for Individual Differences in Anomalous Interactions with Objects (Psychometry)**

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**Introduction:** Psychometry has been defined as “the practice of using an object from a person, such as a piece of jewelry or clothing, to obtain information about the person” (Roll, 2003, p. 201). Early studies by psychical researchers tended to explore the claims of self-proclaimed sensitives or mediums and tended to focus on case studies rather than group experiments (cf. Barrington, 2016; Hettinger, 1941, 1948; LeShan, 1967; Pagenstecher, 1924; Smythies, 1987). In many cases, evidence was found in support of psychometry. As an example, LeShan’s study found that the medium Eileen Garrett was able to correctly identify which unopened box contained which objects. Garrett was also able to provide several verified facts about each of the objects and provide additional information that was not known to the researchers but was later found to be accurate (LeShan, 1967). The topic has been relatively neglected until recently. One recent study explored performance at psychometry tasks among members of the general population but found better performance in the control group (cf. Baker et al., 2017). The current study seeks to explore how differences in tendencies to experience the Autonomous Sensory Meridian Response (or ASMR) relate to performance on a psychometry task. Autonomous Sensory Meridian Response (ASMR) is “the experience of tingling sensations in the crown of the head, in response to a range of audio-visual triggers such as whispering, tapping, and hand movements” (Poerio et al., 2018, p. 1). ASMR has yet to be explored in relation to psi but seems to be promising as an anomaly-prone

variable, given its association with traits that are associated with increased connectivity and tendencies to report exceptional experiences. These include openness to experience (Fredborg et al., 2017; Janik et al., 2017), increased scoring on transliminality, body consciousness, and unusual experiences (Roberts et al., 2020), and higher scores on empathic concern (Janik et al., 2017). In addition, some have proposed that ASMR is a (more common) form of synesthesia (Janik et al., 2017) and that ASMR tendencies are associated with enhanced prevalence rates of synesthesia (Barratt & Davis, 2015). Synesthesia has been explored by the first author in several prior studies as a variable of interest that may allow for the concrete perception of a variety of unseen stimuli (cf. Simmonds-Moore, 2022).

**Methods: Participants.** Five senders each wore a ring (on a necklace made of plastic material) for approximately four weeks during the summer of 2022. The volunteers included two males and three females. Forty participants over age 18 were selected based on their scoring on the ASMR-15 (Roberts et al., 2018). Participants who scored above a z score of .5 were considered to experience higher levels of ASMR, and those scoring lower than a z score of -.05 were considered to experience lower levels of ASMR. Twenty high ASMR experiencers and 20 low experiencers were invited to participate in the psychometry experiment.

**Materials.** Five pairs of rings were purchased. Ring pairs differed in terms of their material and were copper, silver, gold, steel, and rose quartz. One ring from each pair was worn by a sender (for the experimental condition), while the other rings remained unworn (for the control condition) such that five of the rings were worn by senders and five were not. Each sender completed the Revised Transliminality Scale (Lange et al., 2000) and the Big 5 Personality Inventory (John & Srivastava, 1999). During the four-week timeframe in which rings were worn, senders kept a weekly journal which was sent to them electronically. The prompts asked about mood and any events that occurred during the period of wearing the ring.

**Procedure.** Two experimenters are involved in the study to ensure sufficient blinding for each session. All psychometry studies are taking place in a lab in the psychology building at the University of West Georgia. Prior to the arrival of participants, experimenter 1 will set up the study. Using a random process (research randomizer), the location of each target ring will be determined and rings placed either into position A or B for each trial (arranged around the top of a wooden Lazy Susan). Each ring box is marked inside so that participants and experimenter 2 will remain blind to target identity and location. Experimenter 2 will then meet the participant, describe the study, and obtain consent. Participants will then be encouraged to relax by listening to some relaxation music. Then, experimenter 2 will invite the participant to begin trial 1 (of 5) and participants will be asked to open each box in turn and to interact with the rings (while wearing plastic gloves). They will then enter their choice regarding which ring (A or B) had previously been worn in addition to any impressions (e.g., thoughts, feelings, sensations, etc.) into a computerized form (created in Qualtrics) on the laboratory computer. Following trial 1, the next pair of rings will be moved in front of the participant and placed atop the Lazy Susan following the same random placement process used in trial 1 (i.e., with experimenter 1 and a research randomizer). This procedure will continue for all five trials. The target identity will then be recorded by experimenter 2 on a master sheet. Results will be analyzed overall in terms of hits versus misses overall and for hits versus misses for each type of metal ring. Statistical comparisons will be made in terms of number of hits based on the sender's personality scores and average levels of mood.



