

# ABSTRACTS OF PRESENTED PAPERS

Erika Annabelle Pratte, Program Chair

## 2024 PA CONVENTION

66th Annual Convention of the Parapsychological Association

Mérida, México | AUGUST 22-25



Parapsychological  
Association





Parapsychological  
Association

**66<sup>th</sup> Annual Convention  
of the Parapsychological Association**

NH Collection Hotel

Mérida, México

August 22-25, 2024

**Abstracts of Presented Papers**

Erika Annabelle Pratte

Program Chair

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## INTRODUCTION

“Our view of the world is truly shaped by what we decide to hear.”  
— William James

The noun *convention* comes from the Latin *conventio*, meaning "a coming together." It signifies a gathering of individuals for a particular purpose, often to discuss and exchange ideas. In the coming days, we will have the opportunity to listen, learn, and engage with various perspectives within the field of parapsychology. Each session, presentation, and conversation will help expand our understanding and shape our views about the field as it is now and how we progress it.

My hope is that we take this time to participate, be curious, and open our minds not only to the research presented, but also to the dialogues between researchers and the larger community. We are attending the first PA Convention in a Hispanic country, in a particular part of Mexico with a rich history intertwined with psychic and spiritual phenomena, rooted in its ancient Maya civilization. We have a unique opportunity to explore the science of parapsychological phenomena, but also the cultural legacy of exceptional experiences and spiritual practices of the Yucatán Peninsula.

I appreciate the trust that has been gifted unto me to be the program chair. I am only one person amongst many of have helped organize this event, however; I am much obliged to all who have contributed to organizing the convention, including but not limited to, the Convention Committee, the Board of Directors, and our host, UPIDE. I am also grateful to the speakers and attendees; all of our contributions combined shall ensure the success of this event.

Welcome to the 66th Annual Convention of the Parapsychological Association.

*Erika Annabelle Pratte*  
Program Chair

## INTRODUCTION

**F**or nearly three decades, parapsychology in Mexico has experienced a period of stagnation. The last notable consciousness researcher from Aztec lands was Jacobo Grinberg-Zylberbaum. He authored 54 books—academic works, theoretical explorations, and even fiction and poetry—dedicated to sharing his Syntergic Theory with a broad audience. He also contributed over a dozen research papers, pioneering protocols for telepathy using psychophysiological frameworks, among many other areas. His work was not limited to the study of “anomalous” human experiences; he also theorized and designed experiments on how our consciousness interacts with the fabric of reality and how collective consciousness might benefit humanity. He disappeared at the age of 47. The Unit of Parapsychological Investigation, Dissemination, and Education (UPIDE) started as a dream almost ten years ago. Today, it has evolved into a multidisciplinary team of ten researchers and four administrative volunteers. Though most of them never met Grinberg, I believe his legacy lives on through them; through their sweat and blood, in their passion to fight against the odds, and motivated by a shared vision rather than personal gain. As Grinberg (1990, p. 167) wrote, “those who possess the consciousness of unity do not feel separated from others, nor does it imply that they have lost their individuality.”<sup>1</sup>

Finally, I extend my sincere gratitude to my Arrangements Assistant, Sandra Macías, for her tireless support and commitment to our cause, I’ve yet to earn the trust she puts in me every day; Executive Director Annalisa Ventola, the truest embodiment of a force of nature and the best mentor the universe could put in my path; the Program Chair Erika Pratte, for putting together such a wonderful program; and PA President Everton Maraldi, because if he hadn’t selected me as his program assistant in 2018, I wouldn’t be here. Moreover, thanks to the PA Board for entrusting us with the great responsibility of arranging this event. As the first time the Annual Convention has been held in a Spanish-speaking country, I hope we have met the standard it deserves. And finally, as I wrote here five years ago, to my fiancée, Jeniffer Trenado, who has been the guiding light and strength throughout this rich and enlightening journey.

So, without further ado, welcome to México! Immerse yourself in our vibrant atmosphere, savor the flavors of our cuisine, and feel the passion that we offer with open hearts. Let’s celebrate science, consciousness, and the 30th anniversary of Jacobo Grinberg’s enduring legacy together.

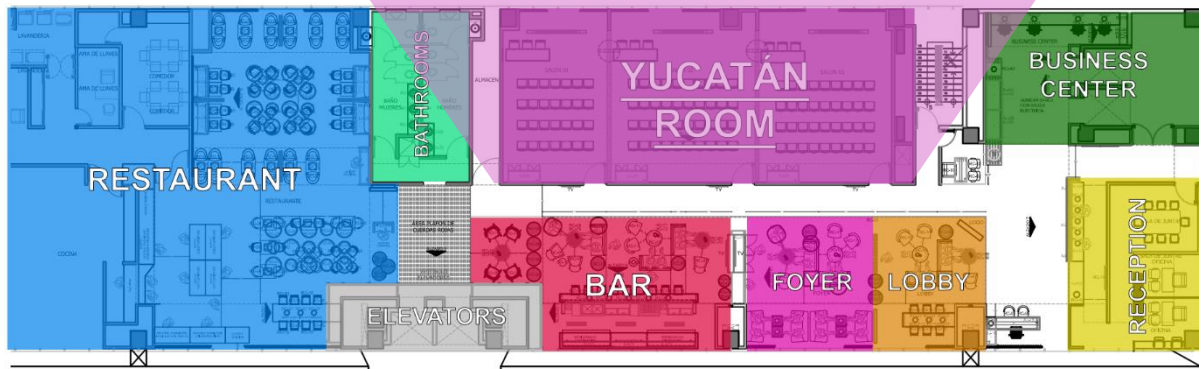
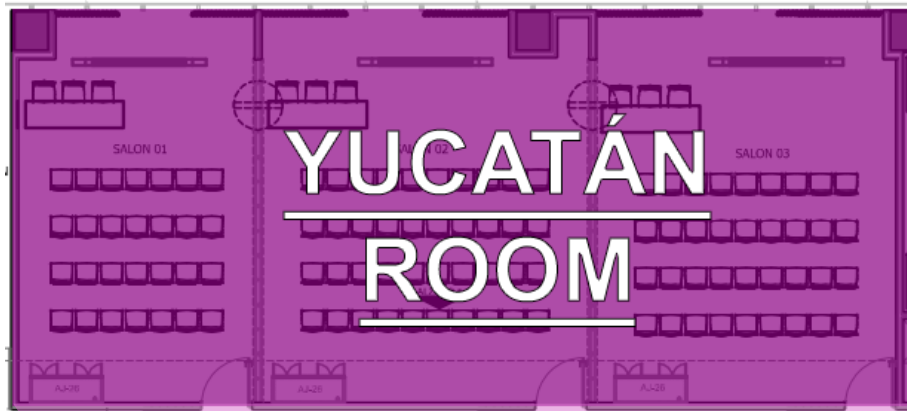
*Ramsés D’León*

Arrangements Chair

Grinberg-Zylberbaum, J. (1990). *La creación de la experiencia*. INPEC.

**NH COLLECTION – PASEO MONTEJO:**  
**SCHEMATICS**

The whole  
Convention will be  
held in the  
YUCATÁN ROOM



## **PRESIDENTIAL ADDRESS & J. B. RHINE BANQUET**

The **PRESIDENTIAL ADDRESS** and the **J. B. RHINE BANQUET** will be held in different locations. A shuttle will be available from the **NH Collection – Paseo Montejo** to take us there, and then return us as well. The logistics will be shared by the **Arrangements Team** on site.

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### **PRESIDENTIAL ADDRESS LOCATION – August 23<sup>rd</sup> 18:30-21:30**

**NH Collection – Paseo Montejo** (street 60 #346) to  
**Universidad Autónoma de Yucatán | UADY** (street 60 #491A)

🚶 = 22 min / 🚗 = 10 min

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### **J. B. RHINE BANQUET LOCATION – August 24<sup>th</sup> 18:30-22:00**

**NH Collection – Paseo Montejo** (street 60 #346) to  
**Museo de la Gastronomía Yucateca** (street 62 #466)

🚶 = 22 min / 🚗 = 10 min

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## CONTENTS

<b>INTRODUCTION.....</b>	<b>2</b>
<b>NH COLLECTION – PASEO MONTEJO: SCHEMATICS.....</b>	<b>4</b>
<b>PRESIDENTIAL ADDRESS &amp; J. B. RHINE BANQUET .....</b>	<b>5</b>
<b>CONTENTS.....</b>	<b>6</b>
<b>PROGRAM SCHEDULE .....</b>	<b>8</b>
<b>ABSTRACTS OF FULL PAPERS.....</b>	<b>13</b>
Is psi rooted in biology? A theoretical proposal based on consilience .....	13
<i>Alex A. Álvarez</i>	
Direct vision: A research program exploring extra-ocular vision in children.....	17
<i>Nili Bar, Alex A. Álvarez, Rodrigo Arriola, Gaia-Velveta Barbakow, Eros Quintero, Javier Martínez, Alfredo Silva, Carlos-Iván López-Miranda &amp; Ramsés D'León</i>	
Parental encouragement and suppression of a child's past-life memories.....	20
<i>Philip J. Cozzolino, Marieta Pehlivanova, &amp; Jim B. Tucker</i>	
Replication of Jacobo Grinberg's transferred potential through electroencephalography .....	23
<i>Eros Quintero, Rodrigo Arriola, Alejandro Álvarez &amp; Ramsés D'León</i>	
The physical phenomena of spiritualist séances and sitter groups: A systematic review of the literature and discussion of psychological hypotheses .....	26
<i>Everton de Oliveira Maraldi<sup>1</sup>, Sonali Marwaha<sup>2</sup> &amp; Jorge Moll<sup>1</sup></i>	
An online repository of poltergeist cases with their phenomenology .....	29
<i>Eric Dullin</i>	
Macro-PK experiments - New results in confined mode and observation of a learning curve.....	32
<i>Eric Dullin, Steeven Frosio Roncalli &amp; David Jamet</i>	
Exceptional experiences as phenomenological and empirical evidence for dual-aspect monism .....	35
<i>Wolfgang Fach</i>	
Subtle energies, photons, & physiology.....	38
<i>John G. Kruth</i>	
Information dynamics in anomalous phenomena .....	43
<i>Javier Martínez</i>	
Psi as a threat – The poltergeist case of Carol Compton.....	45
<i>Gerhard A. Mayer</i>	
Online group pk experiments: Recent results and hypothesis testing.....	47
<i>James McClenon</i>	
Cognitive styles and Psi: Psi researchers are more similar to skeptics than to lay believers .....	51
<i>Marieta Pehlivanova &amp; Bruce Greyson</i>	
The intersection of psychotherapy and near-death experiences: Schmeidler Outstanding Student Award (2021) invited address.....	55

## CONTENTS

*Erika Annabelle Pratte*

Are my deceased loved ones still with me?: Mourning and hope in mediumistic practices..... 56  
*Jorge Villanueva & Mariano Villalba*

The noetic signature inventory norms and patterns ..... 58  
*Helané Wahbeh, Beth Glick, & Michael Kreigsman*

### **ABSTRACTS OF BRIEFS..... 62**

The return of a high performing psi participant: Behavioral results of an ESP task with EEG ..... 62  
*David J. Acunzo, James E. Lenz, W. J. Ross Dunseath, Elizabeth Hanchak, & Edward F. Kelly*

From brain waves to seismic beats: A proposal for studying anticipatory physiological activity through earthquake-related stimuli..... 66  
*Rodrigo Arriola, Eros Quintero & Ramsés D'León*

Penrose's neo-platonic ontology as a foundation for a science of parapsychology ..... 69  
*Thomas Brophy*

Using online tasks to test the robustness of intuitive abilities ..... 72  
*Arnaud Delorme<sup>1,2</sup>, Helané Wahbeh<sup>1,3,4</sup>, Dean Radin<sup>1,3</sup>*

Computer simulation of PK (psychokinesis): New experimental tool for Psi research..... 74  
*Simon X. Duan*

Beyond chance: Demonstration of a new mathematical estimator for Psi phenomena ..... 77  
*Álex Escolà-Gascón*

Exceptional experiences and bonding styles: A pilot study..... 82  
*Wolfgang Fach*

Aphantasia, imagery vividness and exceptional experiences ..... 85  
*John Kruth<sup>1</sup> & Christine Simmonds-Moore<sup>2</sup>*

German ghosthunters – Results of an online survey..... 87  
*Gerhard A. Mayer<sup>1</sup> & Sonja Nowara<sup>2</sup>*

Mediumship and mental boundaries with voice hearing phenomenon..... 89  
*Taylor N. Robinson*

Investigating the accuracy of perceptions during out-of-body experiences..... 92  
*Marina Weiler<sup>1</sup>, Raphael Casseb<sup>2</sup>, & David Acunzo<sup>1</sup>*

### **ABSTRACT OF PRESIDENTIAL ADDRESS..... 94**

### **ABSTRACT OF INVITED ADDRESS ..... 95**

**PROGRAM SCHEDULE**

**THURSDAY, AUGUST 22ND, 2024**

**16:00 – 19:00**

ExpoPsi at NH Collection Mérida – "Yucatán" Room

*Hosted by UPIDE*

**19:00 – 22:00**

Reception at NH Collection Mérida – Roof Garden

**FRIDAY, AUGUST 23RD, 2024**

**9:00**

Welcome & Opening Announcements

*Erika Annabelle Pratte and Ramsés D'León*

**Session One: Experimental Parapsychology and Psi Studies**

**Session Chair: John Kruth**

**9:15**

Macro-PK Experiments - New Results in Confined Mode and Observation of a Learning Curve

*Eric Dullin*

**9:45**

Online Group PK Experiments: Recent Results and Hypothesis Testing

*James McClenon*

**10:15**

Beyond Chance: Demonstration of a New Mathematical Estimator for Psi Phenomena

*Álex Escolà-Gascón*

**10:30 – 11:00**

**Coffee Break**

**Session Two: Consciousness and ESP**

**Session Chair: TBD**

**11:00**

The Noetic Signature Inventory Norms and Patterns

*Helané Wahbeh*

**11:30**

Direct Vision: A Research Program Exploring Extra-Ocular Vision in Children

*Nili Bar*

PROGRAM SCHEDULE

**12:00**  
**Group Picture**

**12:15 – 13:45**  
**Lunch Break**

**Session Three: ExEs and Cognitive Studies**  
**Session Chair: David Acunzo**

**13:45**  
Parental Encouragement and Suppression of a Child's Past-Life Memories

*Philip J. Cozzolino*

**14:15**  
Aphantasia, Imagery Vividness, and Exceptional Experiences

*John Kruth*

**14:30**  
From Brain Waves to Seismic Beats: A Proposal for Studying Anticipatory Physiological Activity Through Earthquake-Related Stimuli

*Rodrigo Arriola*

**14:45 – 15:15**  
**Coffee Break**

**Session Three Continued**

**15:15**  
Cognitive Styles and Psi: Psi Researchers Are More Similar to Skeptics Than to Lay Believers

*Marieta Pehlivanova*

**15:45**  
Information Dynamics in Anomalous Phenomena

*Javier Martinez*

**16:15**  
German Ghosthunters – Results of an Online Survey

*Gerhard Mayer*

**16:30 – 18:30**  
**Dinner Break**

**18:30 – 21:30**  
at the *Autonomous University of Yucatán*

Presidential Address:

Beyond the Fringe: Parapsychology's Contributions to Science and Contemporary Thought

*Everton de Oliveira Maraldi*

**SATURDAY, AUGUST 24TH, 2024**

**9:15**

Opening Remarks

**Session Four: Quantitative and Neurological Approaches**

**Session Chair: Helané Wahbeh**

**9:30**

Using Online Tasks to Test the Robustness of Intuitive Abilities

*Arnaud Delorme*

**9:45**

Subtle Energies, Photons, and Physiology

*John Kruth*

**10:15 – 10:45**

**Coffee Break**

**Session Four Continued**

**10:45**

The Return of a High Performing Psi Participant: Behavioral Results of an ESP Task with EEG

*David Acunzo*

**11:00**

Replication of Jacobo Grinberg's Transferred Potential Through Electroencephalography

*Ramsés D'León and Eros Quintero*

**11:30**

Investigating the Accuracy of Perceptions During Out-of-Body Experiences

*Marina Weiler*

**11:45 – 13:15**

**Lunch Break**

**Session Five: Exploring Subjective Experiences**

**Session Chair: Gerhard Mayer**

**13:15**

Schmeidler Outstanding Student Award Address:

Supporting the NDEr: What Mental Health Professionals Should Know

*Erika Annabelle Pratte*

2022 Award Winner

**13:45**

An Online Repository of Poltergeist Cases with Their Phenomenology

*Eric Dullin*

PROGRAM SCHEDULE

**14:15– 14:45**  
**Coffee Break**

**Session Six: Theoretical and Philosophical Perspectives on Psi**  
**Session Chair: Thomas Brophy**

**14:45**

Exceptional Experiences as Phenomenological and Empirical Evidence for Dual-Aspect Monism  
*Wolfgang Fach*

**15:15**

Is Psi Rooted in Biology? A Theoretical Proposal Based on Consilience  
*Alex A. Álvarez*

**15:45**

Penrose's Neo-Platonic Ontology of Consciousness as a Foundation for Science of Parapsychology  
*Thomas Brophy*

**16:00**

Exceptional Experiences and Bonding Styles: A Pilot Study  
*Wolfgang Fach*

**16:15**

Computer Simulation of PK  
*Simon Duan*

**16:30– 18:30**  
**Break**

**18:30 – 22:00**  
**J. B. Rhine Banquet**  
at the *Yucatec Gastronomic Museum*

J. B. Rhine Address:

Indigenous Psychologies from *Cem Anahuac* (Mesoamerica)  
*Nuria Ciofalo*

**SUNDAY, AUGUST 25TH, 2024**

**9:45**

Opening Remarks

**Session Seven: Mediumship and Séance Studies**

**Session Chair: TBD**

**10:00**

Are My Deceased Loved Ones Still with Me?: Mourning and Hope in Mediumistic Practices

*Jorge Villanueva*

**10:30**

Mediumship and Mental Boundaries with Voice Hearing Phenomenon

*Taylor Robinson*

**10:45 – 11:15**

**Coffee Break**

**11:15**

Psi as a Threat – The Poltergeist Case of Carol Compton

*Gerhard Mayer*

**11:45**

The Physical Phenomena of Spiritualist Séances and Sitter Groups: A Systematic Review of the Literature and Discussion of Psychological Hypotheses

*Everton de Oliveira Maraldi*

**12:15**

Closing Remarks & the PA Annual General Meeting

**13:15 – 15:15**

**Lunch Break**

**15:15 – 23:00**

**Celestún Beach Field Trip and Dinner**

**ABSTRACTS OF FULL PAPERS**

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**IS PSI ROOTED IN BIOLOGY? A THEORETICAL PROPOSAL  
BASED ON CONSILIENCE**

Alex A. Álvarez

*Unidad Parapsicológica de Investigación, Difusión y Enseñanza (UPIDE), Mexico  
City, Mexico*

*Centro de Investigación de la Sintergia y la Consciencia (CISC), Mexico City,  
Mexico*

**Introduction:** One of the main problems that parapsychology has faced throughout its history is the lack of a proper biological framework. Some efforts have been made to try to shorten the gap between parapsychology and biology (Broughton, 1987; 2010; 2015; Kennedy, 2004; Taylor, 2003), but these are mainly focused on the role of psi in *homo sapiens*, without giving sufficient weight to the results obtained in the field of animal psi (ANPSI) for more than half a century. If we want to get a better understanding of what we typically call “supernormal abilities”, including their evolutionary history, we need to go beyond the anthropocentric view that widely permeates parapsychology.

My proposal is that, by analyzing different pieces of complementary and concordant evidence from parapsychology and other disciplines through an approach known as consilience of inductions (Laudan, 1971), we can arrive at a scenario in which psi is anything but paranormal and thus be able to establish, relatively in time, its possible origin, and its further evolutionary path. These pieces of evidence are the following:

1. **Psi is not paranormal but natural and normal.** Psychic experiences are typically interpreted by conventional science as mere hallucinations, self-delusion, or extraordinary coincidences (Irwin & Watt, 2007). At first glance, this makes them look abnormal and could make us mistakenly believe that they mainly happen to people with some type of brain malfunction. However, different surveys applied to different populations reveal that psi experiences are quite ordinary and occur to millions of people worldwide (Haraldsson, 1985; Haraldsson & Houtkooper, 1991; Orth, 2022). Besides, accounts of psychic experiences can be found throughout the history of humanity in different cultures and societies.
2. **Psi is quite common in non-human animals.** There has been extensive literature for almost a century in which many instances of psychic phenomena in non-human animals have been described. These mainly comprise domestic animals like dogs (Sheldrake, 2011), but interesting results have also been obtained with chicken (Peoc’h, 1988; 1995), finches (Álvarez, 2012), rats (Kennedy, 1979), and fish (Morris, 1967; Braud, 1976). All of them, as well as humans, belong to the same monophyletic group: vertebrates, which



suggests at first glance that vertebrate psi may have had a single, common origin before the divergence of this group into current phyla.

3. **The biological basis of psi must involve common structures for all vertebrates.** Although it has not yet been elucidated through which mechanism and what structures psychic function occurs, it is widely acknowledged that, given the similarities of this capacity with different cognitive processes, the brain must be involved. But which parts of the brain? To date, this question remains unanswered, but if psi is truly common for most vertebrates, the structures involved would be expected to be the same, though there could be slight differences. Some candidate structures, given their conservation in all vertebrate groups, could be the cerebellum, the brain stem, basal ganglia, and the amygdala, all of which lie in the inner portion of the brain.
4. **The outer layers of the brain seem to inhibit psi function.** In keeping with the previous point, Freedman and colleagues have developed a neurobiological model whose central premise is that the frontal lobes are some sort of filter or inhibitor of psychic functioning. This hypothesis has been supported by experimental results in which subjects with left frontal lobe damage usually perform better than control ones in micro-psychokinesis (microPK) tasks (Freedman *et al.*, 2003; 2018). More recently, a study with participants whose left medial middle frontal lobe was inhibited by repetitive transcranial magnetic stimulation (rTMS) showed similar results: experimental subjects performed better than those in whom reversible inhibition of the frontal lobe was not induced (Freedman *et al.*, 2023).
5. **Psi confers some degree of evolutionary advantage.** The final and perhaps more controversial piece of evidence for this framework has to do with the possible evolutionary advantages conferred by psychic experiences. Then again, if we are to get a better understanding of this role, I propose to try to identify such advantages that could be common to a great diversity of species and not only to humans. Two of the most prominent examples are the feeling of being stared at, which provides an obvious advantage in terms of survival, especially for prey animals, and the telepathic connection between mothers and their babies, which is not only advantageous for survival (Sheldrake, 2015) but could also ensure reproduction once the babies reach reproductive age. However, this also suggests that psi may not be used at will but could be like intuition (Broughton, 2015) and emerge in very specific situations, such as those that have to do with ensuring survival and/or reproduction. Additionally, most evidence of spontaneous psi experiences suggests that its manifestation is closely related to the emotional system (Broughton, 2006; 2015), which in terms of primitive emotions (e.g., care, search, lust, rage, panic, etc.), is highly conserved across the vertebrate clade (Panksepp & Biven, 2012).

It seems reasonable to hypothesize that, at some point in animal evolutionary history, the ability to obtain information—and perhaps also to affect matter—without the use of conventional senses must have emerged. This could have occurred even millions of years before the appearance of vertebrates, but until now, we have no conclusive evidence to support it. What we have are different pieces of evidence that point to psi emerging at some point before the divergence of the vertebrate clade. As with many other traits common to this group, it is more parsimonious to assume a single origin of psi rather than multiple origins for each branch of current vertebrates. This might be supported by the fact that brain structures that seem more likely to mediate psychic functioning (i.e., those located at the inner part of the brain) are not only conserved in vertebrates but arose only once in their evolutionary history. Furthermore, that this capability has not yet been

## ABSTRACTS OF FULL PAPERS

detected in all groups of vertebrates does not mean an independent origin in those that have. It could well mean that it simply has not been observed or even that it was lost at some point.

If psi is indeed rooted in biology, then we can think that it (or more specifically, the brain components that mediate its functioning) has been subject to evolutionary forces. Thus, we would not expect it to have remained unchanged since its origin, but rather that there would be differences in its manifestations in different groups of organisms, which could be linked to the specific organization of involved brain components. Despite a broad spectrum in the degree of complexity of the vertebrate brain, there is a core of elements common to all of them (Eilbert, 2014) at the genetic, cellular, and connectivity level (Karten, 2015), including neuronal networks associated with different cognitive processes (Pessoa *et al.*, 2020).