**Results:** This study is in progress.

**Discussion:** Findings will be discussed in light of prior research and theory.

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## Information for Student Members of the Parapsychological Association

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**Introduction:** The purpose of this presentation is to inform the attendees of the PA conference about the opportunities available for students within this organization. Under the leadership of the PA student representative Yuan Jin, a core group of students, including Tabatha Smith, Nina Faull, and Stephanie Celeste, have all been making efforts to improve student involvement in the Parapsychological Association. To promote student involvement, we have each made several ongoing efforts. We have reached out to resources within our home universities, we have hosted monthly talks through Discord, and we have hosted a table monthly at the Psi Agora. We are interested in keeping this new momentum to further develop an environment in which students who are interested in parapsychology can find community, as well as an active space to explore new research and topics in the field.

**Methods:** The methods we will use for the event will be to detail who we are, what we are looking to accomplish, and how interested persons can get involved. We will be actively searching for new speakers interested in mentoring and educating students, as well as inviting current students to join in our talks. We will include a QR code with a direct link to our Discord channel, which is our current communications hub.

**Future Endeavors:** The student members of the Parapsychological Association are actively working on obtaining permissions for several new projects. To address the rising popularity of academic podcasts as a viable method of sharing research (Smith et al., 2020), Tabatha Smith has been tasked with creating a student podcast to discuss current PA research. Our intention with this project is to make discussing these topics more accessible to a wider audience.

To further this theme of accessibility, Yuan Jin is in the process of requesting permission for a student-led conference to happen before the end of 2023. Upon the approval of this event, we will be inviting students to share their current research in an online format. We believe this is a way to facilitate the growth of students within the PA, as it gives them an opportunity to have a less intense experience of sharing their ideas. As a student presenting research at a professional conference can be terrifying, and this is a way to help build confidence and presentation skills in a setting outside of the student's home institution.

Nina Faull is in the process of securing speakers for our student-led discussions held through Discord. Each member of the student team is committed to growing our student community.

Stephanie Celeste is currently working to generate more student involvement at her home university as well as brainstorming ideas to generate more student involvement.

**Discussion:** As one final note, the students of the PA believe it is important to have a student representative in attendance at the conference to further promote our cause as well as to network.

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## Measuring “Enlightenment”: The Development of an Inventory of Secular/Spiritual Wakefulness

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**Introduction:** Many of the world’s spiritual traditions describe an expansive state of being in which the individual’s awareness becomes more intense and refined so that one gains a clearer or deeper awareness of reality and seems to transcend the delusory and dysfunctional elements of a more ordinary and seemingly limited state of being (James, 1985; Spencer, 1962; Happold, 1986; Schuon, 1984). Research has suggested that this expansive state can occur outside the context of spiritual traditions, particularly in the aftermath of intense psychological turmoil (Miller & C’de Baca, 2001; Martin, 2020; Taylor, 2012, 2021).

We term this expansive state “wakefulness,” defining it as an expansive, self-transcendent, stable state of being in which a person’s vision and relationship to the world are transformed.

This research brief describes the construction of an inventory - by a team of six British, Canadian, and German researchers, including the presenter - that successfully operationalizes the state of wakefulness in secular contexts.

**Methods:** The inventory was created using the results of pre-existing qualitative research studies on awakening from which a number of characteristics were identified. The subjects of these pre-existing studies were selected based on their published teachings in response to requests for participants who had undergone awakening (or a shift into an ongoing higher state of consciousness) or by recommendation from colleagues or acquaintances.

Statements reflecting each characteristic were developed and subsequently assessed by expert judges to evaluate the content validity. Two pilot studies were carried out to test the statements prior to the full validation of the measure.

Exploratory factor analyses were then conducted on the data of  $n = 278$  English-speaking participants (test sample) to examine the factor structure of the inventory. Results revealed an interpretable 19-item, one-factor solution with good internal reliability, which was considered the final version of the inventory (WAKE-19).

To examine the construct validity using the known-group method (Hattie & Cooksey, 1984; DeVellis, 2003), a one-way between-subjects analysis of the covariance (ANCOVA) was conducted. The ANCOVA compared the total scores on the WAKE-19 between the groups of awakened vs. matched comparison participants while controlling for prior mental health diagnosis and prior or current participation in spiritual or religious groups.

The translation of this questionnaire into German was best represented with a unidimensional structure after the deletion of three items. In a last step, the convergent and discriminant validity of the German wakefulness questionnaire were evaluated by calculating Pearson correlations of the total WAKE score with other established measures.

**Results:** Results revealed an interpretable 19-item, one-factor solution with good internal reliability, which was considered the final version of the English language inventory (WAKE-19). The internal consistency of the unidimensional scale was Cronbach's  $\alpha = 0.89$  ( $\omega_{\text{total}} = 0.89$ , 95%CI [0.87, 0.90]; Revelle's  $\omega_{\text{total}} = 0.92$ ; GLB = 0.93). The German inventory had an excellent Cronbach's  $\alpha = .86$  ( $\omega_{\text{total}} = 0.86$ , 95%CI [0.83, 0.88] and Revelle's  $\omega_{\text{total}} = 0.90$ .

There were significant differences in total scores of the WAKE-19 between awakened vs. the matched group ( $F(1, 43) = 28.06$ ,  $p < .001$ ,  $n^2 = 0.394$ , Cohen's  $f = 0.78$ ), controlling for prior mental health diagnosis and prior or current participation in spiritual or religious groups. Scores on the WAKE-19 were considerably higher in the awakened group ( $n = 24$ ,  $M = 76.54$ ,  $SD = 7.69$ ) than in the matched comparison sample ( $n = 24$ ,  $M = 64$ ,  $SD = 10.18$ ). This finding indicates that the developed scale discriminates well between groups that are known to theoretically differ (Hattie & Cooksey, 1984).

The German version was shown to be reliable and showed a pattern of correlations supporting a good convergent and discriminant validity. The German version showed highly positive correlations with the Freiburg Mindfulness Inventory ( $r = .658$ ), the TMCS subscale of metacognitive control ( $r = .524$ ), and the SEE acceptance subscale ( $r = .539$ ). Conversely, negative correlations were observed with the Big-Five neuroticism subscale ( $r = -.494$ ) and the SEE overwhelming emotions subscale ( $r = -.394$ ).

**Discussion:** The study complements evidence suggesting the existence of wakefulness as a particular state of being - distinct from the usual or ordinary state of adult waking consciousness - while providing an economic, valid, and reliable instrument that can be used in future research.

The research presents a comprehensive measure to assess a stable state of wakefulness in secular contexts, both in English and German language. The inventories measure wakefulness effectively, distinguishing well between the awakened and general population groups.

The results show that wakefulness as a particular state of being exists in a continuum, is not limited to spiritual contexts, and is worthy of further psychological study. This questionnaire can now be used for the scientific study of wakefulness.

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## Exploring the Relationship Between Sensory Processing Sensitivity (SPS) and Dream Precognition

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**Introduction:** Sensory Processing Sensitivity (SPS) has been suggested to be a continuously distributed trait with higher levels associated with deeper processing of information, greater empathy and emotional reactivity, and a greater ability to sense subtleties in the environment (Greven et al., 2019). Aron and Aron (1997) devised a questionnaire called the Highly Sensitive Person Scale (HSPS) to measure high sensitivity, and the Highly Sensitive Person (HSP) classification is used to describe an individual who experiences SPS.