As of today, based on available evidence, we can hypothesize that whenever the biological components that allow psi functioning emerged, this must have occurred at an early stage of animal evolution. Given the non-teleological nature of evolution, there is no reason to think that psi arose to satisfy a need; rather, it may have conferred some degree of advantage so that evolutionary forces could operate on the structures that mediate it. But what specific forces? At least in principle, it seems likely that stabilizing selection—which reduces variation among individuals in a population—is involved in the evolution of psi functioning. Experimental data from thousands of different experiments suggest that most people show some level of psi, and only very few show no degree at all or are true prodigies at psi tasks. Individuals with a total lack of psi could be at a disadvantage when facing specific situations that would require psi-related process such as intuition. On the other hand, an individual's psi operating all the time could lead to a constant bombardment of information, most likely resulting in the individual being overwhelmed and not knowing what to do with such information.

Finally, I think that more light on the possible origin and evolution of this outstanding capability could be shed by first identifying the brain regions that are activated during psychic functioning. Then, phylogenetic analyses with genes expressed in those structures—both in human and non-human animals—could be performed. Thus, by comparing their distribution and analyzing their substitution rates, we could obtain a wider picture of their divergence times and evolutionary trajectories.

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## **DIRECT VISION: A RESEARCH PROGRAM EXPLORING EXTRA-OCULAR VISION IN CHILDREN**

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Since 2023, UPIDE has been studying Direct Vision (DV). To understand this ability, we have conducted exploratory research using controlled methods that have allowed us to obtain reliable information about the possibility of generating visual images from sources other than retinas. Being a multidisciplinary team helped us to approach the phenomenon from different perspectives. We designed a series of tests for nine children trained using a method created by Nili Bar. A full description of the experiments appears in our article published in *EdgeScience* (2023).

**Methods:** In June 2023, we prepared nine children, aged seven to eleven years old, with six sessions of DV training, during which the children observed visual stimuli and performed playful activities such as coloring mandalas and board and movement games. “This method uses meditation as a basis to promote a favorable environment for both individual and collective work” (Bar et al., 2024). They were always blindfolded. Afterward, they completed a task series with control methods, some inspired by previous studies; others were novel.

### **Control Methods:**

- **Blindfold:** Aligned with Gardener's (1966) criticisms of earlier research, we used a nose-peek-proof blindfold that effectively blocks light without prejudice to its user.
- **Pupil Dilatation:** In some cases, we broadened our controls by inviting a retina specialist to administer pupil dilation (tetracaine as anesthesia and tropicamide and phenylephrine for dilation) to introduce a clinical condition that impairs reading ability, particularly with fine print.
- **DV Box:** Inspired by the bouclier of Romain (1924), we introduced an additional control between the child's face and the experimental target by creating a non-reflective box, allowing us to display images on an internal electronic device so that only the child's hands interacted with the projected pictures of color and number cards.
- **Cameras:** We monitored every session with four HD cameras positioned around the experimental area, 1.5 m (4.92 ft) away from the experimental setup, with an additional camera on the ceiling. Monitors were in a separate room, allowing parents to interact with staff while watching their children's performance.

**Materials:**

- **UPIDE's DV app:** We developed a custom-made application that uses *kotlin.random.random* class to pick a random UNO card for the Box Task.
- **Child Assessment Battery:** Applied before and after the course to evaluate stress levels, coping and how children internalize and externalize their problems.

**Tasks:**

- **UNO Game**
- **Matching Cards**
- **Brain Monitoring Exploratory Tasks**
- **Seeing inside the DV box**

**Results:** *DV box Trial:* Out of the 27 expected trials, three were discarded because of technical issues. Given the binary nature of each prediction attempt (success or failure) and the fixed number of trials, we used a one-tailed binomial test to analyze the results obtained in this task. Each participant's prediction was separated according to the expected outcomes in both color and numbers of the randomly selected UNO digital cards, focusing on determining whether the participants' ability to predict cards exceeded chance levels.

*Color Binomial Test:* the observed success rate suggests that participants could perceive the card color at a rate significantly higher than chance ( $p=0.021$ ). In contrast, the Numbers Binomial Test resulted in no significant deviation from chance in predicting the numbers ( $p=0.707$ ).

*Matching cards task:* Each participant completed 5 trials, generating 45. We used a one-tailed binomial test to analyze the results due to the binary nature of each prediction attempt and the fixed number of trials. The expected probability of the task was 20%. With 29 successes and 16 misses, the Binomial Test suggests that participants could perceive the content of the hidden card to match with the ones they held at a rate significantly higher than chance ( $p=0.00000000011251$ ).

Each participant completed between eight and 19 trials of the UNO Task, depending on the time of the other tasks, generating 103 trials in total. Given the binary nature of each prediction attempt and the fixed number of trials, we used a one-tailed binomial test to analyze the results. The expected probability of the task was 32.5%. With 75 successes, 18 misses and ten abstentions (which we removed from the analysis), the Binomial Test suggests that participants could perceive the content displayed in the UNO pile, as well as the ones they hold, at a rate significantly higher than chance ( $p= 1.5171^{-21}$ ). Considering abstentions as errors, the odds would still be significant ( $p= 5.3551^{-17}$ ).

Child Assessment Battery EIE (Children Stress Scale), EA (Readiness Scale) and CPIEN (Internalized and Externalized Problems Questionnaire for Children): Before proceeding with the comparative analysis, the Shapiro-Wilk test served to evaluate the normality of the distribution of each variable. Afterward, we realized a paired comparative analysis for each personality trait using a paired *t*-test for normally distributed variables and Wilcoxon test for the not normally distributed.

There were no significant differences in the children's personality traits before and after the DV course.

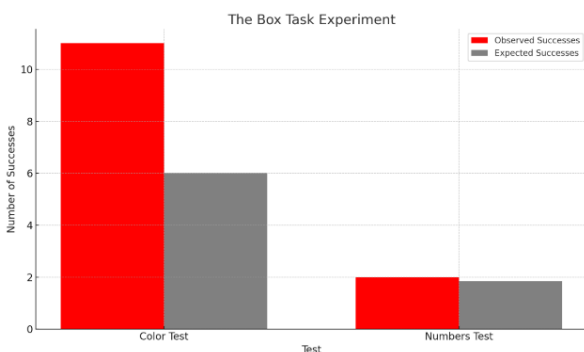


Fig. 1 Results of the Box Task Experiment

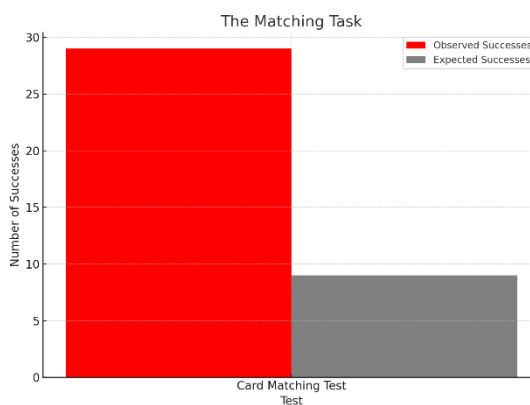


Fig. 2 Results of the Matching Cards Experiment

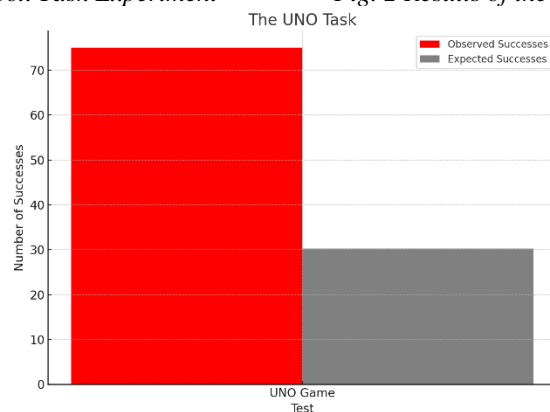


Fig. 3 Results of the UNO Game Task

**Discussion:** At the beginning of the study, we knew that we had a unique opportunity to investigate as much as possible about DV, so we decided to incorporate the dilation test and EEGs without being certain of what we were looking for, just wanting to explore and look for clues that could allow us to continue with new research later on. When we put dilation drops on two girls, we found that they could still read tiny letters with fully dilated pupils before activating their DV. This made us think that it is possible that, when exercising DV, something happens permanently in the individual, as if a new, automatically-activated system was incorporated to generate visual experiences (this specific topic is worth studying further).

During EEG Testing, we used Python MNE library to compare the EEG's power spectral density (PSD) of our subjects before and during the exploratory DV tasks. We will discuss clinical analysis of the EEG trace and interpretation of topographical maps in our presentation. Regarding the Child Assessment Battery, we are not entirely sure about the veracity of these tests; some of the items were directly related to performance in school, and some of our students are homeschooled, which could have altered the results. It is necessary to consider that the small sample ( $n=9$ ) might be obfuscating personality trait changes, so we encourage replicating these analyses with larger samples.

Regarding possible pitfalls, we could apply better control conditions for monitoring children, both for their follow-up throughout the completion of tasks and for the blindfold's correct use, specifically during matching cards and UNO game tasks. This last point could be addressed, for example, by using eye patches under the blindfold, but there is a risk of inhibiting DV when using additional controls. Therefore, it is necessary to balance controls and their impact on children's performance. Besides, there were also several technical problems like the malfunction of some cameras and the small space where children performed the tasks.

For further research, we suggest additional tasks with children who have not taken the course or with those who have but performing a set of tests before and after their "activation," both with and without the blindfold, to evaluate results more objectively.

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## PARENTAL ENCOURAGEMENT AND SUPPRESSION OF A CHILD'S PAST-LIFE MEMORIES

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**Introduction:** For more than 60 years, researchers have rigorously examined 'cases of the reincarnation type' (CORTs), in which young children appear to have memories of living a previous life (Haraldsson, 1991; Stevenson, 1974; 2001, Tucker, 2008). At the University of Virginia in particular, scholars follow a strict protocol (Stevenson, 1977) in which a trained researcher investigates potential CORTs by systematically interviewing the child, their parents, extended relatives, and even community members who can provide first-hand information for the child's claims. Some of these claims are so detailed that investigators have identified a deceased person whose life appears to match the child's memories. In the most compelling cases, investigators have documented how birthmarks/defects in the child correspond to fatal wounds suffered by the "previous personality" (Stevenson, 1997), as well as preferences or phobias in the child that correspond to those same features in the previous personality (Stevenson, 1990). The bulk of these investigations, for obvious reasons, focus on the children, their claims, and on verifying those claims to determine how likely it is that the case may have a paranormal explanation or some other non-anomalous explanation, such as children's fantasies, fraud, or socio-psychological needs of families with a belief in reincarnation (Moraes et al., 2022; Tucker, 2000).

## ABSTRACTS OF FULL PAPERS

Less studied in this long history of CORT research is the effect of these claims on the parents of the children in question. Mothers and fathers often must come together to handle common challenges in young children, including how to respond to imaginary companions (Majors & Baines, 2017) or how to deal with their child's belief in fairies, monsters, or even Santa Claus (Braswell et al., 2012). How do parents react when their child insists that they were once a previous person who died and then returned in this child's body, especially in cases when the child specifically states, "You are not my real parents"? It may be easy to discount initial claims as fantasy, but what about those CORTs that develop into strong cases with features suggesting the case may have a paranormal explanation? Among the many assessments made by CORT investigators and coded into the database in the past 50+ years is the degree to which parents are accepting and encouraging of their child's memories compared to how discouraging they are, even to the extent of actively suppressing their child's claims.

This paper presents findings from the first exploration of CORT data related to mothers' and fathers' convergent and/or divergent attitudes when it comes to their child's past-life claims. Due to the retrospective nature of the CORT database, we present these findings with no *a priori* hypotheses, but rather view this paper as an important first step in a program of research investigating the family dynamics present in cases of the reincarnation type.

**Methods:** The current CORT database contains 2254 documented claims of reincarnation investigated by UVA Division of Perceptual Studies researchers, with more than 200 variables per case. To standardize the collection of evidence across cases and investigators, the investigators use a registration form that includes a checklist of salient features of CORTs to guide the interviews. In the full database, the median age when subjects first spoke of their past-life memories is 32 months, and the gender breakdown of children investigated is 859 girls (38%) and 1394 boys. For this study, we focused on cases with attitudinal assessments from the child's mother *and* father so we could explore where the child's parents converge and/or diverge in their attitudes toward the reincarnation claims. The variables used for inclusion assess the "subsequent attitudes" of the child's mother and father toward the past-life claims on a 1 to 9 scale, ranging from (1) "greatly encouraged memories" at the low end of the response scale to "neutral or tolerant" in the middle and (8) "suppressed non-violently" and (9) "suppressed violently," typically involving corporal punishment, at the high end. Including only cases with valid scores on these two variables left us with 529 cases ranging in date of investigation from 1962 to 2015. Our selected sample of cases involved past-life memories claimed by 196 girls (37%) and 333 boys, with a median age of 30 months when subjects first spoke of their memories.

Another key variable in our analyses is the 'strength of case' score (higher scores are suggestive of a paranormal explanation), generated from four factors. These factors are (1) birthmarks/defects that correspond to marks on the deceased individual, (2) statements the child made about the previous life, with points earned for verified statements and points lost for incorrect statements, (3) behaviors from the child that match those confirmed in the previous life, and (4) the connection between the subject and the previous personality, such that a lower association between the child and the previous personality earns more points, as it would be difficult for the child to have learned about the previous personality via normal means. Among our selected sample, this variable ranged from -3 (very weak cases) to 45 (very strong cases), with a mean of 13.25 and a SD of 9.70. Finally, we included a measure of parental educational level, ranging from (1) 'no school/illiterate' to (8)



'graduate degree' that was assessed for both mothers (valid scores  $N = 230$ ) and fathers (valid scores  $N = 257$ ).

**Selected Results:** A paired-samples  $t$ -test revealed that initial reactions from CORT mothers ( $M = 4.45$ ,  $SD = 1.87$ ) were significantly more encouraging than were the initial reactions from fathers ( $M = 4.61$ ,  $SD = 1.93$ ),  $t(483) = -3.17$ ,  $p < .001$  (two-tailed), Cohen's  $d = .14$ . However, attitudes of mothers ( $M = 4.43$ ,  $SD = 1.86$ ) and fathers ( $M = 4.43$ ,  $SD = 1.87$ ) after the investigation was complete did not differ from each other,  $t(528) = 0.14$ ,  $p = .88$  (two-tailed).

An independent samples  $t$ -test using the strength of case score as a dependent variable and a dichotomous variable that encoded suppression of the child's past-life claims by either parent, or both, revealed that cases were significantly stronger among parents who suppressed their child's claims ( $M = 15.33$ ,  $SD = 10.11$ ) compared to cases where parents did not suppress their child's claims ( $M = 12.70$ ,  $SD = 9.52$ ),  $t(527) = -2.55$ ,  $p < .05$  (two-tailed), Cohen's  $d = .27$ .

The next analysis was an independent samples  $t$ -test using the education level of the parents as a dependent variable and a dichotomous variable of suppression or no suppression, separately for mothers and fathers. The first analysis revealed that mothers who suppressed their child's claims were significantly less educated ( $M = 2.12$ ,  $SD = 1.62$ ) than were mothers who did not suppress their child's claims ( $M = 2.99$ ,  $SD = 1.86$ ),  $t(228) = 2.85$ ,  $p < .01$  (two-tailed), Cohen's  $d = .48$ . There was no difference in education level among fathers who did or did not suppress their child's claims,  $p > .18$ .

Finally, an ordinary least-squares multiple regression using the strength of case score as the dependent variable and the post-investigation attitudes of mothers and fathers as separate predictors revealed that post-investigation attitudes of fathers were significantly (negatively) related to the strength of case, such that as their child's case became stronger, the attitudes of fathers became more encouraging,  $b = -1.10$ ,  $\beta = -.21$ ,  $t = -2.35$ ,  $p < .05$ . Conversely, the post-investigation attitudes of mothers were significantly (positively) related to the strength of case, such that as their child's case became stronger, the attitudes of mothers became less encouraging,  $b = 0.95$ ,  $\beta = .18$ ,  $t = 2.01$ ,  $p < .05$ .

**Discussion:** Despite more than 50 years of scholarship, the work of CORT researchers is far from over. In addition to documenting – and potentially verifying – emerging CORTs to add to the list of legitimate cases, we also need to focus our attention on the structural and familial environments of these cases. This work does suggest fruitful avenues for future research. We believe a deep dive into the family dynamics of these extraordinary cases is a necessary next step in the ongoing study of these children. These new studies should include modern assessments of attachment styles for all parents and/or caregivers involved with the child, as well as environmental assessments (e.g., socioeconomic status, substance abuse) and assessments of adverse childhood experiences that may have been present in the family prior to the onset of the child's memories, to name only a few such avenues. As is tradition, most of the questions/investigations regarding CORT cases understandably focus on the children themselves, the obvious source of the case. That fact, however, should not preclude researchers from exploring the antecedents and consequences of past-life memories as they relate to the parents, siblings, and extended families of the children under study. We hope this paper begins a robust effort to explore those extended elements of these cases of the reincarnation type.

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## REPLICATION OF JACOBO GRINBERG'S TRANSFERRED POTENTIAL THROUGH ELECTROENCEPHALOGRAPHY

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**Introduction:** The concept of telepathy and extrasensory perception (ESP) has intrigued humanity for centuries, with scientific interest dating back to the late 19th century. In the latter half of the 20th century, advancements in technology transformed the study of these phenomena from anecdotal cases to controlled research. Charles Tart's early 1960s electroencephalography (EEG) study marked a pivotal shift, revealing significant activity in the receiver coinciding with remote stimuli (Tart, 1963). Similarly, Duane and Behrendt (1965) observed EEG correlations in identical twins, suggesting a connection beyond the conventional sensory pathways.

Grinberg-Zylberbaum's experiments in Mexico during the late 80s and early 90s documented evidence of a connection between the brain of a person (the sender) who was shown light stimuli and the emergence of similar brain's evoked potentials in the occipital lobe in another person (the receiver) who had not been exposed to any stimuli. Remarkably, both individuals were placed in separate Faraday cages during the experiments, suggesting a profound, unexplained form of communication between their brains (Grinberg-Zylberbaum et al., 1987; 1993; 1994).

Despite controversy and criticism, subsequent studies sought to replicate these findings, exploring the nuances of EEG similarities between stimulated and non-stimulated subjects across various setups (Wackermann et al., 2003; 2004; Kittenis, 2004; Radin, 2004). More recent efforts by Patrizio Tressoldi and colleagues at Evanlab, employing auditory and visual stimuli, have underscored the potential role of the occipital and frontal brain regions in such interactions (Giroladini et al., 2016).

These studies collectively suggest that the correlations observed between EEGs might be linked to intuition, potentially bridging conscious and unconscious processes. Research at the Institute of Noetic Sciences, for instance, has indicated statistically significant correlations between the electrogastrograms (EGGs) of closely related subjects in response to emotionally charged stimuli (Radin & Schlitz, 2005). This body of research points towards a complex interplay between emotional connection, sensory perception, and non-local communication, challenging traditional understandings of human connectivity and consciousness.

**Methods:** This study utilizes a cross-sectional, descriptive, and correlational design to explore the phenomenon of transferred potential among pairs of people with significant emotional or consanguineous relationships. Of 65 interested participants, a convenience sample of  $N = 7$  pairs aged 24 to 49 was selected based on inclusion criteria validated through online psychometric scores and previous psychic experiences. One of the selected pairs was discarded due to evident sleeping activity during the trials. Every participant filled in an informed consent.

Participants were screened using inclusion criteria (education beyond high school and a significant relationship lasting more than four years) and exclusion criteria (recent neurological or psychiatric disorders, hyperhidrosis, claustrophobia, and substance use within 24 hours before the study). Psychological instruments employed include the corrected 17-item Transliminality Scale, the Hamilton Anxiety Scale for global anxiety severity, and the 16 PF Questionnaire Fifth Edition for personality trait analysis.

Electroencephalography was the primary tool for recording brain electrical activity, using an Easy 3® EEG (v. 3.10.6.0 / 5.2.0.55, Cadwell; EEUU) with 21 gold electrodes placed according to the International 10-20 System. The EEG setup included settings for filters, sensitivity, and an EKG channel, with data analyzed for event-related potentials indicative of transferred potential. The study's protocol ensures rigorous monitoring and analysis of psychic phenomena within a controlled environment, aiming to provide a deeper understanding of non-ordinary communication between individuals.

As to the the conditions under which the experiment was carried out, participants were summoned to the *Neurophysiology Laboratory of the International Centre for Epilepsy Surgery* in the *HMG Hospital Coyoacán*. For each couple, we spent about 20 minutes briefly explaining the conditions

## ABSTRACTS OF FULL PAPERS

they would be subject to, and then we proceeded with the initial assembly of the electroencephalography equipment, which lasted about one hour. This was followed by a 10-minute mindfulness session to increase coherence in both members of the couple, and then we spent 5 minutes giving the final instructions to participants. Finally, the experimental session was carried out, in which random photostimulation cycles were presented first to one member of the couple and then to the other. The whole session lasted for about two hours. No electromagnetic shielding was used in any of the experiments, though participants were in separate, adjacent rooms throughout the experiments.

**Results:** The average age of the participants was  $35.69 \pm 9.4$ , while their average scores on the Transliminality and Hamilton scales were  $14.4 \pm 2.4$  and  $15.6 \pm 7.1$ , respectively. The qualitative analysis of the EEG track showed no visual and clinical observations related to the described correlations of the transferred potential. The quantitative results of the EEG through Python's MNE library, and the clinical observations related to the PF16 scale will be presented during the convention.

**Discussion:** Preliminarily, the qualitative analysis of the EEG track shows no visual and clinical observations related to the described correlations of the transferred potential, but more research needs to be carried out to assess the mixed results obtained in this particular line of research.

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## **THE PHYSICAL PHENOMENA OF SPIRITUALIST SÉANCES AND SITTER GROUPS: A SYSTEMATIC REVIEW OF THE LITERATURE AND DISCUSSION OF PSYCHOLOGICAL HYPOTHESES**

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**Introduction:** In the annals of modern science, few subjects are as enigmatic and perplexing as the investigation of physical phenomena in modern Spiritualism (Podmore, 1902). This phenomenology, which involves the materialization of spirits and other reports of extraordinary phenomena, such as spontaneous movement of tables or other furniture, captured the imagination of millions and received close attention from towering figures of the scientific mainstream of their time, including Charles Richet (1850-1935), Sir William Crookes (1832-1919), and Marie (1867-1934) and Pierre Curie (1859-1906), only to become a fringe topic later on (Noakes, 2019). Still today, these experiences are reported in the context of Spiritualist gatherings and sitter groups (who may or may not have a spiritualist motivation but meet regularly to experience or document séance-like phenomena). Why is this unusual subject an interesting and timely one? One of the answers is that the variety of unusual perceptions and sensations typically reported during Spiritualist séances makes them privileged settings for investigating the phenomenology, cognitive features, and psychosocial impact of anomalous experiences in the nonclinical population. A series of psychological explanations were developed over time to account for these experiences, from deception and self-deception to cognitive illusions and ideomotor action. On the other hand, coming from skepticism and ruling out detectable fraud and other biases, many eminent academics were convinced that some strange effects during séances were genuine, though unexplainable by available methods and frameworks. It is truly remarkable to verify the deep fascination and commitment of some highly reputable scientific figures to the exploration of these paradoxical occurrences. Despite the ridicule that their ideas attracted among mainstream academics, the fact is that part of the evidence they obtained remained without explanation (Braude, 1996). After more than a century, this remains a poorly understood and controversial area of research. To better comprehend the physical phenomena of Spiritualist séances and their underlying mechanisms, it is important to systematically examine the evidence and applicability/usefulness of existing hypotheses.

**Methods:** In 2022-2023, we searched different sources and databases for publications related to the following keywords or subjects: physical mediumship, mediums, Spiritualism, Spiritism, psychical research, and specific physical mediumship phenomena (apports, table-turning etc.). A

## ABSTRACTS OF FULL PAPERS

fundamental source was the collection of papers by parapsychology's historian and researcher Carlos Alvarado (1955-2021), which initially yielded 110 peer-reviewed publications focusing on physical mediumship. References from the Alvarado papers were first listed, following which a search on Google Scholar was conducted for papers of interest, ensuring no duplication. Where appropriate, original papers/books were consulted for further information as required. This search on Google Scholar rendered other 1739 references. We also relied on two other sources: Adam Crabtree's (1988) comprehensive annotated bibliography on animal magnetism, early hypnotism, and psychical research (1766-1925), which yielded 477 references, and the Society for Psychical Research catalog (1884-2011) available on their website (241 references). While the above-mentioned sources do not cover all the publications in this area, they nevertheless afford us a more comprehensive and inclusive overview than previous qualitative reviews.

Based on the first total of 2567 references extracted from the databases, we employed the inclusion criteria to select those references that were specifically relevant to the review, resulting in a total of 1678 publications. Our inclusion criteria comprised any reference (articles, chapters, books, conference presentations, dissertations/theses) with either empirical or theoretical contributions regarding physical mediumship and associated topics (e.g., table-turning, ectoplasm, sitter groups). No constraint of date or language was adopted. The search process and inclusion/exclusion of references were performed by S.M. and then reviewed by E. M., who decided on the final classification. All three authors collaborated on the data analysis and discussion. We extracted from each reference the following information: year of publication, authors, language of papers, and subject matter (e.g., materialization, table-turning, studies with specific mediums). Finally, a qualitative examination of the methodological procedures and hypotheses employed in the reviewed studies was carried out to identify existing limitations, as well as directions and challenges for future research.

**Main findings:** The main period during which works on physical mediumship were published was the late 19th and early 20th centuries, covering about a century of research. The topic saw a decline in publications during the second half of the 20th century, resuming interest by the end of the 20th century and beginning of the 21st century, now with a greater focus on historical approaches to physical mediumship and Spiritualism. In the first decade of Spiritualism, the phenomena were given more emphasis than the mediums. However, this gradually shifted in the following decades, with publications on specific mediums reaching higher rates between 1900 and 1939. Focusing on empirical/investigative studies ( $N = 569$ ), we found that the phenomenon with more publications was materialization ( $n = 183$ ), followed by table-associated phenomena ( $n = 137$ ), apports ( $n = 41$ ), ectoplasmic formations ( $n = 38$ ), raps ( $n = 34$ ), and levitation ( $n = 19$ ). A few publications also dealt with less frequent phenomena (e.g., lights) and were therefore combined in a single category ( $n = 42$ ). The review identified some variation among the phenomena in terms of historical prevalence; some phenomena are still being reported in the context of sitter groups and Spiritualist circles (such as table tilting, Gimeno, 2015), while others seem to have completely disappeared from the literature (such as slate writing, Seybert Commission, 1887).

The two most common explanations for the phenomena were the "spirit hypothesis" and "fraud or deception." In most cases, the authors concluded in favor of the fraud hypothesis, but more than one-third of the studies concluded that the phenomena were either genuine or the explanation was uncertain. The controls against fraud and psychological explanations could vary from one investigation to another, but in many cases, the authors were able to significantly reduce the

possibility of hallucinations, memory, and attentional biases, deception (or self-deception), and ideomotor action (with regard to table phenomena), by relying on a series of devices and systematic procedures (a list of these procedures will be provided in the full presentation). In this sense, it is important to differentiate the more controlled and sophisticated studies from those carried out under less rigorous control of the medium, the sitters, or the objects involved. The tests carried out by different investigators with different mediums demonstrate that whatever the nature or cause of the phenomena, the alleged physical anomalies could be measured and manipulated on demand, even if not always successfully.

**Discussion:** Despite reports of some remarkable phenomena in conditions that prevented fraud and illusion, the genuineness of séance phenomena is still to be scientifically established. More systematic, contemporary research with the use of state-of-the-art technology is needed to ascertain the reality of séance phenomena beyond highly skilled trickery, malobservation, and psychological factors such as hallucinations. It remains unclear how common cognitive biases are among participants of Spiritualist séances and scientists studying those contexts. It is crucial to determine whether their perceptions correspond to objective phenomena, including potential fraud, or if they are better explained by personal experiences and group influence or suggestion. Prevalence studies alone cannot provide insight into the circumstances surrounding these experiences, but exploring ethnographic and experimental data from specific groups may yield valuable information. Some hypotheses, such as hallucinations and ideomotor action were considered particularly weak and unable to account for the best controlled cases (e.g., Petrovo-Solovovo, 1908-1909; Dingwall, 1953). Research on the role of ideomotor action in séance phenomena remains underdeveloped (e.g., Spitz, 1997; Stock & Stock, 2004), and more contemporary studies and robust theorization are required to explain the cognitive, psychomotor, and neurophysiological processes underlying ideomotor processes during séances.

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## AN ONLINE REPOSITORY OF POLTERGEIST CASES WITH THEIR PHENOMENOLOGY

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**Introduction:** Poltergeist phenomena (also known as recurrent spontaneous psychokineses) have been reported since ancient times and in many geographical regions. As reported in Dullin (2021, 2022), numerous studies have been carried out to present cases in detail or with comparative analyses.

In addition, studies have been conducted to analyze recurrences and phenomenological trends based on online forms filled in by people recounting having experienced this type of event. For example, Houran et al (2019) hypothesized a one-dimensional factor underlying ghostly episodes based on an analysis of 426 forms entered online and using 32 parameters. Others have compared reported events/experiences with the psychological profiles of the people who reported them (Ventola et al., 2019), introducing the notion of transliminality and the theory of "Haunted People Syndrome" (Laythe et al., 2022). Experiments have also been conducted to measure the influence of the environment, such as specially designed places likely to trigger haunting phenomena (French et al., 2009).

It would be interesting to complement these approaches by focusing on the individual and his perceptions with detailed statistical analyses of documented cases, recent or old, involving multiple witnesses and objective physical phenomena in a variety of environments. To date, however, it has been difficult to perform statistical analyses, as there appears to be no digital repository containing a wide variety of cases with their associated phenomenology. The project presented here, which began four years ago, consists of putting online a database of over 1,300 international cases, including, for more than 1,000 of them, a detailed phenomenology of the type of events that took place.

**Methods:** A survey was carried out among the main organizations likely to collect cases, including Center for Information, Research and Consultation on Exceptional Experiences (France), Institut für Grenzgebiete der Psychologie und Psychohygiene (Germany), Institut Métapsychique International (France), Institute of Noetic Sciences (USA), Parapsychological Association (USA), Psychical Research Foundation (USA), Society for Psychical Research (UK), and Society for Scientific Exploration (USA). However, few elements existed in the form of structured digital files.

The construction of this repository was therefore mainly based on detailed international bibliographical research (56 countries), and supplemented by contacts and exchanges of information with the above-mentioned organizations. In addition, local case studies such as those by Biondi & Caratelli (1993) in Italy and Marie-Charlotte Delmas in France (2025) completed the database.

The starting point was the 500 cases proposed by Gauld & Cornell (1979). These cases were all drawn from printed sources, and Alain Gauld and Tony Cornell excluded from them all cases for



which the only sources were newspapers or magazines. The sources were open-ended enough not to be caught up in the "belief program" of a specific investigator, author or publisher.

The same approach was adopted for the other cases, concentrating on qualified authors and cases with sufficient detail for the physical phenomenology to be assessed. Where possible, the level of testimony and level of detail proposed by Gauld & Cornell (1979) were also used to rate each case.

The Italian cases (250) proposed by Massimo Biondi and Giulio Caratelli are more closely linked to relevant information extracted from local newspapers. They also used the same parameter grid that Gauld & Cornell (1979) established to characterize case phenomenology (see below). Most cases have multiple sources. The user can, therefore, compare the different sources.

Cases involving apparitions only have been excluded, as this database aims to focus on physical manifestations. Cases more akin to a legend about a place were also excluded.

To characterize the phenomenology of the case, the 63 parameters proposed by Gauld & Cornell (1979) were used as a starting point. Those proposed by Huesmann & Schriever (1989) were also studied, as well as the SSE (Survey of Strange Events) scale proposed by Houran et al. (2019). In the end, two approaches were selected:

A set of parameters as detailed as possible for the repository (92), enabling a fine selection of cases.

A more synthetic set, built on the previous one by aggregating parameters, for statistical studies (30).

Typical parameters include: duration, diurnal and/or nocturnal events, movement of small objects, high-energy events (heavy object move, structural damage, door slamming), apports/deports/teleportation, water-related phenomena, lighting of fires, knocking/raps, other noises (such as voices, footsteps, dragged furniture, scratching), bell ringing, aggression, "possession," spontaneous breaking of objects, the opening of doors/locks/latches, strange trajectories, hot object, intelligent behavior, communication/interaction with the phenomenon, electrical disturbance, light effects, apparitions, misty figures, smell/taste, cold or hot zone, identified poltergeist agent, female/masculine agent, agent under 20, disturbed agent, house-centered phenomenon, end through ritual ceremony, link with a death, fraud, and natural cause.

**Results:** A database prototype (developed with MySQL and PHP) will be presented with:

A search for poltergeist cases for which a given phenomenology has been reported. For example, find all cases with a fire outbreak combined with an identified agent or all cases with house-centered phenomena, apparitions, and a duration of more than six months. The search result will return all the cases concerned by the above selection, with their detailed characteristics (location, year, duration, phenomenology parameters, origin of database entry, source to consult for more detailed analysis, optional comments...etc.).

## ABSTRACTS OF FULL PAPERS

Statistical results for the entire reference database, by period or geographical zone. For example, Figure 1 shows the number of cases for each historical period's six most represented geographical areas.

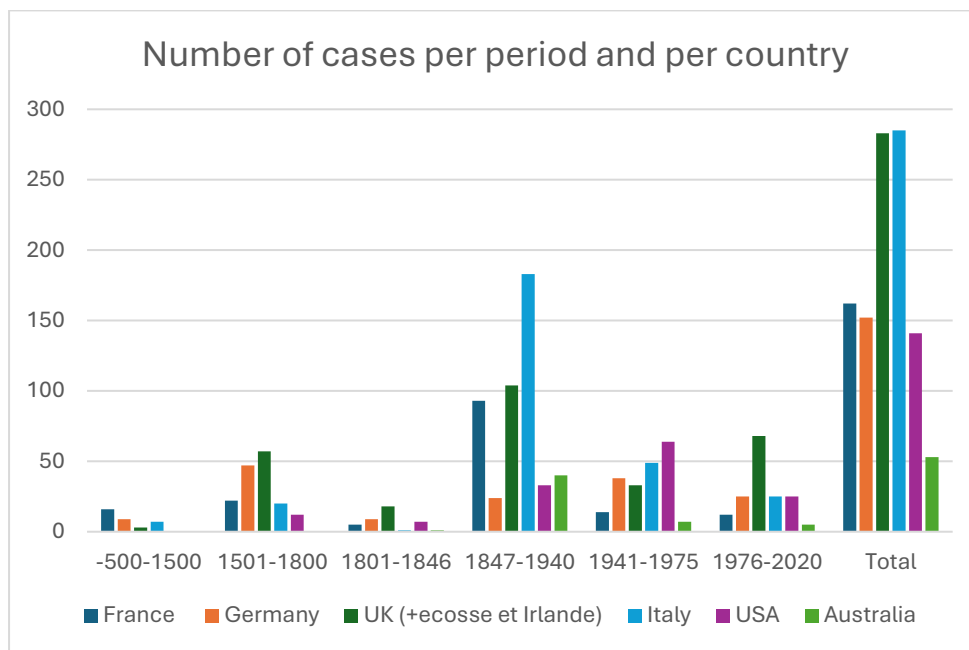


Fig. 1 Example of a graph showing the number of cases for the six most represented geographical areas for different historical periods.

The user interface for proposing new cases for inclusion in the database, traceability tools to identify which organization is responsible for this entry, the validation process for including new cases, and the change request process if errors are detected.

**Discussion:** This repository is an ongoing project with the aim of opening it up to the entire parapsychological community. Contacts will be made with the organizations mentioned above so they can use it and submit new entries to keep it up to date. The connection with other resources on the Internet concerning psi will also be evaluated. In addition, an article on the detailed phenomenology of poltergeists, illustrated by over 100 cases taken from this directory, is currently being published (Dullin, 2024).

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## MACRO-PK EXPERIMENTS - NEW RESULTS IN CONFINED MODE AND OBSERVATION OF A LEARNING CURVE

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**Introduction:** Following the experiments shown at the 65<sup>th</sup> Annual Convention of the Parapsychological Association in Oslo, Norway (Dullin et al., 2023), new results obtained since then will be exposed. During the convention, the following findings were presented:

- Highly repeatable results (80%) on putative macro-PK effects in a partially confined mode on two-gram targets (rotation of plastic domes weighing 2g).
- Putative effects of macro-PK on lighter targets (0.15g psi wheels) in confined or highly confined mode (double glass jar) and at a distance of several meters in some cases.

The new experiments presented below mainly concern attempts to obtain rotational motion of objects in a confined environment with high repeatability with the same targets as those previously used in partial confinement.

**Methods:** The method used is the same as described in Dullin et al., 2023; However, the experiments presented were exclusively conducted in a confined environment as shown in Figure 1, using a laboratory glass bell and without any contact of the hands with the bell.



*Fig. 1 PK experiment on two hemispheric plastic domes (2g each) with a laboratory glass bell (image extracted from live video).*

Until now, in this confined environment, the targets used were very light (0.15g) "psi wheels" made of aluminum foil. Only a few successes had been achieved with the heavier targets (2g plastic domes). The latter, which are less sensitive to air or thermal currents than the psi wheels due to their greater inertia, among other things, were mainly used in non-confined environments (Dullin & Jamet, 2018, 2020). On the other hand, it seemed difficult to get rotations with them in confined mode.

The PK agent (Steeven Frosio), with his strong searcher attitude, has carried out numerous experiments with these heavier targets while trying to evolve the repeatability situation in partial containment, presented at the PA convention 2023 (Dullin et al., 2023), to a replicable situation in total confinement.

A trial was considered successful if the target moved at least 3 quarters of a turn or more than the 30s.

As before, all the tests were documented (success and failure) with full videos, reports of the PK agent and commentaries by the scientific team after study of the report and detailed analysis of the videos provided by the PK agent. So a complete history of all the experiments, trials and their evolution is preserved and could be consulted on demand.

**Results:** A particular focus is placed on 24 experiments in full confined mode with a heavy target (2g) corresponding to 139 trials in the space of two months between December and February this year.

Not only have rotations of the targets been observed, but these have evolved into high repeatability. Indeed, out of the last 13 experiments (49 trials), each has obtained at least one successful trial. The average percentage of success on the trials was 55%, with an average turnaround time of the target of 140 seconds up to ten minutes.

These results, in total containment, are an advance compared to those previously presented using aluminum foil psi wheels weighing 0.15 g as a target. In addition, success is currently achieved in every set of tests conducted. Also, a detailed analysis of the observed learning effect will be presented, which will be compared with the one published by (Black & Carpenter, 2014).

After having obtained good repeatability, attempts were made by the PK agent, first to move the hands away after a successful start of the target, and then to move away just after putting down the bell. Even in these cases, a rotation of the target could be achieved.

No decline effect was observed despite repeated experiments under the same conditions. The current documentation contains the full videos of the trials carried out with one or two cameras (some will be presented to illustrate the talk).

**Discussion:** These results confirm and enhance the previous results (Dullin et al., 2023). Currently, there is no direct physical explanation of the motion of the target in the laboratory bell. It should be noted that, for most of the tests carried out to date, two almost identical targets are placed under the glass bell, and each time, only one target spun. If a known physical phenomenon were to take place inside this symmetric bell, it can be assumed that it would act in the same way on both targets. As the targets are always slightly different concerning the friction force between the needle and the plastic dome, other tests have been conducted with the exchange of support, dome, and needle. The same results were obtained: only one target was spinning.

Also, if there was a physical effect not discovered until now in these experiments, only some modifications in the environment or the protocols would have modified the result and so a learning effect could not have been observed with identical environment and protocols. However, in this experiment (and many others before in this research), the effect observed seems to be progressing with more repeatability with the accumulation of trials by the PK agent.

On the distance factor, some research has been done through the Internet with other PK agents, but no significant repetitive results have been obtained yet. As announced in Dullin et al. (2023), to better understand these putative PK effects, a new experiment is also conducted using sufficient vacuum to eliminate any potential air action on the target.

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## EXCEPTIONAL EXPERIENCES AS PHENOMENOLOGICAL AND EMPIRICAL EVIDENCE FOR DUAL-ASPECT MONISM

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**Introduction:** When the Institute for Frontier Areas of Psychology and Mental Health (IGPP) began to professionalize its counseling and intensify its research in the field of "Exceptional Experiences" (ExE) in the 1990s, it adopted the term from Rhea White. At the time, she was examining a wide range of ExE, and in particular, she was looking for general characteristics of ExE: "The reason we consider these experiences as a group is that they may be points on a continuum, or that there are connections between some, if not all, of them that we would not see if we considered them only as individual experiences" (White, 1999, p. 1). In this contribution, it is argued that such a continuum of ExE can be established in manifestations of autonomy and bonding as complementary aspects of an underlying holism.

**Conceptual and empirical background:** Based on some key postulates of Metzinger's (2003) theory of mental representations, Fach (2011) developed a phenomenological classification of exceptional experiences (ExE). According to the dual structure of an overall phenomenal reality-model with a self-model and a world-model as its fundamental subcomponents, the multitude of different ExE can be traced back to two pairs of basic phenomenon classes. One pair refers to the localization of experiential content as external phenomena in the world-model (e.g., poltergeist phenomena) or internal phenomena in the self-model (e.g., ego-dystonic feelings or thoughts). The second pair of classes refers to deviations from the "baseline" of ordinary psychophysical correlations as coincidence phenomena (e.g., extrasensory perceptions) or, conversely, as dissociation phenomena (e.g., out-of-body experiences).

The model of phenomenon basic classes is confirmed by a series of studies (Atmanspacher & Fach, 2019; Fach, 2018; Fach et al., 2013) using the revised Questionnaire on the Phenomenology of ExE (PExE-R) and its validated version, PExE-II. Using different samples (general populations, ExE clients, people with near-death experiences, people with sleep paralysis, meditators) from different countries (Germany, Switzerland, Italy, France, USA), factor analyses result in a general ExE factor and the four phenomenon classes as subfactors as the most robust and best generalizable model. The surveys also show that ExE are widespread and that they occur, albeit less frequently, in all variants in the general population. While the frequencies of ExE differ continuously in the various samples, the proportions of the basic phenomenon classes are always similar, which indicates latent structural principles.

**Dual-Aspect-Monism:** If all ExE-patterns have their origin in a general factor that is completely abstract, and if self and world are understood as models, the question arises as to what they are representations of. Metzinger conceptualized the self and world as representations of physical states of the human organism. An alternative is dual-aspect monism, where the mental and the physical are aspects of a psychophysically neutral reality. A dual-aspect monism approach developed by Pauli and Jung, inspired by quantum physics, is particularly fruitful for understanding ExE (Atmanspacher & Fach, 2013, 2015; Fach, 2014). They see the emergence of

physical objects through measurement and the observation of "mental objects" in consciousness as analogous processes. According to this, the mental and the material arise through a splitting of the psychophysically neutral reality (which Jung called *unus mundus*). The connections between self and world (e.g. mind-brain correlations, psychosomatics) are not based on direct interactions but are arranged by structural and psychophysically neutral determinants (*archetypes*). The relationship between self and world and their common origin, on the other hand, is considered bidirectional. This means that events in the mental or material domain can have an effect on the primordial wholeness. This means, for example, that psychological defense mechanisms such as repression can induce exceptional phenomena in the outside world via the unconscious or the underlying holism.

**Autonomy and Bonding:** Principal component analyses and cluster analyses based on a sample of over 2300 IGPP counseling cases recorded with a special documentation system confirm the model of phenomenon basic classes (Fach, 2022): Internal and external phenomena each represent an ExE-pattern, while the coincidence and dissociation phenomena each form a pattern associated with internal phenomena and a pattern associated with external phenomena. The six ExE-patterns form two complementary continua of anomalous representations of autonomy and bonding: An internal continuum begins with extrasensory perceptions through phenomena in the self-model that are related to persons and events in the world-model and thus represent a subtle form of bonding. In the internal intrusion phase, bonding in the self-model is reinforced by the internal presence and influence of an external entity or person that threatens personal autonomy. In the internal occupation scenario, mediumship and automatisms appear to displace the autonomy of the self-model through psychophysical dissociation into the world-model. Conversely, an external continuum is characterized by a steady increase in the autonomy of the world-model. It begins with the perception of meaningful coincidences in the world-model that appear to be autonomously designed and directed to the self-model. In the external intrusion phase, the increased autonomy of the world-model is represented by poltergeists and apparitions that override lawful physical bonding. In the external intrusion phase of nightmares and sleep paralysis, the bonding between the self-model and the physical body as part of the world-model is severed through psychophysical dissociation.

In addition, statistical analyses show significant correlations between social bonding (partnership, marital status, housing situation, etc.) and ExE-patterns. Biographical case analyses also point to systematic correlations with insecure bonding styles, which are described by empirical attachment research as "dismissing," "enmeshed," and "disorganized." The avoidance of autonomy or bonding associated with insecure bonding styles has implications for unconscious self-regulation. Autonomy and bonding are not only basic human needs. In systems theory, self-organization and structural coupling to the environment are the existential prerequisites for all living systems. Against this background, autonomy and bonding can be understood as structural determinants that are anchored in *unus mundus* and act as organizing principles in the sense of "archetypes." Exceptional phenomena can be interpreted as representations of non-integrated autonomy or bonding, which are induced by repercussions of insecure bonding styles on the *unus mundus* and as expressions of holistic self-regulation.

**Conclusion:** The phenomenological and empirical research findings together support the thesis that autonomy and bonding play a central role in the occurrence of ExE, both as basic human needs and as structural determinants. The observation that avoided autonomy is expressed in the world-

## ABSTRACTS OF FULL PAPERS

model and blocked bonding in the self-model points to an organizing principle that is oriented towards balance and integration. It is plausible to assume that insecure bonding styles, if they restrict the fulfillment of basic needs too much, have an impact on the foundations of the whole system and human existence. While "whole system" in the theory of mental representations refers to organismic self-regulation, dual-aspect monism is based on a psychophysically neutral reality. Regardless of which interpretation one prefers, it can be assumed that a person's bonding behavior feeds back to the organismic or holistic level, causing the structural determinants to respond. The new paradigm presented here not only deepens the understanding of ExE but, in particular, offers a new approach to improving counseling and therapy for those affected.

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## SUBTLE ENERGIES, PHOTONS, & PHYSIOLOGY

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**Introduction:** Physiology is the examination of the workings of the body, including autonomic processes, in an effort to reveal how the body functions and the mechanisms that may contribute to human experience. Oftentimes, autonomic activity, recorded by physiological measurements, reveals hidden or unrecognized factors that contribute to more obvious expressions of the body, including health and illnesses or psychological states like emotions, stress, and relaxation.

Many psi events occur spontaneously, unconsciously, or unintentionally (e.g. Pratt & Roll, 1957; Rhine, 1961; Feather & Schmicker, 2005; Cardeña, Lynn, & Krippner, 2014), and the mechanisms that lie behind them continue to be a mystery. As researchers continue to mine the research data for greater insight into the working of ESP, PK, and other psi phenomena, a natural extension is to explore the physiology of the body to look for physiological correlates to psi experiences.

The Rhine Bioenergy Lab measures ultra-weak photon emissions (UPE) in the near-ultraviolet range to the low visible range (wavelengths 350-700 nm). Previous studies in the Rhine Bioenergy Lab have produced evidence that an increase in UPE is detected when some people focus their intention on a specific task, such as meditation, martial arts, energy healing, or even the performance of some psi tasks (Joines, Baumann, & Kruth, 2012 – BIAL Project 151/06).

Studies in this lab for over 12 years have produced a standard procedure for measuring UPE emissions and have identified specific participants who are able to reliably increase the number of UPE detected with very significant results (Kruth, 2016).

Despite the intentional variation in UPE observed during times of focus, no information has been recorded to determine if there are physiological correlates to the moments of increased UPE detection. This study examines whether physiological activity is correlated with the photon count to determine if there are specific physical states that are present when a person is producing a higher count of UPEs.

An increase in UPE activity has been demonstrated to be correlated with the activity of energy healers during a healing session, martial artists who are manipulating chi, meditators who are experiencing an increase in kundalini energies, and mediums who claim to be communicating with spirits. Knowledge about the physiology of these people during moments of increased UPE will shed light on the similarities and differences between these practitioners and provide a greater insight into the mechanisms that contribute to these activities.

### Methods

**Sample:** Five participants known to have produced variations in UPE measurements in the Rhine Bioenergy Lab took part in 50 sessions, where 20 sessions involved significant variations in the UPE photon counts.