Initial research in parapsychology suggests that highly sensitive persons (HSPs) may be more likely to experience anomalous experiences (AEs). In one of the few parapsychological studies to use the HSPS, Irwin et al. (2015) found an increased propensity to anomalous experiences on the Survey of Anomalous Experiences in HSPs. Aron et al. (2012) also noted that HSPs reported more meaningful and vivid dreams and had more highly developed unconscious processing abilities and intuition, which have been suggested to be particularly useful for exhibiting more robust precognitive effects (Bem et al., 2015). In addition, HSPs have been shown to report more altered states of consciousness, which naturally occur through dreaming (Jonsson et al., 2014), suggesting they may potentially make good candidates for a dream precognition paradigm.

Research on dream precognition has not always been successful in eliciting clear and robust effects (Luke & Zychowicz, 2014; Sherwood et al., 2002; see Mossbridge & Radin, 2018 for a review). Never-

theless, the most recent meta-analysis concluded that dream precognition is a genuine effect that is not governed by the specific experimenter or laboratory, the necessity to monitor rapid eye movement (REM), the type of target, agent and perceiver arrangements or the number of choices available in a target set (Storm et al., 2017). However, to date, no research has explored the potential link between participant sensitivity and dream precognition. Hence, the aim of this study is to explore this using an online dream diary precognition protocol.

### *Exploratory Hypotheses*

H1 – Explore the difference in similarity ratings (i.e., the rating between 1 and 100 indicating how much similarity participants feel there is between each image and their dream) between the target image compared to the three decoy images (i.e., mean similarity score across the 3 decoy images).

H2 – Explore the possible relationships between precognitive dream performance (i.e., mean similarity rating for target image) and sensitivity (HSP-12 and subscales).

### **Methods:** *Pre-registration*

This study has been pre-registered at the KPU 9REF #1067: [http://www.koestler-parapsychology.psy.ed.ac.uk/Documents/KPU\\_Registry\\_1067.pdf](http://www.koestler-parapsychology.psy.ed.ac.uk/Documents/KPU_Registry_1067.pdf)

### *Participants*

Using a similar dream precognition procedure Watt (2014) produced an effect size of 0.16 with a sample size of  $n = 50$  which is consistent with that reported in the meta-analysis of precognitive dream research by Storm et al. (2017) of 0.17. Hence, to ensure sufficient statistical power, and avoid the criticism of optional stopping and participant fatigue, a sample of 100 participants will be used.

### *Materials*

The study will use Qualtrics software to present material online and a standard keyboard for entering responses. Sensitivity will be measured using the HSP-12. This is a 12-item self-report measure of SPS, created by selecting items from the original 27-item HSPS (Aron & Aron, 1997) that loaded strongly on the bifactor structure detected in previous studies (Lionetti et al., 2018). Each of the 12 comprising items is rated on a 7-point Likert scale. The items are then averaged to obtain an individual's total mean score. The HSP-12 has shown good psychometric properties and correlation between the two scales is very high, with  $r = .94$  (Pluess et al., 2020).

Images for the dream precognition component all come from the International Affective Picture Systems (IAPS) database (Lang et al., 1997). A selection of images from IAPS was used to create a stimulus pool of 44 images divided into ten main stimulus sets and one practice set with each set containing four images (one target and three decoys) with high emotional content (i.e., positive valence and arousal) as prior research has suggested that these may be better at eliciting precognitive effects (Bierman & Scholte, 2002; Maier et al., 2014; Radin, 2004). The ten main stimulus sets will each be matched for mean arousal and valence based on measures available from IAPS. Selection of the main stimulus sets

will be carried out by the Qualtrics software using its own inbuilt randomizer, whereas selection of the target within the set will be conducted using an RNG function from the online site [www.random.org](http://www.random.org). This generates numbers based on atmospheric noise and hence is truly random.