## ABSTRACTS OF FULL PAPERS

- **Hypothesis 1 (confirmatory):** Selected participants will demonstrate more UPE during periods of focus than during periods of rest, implying that the production of UPE can be controlled by focused intention.
- **Hypothesis 2 (exploratory):** Changes in physiology will correlate with changes in the quantity of UPE detected during times of focused intention.
- **Hypothesis 3 (exploratory):** Physiology indicating increased arousal will produce a stronger correlation with an increase in UPE during times of focused intention.

**Rhine Bioenergy Lab:** The Rhine Bioenergy Lab consists of a double dark room that is completely painted black to avoid any light reflection. A Photomultiplier Tube (PMT) in the lab is electronically cooled to -23C and powered by an independent and consistent power supply. Photons are counted via an electron cascade device connected to a modulator and amplifier, allowing the photon counts to be recorded on a computer system. Data from each session is electronically recorded with a timestamp and photon count for each half-second of the session.

Sessions in the bioenergy lab integrate a control period for each participant by including a baseline period before and after the experimental phase of the session. The photon counts from the baseline period are compared with the photon counts from the period of focus. Though most sessions do not vary from the baseline, some participants are able to consistently produce variations in nearly every session.

Because of the large number of readings in each session (3600 in a 30-minute session), a small number of large variations can be lost when computing the mean. For this reason, each session is evaluated for both the mean and a count of the number of readings that are at least double that of the baseline mean. This allows the researcher to compare the experimental phase with the baseline phase to determine if there is a significant difference between the phases of the session.

**Physiological Measures:** A BioPac system was used to continuously monitor each participant for heart rate (HR), heart rate variability (HRV), electrodermal activation (EDA), vasoconstriction (BF), and skin temperature (TEMP) during each session.

**Analysis:** The analyses examined two major areas and in three additional subcomponents. The initial examination of UPE examined a confirmatory hypothesis (H1), which predicted that the selected participants would produce more UPE during periods of focus than they would in periods of rest. The subsequent exploratory analyses examined correlations between physiological activity and the measurements of UPE. The physiological correlations were explored across all of the sessions, across all sessions showing six-sigma differences in UPE, and for each individual session that showed six-sigma differences in UPE readings. The exploratory hypothesis (H2) predicted that there would be correlations between physiological measurements and high readings of UPE.

## Results

**Ultraweak photon emissions:** Across all 50 sessions, the photons counted during periods of rest ranged from 0 – 146 photons per half second, with a mean of 3.75 photons and a median of 3.00 photons. During active periods of focus, the range was 0 – 1116 photons per half second, with a mean of 49.07 photons and a median of 23.00 photons. A Welch Two Sample *t*-test demonstrated a very significant difference between the samples ( $t = -79.28$ ,  $df = 19172$ ,  $p < 2.2e-16$ ) with a 95%

confidence interval, indicating that more photons were measured during periods of focus than during periods of rest.

The first confirmatory hypothesis (H1) was supported across all of the sessions, but a further evaluation was completed for each individual session. Each session was evaluated separately to identify which most clearly demonstrated the difference between photon expression in the resting and active periods.

Because each session includes a large number of individual readings, a small number of large variations in a single session can be lost in a means evaluation. For this reason, each session was evaluated for the mean and the number of readings that exceeded a two-sigma and six-sigma threshold, as described below.

**Two-sigma variations:** The mean and standard deviation (SD) of the photon count were calculated for the resting period of each session. A significant threshold was calculated by adding 2SD to the resting mean. The mean plus 2SD demonstrate a two-sigma variation, which is unlikely to occur more than five times in every 100 readings. The number of readings in each session that exceeded the threshold were counted for both the resting and the active periods. If a single session had at least twice as many significant readings during the active period, that session was considered to support H1.

For example, if the mean of the photon count for the resting period was 3.50 photons per half second and the SD was 1.25 photons, the significant threshold would be the mean plus 2SD or  $3.50 + 2(1.25) = 6.00$  photons per half second. Any photon value above 6.00 would be considered a significant, two-sigma difference. The number of significant photon counts ( $>6.00$ ) would be tallied in the resting period and the active period. If there were more than twice as many significant values in the active session, that session would be considered to support H1.

Of the 50 sessions, 20 produced at least twice as many two-sigma differences in the active period, showing very strong support for H1. Each of the five participants in the study produced at least one session that supported H1.

**Six-sigma variations:** In order to provide even stronger support for H1, the threshold value was increased to a six-sigma difference (mean + 6SD) which would be likely to occur less than 3.4 times for every million readings. Sixteen of the 50 sessions demonstrated at least twice as many six-sigma values in the active sessions. These sessions produced the strongest support for H1 and were used to examine physiological correlations with photon counts.

**Defining events:** When a session contained a significant, six-sigma variation in photon counts, there would often be a series of significant readings in a short period of time. In order to determine if these readings were associated with changes in physiology, the individual readings were grouped into events. Because autonomic physiological factors typically precede moments of expression, events were defined with five seconds before and after each event. In other words, five seconds of nonsignificant readings were followed by at least one significant reading, which was again followed by five seconds without a significant reading.

*Table 1. Duration of one event.*

## ABSTRACTS OF FULL PAPERS

Five consecutive seconds of nonsignificant readings	Any number of six-sigma significant readings and fewer than five consecutive seconds of nonsignificant readings	Five consecutive seconds of nonsignificant readings
(5 seconds)	(Indeterminant amount of time)	(5 seconds)

There were 103 six-sigma events in 16 sessions and zero (0) six-sigma events in 34 sessions. The six-sigma events were used for additional physiological analyses.

**Physiological correlations:** Five physiological factors were examined in each session including heart rate per minute (HR), heart rate variance (HRV), blood flow/vasal constriction (FLOW), electrodermal activity (EDA), and skin temperature (TEMP). Respiration was also measured but was not considered as a potential correlating factor.

All five factors were examined to determine if they were different during periods of focus and periods of rest. The means for each factor was compared across all sessions using a Welch Two Sample *t*-test.

**Physiology and photon counts for all sessions:** All of the physiological factors were compared to the count of photons at each moment during the sessions using the Pearson correlation coefficient. There was a weak correlation between the photon count and HRV across all of the sessions ( $r = 0.239$ ), indicating that when photon counts increase, the heart rate is more consistent. During the resting period, there were no correlations that were weak or stronger ( $r > 0.2$ ) between the photon count and any of the physiological measurements.

In the active period of focus, there is a weak correlation between FLOW and photon count ( $r = -0.256$ ), indicating that blood flow decreases as photon count increases. Also, in the active period, there is a weak correlation between photon count and HRV ( $r = -0.230$ ) indicating that the heart rate becomes more consistent (R-R period) as the photon counts increases.

**Session correlations:** Each session where a six-sigma variation in photon expression was registered was examined in depth to determine if there were physiological patterns correlated to each event. HR increased strongly in 9 of 16 sessions, decreased in four sessions, with no change in three sessions. HRV decreased strongly in 11 of 16 sessions, only increasing in one session, with no change in four sessions. FLOW, EDA, and TEMP showed no consistent pattern of change in the sessions.

These results support the findings from the analyses across all sessions that an increase in photon counts is correlated with an increased heart rate and more consistency between heartbeats (R-R period).

**Discussion:** The first hypothesis was confirmatory, and it was strongly supported by this study. All five participants demonstrated a two-sigma variation in photon counts during the active periods of the session when they were focusing their intention on activities that they described as energy healing, projecting energy from their body, or increasing the light within the room. In 16 of the 50

sessions, a strong, six-sigma variation was recognized during the period of focus, demonstrating that experienced participants can intentionally produce consistent ultraviolet light events through a focus of their intention.

The second hypothesis of this study proposed that there would be correlations between physiological activity and ultra-weak photon emissions (UPE). It was found that an increased HR and a more consistent heart rate were strongly correlated with the expression of UPE. This hypothesis was confirmed across all sessions and through a detailed analysis of the 16 sessions that produced the strongest UPE expressions. There was also a weak correlation indicated between a reduced blood flow and UPE expressions.

The third hypothesis proposed that physiological measurements that indicated increased arousal in a participant would be correlated with increased UPE expression. H3 was weakly supported by reduced blood flow (FLOW) to the extremities (across all sessions) and increased HR when UPE expressions increased. Further explorations of the correlations between physiology and arousal would confirm these findings.

If ultraviolet light is produced during moments of high emotion and arousal, it may be a protective mechanism used by the body to adjust to stress or physical challenges. Due to the unique qualities of light, UPE may also carry information that would communicate a stressful situation or the aroused state of the individual. In this study, we included people who were purposely attempting energy healing, deep meditation, and visualizing the production of light. It is possible that UPE are a mechanism to communicate healing intention or provide a sense of relaxation associated with meditation. Through further examinations of the healing effect and UPE, we may find that healing has less to do with energy and more to do with an exchange of information. Furthermore, we may find that people who perform successful healing sessions evoke an aroused physical state to perform these activities which could contribute to the creation of training methods for healers or deep meditations.

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## INFORMATION DYNAMICS IN ANOMALOUS PHENOMENA

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**Introduction:** Parapsychological (or psi) phenomena have remained elusive to scientific explanation for decades. However, current extensive research within this domain, exemplified by Radin's work into psi phenomena involving entangled photons (2021), Delorme's exploration of blinded mediumship (2020), and the endeavors of the Unidad Parapsicológica de Investigación, Difusión y Enseñanza (UPIDE) concerning extrasensory information retrieval by children (Bar et al., 2024) has sparked new avenues for exploration. One such promising avenue involves the development of a mathematically rigorous framework capable of making predictions about macroscopic observables linked to the efficacy of psi in influencing outcomes within psychokinetic (PK) events.

In this paper, a model for mind-matter interactions is proposed by employing the tools of Information Theory (Shannon, 1948), a valuable mathematical discipline that quantifies the transmission of information in communication processes. While it is primarily used in fields like telecommunications and computer science, it provides a unique vantage point from which to examine parapsychology. By leveraging concepts such as entropy, mutual information, and channel capacity, we aim to mathematically model the exchange of information in PK events. We outline a promising formalism wherein probability distributions of events undergo stochastic mapping to other probability distributions under the influence of psi acting on physical systems. To address experimental considerations, we suggest the use of quantitative variables positively correlated with psi influence as a means to establish the relationship between the mapping of probabilities pre- and post- psychophysical interactions.

$$H_m = \sum_{k=1}^N p(x_{kf}) \log\left(\frac{p(x_{kf})}{p(x_{k0})}\right) - \sum_{k=1}^N p(x_{k0}) \log(p(x_{k0})) + \sum_{k=1}^N p(x_{kf}) \log(p(x_{k0})) \quad (2)$$

Where the first term is the Kullback–Leibler divergence between distributions, while the second and third are the entropy of the initial distribution and cross entropy, respectively. Therefore:

$$H_m = D_{K.L}(X_f||X_0) + H(X_0) - H(X_f, X_0) \quad (3)$$

*Fig. 1 Excerpt of the derivation of the entropy difference in physical systems pre- and post- Psi influence.*

**Methodology:** We aim to understand the evolution of psi-influenced systems by analyzing changes in expected informational entropy. This involves quantifying the difference between the theoretical informational entropy, and the empirical entropy obtained from probability

distributions gathered in experiments. This comparison provides a fundamental basis for interpreting mind-matter interactions as dynamic processes that lead to alterations in the probability distribution of a system's states over time.

Additionally, we provide justification for constructing a probability transition matrix to model distribution evolution. We explain how to derive expected probability distributions for events following psi interactions using the coefficients within this matrix. By drawing parallels to established physical phenomena driven by variations in energetic potentials, we validate the interpretation of these coefficients within the transition matrix as functions of observable macroscopic properties in experimental subjects (such as parameters measured through brainwave analysis of participants during psychokinetic experiments), thus creating a conceptual framework that links theoretical concepts with empirical data.

**Results:** We obtain a formalism where it is possible to relate macroscopic observations of aspects which are positively correlated with a greater psi influence to the evolution of physical systems, as well as a manner in which to determine the expected probability distribution after such influence is given.

The mapping of probability distributions given by the transition matrix previously discussed is expanded to continuous psi interactions by taking a limit where psi information transfer between consciousness and the physical system is carried out in rapid succession. A brief overview of the application of this formalism to the study of precognition is mentioned. We mention a natural codification leveraging the channel's memory in order to increase the chances of a desired outcome by decreasing noise.

$$\begin{array}{c}
 \left[ \begin{array}{cccc} (1,0) & (1,0) & (\frac{1}{2}, \frac{1}{2}) & (0,1) \\ (1,0) & 0.15 & 0.8 & 0.05 \end{array} \right] \\
 \downarrow \\
 \left[ \begin{array}{cccc} (1,0) & (1,0) & (\frac{1}{2}, \frac{1}{2}) & (0,1) \\ (1,0) & 0.28 & 0.7 & 0.02 \end{array} \right] \\
 \downarrow \\
 \left[ \begin{array}{cccc} (1,0) & (1,0) & (\frac{1}{2}, \frac{1}{2}) & (0,1) \\ (1,0) & 0.59 & 0.4 & 0.01 \end{array} \right] \\
 \downarrow \\
 \left[ \begin{array}{cccc} (1,0) & (1,0) & (\frac{1}{2}, \frac{1}{2}) & (0,1) \\ (1,0) & 1 & 0 & 0 \end{array} \right]
 \end{array}$$

And, as is to be expected, the center of the probability distribution would eventually shift to that of the desired state, with probability 1, overcoming the channel noise.

*Fig. 2 Example of the evolution of the first row of a transition matrix between a finite set of probability distributions as alphabets.*

**Discussion:** This research suggests the presence of a medium through which consciousness interacts with the physical world. Properties of such a medium contribute to the probability transition matrix, indicating that its coefficients may not be entirely given by macroscopic observables. We propose using a Fokker-Planck type equation (Payliotis, 2014) to model the

## ABSTRACTS OF FULL PAPERS

wandering of probability distributions under psychophysical "potentials." However, further work is required to refine the model for generating testable predictions in experimental settings. Nonetheless, this framework offers insights into the link between consciousness and physical reality, warranting continued investigation.

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## PSI AS A THREAT – THE POLTERGEIST CASE OF CAROL COMPTON

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**Introduction:** There is a long, although not often addressed, discussion in the parapsychological literature about the fear of psi. One area is the reactions of skeptical scientists and journal editors to experiments and articles by parapsychologists, with the former being devalued as pseudo-scientific and the latter being rejected or censored (e.g. Cardeña, 2015). However, the fear of psi is not only found outside our field of research, but also within it. According to some psychologists, this is true for most people, as the assumption that the existence of psi is connected to themselves gives rise to a variety of possible fears related to the issue of the uncontrollability of the world (Eisenbud, 1967; Tart, 1984). Kenneth Batchelder identified two types of resistance with participants in sitter-group experiments: the “ownership resistance” and the “witness inhibition” (Batchelder, 1984). Stephen Braude took up some of these considerations and gave an overview from a philosopher’s perspective (Braude, 2008).



**The case:** In my presentation, I will take up another aspect of possible fear of psi that has so far received little attention. By reconstructing a historical case study, I will show what consequences the broad public acceptance of psi could have for the administration of justice. In 1982/1983, a legal case attracted international attention when a young Scottish woman, Carole Compton, who was working as a nanny in Italy, was charged with arson and attempted murder (Compton & Cole, 1990). There were a total of five fires at two different places where she worked, including bed mattresses that caught fire. Due to the peculiarities of the Italian legal system at the time, she was imprisoned and found herself in a helpless situation. The parapsychological community learned of this and interpreted the fires as RSPK phenomena. The German parapsychologist Prof. Hans Bender interviewed the detainee in the Italian prison to get an idea of her psychological state and to check to what extent the criteria for an RSPK case were met. According to his assessment, this was the case. The burn marks of the mattresses furthermore showed inexplicable features that were untypical for “normal” burn marks. Bender then intended to act as a psychological court expert in the criminal trial to support the defendant, but this was ultimately not realized. The charge of attempted murder was dropped for lack of evidence, and the defendant was sentenced to two and a half years in prison for arson and attempted arson – apparently without any evidence. Due to the long pre-trial detention, Carole’s remaining sentence was waived.

**Method:** The case is reconstructed on the basis of archive material including correspondences, protocols, and interview materials, which are available in the archive of the IGPP. In addition, Compton (together with Gerald Cole) published in 1990 a book on her experiences as a biographical report. Particular attention is paid to the role and reception of parapsychology by the public, the media, the legal profession, and the courts. Other sources that are included in the reflections on the consequences of the consideration of psi by the judiciary are academic works on German criminal law and superstition, witchcraft, magic and extrasensory perception (e.g. Dorn-Haag, 2016).

**Findings and discussion:** This case is a perfect example of how strongly the judiciary of Western-style countries is shaped by the idea of a rationalistic reality based on classical principles of causality and how its smooth functioning depends on it. The case was a feast for the tabloids. Compton was portrayed as a “witch girl.” She was unable to distinguish such forms of superstition from psychodynamic poltergeist interpretations by parapsychologists and misunderstood Bender’s aim to help her. She feared being declared insane by a psychiatric expert. She did not see herself as the cause of the fires, however they may have happened. The defense attorney was unsure of the effect of a parapsychological interpretation on the judge and the jurors and, therefore, chose a pragmatic strategy that did not rely entirely on a parapsychologically-based claim of innocence and finally dispensed with an expert opinion from Bender. He had cautiously put forward the parapsychological explanation as a hypothesis and asked the prosecutor to consider the latest developments in parapsychological theory in view of the lack of evidence, but the prosecutor “only and from his point of view (and that of Italian law) scoffed at any inference in this regard” (letter from Sergio Minervini to Paola Giovetti from November 19, 1984; archive of the IGPP, E/23\_Fall “Carole Compton [1982–1984]). The court accepted an implausible factual situation regarding the origin of the fires, disregarding the expert opinions of the fire experts concerning the unusual burn marks. They accepted an “irrational” explanation of the causes of the fires in order to avoid having to resort to parapsychological explanatory models. In a telephone conversation with journalist Paola Giovetti, Bender called this “an embarrassment to the judiciary. They needed something to justify the one-year remand”, to which Giovetti commented, “The fires have not been proven. (...)

## ABSTRACTS OF FULL PAPERS

Apparently, the judges were also perplexed. The paranormal hypothesis was mentioned a lot, but the judge didn't want to consider it" (transcript of a telephone conversation from December 21, 1983; *ibid.*).

The dilemma for the jurisdiction becomes obvious: If one understands psi phenomena in a psychodynamic interpretation as an externalization of inner psychological tensions, for example, as suppressed aggression towards another person, and accepts them as real, then the question of causation, responsibility, and guilt arises anew. As long as psi phenomena can be legally treated as belonging to the realm of superstition, the court can find regulations on the basis of a physicalist model of the world. But if court members and the public accept the spontaneous combustion of a bed mattress through a mind-matter interaction, then an image quickly appears on the horizon that is reminiscent of medieval and early modern witch trials, because this mind-matter interaction could also have been initiated deliberately and consciously. Like the skeptics, representatives of jurisprudence would hardly admit that they were afraid of psi, because it would be irrational to show fear of something that, in their opinion, does not exist or should not exist at all.

**Conclusion:** Psi, therefore, not only generates "fears" among skeptics, parapsychologists, and participants in parapsychological experiments, because as a macro-phenomenon it not only shakes the foundations of our prevailing scientific worldview and the scientific community based on it, but also confronts modern jurisprudence with great difficulties. Due to the social relevance, it must therefore be assumed that the "official" acceptance of particularly large-scale psi phenomena will take a long time for pragmatic reasons alone and independently of the experimental findings.

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## ONLINE GROUP PK EXPERIMENTS: RECENT RESULTS AND HYPOTHESIS TESTING

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**Introduction:** This presentation updates findings from a previous series of online group PK experiments, completed in February 2023 (McClenon, 2021, 2024). Participants met weekly online, at multiple locations, passively seeking to influence pinwheels viewed by cameras in a closed room. A motion-activated camera recorded pinwheel turning frequency, pinwheel speed, and participant conversations. This allowed the evaluation of three hypotheses, all achieving statistical significance. Hypothesis #1: Pinwheel turning would be greater during group meetings than during equivalent non-meeting times (group meeting hypothesis). Hypothesis #2: Direct observation, indicated by participant conversation, would be associated with reduced pinwheel turning (direct observation hypothesis). Hypothesis #3: Rapid turning would occur more often during conversations involving psychical research, anomalous experience, occult traditions, and psychic readings than during miscellaneous conversations (conversation content hypothesis).

The previous experiments also generated qualitative observations: (1) The group perceived that the pinwheels turn more rapidly during conversations with emotional content. (2) Pinwheel behavior exhibits *psi trickster* characteristics (Kennedy, 2024). Experimental scrutiny was associated with reduced pinwheel turning, equipment failures, and unexpected, quirky events such as poltergeist-like phenomena.

**Hypotheses and Theory:** The study draws on hypotheses derived from Batcheldor's artifact induction model (Batcheldor, 1984; Batcheldor & Giesler, 1994) and the ritual healing theory (McClenon, 1997, 2002, 2021). Batcheldor hypothesized that exposure to artifacts (normal processes that seem paranormal, such as unconscious pushing of the table by table-tipping groups) helps overcome psychological barriers that thwart psi. These barriers include *fear of psi* and *ownership resistance* (the desire to avoid responsibility for generating PK). Participants can overcome these obstacles through exposure to artifacts, resulting in belief and allowing authentic psi to occur (artifact induction). Batcheldor's groups found that table-tipping phenomena declined when experimental controls were increased, causing him to revise his model to include innovative ideas regarding consciousness (Batcheldor & Giesler, 1994). Although Batcheldor's model explains psi's elusive qualities, it has received only limited parapsychological evaluation (Wehrstein, 2018).

The ritual healing theory hypothesizes that artifact induction shaped Paleolithic shamanism (McClenon, 1997, 2002, 2021, 2024). The theory argues that Paleolithic people, gathering around fires over many millennia, discovered ways to experience collective psi and that these endeavors resulted in shamanic rituals. Over the millennia, shamanic healing provided survival benefits to those with dissociative and hypnotic propensities, shaping modern genetic propensities for dissociation, spirituality, and religiosity. The theory implies that modern researchers should be able to experience contemporary forms of collective PK. The present study, a social psychological field experiment, evaluates this hypothesis while seeking insights regarding artifact induction processes.

**Methods:** The present paper describes data from 42 experiments (Feb. 2023 - Feb. 2024), evaluating the previous three quantitative hypotheses. Geographically distant participants, varying in number from two to five, watched a camera focused on three pinwheels located in the researcher's closed-off meditation room. Two motion-activated cameras documented the number

of pinwheel turning events, speed of pinwheel turning during each activation, and conversations during each activation. A coding system (McClenon, 2024) allowed classifying conversation topics thought to affect pinwheel turning. Hypothesized topics include *psychical research*, *anomalous experience*, *occult traditions*, *psychic reading*, and *observation of pinwheel turning*. All other conversations were coded as *miscellaneous*. The three original hypotheses were evaluated by comparing: (1) camera activations during group meetings to activations during equivalent non-meeting times (group meeting hypothesis). (2) pinwheel turning speed during direct observation of pinwheels (noted during conversations) to turning during all other conversations (direct observation hypothesis). (3) turning speed during conversations regarding predicted conversation to conversations involving miscellaneous topics (conversation content hypothesis).

**Results:** Hypothesis #1: Average camera activation, quantifying pinwheel turning during experimental periods (19:00-22:00) was 65.6/session. During equivalent non-experiment periods, average camera activation was 12.8/session ( $t = 5.42$ ,  $p = .000003$ , significant at the .01 level). This finding supports hypothesis #1, implying that group meetings enhanced pinwheel turning.

Hypothesis #2: Unlike the previous series, direct observation (indicated by conversations during camera activations) was associated with more rapid turning compared to other conversations (chi square = 7.4,  $df = 1$ ,  $p = .006$ , significant at the .01 level). This relationship was opposite of that predicted by hypothesis #2; direct observation did not thwart pinwheel turning.

Hypothesis #3: During the first two months of this series (Feb.-Mar.), there were seven sessions with low pinwheel activity. In April and May, complete transcription of all conversations became problematic due to time constraints and highly robust pinwheel activity. For seven experiments, transcriptions for the most rapid turns were compared to transcriptions associated with the slowest turns. Analyses found patterns in the predicted direction, but, overall, the evidence was inconclusive. During seven sessions, there were sporadic, unexplained audio failures, resulting in missing data. After late July, all pinwheel-turning conversations were transcribed and categorized.

Although equipment failures and incomplete conversation coding reduced methodological validity, hypothesis #3 was evaluated using all available transcriptions. Turning speeds during conversations pertaining to predicted conversation variables (psychical research, anomalous experience, occult traditions, and psychic readings) were significantly greater than during miscellaneous conversations (chi square = 19.3,  $df = 1$ ,  $p = .00001$ , sig. at 0.01 level). This result coincided with participants' strong subjective impressions. Statistical evaluations excluding sessions with missing data were also highly significant. There was no evidence that missing data deviated from general patterns to a degree that would negate significant findings. Overall, the analyses supported hypothesis #3: predicted conversation topics tended to coincide with rapid pinwheel turning.

Further qualitative observations included: (1) Pinwheels turned rapidly and simultaneously during emotion-laden statements. (2) Equipment failures and other quirky outcomes, which included poltergeist-like events, had qualities that implied *psi trickster* effects. (3) Participants regarded pinwheel turning behavior as anomalous.

**Discussion:** Although the hypothesis #2 result coincided with the commonsense argument that people tend to perceive, and take note of, rapid pinwheel turning, this result was at variance with previous findings. Batcheldor's model might suggest that repeated exposure to pinwheel turning reduced fear of psi, allowing further experiences. The average frequency of camera activation during this series was about twice that of the previous series, suggesting that obstacles to anomalous experience had declined.

**Conclusion:** These experiments support Batcheldor's model regarding variables facilitating or inhibiting group PK. The results also coincide with the ritual healing hypothesis that modern groups can successfully experience compelling PK-like events and that Paleolithic people probably discovered equivalent strategies. Although social scientific field experiments do not prove that PK is *real*, these experiments offer insights regarding collective anomalous experiences.

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## **COGNITIVE STYLES AND PSI: PSI RESEARCHERS ARE MORE SIMILAR TO SKEPTICS THAN TO LAY BELIEVERS**

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**Introduction:** Individual differences in psi belief are associated with factors related to demographics, personality, cognition, and culture (Dean et al., 2022; French, 1992; Gray & Gallo, 2016; Irwin, 1993). According to leading hypotheses, high belief in psi can be explained by deficits in cognition, including critical and scientific thinking, reasoning, and overall cognitive ability (Alcock, 1981; Irwin, 1993). This hypothesis has received support, although findings have been mixed depending on the domain, methodology, and population studied (Dean et al., 2022; Gray & Gallo, 2016; Irwin, 1993). According to a recent review (Dean et al., 2022), high psi belief is consistently associated with increased intuitive thinking (quick and emotion-based) and bias towards confirmatory evidence. Differences in self-reported cognitive styles—how people perceive and process information—have also been associated with different levels of psi belief (Dean et al., 2022; Gray & Gallo, 2016). In particular, greater belief in psi correlates with lower “actively open-minded thinking” (AOT)—a rational disposition marked by extensive exploration of alternatives and evidence to find the optimal answer, even if it contradicts one’s beliefs (Pennycook et al., 2020; Rizeq et al., 2021; Stanovich & West, 1997). Collectively, these findings suggest that individuals endorse psi beliefs at least partially on the basis of emotion and insufficient consideration of conventional explanations for seemingly anomalous occurrences.

One area of inquiry that remains unexplored is whether these associations between cognition and psi belief extend to academics engaged in psi research. The majority of studies investigating these links used undergraduate and/or general population samples (Dean et al., 2022). Yet, many psi researchers are trained scientists and scholars (Cardeña, 2014). Even though they may endorse the reality of psi (Irwin, 2014), they likely differ cognitively from lay believers. Among academics, high endorsement of psi phenomena as assessed on standardized measures of psi belief, may be strongly influenced by researchers’ assessments of the experimental evidence on psi (Irwin, 2014).

Cognitive styles related to how one evaluates evidence and reaches conclusions are particularly relevant to the controversial nature of psi, as they may contribute to how researchers (whether proponents or skeptics) and lay individuals form beliefs about, or engage with, psi research. As it relates to evidence of psi, psi researchers have been accused of being poor thinkers, while skeptics have been viewed as uninformed dogmatists (Roe, 2017).

We investigated differences in cognitive styles among academic psi researchers, lay psi believers, academic skeptics, and lay skeptics. Specifically, we assessed AOT, “need for cognitive closure”—a disposition towards quick and definitive knowledge on an issue, avoiding ambiguity (Webster & Kruglanski, 1994), psi beliefs and experiences and examined differences among groups. This research sought to shed light on two questions: 1) Are psi researchers different from lay believers in how they approach knowledge, evidence, and ambiguity? 2) Are psi researchers—who are engaged in a field of study that often yields observations incompatible with mainstream

scientific consensus—equally open to considering inconsistent evidence and equally motivated to search for the “correct” answer compared to skeptics?

## Methods

**Participants:** The study included four participant groups: (1) 44 individuals who have engaged in academic psi research (“psi researchers”), recruited from parapsychology mailing lists (e.g., “Survival Net,” an invitation-only international electronic mailing list for discussion of survival of consciousness, non-local consciousness, and related topics, and “Parapsychology Discussion List”), as well as institutions focusing on related research (e.g., the Institute of Noetic Sciences and the Windbridge Research Center); (2) 32 individuals identified as psi believers or enthusiasts not engaged in psi research (“lay believers”), recruited from large Facebook groups of interest in paranormal topics and through organizations with a focus on psi phenomena and/or psi research (e.g., the Monroe Institute); (3) 35 individuals who are academic or professional skeptics of psi (“academic skeptics”), recruited primarily among Fellows of the Committee for Skeptical Inquiry (CSI) and some academics who have been active contributors against psi research; (4) 33 individuals who are skeptics of psi, but not academics (“lay skeptics”), recruited through the Skeptical Inquirer blog—published by the CSI—and a Facebook group focused on skepticism.

**Online Questionnaire:** Participants completed an online questionnaire administered via Qualtrics and were offered a \$10 Amazon gift card upon completion. The questionnaire included three self-report measures described below. Additionally, we inquired about participants’ socio-demographic characteristics, their professional involvement in psi research, and any feedback they wished to share.

**Measures:** The online questionnaire included: 1) The Noetic Experiences and Beliefs Scale (NEBS)—a 20-item self-report questionnaire assessing psi beliefs and experiences as separate constructs (Wahbeh et al., 2020); 2) a 10-item AOT scale (adapted by Society for Judgment and Decision Making from 11-item version in Baron, 2019), assessing actively open-minded thinking as a dispositional cognitive trait; 3) a brief 15-item Need for Closure Scale assessing need for closure (Roets & Van Hiel, 2011)—a disposition towards seeking quick and firm answers in order to avoid ambiguity.

## Selected Results

**Quantitative data:** As anticipated, there were differences between the groups on both psi beliefs ( $p < .0001$ ) and experiences ( $p < .0001$ ), as measured by the NEBS. Post-hoc tests revealed that psi researchers and lay believers have significantly higher psi belief scores than both skeptic groups (all  $ps < .0001$ ).

ANOVA revealed group differences in AOT ( $p = .003$ ), but not in need for closure ( $p = .67$ ). Post-hoc tests showed no significant difference in AOT between psi researchers ( $M = 4.5$ ,  $SD = 0.3$ ) and academic skeptics ( $M = 4.5$ ,  $SD = 0.3$ ;  $p = .91$ ), as hypothesized. Psi researchers were also not significantly different in AOT scores from lay skeptics ( $M = 4.5$ ,  $SD = 0.4$ ;  $p = .80$ ). Lay believers had significantly lower AOT scores ( $M = 4.2$ ,  $SD = 0.4$ ) than psi researchers ( $p = .04$ ), academic skeptics ( $p = .01$ ), and lay skeptics ( $p = .005$ ).

**Narrative data:** Although not necessarily representative, certain comments by participants help contextualize differences and similarities between the groups. Some psi researchers commented on the appropriateness of asking about *belief* in psi presumably as the basis of one's interest in psi phenomena. Some skeptics stated an openness to the possibility of psi if the right evidence or explanation is presented, emphasizing the importance of evidence being “*valid and reproducible*” and “*indisputable*.”

**Discussion:** Even though psi researchers reported significantly greater psi belief compared to academic skeptics, the two groups showed no difference in the cognitive styles of actively open-minded thinking and need for closure. These findings suggest that these two groups that are empirically and philosophically at odds with each other regarding evidence for psi phenomena nonetheless agree on the principles of “good” thinking about evidence (Baron et al., 2015). These principles encompass evaluating evidence that contradicts one's beliefs, being willing to update one's beliefs in light of new evidence, and being comfortable with ambiguity (Stanovich & Toplak, 2023).

Psi researchers showed greater levels of actively open-minded thinking compared to lay believers, indicating a greater willingness to consider a range of evidence when forming opinions, including evidence that contradicts their beliefs. These findings suggest there is a distinction between individuals engaged in academic psi research and those who are not but have a strong interest and belief in psi. Although this distinction is rarely or never made in research that focuses on believers' cognition (Gray & Gallo, 2016), it is an important one for the proponents of psi research and its skeptics. Psi researchers rightfully view their public image as one of the major hurdles facing their field (Irwin, 2014). Thus, any evidence challenging the “deficit hypothesis” as it relates to their own cognition about the legitimacy of psi phenomena should be highlighted. Additionally, skeptics' engagement with psi research—increasingly published in mainstream journals (Bem, 2011; Bösch et al., 2006; Cardeña, 2018; Freedman et al., 2023)—will benefit from viewing psi researchers as fellow academics who may disagree rather than individuals prioritizing belief over evidence (Reber & Alcock, 2020).

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## THE INTERSECTION OF PSYCHOTHERAPY AND NEAR-DEATH EXPERIENCES: SCHMEIDLER OUTSTANDING STUDENT AWARD (2021) INVITED ADDRESS

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**Introduction:** Near-death experiences (NDEs) are spontaneous, exceptional psychological events characterized by perceptions of movement through light and darkness, encounters with spiritual beings, intense emotions, and a profound understanding of the universe. These experiences can occur during life-threatening situations or unexpectedly without physical trauma. According to Moody (1977), common features include:

- Hearing one's own declaration of death
- Out-of-body experiences (OBEs)
- Encounters with a dark tunnel or radiant light
- Meetings with deceased individuals or spiritual beings
- Panoramic life reviews
- Feelings of tranquility and boundless love
- Ineffability of the experience

Near-death experiencers (NDErs) may seek therapy for various reasons, including difficulties in personalizing emotions, integrating new spiritual values, navigating social relationships, and processing the demarcation of life before the NDE and life after near-death. They often face challenges in communication, relationships, and adjusting to a radical shift in reality. Therapists should aim to help NDErs process both primary and secondary aftereffects of their experiences. Primary aftereffects include personality changes directly caused by the NDE, while secondary aftereffects involve struggles related to these changes, such as social isolation and rejection. Addressing social challenges, improving life satisfaction, and discovering life purpose are crucial for effective integration (Pratte, 2021;2022).

**Integration – The Goal of Psychotherapy:** Integration is the process of fully embracing and organizing an NDE into one's life, maintaining health and well-being. It involves ongoing development and achieving a balance where the experience is consciously acknowledged without hindering present functioning. The exploration of how mental health professionals may best aid in integration has been nodded at by the research community but never fully embraced. Literature is very much lacking and therefore, so is support for NDErs (Greyson & Harris, 1987).

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## **ARE MY DECEASED LOVED ONES STILL WITH ME?: MOURNING AND HOPE IN MEDIUMISTIC PRACTICES**

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**Introduction:** Inspired by previous studies (Beischel, Mosher, & Boccuzzi, 2015; Cooper, 2017; Cox, Cooper, & Smith, 2017; Evenden, Cooper, & Mitchell, 2013), we designed a study to compare a sample of medium's clients with another sample composed of no-mediums' clients (religious widows). We planned additionally to determine the covariation between the degree of distress over the loss of a loved one and the degree of hope remaining in the lives of the bereaved, as well as a number of unusual sensory experiences. It was hypothesized (H1) that the medium's clients would experience a greater degree of complicated grief compared to that of religious widows, as well as (H2) less hope compared to that of religious widows, but (H3) that a negative and significant relationship would be found between complicated grief and hope in the medium's clients.

### **Methods**

**Participants:** Two samples were used: thirty women who were looking for a medium to facilitate spiritual communication with their deceased loved ones (the “medium” group), mean age 51 years, whose time since the death until the moment of completing the instruments was from one to 20 years (Mean = 6.13 years). Fifty-six percent of this sample was without a current partner (only 40% were in a relationship). The second sample to compare with the mediums' clients, were thirty women, all widows, with an age mean 60 years old, who had lost their spouses in a period between three and nine years earlier (Mean = 3.73 years) at the time of completing the instruments. Fifty-six percent were without a current partner, and 26% were living with a partner.

**Instruments:** A questionnaire was administered with questions related to sex, age, marital status, religion, and spirituality (self-perceived). Three scales were also used, including the *Complicated Grief Inventory* (Prigerson, 1995; Gamba-Collazos & Navia Arroyo, 2017), the Hope Scale (Herth, 1991; Arnau et al., 2007; Martínez Uribe, Cassaretto, Bardales, & Herth, 2012), and the Unusual Perceptual Experiences Questionnaire.

**Procedure:** The religious widows were part of a previous study of 160 religious widows from whose database 30 cases were selected, matched by age and time after their loss. For both samples, each participant produced a signed consent. The data were treated with confidentiality and anonymity in their responses. Any cases of incomplete or incorrectly answered questionnaires were excluded from the sample; moreover, the medium's clients must (1) have requested his guidance for the first time, and (2) done so a year or more after the death of their loved one, while

## ABSTRACTS OF FULL PAPERS

the religious widows (3) had to have been widowed for more than one year at minimum, and (4) had been married/partnered for five years or more. A medium (LK) was willing to cooperate in this study with his own clients. Small groups of 5 to 20 women, who were gathered at the Institute of Paranormal Psychology over a period of eight months at the rate of one Saturday afternoon a month, were summoned by the medium for individual readings, at the end of which they were invited to complete the three instruments.

**Results:** H1 predicted that the medium's clients would have experienced a greater degree of complicated grief than the religious widows, which was confirmed ( $z = 3.57, p < .001, d_{Cohen} = .62$ ), along with the subscales referring to the memories of the deceased ( $p = .01, d_{Cohen} = 1.06$ ), and Feelings of Emptiness and Presence of the Deceased (both  $p < .001, d_{Cohen} = .85$ , and  $d_{Cohen} = .91$ ). H2 predicted that the medium's clients experienced less hope than the religious widows, which was confirmed ( $z = 3.52, p < .001, d_{Cohen} = .94$ ), particularly on the Optimism ( $p < .001, d_{Cohen} = .83$ ) and Hopelessness subscales (in favor of the medium's clients,  $p = .006, d_{Cohen} = .70$ ). Finally, H3 predicted that the mediumship clients would experience a greater frequency of unusual perceptual experiences than the religious widows, which was confirmed ( $z = 4.16; p < .001, d_{Cohen} = .13$ ), as well as the six perceptual modalities (Auditory  $d_{Cohen} = .66$ , Visual  $d_{Cohen} = .99$ , Gustatory/Olfactory  $d_{Cohen} = 1.06$ , Tactile  $d_{Cohen} = .12$ , HG/HP  $d_{Cohen} = .94$ ). H4 predicts that, in the cases of mediumistic clients, a negative correlation will be found between complicated grief and hope, which was confirmed ( $r_s = -.37, p = .02$ ), particularly in Optimism ( $r_s = -.56, p = .001$ ), Agency ( $r_s = -.54, p = .001$ ), and Hopelessness (positive,  $r_s = .69, p < .001$ ). On the other hand, for the religious widows, no significant relationships were found; in fact, overall, 17 (85%) correlations were presented for the mediumistic clients in contrast to six (30%) for the religious widows.

**Discussion:** The results showed that the medium's clients experienced greater difficulty in processing the pain of loss, particularly in terms of difficulty in carrying out daily tasks due to their memories, greater pessimism and hopelessness, and avoidance behaviors associated with painful memories of the deceased, in comparison with the religious widows. Conversely, the widows showed more optimism and less hopelessness than the mediumistic clients, but they also showed greater discouragement and helplessness regarding the future. The medium's clients also experienced a greater frequency of unusual perceptual experiences than the religious widows in the six sensory modalities (hearing voices, seeing the deceased, smelling perfumes, sensation of physical contact, and other experiences on the threshold of sleep or upon awakening). Certainly, we must recognize that this study has a small number of limitations; for example, it evaluates mediumistic clients who have lost a wide spectrum of loved ones (from friends and spouses to parents/grandparents and children), in contrast to a small sample of widows alone.

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## THE NOETIC SIGNATURE INVENTORY NORMS AND PATTERNS

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**Introduction:** This study builds upon previous research on the Noetic Signature Inventory (NSI: Wahbeh, Fry, & Speirn, 2022; Wahbeh, Fry, Speirn, et al., 2022; Wahbeh & Kreigsman, 2023), which is based on a 12-factor model that describes how people experience noetic information and demonstrated internal consistency, convergent and divergent content validity, and test–retest reliability. The 12-factors are: (1) General Intuition, (2) Embodied Sensations, (3) Visualizing to Access or Affect, (4) Inner Knowing Through Touch, (5) Healing, (6) Knowing the Future, (7) Physical Sensations from Other People, (8) Knowing Yourself, (9) Knowing Other’s Minds, (10) Apparent Communication with Non-physical Beings, (11) Knowing Through Dreams, and (12) Inner Voice (Wahbeh, Fry, et al., 2022). In a recent confirmatory factor analysis, the chi square statistic equaled 2866.65 with 836 degrees of freedom and  $p < .001$ . The model diagnostics demonstrated a very good model fit to the data. All 44 items had factor loadings above the 0.5 cutoff, ranging from 0.58 to 0.77, with an average factor loading of 0.71 (Wahbeh & Kreigsman, 2023). The objectives of this study were to evaluate norms and patterns of the twelve factors of the Noetic Signature Inventory by answering three research questions.

1. What are the norms for the 12 factors by age, gender identification, and ethnic identification? (no *a priori* hypothesis)
2. What are the relationships between the 12 factors?
  - a. We hypothesized the following groupings of the 12 factors *a priori*: 1) Embodied Sensations, Inner Knowing Through Touch, and Physical Sensations from Other People, 2) Apparent Communication with Non-Physical Beings and Inner Voice; 3) Visualizing to Access/Affect and Healing, 4) Intuition and Knowing Yourself, and 5) Knowing the Future, Knowing Others’ Minds, and Knowing Through Dreams.

## ABSTRACTS OF FULL PAPERS

3. Are there patterns within individuals such that “types” of noetic signatures emerge? (no *a priori* hypothesis).

**Methods:** This is a cross-sectional study of a convenience sample of global participants who provided demographic information and completed the Noetic Signature Inventory (NSI). This dataset was analyzed to evaluate norms, relationships between the 12 factors, and patterns of noetic “types.” Participants were recruited from multiple sources, including the Institute of Noetic Sciences (IONS) website, social media, newsletters, and a participant recruiting firm. Inclusion criteria for all data collection were: (1) age 18 years or older, (2) fluent in English, (3) having had a prior noetic experience, (4) agreeing to the study consent form, and (5) completed all items of the NSI. All participants signed an informed consent to participate in the study, and all study activities were approved and overseen by the Institutional Review Board at the Institute of Noetic Sciences (IORG#0003743).

Participants entered their age, gender identification, education, ethnic identification, and country. The NSI is a 44-item subjective questionnaire that evaluates 12 factors of intuitive inner knowing (Wahbeh, Fry, & Speirn, 2022). Each item is answered on a sliding scale anchored by Strongly Disagree (0), Neither Agree Nor Disagree (50) and Strongly Agree (100). The resulting scores include 12 factor scores and one total NSI score (NSI\_Global) calculated by averaging the 12 factor scores.

Means and standard deviations were calculated for age categories, gender, and ethnic identification variables. Principal Component Analysis (PCA) explored between-factor similarity structure in orthogonal space. Cluster analysis evaluated patterns or noetic “types” across participants.

**Results:** Participants ( $n = 3,884$ ) completed the NSI between January 26, 2021 and January 11, 2024. The means and standard deviations in ascending order were: Inner Knowing Through Touch  $42.5 \pm 29.6$ ; Embodied Sensations  $43.3 \pm 23$ ; Physical Sensations from Other People  $56.8 \pm 29.3$ ; Healing  $56.7 \pm 30.6$ ; Visualizing to Access or Affect  $61.7 \pm 25.9$ ; Knowing Others' Minds  $57.6 \pm 26.4$ ; NSI\_Global  $62 \pm 17.6$ ; Apparent Communication with Non-Physical Beings  $66.6 \pm 24.3$ ; Inner Voice  $69.2 \pm 29$ ; Knowing the Future  $71.3 \pm 23.5$ ; Knowing through Dreams  $69.6 \pm 27.6$ ; Intuition  $74.3 \pm 17.4$ ; and Knowing Yourself  $74.3 \pm 21.8$ . Participants aged 40 to 69 represented 59.2% of the participants. More participants identified as female (70%) than male (29%) and another gender identification (1%). The ethnic identification breakdown for those who answered the question ( $n=3,773$ ) was: Native American (430, 11.4%); Native Pacific Islander (47, 1.2%); Asian (221, 5.9%); African (208, 5.5%); Middle Eastern (80, 2.1%); Latino/a or Hispanic (326, 8.6%); and European (2902, 76.9%).

The PCA identified seven-factor groupings, four consistent with the hypothesized groupings (1 to 4). However, the statistical analysis did not support the hypothesized group 5, which included Knowing the Future, Knowing Others' Minds, and Knowing Through Dreams. In fact, the data suggested that each of these factors was distinct and should be treated separately (Figure 1).

The Cluster Analysis revealed that the noetic patterns seen in the ribbon plot of five clusters revealed two general effects; the most prominent characteristic of the noetic patterns was the magnitude of the overall noetic level. The second most prominent was the variability of Knowing through Dreams (and less so on Precognition). In the ribbon plot, there was one cluster with

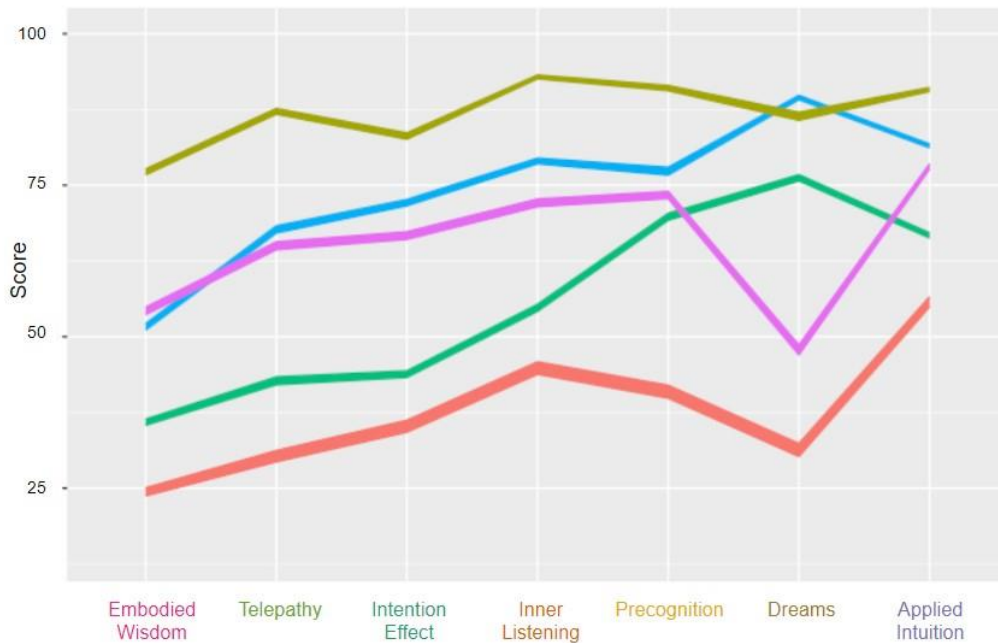
generally high scores, one with generally low scores, and three with mid-range scores, distinguished mainly by their scores on Knowing through Dreams and Knowing the Future (Figure 2). Notably, we do not posit that these five clusters in Figure 2 are necessarily replicable, but more so (using ANOVA-like terminology) that the (potentially replicable) pattern of variability is akin to a main effect of noetic score with an interaction on Dreams.

**Discussion:** Dreams can categorize individuals based on their ability to receive noetic information through them. Factors such as dream recall, cultural beliefs, cognitive systems, personality traits, and brain asymmetry may contribute to individual differences in noetic dreaming experiences. In addition, sleep is an altered state of consciousness that may facilitate access to noetic information by relaxing cognitive filtering. Further research is required to understand the relationship between individual noetic expression, dream experiences, and access to noetic information.