### *Procedure*

All participants will be screened to ensure that they regularly dream and are able to recall their dreams. They will each be given a unique four-digit ID code to enable us to match their questionnaire responses to their dream precognition responses. They will then complete the HSP-12. Given the recommendation by Storm et al. (2017) that such studies allow at least one night for the participants to adjust to the study demands before the experiment begins, each participant will complete one practice trial using a designated set of practice images, but this will not be included in the analysis. This will be followed by the main trial. Both the practice and main trial will be identical in procedure and carried out over two nights (Monday and Tuesday) on consecutive weeks. On Monday, participants will be sent an email prompt reminding them that they need to try and dream of the target on Monday and Tuesday night and to write down their dreams in a dream diary as soon as they wake each morning (i.e., Tuesday and Wednesday). On Wednesday they will be sent a link to a Qualtrics software page. This will initially require them to enter their ID code and write a summary of their dreams from their dream diary. Once they have completed this, they will move on to the “Target” page. This page will contain one set of four images from the practice set or from one of the ten main stimulus sets randomly selected, ensuring an even distribution across participants. Participants will then indicate how much similarity they feel there is between each image and their dream using a scale of between 1 and 100, where 1 = no similarity and 100 = complete similarity. No tied ratings will be permitted, and to help discourage this, participants will also be asked to identify the correct target from the four images using a forced-choice task. This will then complete their trial.

On Thursday, a researcher will identify which stimulus set each participant was exposed to. From this set of four images, one image will be randomly identified as the target using an online random source generator (e.g., [www.random.org](http://www.random.org)) and given that research suggests that providing feedback can facilitate precognition (e.g., Honorton & Ferrari, 1989; Steinkamp et al., 1998) a “feedback link” will be sent to each participant identifying the correct target from the set. For the practice trial, to provide additional encouragement and address the potential drop-out rate, participants will be told not to worry if they did not identify the correct target in this first trial and that it often takes a couple of trials for the effect to emerge. For the main trial, they will simply be thanked and provided with additional debrief information.

**Results:** The study should be completed in April 2023, providing sufficient time to process and analyze the data prior to the conference.

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## Testing for Behavioral and EEG Correlates of Forward and Backward Priming

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**Background:** In a classical priming task, a priming stimulus is presented first followed by a task-relevant target stimulus. The target stimulus is either related to the prime (congruent condition), or it is unrelated (incongruent condition). In the congruent condition, the prime typically pre-activates the neural representation of the target, resulting in faster reaction times of the target stimulus. The backward priming experiment, first introduced by Bem (2011), is a variant of this paradigm, where the order of prime and target stimulus is inverted. The aim of Bem's study was to investigate whether a prime, presented after the target stimulus and its corresponding response, could influence the reaction time to the target. Participants were asked to class a target image presented on a computer screen as negative or positive via button press. The prime following the target and the target-related button press was a word that was either negative or positive. In a congruent trial, the target and the prime were the same (either positive/positive or negative/negative), and in an incongruent trial, the target and prime were different (positive/negative or negative/positive). Bem found significant faster reaction times in congruent compared to incongruent trials. These findings are interpreted to constitute a precognition effect (Bem et al., 2016).

To date, the mechanisms underlying precognition and the brain areas that are potentially involved are unknown. Moreover, due to the lack of empirical evidence, it is not possible to predefine (hypothesis based) spatial (brain regions) and temporal regions of interest (ROIs) for the analysis of physiological (EEG) data. In the present study, we replicated Bem's precognitive priming task (hypothesis-driven study part) and measured concurrently the EEG of the participants (exploratory study part) to test whether certain EEG activity correlates with behavioral forward or backward priming effects. Given the absence of a pre-defined spatio-temporal ROIs, we decided to use Artificial Neural Networks (ANNs) as analysis tools because they do not require predefined spatial and temporal ROIs.

It is further unclear whether the population contains few precognitively gifted individuals among a majority of ungifted individuals or whether precognitive abilities are normally distributed in the population. It is also unclear whether precognitive abilities are state variables that occur only if a person is in a certain mental state or whether they can be regarded as trait variables. As a consequence, we use our ANN approach to execute statistical analyses both on the group level and at the level of individual participants.

The present study focused on the following hypotheses:

If precognitive effects exist,

1. They are correlated with specific brain activity of the person that shows the precognitive effects.

2. They are not normally distributed in the population but instead restricted to individual gifted participants during specific mental states.