	<b>Factor Names</b>	<b>Abbrev</b>	<b>Hypothesized 5</b>	<b>Final 7 Super-Factors</b>
8	<i>Knowing Yourself</i>	KnowSelf		<b>Applied Intuition</b>
1	<i>General Intuition</i>	Intuition		
11	<i>Knowing through Dreams</i>	Dreams		<b>Dreams</b>
6	<i>Knowing the Future</i>	Precognition		<b>Precognition</b>
12	<i>Inner Voice</i>	InnerVoice		<b>Inner Listening</b>
10	<i>Apparent Communication with Non-Physical Beings</i>	Beings		
9	<i>Knowing Others' Minds</i>	Telepathy		<b>Telepathy</b>
3	<i>Visualizing to Access or Affect</i>	Visualize		<b>Intention Effect</b>
5	<i>Healing</i>	Healing		
7	<i>Physical Sensations from Other People</i>	SenseOthers		<b>Embodied Wisdom</b>
2	<i>Embodied Sensations</i>	EmbSens		
4	<i>Inner Knowing through Touch</i>	Touch		

*Figure 1. Super-Factor Structure. The 12 factors are listed here in the same descending order as depicted in all other applicable figures. Color-coding depicts the alignment between the (5) hypothesized super-factors and the final set of (7) super-factors that we investigate in this manuscript.*

## ABSTRACTS OF FULL PAPERS



*Figure 2. Noetic Patterns across Super-Factors. The ribbons represent means and standard errors for participant patterns for the five observed noetic patterns selected based on cluster analyses. After inspecting many clustering solutions, this one was selected as representative, not because these five noetic profiles are necessarily replicable, but more so because they reflect an intersection of two effects: the overall noetic magnitude across super-factors, and the particularly variable scores on the Dreams super-factor.*

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## ABSTRACTS OF BRIEFS

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### THE RETURN OF A HIGH PERFORMING PSI PARTICIPANT: BEHAVIORAL RESULTS OF AN ESP TASK WITH EEG

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**Introduction:** One approach towards understanding the nature and characteristics of what facilitates psi experiences and phenomena is to study the neural activity of participants while they engage in an overt psi task. Few studies have successfully reported a significant psi effect while concurrently measuring brain activity. Most of them date back to the 60s and 70s using electroencephalography (EEG), but their scope is strongly limited by the EEG systems used. These only used a few concurrent channels, and EEG quantification and processing methods were limited predating the advent of digital acquisition and personal computing (Krippner & Friedman, 2010; Williams, 2011, 2015).

The current study intends to pursue a similar approach using contemporary EEG acquisition and analyses methods with a high-performing participant at various laboratory psi tasks, participant B.D. This participant has been involved in a series of studies that took place approximately 50 years ago (Kanthamani & Kelly, 1974b, 1974a, 1975; Kelly, 1982; Kelly et al., 1975; Kelly & Kanthamani, 1972).

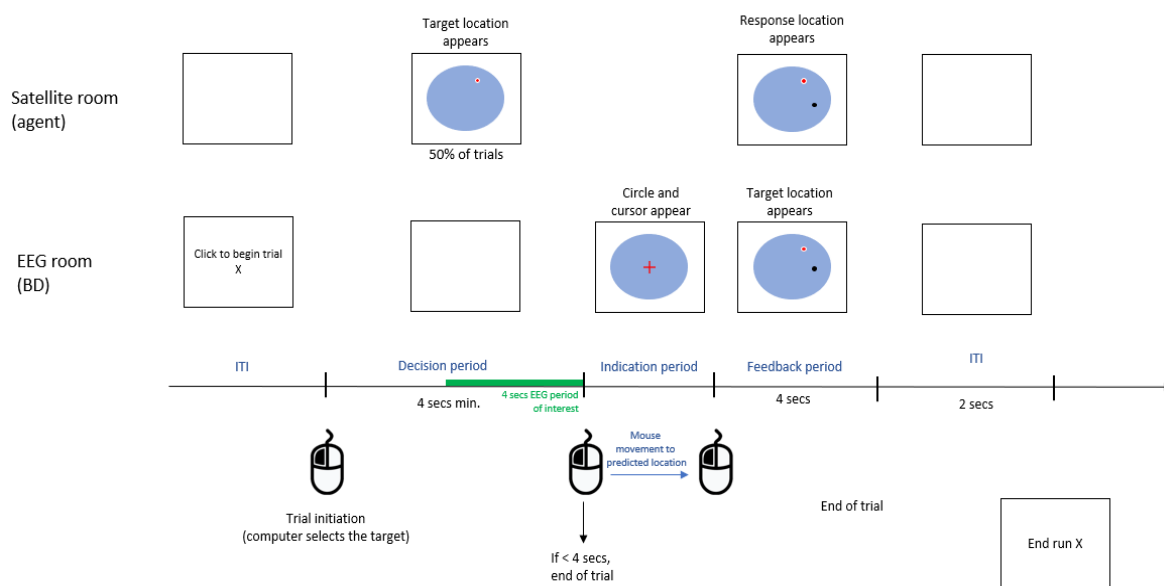
**Methods:** *Participants:* B.D., percipient in the task and whose EEG was recorded, is a 74-year-old male, approaching retirement from his law practice. The experiment also involved two “agents” (or “senders”): the main agent, M.B. had been B.D.’s roommate during their years together at law school in the 1970’s. They have remained close friends ever since. The other agent was one of the experimenters, E.K., who served as agent for only three sessions when M.B. was not able to participate. B.D. and E.K. worked together throughout the 70s and have stayed intermittently in touch ever since.

*Procedure:* B.D. engaged in a computerized psi task similar to the Location Test on [psiarcade.org](http://psiarcade.org) (see also Delorme et al., 2022). The task consisted of estimating the unknown location of a target (a circular dot) that could be located anywhere within the surface of an ellipse on the screen (horizontally flattened disk with a width/height ratio of 1.342). Feedback showing the target location was given after each trial. Importantly, an agent was located in a distant room with its own screen, and each trial could either show the target location to the agent while B.D. was attempting to estimate the location (*Agent* condition) or the agent saw a blank screen during the whole trial (*NoAgent*), with 50% chance. It is to be noted that throughout the whole experiment, B.D. did not know at any point whether a given trial was in the *Agent* or *NoAgent* condition.

## ABSTRACTS OF BRIEFS

Trials were self-paced and initiated by B.D. with a mouse click, triggering the random selection of the Target Location by the computer and initiating the Decision Period. In approximately 50% of the trials, the click would also correspond to the onset time of the Target Location in the agent room. B.D. indicated the end of the Decision Period by a second mouse click. If the duration was shorter than four seconds, the trial was aborted and a new trial was initiated. The Decision Period is the main period of interest for later EEG analysis. B.D. then indicated his Decision Location by clicking on the chosen location on the computer screen using the mouse pointer, after which he (and the agent for *Agent* trials) received feedback on the actual Target Location. See *Figure 1*. 353 such trials were completed in 13 sessions over ten days.

The task was performed by B.D. in a sound-attenuating, electromagnetically shielded booth. The computerized task was controlled using a custom C# library, allowing timing of mouse-click and screen-display events in the EEG data stream. The agent room and EEG booth were located on opposite sides and different floors of the same building. EEG was recorded with a 128-channel BioSemi ActiveTwo system (Biosemi BV, Amsterdam, NL).



*Figure 1. Structure of a Trial. The top row shows the sequence of displays on the agent's screen in the Agent condition trials (~50% of trials). The bottom row shows the sequence of displays for the participant in the EEG booth. Inter-trial interval, Decision and Indication periods were terminated by BD by a mouse click.*

**Behavioral Performance Scoring:** For each trial, the distance  $\rho$  between the Target and Response locations was calculated, and a score  $\mathbf{r}$  corresponding to the probability of obtaining a distance equal to or smaller than  $\rho$  was derived.  $\mathbf{r}$  was derived from the cumulative density function (CDF) of  $\rho$  given the Response location of the current trial. The exact CDF for an elliptic delimitation was approximated using a polygon of 200 sides. Under the null hypothesis, the distribution of scores  $\mathbf{r}$  is uniformly distributed between 0 and 1. Scores were calculated using Mathematica (Wolfram Research, Inc., IL, USA), and subsequent analyses were carried out in Matlab (The Mathworks, Inc., MA, USA). Z-scores are calculated from the mean of  $\mathbf{r}$  score values across N

trials against the theoretical normal distribution of mean 0.5 and standard deviation  $\sqrt{(1/12)}/\sqrt{N}$ , and corresponding p-values are one-tailed.

*Future EEG Analyses:* EEG data will be pre-processed and analyzed in Matlab, using the EEGLab (Delorme & Makeig, 2004) and FieldTrip (Oostenveld et al., 2011) toolboxes, as well as custom scripts, and will involve the following steps: interpolation of identified noisy channels, filtering (1-40 Hz), re-referencing to the common average, removal of artifactual components from independent component analysis (ICA), epoching, removal of noisy epochs through visual inspection. For each *Agent* condition, we will investigate correlations between trial-wise behavioral scores and EEG-derived metrics from the last four seconds of the Decision Period. EEG-derived metrics will include spectral power with a particular focus on alpha, instantaneous frequency in the alpha band, Lempel-Ziv complexity, and GLOBAL measures (Wackermann, 1999).

**Results:** Aggregated behavioral results reached statistical significance with  $p = 0.04$  and Z-score = -1.75 ( $N = 353$ ). Interestingly, a clear contrast was apparent between the *NoAgent* and *Agent* conditions, with  $p = 0.486$  and Z-score = -0.036 ( $N = 175$ ), and  $p = 0.0075$ , Z-score = -2.43 ( $N = 178$ ), respectively. Median scores did not differ between the *Agent* and *NoAgent* conditions using an approximated Wilcoxon rank sum test ( $p=0.07$ , Z-score = -1.76), but the overall distributions did, using a two-sample Kolmogorov-Smirnov goodness-of-fit hypothesis test ( $p = 0.01$ ,  $ks\_stat = 0.1643$ ). The magnitude of the effect was similar between the two agents, for *Agent* condition trials: M.B. yielded  $p = 0.038$  and Z-score = -1.77 with  $N = 129$ ; and E.K.  $p = 0.039$  and Z-score = -1.77 with  $N = 49$ . No difference in median scores ( $p = 0.48$ , Z-score = 0.69) or score distributions ( $p = 0.37$ ,  $ks\_stat = 0.1595$ ) were found.

**Discussion:** The overall behavioral result of this experiment is suggestive of the psi hypothesis, with significant deviation from chance across trials regardless of condition. Furthermore, we found no evidence for an effect for trials that did not show the target location to the agent, but a very reliable effect for trials that did. It is remarkable that participant B.D. was able to perform well at a psi task at a later stage of his life, approximately 50 years after his latest laboratory experiment. This indicates that high performance at psi tasks in a laboratory context can be a persisting individual trait.

It is interesting to note that for the present study, B.D. had told us that he thought having M.B. in particular as an agent might help him. The fact that the effect appeared with both agents is reassuring in that it blunts any concerns that B.D. and M.B. might have found a way to cheat, but it also raises the question of whether what really mattered was simply the display of targets in the agent room, rather than anything the agents themselves did.

The agent effect observed in the present study surprised us, in particular given that B.D. had performed well in clairvoyance tasks in the past (Kanthamani & Kelly, 1974a, 1974b; Kelly et al., 1975). The literature is unclear regarding the role of the agent (sender) in ESP tasks. Honorton (1995) reported that ganzfeld experiments with a sender have stronger results in a meta-analysis. Further studies have failed to confirm this observation, although some sender-receiver parameters appear to have an effect (see Pooley et al., 2023).

## ABSTRACTS OF BRIEFS

The presence of a reliable behavioral effect is encouraging for the subsequent analysis of the EEG data, whose aim is to identify trial-wise EEG features associated with higher task performance.

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## **FROM BRAIN WAVES TO SEISMIC BEATS: A PROPOSAL FOR STUDYING ANTICIPATORY PHYSIOLOGICAL ACTIVITY THROUGH EARTHQUAKE-RELATED STIMULI**

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**Introduction:** Anticipatory Physiological Activity (APA), the ability of the autonomic nervous system to predict future events through physiological responses, has garnered research interest due to its implications for understanding human intuition and preconscious processing. Numerous studies have explored a variety of physiological markers, including measurements of brain activity using functional magnetic resonance imaging (Bierman & Scholte, 2002) and slow cortical potentials through electroencephalography (McCraty et al., 2004a, 2004b; Radin & Lobach, 2007; Radin et al., 2011). Additional physiological indicators such as pupillary dilation, eye movements, and spontaneous blinking have been assessed using electrooculography (Radin & Borges, 2009; Tressoldi et al., 2011). Other studies have measured skin conductance levels with an electrodermograph (Radin, 1997; James et al., 2003; Radin, 2004; McCraty, et al., 2004a, 2004b), as well as heart rate and its variability through electrocardiography (Radin, 1997; McCraty, et al. 2004a, 2004b), and blood volume pulse with photoplethysmography (Radin, 1997).

**Method:** Despite advancements in APA research, challenges remain in replicating the phenomena and confirming findings across different stimuli and physiological responses. This study aims to build upon previous research (D'León & Izara, 2018) to develop software that generates random inputs for the stimuli and intervals using a Psyleron REG-1 or TrueRNG v3 to explore the physiological activity associated with APA. We will measure the skin conductance level (SCL) using a Neulog's GSR logger sensor NUL-217, heart rate variability (HRV) using Neulog's Heart Rate & Pulse logger sensor NUL-218, and electrical activity in the frontal and frontotemporal regions of the brain (FP1, FP2, F7, F8) using OpenBCI's Ganglion Board and electroencephalography (EEG) headset. Previous studies have shown that activity in these brain regions relates to specific cognitive processes, such as thinking and anticipation.

The new experiment we are designing will test the fear associated with earthquakes among a cohort from Mexico City, a location notably prone to seismic activities. We will incorporate both auditory and visual stimuli to evoke responses. Auditory stimuli will consist of the national "seismic alert" sound to simulate an earthquake warning, contrasted with natural sounds serving as control stimuli. Visual stimuli will include mundane images (e.g., walls, glass, a book) as controls, alongside a collection of excitatory images depicting earthquake-related scenarios. To assemble this visual dataset, an online survey will solicit ratings from Mexican citizens on these images based on their visual correlation to earthquake-induced fear, selecting the most impactful images for the experimental dataset. We decided to create a new visual dataset instead of using the International

## ABSTRACTS OF BRIEFS

Affective Picture System (IAPS) or the Open Affective Standardized Image Set (OASIS; Kurdi, et al., 2017) as it fell short of images that could elicit more arousal analyzing a particular segment of personality traits or set of fears.

Sessions will consist of an initial ten-second delay to decrease the expectancy effect, followed by a finite number of free-running trials. Each trial will begin with a three-second blank screen and no sound: then the computer will randomly select a pair of visual and auditory stimuli and present them for three seconds. Finally, the screen will go blank again, and there will be no sound for nine seconds, plus a random interval of zero to five seconds (Fig. 1). In summary, each trial will consist of a period of 15-20 seconds. This design will be double-blind, in the sense that neither the participant nor the experimenters will know in advance which stimuli will be displayed in each session, in what sequential order, or in what timeframe due to the random intervals.

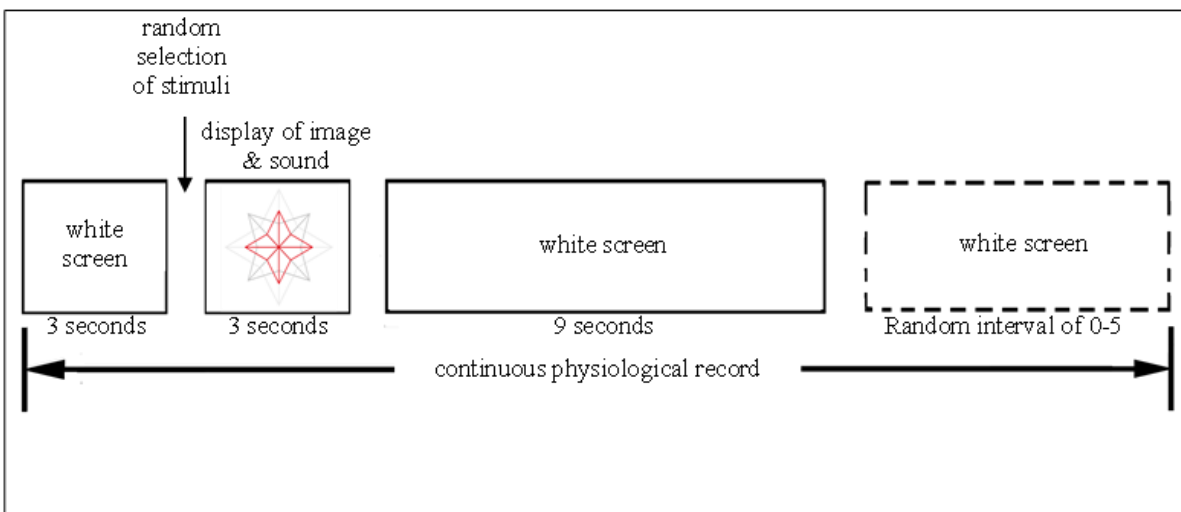


Fig. 1. Diagram of the free-running PAA experimental protocol.

For the physiological responses (PR) the developed software used statistical analysis based on *changes in normalized physiological responses* ( $\Delta PR$ ) and *randomized permutation analysis* (Blair & Karniski, 1993) found in previous experiments (Radin, 2004; McCarty et al., 2004a; Radin & Lobach, 2007; Radin & Borges, 2009). Normalized PR is used rather than absolute PR because, in an analysis that combines data across subjects, a few participants with high magnitude or high variance PR could otherwise strongly skew most data from other, less labile participants.

**Results:** Preliminary results consisting of the final visual and auditive dataset will be presented at the convention, as we are still collecting funds to complete the experimental setup. We expect to obtain valuable feedback from our peers during the event.

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# PENROSE'S NEO-PLATONIC ONTOLOGY AS A FOUNDATION FOR A SCIENCE OF PARAPSYCHOLOGY

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**Introduction:** A large number of experimental results over many decades validate the existence of psi phenomena (Cardeña, 2018). And yet dominant materialist perspectives in science prohibit incorporating them into our theories of reality (as pointed out by Wahbeh et al., 2022). How can we situate the many decades of psi research results into a future ontology of science?

I propose that an existing theory of consciousness may be equipped to inform the required ontology. This perspective provides a way to address two hard problems of consciousness: *qualia*, the subjective experience of being, and *agency* or free will. To connect these properties with the physical world I propose the use of “quantum collapse.” The idea that quantum collapse could be microphysically relevant to conscious processes goes back to the founding of quantum mechanics and has been continually advocated in various ways since then, for example, by Werner Heisenberg (1959), John von Neuman in the 1950s, Roger Penrose (1989, 1994), and others (such as Brophy, 1998). This is an interesting approach because it is through quantum collapse processes that nonlocal consciousness phenomena, like psi, could happen (Rosenblum & Kuttner, 2006).

Quantum collapse (also called quantum state reduction) is a fundamentally mysterious process, even before we connect it with models of consciousness. It is the process by which quantum superpositions reduce (or “collapse”) to the classical physical world of everyday experience. Quantum collapse has been plausibly related to consciousness in two different ways:

- *Consciousness causes collapse* models: For example, Chalmers & McQueen (2021) have recently followed up von Neumann and Wigner’s ideas and advanced models in which consciousness disrupts quantum superposition, causing collapse.
- *Collapse generates consciousness* models: This is Roger Penroses’ approach, in which fluctuations in quantum gravity causes collapse events that generate what they call proto-



conscious experiences (Penrose, 1994). Stuart Hameroff supplied plausible microstructures in the brain, and in biology generally, that can supply a kind of scaffolding for Penrose-type quantum gravity collapse events that become “orchestrated” sequences of events that they propose is the biological experience of being (Hameroff & Penrose, 2014).

- In these models, the collapse events supply a noncomputable process that can supply a locus for connecting biophysics with nonphysical-metaphysical processes, such as Platonic Ideals, as Penrose suggests. This is a key point that negates, alleviates, or transcends the widely held belief that the physical universe must be causally closed. This notion of causal closure of the physical, the belief that anything and everything that ever happens in physical reality is absolutely and only caused by a preceding set of events in physical reality, is the primary reason why many scientists believe that parapsychological phenomena are impossible.

**Proposed Ontology:** The scientific “hard problems” of how conscious phenomenal experience is instantiated, and how agency occurs in the physical world, remain unsolved key aspects of reality. This presentation discusses an ongoing project to develop a meta-theory that can sustain the existence of conscious agency, called Actual-Theory (A-Theory). Steps in the development of A-theory include: 1) incorporate the non-causal-closure of the physical world established by modern physics, through quantum collapse; 2) connect macroscopic processes to the Born Rule (Born & Jordan, 1925) interpretation for the “collapse” process of the quantum wave function; 3) connect with esoteric metaphysical systems’ descriptions of conscious entities that act causally into the physical domain, and consciousness “unitive” stages as described by advanced meditators.

I situate the Hameroff & Penrose (2014) Orchestrated Objective Reduction (Orch-OR) model within the A-theory paradigm, and I examine Penrose’ (1994) model of three interactive reality domains (physical world, mental world, Platonic world). Presentations of the Orch-OR model have focused on connections of the physical world to the mental world. Penrose also explored correspondences between the mental and Platonic worlds. This presentation explores approaches to the Platonic, mental, and physical worlds by introducing a fundamental property of the phenomenal world that instantiates conscious experience of being and generates fields in the consciousness domain that can act causally with agency into the physical domain. This procedure is analogous to James Clerk Maxwell (1873) introducing the property of electric charge to explain electromagnetism. The new property could be called “noetic charge” and defined as an ontic property of matter that instantiates experience of being. I further explore the contemporary possibility of noetic charge and noetic field-based theory in the historical context of other new properties that have been successfully introduced to physics and a fundamental theory of reality.

Penrose’s inclusion of the Platonic, physical, and mental domains as three fundamental and irreducible ontological domains of reality that operate interactively to “tri-create” reality, is an alternate approach to addressing the “hard problem” of developing an ontology of consciousness. The traditional ontologies of materialism, idealism, and dualism are clearly differentiated from this proposal. This type of noetic-charge and noetic field-based theory moves us a step closer to a theory of reality that includes mechanisms for how psi phenomena work. Then given this way to articulate mechanisms, experimental tests for it can be devised.

## ABSTRACTS OF BRIEFS

Idealism that eliminates the physical domain of reality and posits with fundamental existence only the consciousness domain of reality does not offer any way to advance our understanding of how psi phenomena happen, or any way to test its own foundations. A-Theory can be seen as consistent with dual aspect monism, in which the conscious-experience domain and the physical domain arise out of the Platonic domain. And A-Theory with the Platonic domain included offers a path toward developing testable theories of how psi works, whereas naked dual aspect monism offers only a mystery as to that which is beyond the physical and the experiential.

**Summary:** A tripartite ontology proposed as a possible model of consciousness can also accommodate psi phenomena. A scientifically complete description of this ontology will require the introduction of a new property or properties that operate in a domain of reality identified by Penrose as the Platonic World, which is a domain of reality that coexists with the physical domain, is not empirically manifest, is not subjectively manifest either (is not the locus of experience) but does interact causally with the physical and the conscious-experiential domains.

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## USING ONLINE TASKS TO TEST THE ROBUSTNESS OF INTUITIVE ABILITIES

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**Introduction:** The first known use of computer networks to conduct psi experiments was in 1972 by Jacques Vallee (1977), an internet pioneer who conducted a remote viewing study using a forerunner of the Internet (the ARPAnet). In 1977, Dean Radin used the PLATO computer-based education network at the University of Illinois to provide public-access precognition tests (Johnson, 1977). Some twenty years later, other public-access web-based psi experiments were reported by Bierman (1995) and Rebman et al. (1996). Starting in 2000, Radin developed and launched a suite of web-based psi experiments dubbed “GotPsi.” By 2020, over 250 million individual trials were collected from more than 300,000 people around the world, yielding significant results for some of the tests (Radin, 2019). The GotPsi website and the other online experiments could have potentially been used to identify psi talents. However, they were not designed for that purpose, so contact information was not systematically collected, making it impossible to contact individuals who appeared to be performing well. The current project used modern online testing techniques to identify people with potential psi talent and to evaluate predictor variables associated with such individuals.