**Methods:** Participants underwent an EEG experiment in a replication of the purely behavioral Bem (2011) and Wittmann et al. (2021) experiments. Thirty-one healthy adult participants completed two experimental conditions, the first one being a forward priming task and the second one a backward priming task. For both conditions, EEG was measured. Participants had to report in 400 trials whether they interpreted target images with photos validated for emotional responses (IAPS, OASIS, and RADIANTE image sets) as negative or positive as quickly as possible. A prime was presented either before (forward priming condition) or after (backward priming condition) the target. The prime was randomly chosen between positive or negative words across trials. The aim of the priming experiment was to investigate whether reaction times are faster and EEG signatures are different in congruent (same emotional valence of target and prime) compared to incongruent trials (different emotional valence of target and prime).

Personal communication with experts in the field of precognition research suggests larger effect sizes with higher emotional valence of the visual stimuli. In this context, we regarded studies by Humphreys et al. as interesting (Sui & Humphreys, 2017). They presented a series of studies indicating huge effect sizes if the processed visual stimuli contained information about the participants themselves, e.g., their picture or their name (“self-prioritization effect”). In an additional experimental condition, we thus presented the name of the current participant him- or herself as prime. In a control condition, we used a name that was unrelated to the participant.

In a hypothesis-driven step of our data analysis, we examined the reaction times using one-tailed t-tests and Bonferroni-Holm correction (Holm, 1979) for multiple testing. For the analyses of self-prioritization effects we applied two separate ANOVAs for forward and backward priming, both with the factors NAME and VALENCE. In a subsequent exploratory analysis step, we compared event-related potentials (ERP) and examined the EEG using individually trained ANNs. For this exploratory analysis, we predefined a fixed alpha = 0.01 without further multiple testing correction.

**Results:** (1) Classical forward and backward priming:

In the forward priming task, we found significant reaction time differences between congruent and incongruent trials ( $p = 0.0016$ , Cohen’s  $d = 0.3$ ). The exploratory ERP analysis revealed ERP differences with maximal effect sizes at parietal (P8) EEG electrodes ( $p$ -value=0.0002, Cohen’s  $d=0.3$ ).

In the backwards priming task, we found no significant reaction time differences between congruent and incongruent trials. The exploratory ERP analysis revealed small ERP effects at the CP5 electrode (located above the left gyrus supramarginalis; minimum  $p$ -value = 0.0012, Cohen’s  $d = 0.2$ ).

(2) Priming effects using the self-prioritization effect:

The ANOVAs revealed no significant reaction time effect for the factor NAME, but a highly significant effects for the factor VALENCE, indicating generally faster reaction times to target images with positive valence (forward priming condition:  $p < 1.4 \cdot 10^{-5}$ ; backward priming condition:  $p < 2.21 \cdot 10^{-4}$ , in-

dependent of the type of the name as prime stimulus. Subsequent post-hoc tests confirmed this finding for both the forward priming condition ( $p = 2.8 \cdot 10^{-5}$ ) and backward priming condition ( $p = 2.21 \cdot 10^{-4}$ ).

We further found ERP differences ( $p$ -values ranging from  $4.2 \cdot 10^{-8}$  to  $9.5 \cdot 10^{-8}$ , Cohen's  $d$  from 0.41 to 0.83) between the positive and negative target images, again independent of the type of the preceding prime name.

### (3) EEG analysis using ANNs:

The data collection had only been finished a few weeks before writing this abstract. The ANN analysis is currently still ongoing.

**Discussion:** Given the lack of spatio-temporal ROIs, we extended our search for significant EEG effects across all electrodes and time points. Because of the resulting large number of tests, we decided against a systematic correction for multiple testing, as explained above. We thus regard our EEG analysis as an exploratory approach to find potentially interesting effects rather than proving their existence. The reported EEG results can thus serve to generate hypotheses and ROIs for subsequent studies, but at the same time need to be regarded with caution.

Our findings indicate that positive and negative pictures are differently represented in the brain. On top of this, the classical forward priming results indicate that the behavioral (reaction time) priming effect, well-known from the literature, has a corresponding signature in the EEG. We did not find a behavioral backward priming effect, which might be due to the small number of participants. We found significant EEG signatures for backward priming, which were weaker and shorter than the ERP forward priming effect. We may find some additional effects from the more elaborate and powerful ANN EEG analysis, which is still ongoing and will be reported at the conference.

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