**Methods:** The tasks described involve a variety of experimental setups aimed at testing participants' ability to predict or influence future events through tasks ranging from photo and card guessing to location identification and interacting with a digital environment to influence outcomes. Task 1 and Task 2 explore "remote viewing" abilities, with Task 1 requiring participants to guess which of five images will be shown next and Task 2 involving more complex predictions about unseen images using shapes, descriptors, and keywords, with performance assessed against a pre-established benchmark. Tasks 3, 4, and 5 are variations of card-guessing, focusing on the ability to predict the appearance of specific cards or images, with different approaches to measuring hit rates and calculating statistical significance through  $z$ -scores.  $Z$ -scores were used because they could easily be pooled across tasks using the Stouffer  $z$  method. Tasks 6 through 8 explore different phenomena: Task 6 tests the ability to guess a randomly selected location, Task 7 simulates a lottery to assess prediction accuracy, and Task 8 examines the potential for psychokinetic influence over digital bubble movement, with outcomes measured against chance expectations and statistical analysis providing feedback on performance. We tested the following predictors of psi performance: gender, meditation status (binary), paranormal belief and experience (2 items), personality (5 items), and self-transcendence (1 item). The other personality traits mentioned in the previous paragraph were not included in the pre-registration document, so they

## ABSTRACTS OF BRIEFS

were not included in our tests. However, the data from these questionnaires may be used in future IONS Discovery Lab (IDL) publications.

The study had five specific aims: 1) develop and integrate various psi tasks into a single online platform; 2) develop methods to analyze the data to identify talented individuals among a large sample of volunteers ( $n=1014$ ); 3) select 50 of the top-performing individuals (talents); 4) assess if above-chance performance was consistent in test-retest scores of talents; and 5) evaluate potential personality predictors (if any) of high performance (this uses the Big 5 personality questionnaire).

**Results:** In phase 1, we recruited 1014 participants over ten months. We tested again 50 of the best phase-1-participants in phase 2. The performance of two of the 8 tasks (remote viewing and psychokinetic) was above chance expectations in phase 2 (Table 1). However, it fell below the significance threshold after we corrected for the fact that multiple tasks were tested. Considering all the tasks and participants, we observed that personality conscientiousness was negatively correlated with increased performance, and agreeableness positively correlated with higher performance.

**Discussion:** This study marks a significant advancement in parapsychology through its innovative use of an online platform for large-scale participant data collection and a novel method to identify individuals with high initial psi task performance despite a potential methodology limitation of selection bias. The research suggests the need for larger sample sizes for a more comprehensive understanding of psychic phenomena, as the current sample of 1014 may not sufficiently represent the estimated prevalence of psychic talents in the general population, highlighting the importance of study replication with more participants for enhanced statistical power and generalizability.

	Phase 2			
	$z$	Conf. Interval	$p$ -value	$p$ -value Bonferroni
Remote_viewing	0.28	-0.01 to 0.58	0.0284	0.1704
Long remote viewing	-0.28	-0.52 to -0.03	0.9854	1
Location	0.16	-0.12 to 0.44	0.1272	0.7632
Bubbles	0.24	-0.02 to 0.51	0.0347	0.2082
Card	-0.03	-0.25 to 0.19	0.6439	1
Sequential Card	-0.07	-0.41 to 0.24	0.6542	1
Stouffer $z$ selected	0.13	-0.18 to 0.42	0.2028	

Table 1. Performance during phase 2 of the top performing participants in phase 1 for 6 of the 8 tasks. Two of the tasks have significant results ( $p$ -value column), although these results do not resist correction for multiple comparisons ( $p$ -value Bonferroni column).

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## COMPUTER SIMULATION OF PK (PSYCHOKINESIS): NEW EXPERIMENTAL TOOL FOR PSI RESEARCH

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**Introduction:** Modelling reality is what we do as scientists. To facilitate our comprehension of the world, we build models based on conceptual metaphors that are familiar to us. In Newton's era, we imagined the universe as a clock. In Einstein's, we established the standard model of particle physics. Now that we are in the information age, we have new concepts available to us, such as the computer, information processing, simulation, and virtual reality. Unsurprisingly, these new concepts inspire us to build new models of the universe. One such model is the hypothesis that the perceived reality is rendered by the Platonic computer located in the realm of Forms.

According to Plato, physical existence is a shadow, or poor imitation, of the ideal realm of existence. Archetypes and symbols exist in the realm of Forms, which operates as the fundamental reality. Material objects in the physical reality resemble their perfect archetypes to varying degrees. For every material entity we perceive, there is a corresponding archetype in the realm of Forms. Based on such principle, we postulate that the everyday material computer made of silicon is only a poor imitation/simulation of the perfect abstract metaphysical computer that exists in the realm of Forms. We call this abstract metaphysical computer the "Platonic computer" (Duan, 2022). We hypothesize that it is the Platonic computation that is the real cause of all phenomena, including psi. The hypothesis postulates that the psychic agent's mental interaction with the Platonic computer causes PK phenomena by manipulating the data/parameter in the program of the Platonic computer. In this paper, we discuss how PK can be elucidated through the lens of the Platonic computation model. We also explore how the proposed hypothesis can be tested using computer simulation.

**Methods:** In modern science, simulation is used to imitate or represent real-world processes, systems, or phenomena using a mathematical model or computer program. It involves creating an artificial scenario that imitates the behavior of a natural or physical system to observe, analyze, and understand its dynamics. For example, a parabola printed on a piece of paper can be a

## ABSTRACTS OF BRIEFS

simulation of the trajectory of a real-world projectile fired at an angle in a uniform gravity field. A hurricane rendered on the computer screen can be a simulation of a real-world hurricane. Although we will not get wet or blown away by the simulation of the hurricane on the computer screen, we can still gain insights into the dynamics of the hurricane so that weather forecasts can be made with a reasonable level of accuracy.

Computer simulation is now accepted as a type of experiment in mainstream science, although it differs from traditional physical experiments in some ways. While traditional experiments involve manipulating real-world objects and observing their reactions in a controlled environment, computer simulations involve creating a virtual environment and observing the digital entities within that environment.

Computer simulations are extensively used for studying complex systems that are difficult or impossible to replicate in a laboratory setting. They are recognized as a powerful tool that allows for a level of control and repeatability that might be costly, challenging, or even impossible to achieve in the real world. For instance, in astrophysics, computer simulations are employed to study the formation of galaxies, stars, and other celestial bodies. Hypotheses about the evolution of the universe, the structure of galaxies, and the behavior of black holes have been tested through computer simulations. Simulations in physics are used to test hypotheses about the behavior of particles and the properties of materials. Examples include simulations of particle collisions in accelerators or the behavior of materials under extreme conditions. In engineering, simulations are used to test hypotheses related to the performance of structures, fluids, and mechanical systems. This includes simulations of aerodynamics, structural integrity, and fluid dynamics.

In the parapsychological study of PK, we are not able to reproduce the results on demand. It is also challenging or even impossible to impose an appropriate level of control on the mental states of PK agents. We, therefore, propose to use computer simulation as a supplementary experimental tool to study PK. According to the Platonic computation model (illustrated in Figure 1), the physical computer is a poor imitation/simulation of the Platonic computer. The former renders the virtual reality, and the latter renders the physical reality. Thus, at one level, virtual reality can be manipulated by manipulating the physical computer. At another level, physical reality can be manipulated by manipulating the Platonic computer. The proposed methodology includes computer simulation of several aspects of psi. Firstly, the outward appearance of psi phenomena can be readily demonstrated on a computer screen by running a simulation. Secondly, we can demonstrate that manipulation of data/parameters in the program of the physical computer causes virtual Psi phenomena, this simulates how real-world psi phenomena are rendered by the Platonic computer. Thirdly, by manipulating the physical computer with verbal instruction, such as in the case of operating Open AI Sora, we can simulate how PK agents mentally interact with the Platonic computer.

**Results:** Computer simulations have been performed to illustrate that manipulating data/parameters in the program of the physical computer causes a range of virtual psi phenomena, including the following:

- Appearance and disappearance of virtual objects (simulation of real-world apparitions)
- Apparent spontaneous movement of virtual objects (simulation of real-world objects moving through space without interaction with physical contacts/forces)

- Changes in the solidity of the virtual objects (simulation of real-world objects passing through solid barriers)

Manipulation of data/parameters in the computer program that causes the above-described virtual psi phenomena is presented.

**Discussion:** Although we rely on models to describe perceived reality, we must also remember that models are not reality (Duan, 2024). There is no point in arguing if the universe is a clock, a set of particles, or an output of computation. All these models are tools to be deployed to deal with the unknown and to make discoveries. And the more tools we have, the more effective and insightful we can become.

The Platonic computation model offers a new perspective from which we will have a new understanding of the universe. We can explain many phenomena we could not explain before, including psi. According to the Platonic computation model, ESP can be understood as the result of psychic agents accessing the database of the Platonic computer. On the other hand, PK can be interpreted as the result of the psychic agent's manipulation of the data/parameter of the program in the Platonic computer.

All models are hypotheses that need to be tested, the Platonic computation model is no exception. Although we cannot access the Platonic computer by our normal senses, we have access to its poor imitation/simulation, the physical computer. By manipulating the physical computer to render virtual reality, we can simulate how the Platonic computer renders physical reality. It is well known that control and repeatability are major challenges in researching Psi phenomena in general and PK in particular. By adopting computer simulation as an experimental tool, we can gain insights into the mechanism of these psi phenomena under well-defined and controlled experimental conditions. Computer simulation can help us to study psi at multiple levels. At the phenomenological level, we can readily demonstrate the outward appearance of a psi effect on a computer screen to an observer. At the causation level, we can show what specific changes in data/parameters in the program can transform the rendered reality from normal phenomena that obey the classic laws of physics to paranormal phenomena that disobey the classic laws of physics. These changes in data/parameters in the program in the physical computer serve as a simulation of what occurs in the Platonic computer during real-world Psi events.

As computer simulation is now accepted as a legitimate experimental tool in mainstream science and engineering, it is time to introduce this powerful tool into parapsychology research. It can be envisaged that comparable to the effective use of computer simulation in other well-established science disciplines, incorporating computer simulation into the toolset of parapsychological research will also be a hugely rewarding exercise. The new tool will provide a new lens through which more discoveries will be made about psi. In doing so, we will greatly widen our horizons and broaden the scope of scientific inquiry.

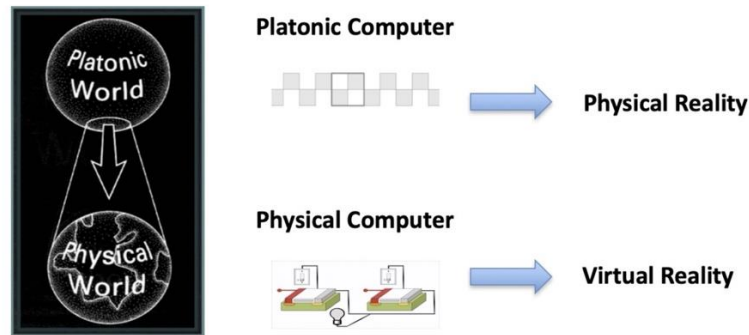


Fig. 1. Illustration of the Platonic computation model. The physical computer is a simulation of the Platonic computer. The former renders virtual reality, whereas the latter renders the physical reality.

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## BEYOND CHANCE: DEMONSTRATION OF A NEW MATHEMATICAL ESTIMATOR FOR PSI PHENOMENA

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**Introduction:** The present report aims to review and justify the mathematical proposal for the use of a *three-parameter logistic model* (3PL) belonging to formal *item response theory* (IRT) in the measurement of *anomalous cognitions* (also called *psi* phenomena). Specifically, through demonstrations on how to estimate the *a*, *b* and *c* parameters of IRT, a new equation (called *c factor* or CF) is developed to measure the number of deviations of the probability associated with the level of aptitude (score  $\theta_i$ ) from the conditional probability of obtaining random hits  $P_j(c_j)$  and the complementary probability  $1-P_j(c_j)$  of making correct answers assuming that the assessed aptitude (in this context, the anomalous cognitions) intervenes. The new equation allows identification of when the presumed psychic ability or anomalous cognition may have occurred. This report offers the foundation on how to calculate CF mathematically and obtain it for its application, not only in anomalous cognition experiments, but also as a new innovative indicator that aims to foster advances in the measurement of any type of cognitive ability.



The development of a new statistical estimator for psi phenomena, particularly *anomalous cognitions* (AC), aims to move beyond traditional reliance on chance-based thresholds. Supported by prior research, including Hyman (1985, 1996) and others (e.g., Houran et al., 2018), this initiative emphasizes the necessity for advanced statistical methods that better reflect reality and align with mathematical measurement theories.

The report proposes adopting a three-parameter logistic model (3PL) from *item response theory* (IRT; Embretson & Reise, 2000) as a novel method for measuring ACs, in contrast with *classical test theory* (CTT). IRT offers several advantages over CTT: (a) *invariance of parameters*—IRT assumes item parameters remain constant across different samples, providing stable and accurate scoring of individuals' true abilities, unlike CTT where trait levels might vary with the test items' characteristics; (b) *trait-dependent accuracy*—in IRT, the accuracy of responses correlates directly with an individual's trait level, allowing for more precise differentiation of abilities, a feature CTT lacks, particularly in cognitive assessments; and (c) *model fit indicators*—IRT includes indicators to assess data-model fit, enhancing model accuracy and applicability, compared to CTT's reliance on chance and frequentist probability, which often requires post-hoc adjustments. These features make IRT a more precise and reliable approach for assessing true abilities in behavioral sciences than CTT. This brief report introduces an innovative indicator designed to improve the statistical detection of ACs, referencing studies and historical contexts (Escolà-Gascón et al., 2023; Targ & Puthoff, 1974; Utts, 1996). The novel estimator is named the *c factor* (CF), providing its logical basis and mathematical proofs, marking a potentially significant advancement in psi research.

**The *c factor* (CF)**

At this point I want to demonstrate and rationally justify why  $1-P_j(c_j)$  could be considered as the probability (or the level) at which the evaluated aptitude intervenes in the response that the subject decides to give. Some statisticians and mathematicians in IRT confuse  $1-P_j(c_j)$  with  $Q_j(c_j)$  ( $Q_j$  being the probability of error (*E*)). We should bear in mind that  $P_j(c_j)$  is a conditional probability, whose interpretation can be summarized as follows (see **Table 1**):

**Table 1**

*Logic and contingencies that allow us to prove that  $1-P_j(c_j) \neq Q_j(c_j)$ .*

	Low $\theta$ scores ( $\theta \downarrow$ )	Non-low $\theta$ scores ( $\theta \uparrow$ ) <sup>a</sup>
	<i>Pseudo-guessing answers</i>	<i>Pseudo-non-guessing answers</i>
Hits (A)	$P_j(c_j) = P_j(A_j/\theta \downarrow)$	$1-P_j(c_j) = P_j(A_j/\theta \uparrow)$
Misses (E)	$1-Q_j(c_j) = Q_j(E_j/\theta \downarrow)$	$Q_j(c_j) = Q_j(E_j/\theta \uparrow)$

<sup>a</sup> non-low  $\theta$  scores are not necessarily high scores. However, non-low scores imply sufficiently moderate or high  $\theta$  scores to consider that the participant's cognitive ability has had to intervene in some way.

Therefore, we know that  $1-P_j(c_j) \neq Q_j(c_j)$  because they are states (hit-miss) conditional on *pseudo-guessing answers* or on low  $\theta$  scores. Understanding this point is crucial, because if  $P_j(c_j)$  were a simple probability (i.e., unconditional represented as  $P_j(A_j)$ ), then yes, it would hold that 1-

## ABSTRACTS OF BRIEFS

$P_j(c_j)=Q_j(c_j)$ . However, this is not the scenario for the parameter  $c_j$ . This is explained to avoid confusion and to demonstrate that interpreting  $1-P_j(c_j)$  as the probability of being right without the intervention of *pseudo-guessing answers* (i.e., assuming that the evaluated aptitude intervenes) is not an incorrect logic (a very different matter is whether this proposal represents the ideal estimation that would be expected in this type of study object). In practical terms, I propose to employ the three-parameter model, use the parameter  $c_j$  and employ its complementary probability  $1-P_j(c_j)$  as a possible estimator of the probability ( $P$ ) at which AC would be activated in the responder and intervene for each of the experimental trials executed in the remote viewing domain (which would be equivalent to the items of any cognitive test). Then, following the logic of **Table 1** and considering the parameter  $c_j$  (**with a negative sign**), we have mathematical reasons to propose the following formula for estimating the probability associated with the occurrences of the ACs  $P(AC)$ :

$$P_j(AC) = 1 - (e^{c_j}) = 1 - P_j(c_j)$$

This is because

$$1 - (e^{c_j}) = 1 - P_j(c_j) = P_j(A/\theta \uparrow)$$

and in the same way

$$P_j(c_j) = e^{c_j} = P_j(A/\theta \downarrow)$$

Therefore, it is possible to state that

$$P_j(AC) = P_j(A/\theta \uparrow)$$

Knowing this, I propose to obtain a quotient relating  $P(AC)$  to the probability belonging to the trait level of the respondent, which can be represented as

$$P_i(\theta_i) = c_j + (1 - c_j) \cdot \frac{1}{1 + e^{-Da_j(\theta-b)}}$$

The subscript  $i$  refers to the respondent. Therefore, the quotient that I suggest would be represented as a factor (CF) that would allow us to know the number of decimal places and units that a subject would be distant from the probability of responding randomly ( $P(c)$ ) to the test or from the probability of using the aptitude that the test examines ( $1-P(c)$ ). If the CF is below 1 it will indicate that the respondent has not passed either of the above two probabilities. Conversely, if the score is greater than 1, it will mean that the respondent has obtained an aptitude level that exceeds the probabilities of randomly answering and applying the aptitude being tested. In the case of  $1-P(c)$ , exceeding the threshold would imply increasing the certainty that the participant has used the tested skill. For instance, if the aptitude were an AC, then I could mathematically estimate by CF when ACs may or may not occur. The CF equation corresponds to the acronym *c factor* and can be calculated as follows:

We have for

$$P_j(c_j)$$

the following equation for each item ( $j$ ):

$$CF_{01_j} = \frac{c_j + (1 - c_j) \cdot \frac{1}{1 + e^{-Da_j(\theta - b)}}}{e^{c_j}} = \frac{P_i(\theta_i)}{P_j(c_j)}$$

The above equation is applicable to each of the items, but we may obtain a general estimate for the whole test if we follow the logic and principles of geometrics:

$$CF_{01} = \frac{\sqrt[n]{\prod_{j=1}^n c_j + (1 - c_j) \cdot \frac{1}{1 + e^{-Da_j(\theta - b)}}}}{\sqrt[n]{\prod_{j=1}^n e^{c_j}}} = \frac{\hat{P}_\Pi(\theta_\Pi)}{\hat{P}_\Lambda(c_\Lambda)}$$

The denominator of the above equation is known as the geometric mean, and for

$$1 - P_j(c_j)$$

the following equation for each item  $j$  is stated as

$$CF_{10_j} = \frac{c_j + (1 - c_j) \cdot \frac{1}{1 + e^{-Da_j(\theta - b)}}}{1 - e^{c_j}} = \frac{P_i(\theta_i)}{1 - P_j(c_j)}$$

and the equation for the whole test is as follows:

$$CF_{10} = \frac{\sqrt[n]{\prod_{j=1}^n c_j + (1 - c_j) \cdot \frac{1}{1 + e^{-Da_j(\theta - b)}}}}{1 - \left( \sqrt[n]{\prod_{j=1}^n e^{c_j}} \right)} = \frac{\hat{P}_\Pi(\theta_\Pi)}{1 - \hat{P}_\Lambda(c_\Lambda)}$$

Where

$$\hat{P}_\Pi(\theta_\Pi)$$

is the probability of the degree to which the respondent possesses the aptitude evaluated by the test,

$$\hat{P}_\Lambda(c_\Lambda)$$

is the geometric average of the probability of performing the test correctly using *pseudo-guessing answers*, and

$$1 - \hat{P}_{\Lambda}(c_{\Lambda})$$

is the geometric average of the probability of performing the test correctly using the *assessed skill*. The notation  $\Lambda$  refers to the set of items, which is actually a linear average.

Both  $CF_{10}$  and  $CF_{01}$  have versions designed for application to individual cases, which transforms the equations into highly useful idiographic estimators. These estimators are used to assess the degree to which a specific skill or cognitive ability is present in an individual. The equation for  $CF_{01}$  was as follows:

$$CF_{01_i} = \frac{c_{i_j} + (1 - c_{i_j}) \cdot \frac{1}{1 + e^{-Da_{i_j}(\theta - b)}}}{\sqrt[n]{\prod_{j=1}^n e^{c_j}}} = \frac{P(\theta)}{\hat{P}_{\Lambda}(c_{\Lambda})}$$

The equation for  $CF_{10}$  is as follows:

$$CF_{10_i} = \frac{c_{i_j} + (1 - c_{i_j}) \cdot \frac{1}{1 + e^{-Da_{i_j}(\theta - b)}}}{1 - \left( \sqrt[n]{\prod_{j=1}^n e^{c_j}} \right)} = \frac{P(\theta)}{1 - \hat{P}_{\Lambda}(c_{\Lambda})}$$

The key difference with these last two equations compared to the others is that they aim to derive a new measure of  $\theta$  to estimate the degree to which a particular cognitive process is present in an individual.

### What the *c factor* provides and how to use it

The *c factor* is a theoretical proposal extending beyond ACs to serve as an indicator for conventional cognitive abilities assessed using a three-parameter IRT model. The  $CF_{01}$  and  $CF_{10}$  estimators employ the same mathematical principles, though  $CF_{01}$  aligns more closely with classical models. Specifically, a  $CF_{01}$  value greater than 1 suggests a higher probability than estimated, indicating a larger effect size and greater statistical certainty of the cognition occurring. Conversely, a  $CF_{10}$  value greater than 1 suggests that the respondent's psychic functioning surpasses not just the chance of correctness but the actual probability of the AC occurring.

The  $CF_{10}$  estimator measures the degree to which ACs are identified, assuming that high theta scores indicate likely anomalous reasoning. This estimator provides a confidence value on the occurrence of such cognitions—a feature not present in Bayesian models which often rely on arbitrary adjustments of prior distributions. Deviations greater than 1 in  $CF_{10}$  increase the certainty of ACs occurring, thus enhancing the potential for successful application in accessing distant information.

Finally, the  $CF_{10}$  estimator, which measures ACs, faces two primary challenges. *Firstly*, it relies on measuring “distances” to determine occurrences, necessitating future research to define appropriate thresholds for differentiating significant from minor events. *Secondly*,  $CF_{10}$ 's use is restricted to three-parameter logistic models in IRT, requiring strict adherence to IRT standards

and model calibration, which complicates its application and the achievement of reliable parameter estimates.

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## EXCEPTIONAL EXPERIENCES AND BONDING STYLES: A PILOT STUDY

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**Introduction:** The Institute for Frontier Areas of Psychology and Mental Health (IGPP) offers free information and counseling, which is requested by several hundred people with exceptional experiences (ExE) every year (Bauer & Fach, 2020). The average age of clients is 43 years, and two-thirds of them are women. Most clients are burdened not only by ExE but two-thirds also by their general life circumstances. Around 40% had previously undergone psychotherapeutic or psychiatric treatment, and about 25% actually received psychotherapeutic care. Even though 50% of the clients show possible signs of mental disorders when contacting the IGPP, in the majority of cases, there is no direct link between the ExE reported in counseling and the problems that gave rise to psychotherapy. Analyses of around 2,400 counseling cases show that six ExE-patterns, which essentially make up the IGPP counseling volume, correlate significantly with characteristics of personal autonomy and social bonding (partnership, marital status, living situation, etc.). Furthermore, the biographical background of clients often indicates links between ExE and negative or traumatic bonding experiences in childhood (Fach, 2022). In this research brief, I will present an ongoing pilot study being conducted at IGPP to examine the relationships between the bonding styles of clients and their specific ExE-patterns.

**Background:** Inspired by Metzinger's (2003) theory of mental representations, Fach (2011) developed the *Model of Phenomenon Basic Classes* (MPBC). According to the MPBC, ExE can be classified as *internal phenomena* in the *self-model* or *external phenomena* in the *world-model* as components of an overall *phenomenal reality model*. Furthermore, phenomena can manifest as deviations from ordinary psycho-physical relationships between self and world, either as *coincidence phenomena* (e.g. extrasensory perceptions) or as *dissociation phenomena* (e.g. out-of-body experiences). Statistical and phenomenological analysis of 2381 counseling cases (Fach, 2022), documented between 1996 and 2014 with a classification system based on the MPBC, showed that six typical ExE-patterns cover more than 95% of the IGPP counseling requests and that they are highly significantly correlated with different characteristics of social bonding like partnership and marital status.

“Bonding” is a more general term than “attachment” and applies to all kinds of human and social relationships. Attachment research describes typical attachment patterns of infants (Ainsworth et al., 1978), which are the basis of bonding styles in adults. People with a *secure-autonomous* bonding style are most likely to have close and satisfying relationships that they characterize as trusting and intimate (Hazan & Shaver, 1987; Simpson, 1990). In samples of married couples and intact partnerships, often more than three-quarters of secure-autonomous bonding styles can be found (Crowell et al., 2002)). People with an *insecure-dismissing* bonding style tend to avoid close relationships and emotional dependency. For example, they strive for control in helper roles, both to satisfy their bonding needs and to protect their autonomy. Clients with an *insecure-enmeshed* bonding style have ambivalent attitudes toward their partners and are torn between demanding and submissive behavior. They avoid direct conflict and confrontation for fear of rejection and separation.

Assuming that people with insecure bonding styles are less likely to be in stable relationships, the data indicate an increased proportion of insecure bonding in the IGPP clientele compared to the general population. In Germany, about 55% of the adult population is married, and only 25% live alone (Statistische Ämter des Bundes und der Länder, 2015). In contrast, only 40% of the IGPP clients are married, and 46% live alone.

Autonomy and bonding are to be understood not only as basic human needs but, from a system-theoretical perspective, as general structural determinants of life. Organisms as autopoietic systems interact in structural coupling with their environment (Maturana & Varela, 1987)) and on the human level, autonomy and bonding manifest as self-determination and interpersonal relatedness (Ryan & Deci, 2017). Phenomenologically, the six ExE-patterns form a spectrum of two continuums, with increasing deviations from usual mental representations of autonomy in the self-model and bonding to the world-model (Fach, 2022). On an internal ExE-continuum of phenomena in the self-model, bonding to the world-model starts with *extrasensory perceptions* and then increases with *internal presence and influences* that threaten autonomy in the self-model. Clients experiencing the second ExE-pattern are generally characterized by a tendency toward social withdrawal. In typical cases, they have always been careful to keep a distance and avoid closeness, but an encounter or relationship with a person triggers extremely negative feelings of influence in them, which cannot be ended even by breaking off contact. With the ExE-pattern of *mediumship and automatism*s, clients feel possessed, and the autonomy of the self-model is displaced into the world-model through psychophysical dissociation phenomena.

Conversely, on an external continuum, autonomy manifests in the world-model with *meaningful coincidences*, which seem to be arranged and addressed to the self-model by a higher order. *Poltergeists and apparitions* that override lawful physical bonding represent further increased autonomy. Such external phenomena typically occur in social systems with a strong bonding component. Couples with young children under psychosocial pressure or families with adolescents in puberty are particularly prone to this ExE-pattern. It is possible, as a rule, to identify a family member whose striving for autonomy is blocked. With the ExE-pattern of *nightmares and sleep paralysis*, a loss of behavioral control is reached when the physical body is attacked by external entities and the self-model is psychophysically dissociated from the body.

**Method:** A pilot study will be conducted to investigate the still hypothesized relationships between ExE-patterns and bonding styles. The Adult Attachment Prototype Rating (AAPR; Pilkonis, 1988) will be used to assess the bonding styles of 30 IGPP clients, five of each representing one of the six ExE-patterns. The AAPR in the German translation (EBPR; Strauß & Lobo-Drost, 1999) is a standardized and proven interview procedure that has already been used in many studies. The information collected during the interview is intended to document a person's interpersonal behavior and "relationship history." The interview is semi-structured and focuses on early and current relationship experiences. It deals with bonding in the primary family as well as past and current relationships with other significant people, e.g., the partner. Despite its duration of approximately 1 ½ to 2 hours, it is a comparatively economical method that enables an assessment of the interviewee on the basis of a prototype rating. The categories "secure", "insecure-dismissing" and "insecure-enmeshed" are used to make an initial classification, which is then differentiated into seven more specific prototypical bonding styles. Four members of the IGPP counseling team have completed certified training in conducting and evaluating EBPR interviews. Prior to the interviews, ExE, bonding styles, motivational aspects, basic need satisfaction, and personality traits are recorded using various questionnaires in order to investigate correlations between the various constructs.

**Outlook:** The presented study belongs in the context of a still-developing clinical parapsychology (Belz & Fach, 2015; Kramer et al., 2012), which deals with people with distressing ExE. The observation that avoided autonomy is represented by phenomena in the world-model and blocked bonding by phenomena in the self-model points to self-organizing principles at the level of organismic and psychophysical wholeness.

If counseling helps clients recognize and understand that recurrent and distressing ExE are rooted in their life history and bonding style, it can serve as a bridge and motivate them to engage in psychotherapy. Therapy here does not mean treating ExE as a mental disorder; rather, it means supporting people in appropriately perceiving, fulfilling, and protecting their basic needs.

If the results of the pilot study confirm the expected correlations between ExE and bonding styles, this could provide the basis for a better understanding of ExE and become the starting point for a new research paradigm with larger projects and collaborations.

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## APHANTASIA, IMAGERY VIVIDNESS AND EXCEPTIONAL EXPERIENCES

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**Introduction:** Humans range in their capacity to voluntarily experience visual mental imagery. At one end of the continuum, some people experience a total lack of visual imagery, or “aphantasia”. At the opposite end of the continuum, others experience vivid, photographic-like visual imagery, or “hyperphantasia” (Zeman et al., 2020). Imaging ability is implicated in memory, daydreaming, dreaming and creativity (*cf.* Zeman et al., 2020) and may play a role in exceptional experiences



(ExE), including extrasensory perception (ESP) (Hume & Lawrence, 2005). Research supports a role for strong imagery in peoples' tendencies to report ExE (Hume & Lawrence, 2005). However, there are different ways of experiencing anomalies (Belz & Fach, 2015) and different types of ESP experience (L.E. Rhine, 2018) and not all ExE are visual in nature. According to Belz and Fach's model (2015), although some experiences emerge as anomalies in the self-model (internal phenomena that occur in the mind's eye), others emerge as anomalies in the world model (body-based anomalies and physical anomalies occurring out in the world), others relate to coincidence making, and others are dissociative. In terms of extrasensory perception experiences, L.E. Rhine (2018) found that some experiences involve realistic imagery, others involve symbolic imagery, others reflect intuitive experiences and a final group reflect hallucinatory phenomena. Rhine's categories of ESP also interact with state of consciousness. The specific roles of imagery vividness (and a lack of imagery) in the etiology of different types of ExE is under-studied. This is a two-part investigation that explores the role of imagery vividness in different types of ExE, how synesthesia (the tendency for some people to experience an additional response to an inducing stimulus<sup>1</sup>) interacts with imagery vividness in terms of ExE and what it is like to experience aphantasia. This will include an exploration of what ExE are like for a subset of aphantasic individuals who report them.

**Methods:** For the first phase of the investigation, an online survey (using Qualtrics) explored a battery of measures including imagery vividness (VIVIQ), synesthesia (via one question), ExE (the PExE-II, a recent development of the PAGE-R consisting of scales measuring external, internal, dissociative and coincidence phenomena), four questions asking about L.E. Rhine's realistic, unrealistic, intuitive and hallucinatory types of ESP and an open-ended question about ExE. Respondents were categorized into three groups of imager (aphantasia, mid imager, hyperphantasia) based on Zeman et al. (2020). A second phase of the study sought to identify ten aphantasic individuals from phase 1 (ideally five who do not experience ExE and five who do) and engage in interviews and qualitative analysis using Interpretative Phenomenological Analysis (IPA).

**Results:** The project is in progress. Preliminary analysis of the survey data found that hyperphantasic individuals scored significantly higher than aphantasics and mid imagers on external, internal, and coincidence phenomena. It was also found that hyperphantasics scored higher than mid imagers on dissociative phenomena. Aphantasics were no different to mid imagers on all 4 types of ExE. In terms of L.E. Rhine's four types of ESP, some aphantasics reported ESP experiences, while others reported none. Realistic, unrealistic, and intuitive ESP were associated with imagery vividness. Hallucinatory ESP was unrelated to vividness of imagery. Synesthesia was independently associated with ExE. Some aphantasics reported synesthesia. The research team is currently working to recruit ten people with aphantasia to participate in the interview study.

**Discussion:** Strong imagery vividness plays a role in the etiology of many forms of ExE. However, vividness plays a stronger role for some forms of experience compared to others. For example, hallucinatory ESP may have a different etiology that is independent of imagery vividness. Synesthesia plays an important role in the etiology of ExE. There are aphantasic individuals who report ExE and those who do not. Likewise, there are aphantasic individuals who report synesthesia. There is a need to explore the lived experience of aphantasic individuals to unpack these different ways of experiencing.

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## GERMAN GHOSTHUNTERS – RESULTS OF AN ONLINE SURVEY

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**Introduction:** Ghosthunting (GH) is a leisure activity that has become increasingly popular in the first decade of the new millennium, first in the USA as a result of reality TV series such as *Most Haunted* (since 2002) and *Ghost Hunters* (since 2004), and then in Europe (Mayer, 2013; Mayer & Schetsche, 2019). Ghosthunters are people who get together in small groups and, in their free time, visit places that are supposedly haunted. Some groups also investigate poltergeist cases in private households in response to requests from those affected. The main objective of the activity is to detect and record alleged paranormal phenomena in the relevant locations using various technical devices such as audio and video recorders, EMF meters, and ambient temperature measurement devices. The recordings and measurements are analyzed in the follow-up, and the results are often made available to the public as research reports on their own websites or on Facebook. This applies above all to investigations in public spaces. In the case of investigations in private households, research reports are usually only published, if at all, with the consent of the persons involved.

Most of the studies published to date on the phenomenon of ghosthunting are based on the analysis of self-portrayals of ghosthunting groups, e.g., on websites (e.g., Hill, 2017; Mayer, 2013; Potts, 2004) and sometimes supplemented by interviews (Bartoschek & Waschkau, 2013; Mayer, 2010). To our knowledge, systematic surveys of personal motivations, beliefs, and other personal aspects of ghosthunters have not yet been conducted. The aim of this research project is to better understand the phenomenon of GH in Germany and the people who pursue this time-consuming

and resource-intensive leisure activity. GH requires a great deal of commitment to pursue it. We would like to know what "type of people" are attracted to it and what the individual motives are for each ghost hunter. We also want to get information about what kind of extraordinary experiences dominate and how pronounced paranormal and supernatural beliefs are. Due to the lack of comparable studies, this study was purely exploratory and not hypothesis-testing.

**Methods:** One of the authors (S.N.) has excellent contacts in the German ghosthunting scene, which, in contrast to the American scene, is manageable due to a total number of less than 50 teams. As the scene is very fast-moving – some groups are founded and dissolve again within a short time – the number of groups is constantly changing. All 35 active German ghosthunting groups known to us were informed by email about the research project and encouraged to participate in two online surveys. Group leaders should forward the individual questionnaire to their members. The first questionnaire (not the subject of this presentation) was addressed to the entire team, was not anonymous, and asked about the location of the group, methods used in the investigations, handling of media (television, print media, social media), etc. The second was addressed to individuals and consisted of four parts. The first part included seven questions on sociodemographic data; the second part consisted of five questions about becoming a ghosthunter, about the role of paranormal experiences in this process, about the fascination of ghosthunting, about individual explanation models and own skeptical attitude. The third part consisted of the *Fragebogen zur Phänomenologie außergewöhnlicher Erfahrungen* [Questionnaire on the Phenomenology of Exceptional Experiences, – ExEs] (PExE-II, Fach, 2018, in press) with 20 items to measure the extent to which people have had extraordinary experiences. The questionnaire measures the frequency of ExEs on a five-point scale from "never" to "often" on the dimensions "external" – "internal" and "coincidence" – "dissociation." The last part included 44 items of the *Belief in the Supernatural Scale* (BitSS, Schofield et al., 2018). The data was collected anonymously between October and December 2023. We used the survey software LimeSurvey.

**Results:** We received 39 evaluable data sets. The response rate can only be estimated as we do not know how many members were forwarded the link to the questionnaire by the group leaders. It could be around a third, assuming an average size of three people in a group. The mean age of the participants was 45 Years (SD = 9,3; Median = 46). 56% were female, 44% male, none diverse. The majority (36%) felt they belonged to Christianity. However, there are also 21% atheists and 9% agnostics in the sample. 72% of the participants had a permanent life partner, and 90% were employed at the time of the survey. 61.5% of participants stated that previous paranormal or extraordinary experiences had played a central role in starting with ghosthunting. The most intriguing part of ghost hunting for almost everyone is the contact with the paranormal or supernatural (95%), followed by the specific history of the location where the investigation is conducted (74%). Almost 85% of participants consider the explanation that paranormal phenomena are to be understood as signs from the deceased, spirits, or other entities to be partially or completely correct, and almost 90% are convinced that the phenomena are connected with the history of the location. As expected, ghosthunters report more extraordinary experiences than a student sample (Fach, 2024, in press). Their average scores on the four PexE-II subscales are consistently higher. The same applies to all the subscales of the BitSS: The belief in the supernatural among the ghosthunters is higher than two samples ( $N=382$ ;  $N=318$ ) from a university setting used for the validation of the BitSS (Schofield, E-Mail from February 1, 2022).

## ABSTRACTS OF BRIEFS

**Discussion:** This study was purely exploratory, as to our knowledge there were no comparable studies with which the data could be compared and which would have allowed data-based hypotheses to be formed. The evaluation was descriptive due to the small size of the sample. Some of the results were expected, such as ghosthunters experiencing more ExEs on average than a student sample because they actively search for them. Others are rather unexpected, such as the fact that 85% believe in a connection between the suspected paranormal phenomena and the deceased or ghosts, while 30% describe themselves as atheists or agnostics. This speaks for a high acceptance of the survival hypothesis, which is apparently not tied to a belief in God or the divine.

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## MEDIUMSHIP AND MENTAL BOUNDARIES WITH VOICE HEARING PHENOMENON

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**Introduction:** The voice hearing phenomenon, as understood in the parapsychological discipline, involves accessing non-local information or communicating with entities beyond the physical realm, suggesting a broader understanding of perception and communication (Romme, 2000). This auditory experience, traditionally associated with mediums who exhibit control over their perceptions, is often stigmatized and can significantly impact individuals, leading to distress. In various cultures, voice hearing has historically been viewed as a gift or divine communication, often linked to deceased ancestors or spirits conveying messages (Mason, 2023). However, in

Western societies influenced by the psychiatric medical model, voice hearing is often pathologized, leading to labels such as "mentally ill" or "crazy."

This proposed study aims to expand the understanding of the voice hearing phenomenon within a Western society operating under the psychiatric medical model and fill in gaps in previous literature on voice hearing. It has the potential to uncover strategies used by mediums to maintain control, invite voices, or build mental boundaries to block out uninvited voices that may cause distress. This study will be a qualitative exploratory study using mediums as participants. The findings could be applied in therapeutic or clinical settings to provide other voice hearers, who have been stigmatized, with tools and techniques used by experienced mediums to improve their quality of life and reclaim control lost due to the pathologization of voice hearing experiences.

**Methods:** To answer the research question, "What is the experience of mediums with mental boundaries with invited and uninvited voice hearing phenomena?" I took into consideration advice on approaching parapsychological research from Dr. Chris Roe, who has many years of experience. Roe (2016) writes that parapsychological studies should ensure the design and methods used "reflect the circumstances under which psi will ordinarily appear in the natural world" (Roe, 2016). To adequately and authentically investigate the phenomena of voice hearing experiences of mediums, it is essential that participants feel they can be open and honest about their experiences. Laboratory settings can bring feelings of unease to participants whose experiences have been stigmatized and can hinder them from being completely honest due to fear of judgment.

To achieve this, five mediums who experience communications with spirits by means of voice hearing or clairaudience will serve as the participants. All mediums recruited will be required to have been verified through an organization, Very Soul, which connects evidentiary mediums through a rigorous testing process with clients seeking sessions with mediums. This site only allows their professional level mediums to connect with clients. According to their website and contacts associated with the organization, "Our professional level mediums have proven their abilities to consistently provide evidence and messages that are highly differentiating and recognizable by clients." Within the recruitment email and flyer, there will be a link to a short survey to ensure the sample of participants meets the appropriate qualifications to answer the research question, including:

- What is the primary method of communication you use to receive messages from spirits?
- How long have you been experiencing mediumship phenomena?
- Approximately how often do you have communications with spirits?

Researchers will then recruit mediums based on their responses to this survey, who communicate through voice hearing and ideally experience communications multiple times a week. Participants will be instructed to carry a journal with them for the duration of three weeks and record a journal entry immediately following each occurrence of voice hearing. The prompt will be open-ended, asking participants to describe their experience and include components such as:

- Was the voice invited or uninvited?
- Describe the voice.
- How did the voice make you feel?

## ABSTRACTS OF BRIEFS

- Was there any distress experienced during the experience at any point?
- Describe the process of ending the communication.

Participants are also encouraged to include any additional information they feel is important for understanding their experience. Journal entries will be the method of data collection for this study as they provide participants with comfort to be most honest and reduce the possibility of forgetting details between the voice hearing event and when researchers can organize a follow-up about the experience. Once three weeks of journal entries have been recorded, the journals will be sent to the researcher, and entries will be transcribed.

After the participant's journal entries have been delivered to the researcher, a content or thematic analysis will be executed on the journal entries with the intention of identifying patterns and techniques used while engaging with disembodied voices. Thematic analysis, as the method of analysis, speaks to the research question through a contextualist framework meaning, "Reality is 'out there,'" but access to it is always mediated by socio-cultural meanings. People's words provide access to their particular version of reality; research produces interpretations of this reality" (Smith et al., 2015). Thematic analysis will provide researchers with insight into participants' experiences with voice hearing and how they make meaning of their experience.

**Results:** The findings will consist of significant patterns and recurring techniques used by mediums to build mental boundaries to reduce and manage distress caused by the voice hearing phenomenon. These findings could deepen our understanding of the voice hearing phenomenon within the mediumship community and provide potential techniques for psychiatric voice hearers to introduce into a clinical environment. Learning these techniques could not only reduce distress experienced because of voice hearing experiences but also provide an opportunity to reclaim control over the experiencer's choice to engage or not to engage with disembodied voices. When control is reclaimed, those afflicted may have a chance to improve their quality of life and reintegrate into society without stigma restricting them.

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## INVESTIGATING THE ACCURACY OF PERCEPTIONS DURING OUT-OF-BODY EXPERIENCES

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**Introduction:** Humans typically perceive themselves as confined within the boundaries of their physical bodies, guided by the inputs acquired via the ordinary senses (vision, hearing, touch, taste, and smell), sensations of embodiment, self-location, and a subjective first-person perspective. However, there are instances where this typical experience can dissolve, resulting in disruptions to bodily self-awareness, such as Out-of-Body Experiences (OBEs). Notably, individuals who undergo an OBE frequently assert the ability to observe phenomena or events from perspectives beyond their physical bodies, offering unique insights. Therefore, validating the reported perceptions during an OBE can yield valuable understanding and insights into these extraordinary experiences. In a pilot project conducted in Brazil in 2023, three individuals claiming the ability to self-induce OBEs were recruited. The investigation aimed to assess their ability to induce OBEs reliably within a controlled laboratory environment and to verify psi processes during OBEs.

**Methods:** Participant 1: G.R., 31 years old, male, first OBE at the age of 16, 15 years of experience in inducing OBEs, reports self-inducing OBEs weekly. Participant 2: F.C., 44 years old, female, first OBE at approximately 7 years old, 9 years of experience in inducing OBEs, reports self-inducing OBEs weekly. Participant 3: N.A., 56 years old, female, first OBE at 7 years old, 6 years of experience in inducing OBEs, reports self-inducing OBEs daily. Our experiments were conducted at the Neuroimaging Laboratory located at the Hospital de Clínicas of the University of Campinas, SP, Brazil, over 2 days. The targets were randomly generated using a script developed in MATLAB (version 2019b, The MathWorks, Inc., Natick, Massachusetts, United States), completely blind to any of the researchers in a computer with no access to the internet. The first target consisted of a two-digit number, ranging from 00 to 99, while the second target was an image of an object chosen from a selection of 60 images sourced from the internet. Each target was displayed on a separate monitor, positioned side by side and facing the wall. Cameras (Webcam Full HD Logitech C920s, 1280 x 720 resolution, 24 fps) recorded both the monitors and the room of the Neuroimaging lab in which these monitors were situated, as well as the OBE room throughout the experiments. Targets were only accessed by researchers and participants at the end of the day when all experiments ended.

**Results:** *Day 1* - The first targets, generated during G.R.'s experiment, were the number 79 and an image of a pizza. The participant could not self-induce OBEs nor spot the target. For F.C., the number 84 and an image of a sun were generated. The participant reported having multiple OBEs but couldn't spot the target. Finally, for N.A., the number 74 and an image of a trophy were generated. She reported having an OBE and mentioned her perception of a book and the number 79. *Day 2* - The targets were randomly generated only once, the sun and the number 70, which were displayed on the monitor throughout the entire day, unbeknownst to the participants. G.R. was able to self-induce OBEs but with some limitations and could not spot the target. F.C. was

## ABSTRACTS OF BRIEFS

able to self-induce OBEs and reported seeing a circular and bright object, like a sun or a pinwheel. N.A. was also able to self-induce OBEs and reported the number 46.

**Discussion:** Encouraging evidence suggesting psi processes during OBEs emerged from target outcomes. Noteworthy instances include the accurate identification of the number displayed to another participant on the first day (potential displacement). More impressively, on the second day, another participant described the target as a “circular object, like a pinwheel or sun,” remarkably aligning with the designated target, which happened to be a sun. These instances provide indications of a potential correlation between OBEs and psi, emphasizing the need for further exploration and analysis in subsequent phases of our research.

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**ABSTRACT OF PRESIDENTIAL ADDRESS**

**BEYOND THE FRINGE: PARAPSYCHOLOGY'S  
CONTRIBUTIONS TO SCIENCE AND CONTEMPORARY  
THOUGHT**

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This presentation delves into parapsychology's history, revealing its substantial but often overlooked impact on various scientific fields, both methodologically and theoretically. Early psychical researchers/parapsychologists laid foundational work for research in psychology, medicine, and social sciences, a legacy that continues to influence contemporary studies. Despite the challenges faced by parapsychological institutions and researchers to achieve wider academic acceptance, interest in research on "anomalous or exceptional experiences" and "non-ordinary states of consciousness or mental expressions" is growing and slowly gaining strength in academia. Various scholars are also beginning to acknowledge the importance of incorporating ontological discussions into their scientific fields. Frederic Myers's visionary predictions about spirituality's role in science and society are increasingly becoming a reality, with the subject enjoying growing interest among scholars and the public alike. Paradoxically, part of these achievements is occurring outside of our direct involvement. While parapsychology's contributions have helped shape developments in other disciplines, this has also led to a fragmentation and invisibility of our field's influence. Yet, researchers interested in the study of spirituality and non-ordinary experiences could greatly benefit from a deeper understanding of our history and lessons learned, both regarding the phenomenological and ontological aspects of these experiences. I will discuss how we can benefit from such interdisciplinary exchanges and participate more effectively in the wider scientific movement that is taking shape. The full realization of Myers's vision requires a broader view of the field and our place within it. To reclaim our rightful place in the scientific landscape, we must transcend current terminological, disciplinary, and institutional barriers.

ABSTRACT OF INVITED ADDRESS:

J.B. RHINE BANQUET ADDRESS

**INDIGENOUS PSYCHOLOGIES FROM *CEM ANAHUAC*  
(MESOAMERICA)**

Nuria Ciofalo

Pacifica Graduate Institute, Carpinteria, CA, USA

Indigenous psychologies are informed by their cosmovisions, philosophies, religions, spiritual traditions, and onto-epistemologies. This presentation will address *Cem Anahuac* conceptions of consciousness and altered states of consciousness, psyche, spirit, and mental and physical health among the Nahua and Maya of Mexico. Their knowledge and praxes systems have resisted colonization and erasure of their rich legacies due to the imposition of the conquerors' only-one-world view still persisting in academic discourse. The rich Nahua and Maya cosmology, astrology, science, and mythology are preserved in texts written in the stones of their majestic archeological sites. Indigenous communities in this region continue to use sacred substances, such as medicinal plants, mushrooms, and some animals, that stimulate altered states of consciousness in rituals for holistic healing. The Western academy needs to learn from these knowledge and praxes systems, consciousness states, and spirituality to expand their hegemonic paradigm and promote decoloniality in the Euro-centric discipline of psychology.





Parapsychological  
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