



STUDY PROTOCOL

**REVISED** Stage 1 Registered Report: Testing mediumship accuracy with a triple-blind protocol [version 2; peer review: 1 approved with reservations]

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**Abstract**

Even if mediumship is a practice that probably originated at the outset of human history and is embedded in many cultural and religious traditions, scientific investigations into mediumship are quite recent. In this study, we aim to investigate if self-defined mediums can retrieve information about specific deceased persons in an unconventional way, that is, without retrieving the information from the parents or friends of the deceased person or by other conventional means. To our knowledge, this is the first registered report related to this phenomenon.

Our experimental design will be triple-blinded: the mediums and their interviewer will only know the first name of the deceased person and of the requesting person. The parents or the close friends of the deceased person will not interact in any way with the medium.

Furthermore, they will be blind about which of two lists of information (readings) paired with deceased persons of the same gender is related to their parents or friend. Accuracy of information will be analysed by three criteria: (1) percentage of correct identification of the readings related to the requested person; (2) comparison of the global scores (on a scale 1 to 6) assigned to the intended readings with that of control readings; and (3) comparison of the difference between the percentage of correct minus incorrect information identified in the intended readings with that of the control readings.

**Keywords**

registered report, mediumship, triple-blind protocol, anomalous cognition

**Open Peer Review**

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1

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**version 1**

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1. **Alexander Moreira-Almeida**, Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, Brazil

Any reports and responses or comments on the article can be found at the end of the article.

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**Author roles:** **Tressoldi PE:** Conceptualization, Data Curation, Formal Analysis, Methodology, Project Administration, Writing – Original Draft Preparation; **Sinesio F:** Data Curation, Investigation, Resources, Validation; **Liberale L:** Conceptualization, Data Curation, Funding Acquisition, Project Administration, Validation, Writing – Review & Editing; **Testoni I:** Funding Acquisition, Writing – Review & Editing

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**REVISED Amendments from Version 1**

Changed the order of authors.

**Any further responses from the reviewers can be found at the end of the article**

## Introduction

The scientific study of mediumship, notwithstanding its very old origin and its widespread diffusion in the Eastern and Western society, is relatively recent (Beischel, 2018). From a scientific point of view, the main questions are related to the level of accuracy of information given by mediums and its origin.

Consultation with a medium typically involves the presence of a person, defined as a ‘sitter’, usually a close relative or friend of the deceased person, who wants to know if the deceased person is still living after his/her death. In this setting, it is quite likely that the source of the information is the sitter him/herself, who could consciously or unconsciously suggest it to the medium through what is called ‘cold reading’ (Roe & Roxburgh, 2013), that is, the transmission of verbal and non-verbal information to the medium.

In order to eliminate this source of information, research protocols must ensure a complete separation and visually and auditory isolation between the sitter and the medium.

Given that the only person who can judge the accuracy of information is the sitter, in order to prevent confirmatory bias, i.e. judging if particular information is correct even if it is wrong because of their strong need of proof that their loved one is still alive (Snyder & Swann, 1978; Rabin & Schrag, 1999), research protocols must require the sitter to be given at least two anonymous lists of information (readings) related to two deceased persons for evaluation: one related to their requested parent or friend and the second one related to another person paired with the same gender.

A meta-analysis of all available studies completed between 2001 and 2019 that used research protocols with different levels of blindness, revealed an accuracy of 6-14% more than expected by chance with better performance of mediums who were preliminary screened about their abilities (Sarraf, Woodley of Menie and Tressoldi, 2020).

In this study, we aim to add a further contribution to this line of investigation by adopting the best research practices in order to prevent contamination of the results by so-called questionable research practices (John, Loewenstein & Prelec, 2012; Banks et al., 2016).

## Hypotheses

The main hypotheses are:

- The percentage of correctly identified intended readings, that is those related to the requested person, will exceed the control ones at a statistical level (see section *Statistical analyses*);
- The overall scores assigned to the intended readings will be higher with respect to the control ones at a statistical level;
- The difference between the percentage of correct information minus the percentage of wrong information of the intended readings will be higher with respect to the control ones at a statistical level.

## Methods

### Ethical approval

This study has been approved by the Comitato etico della ricerca psicologica (Ethical Committee of Psychological Research) of Padova University (Protocol no. 3670). Both mediums and sitters will be requested to read and confirm orally the protocol as informed consent.

### Participants

Eight professional self-defined mediums will be included in the study. All have been purposively selected by the authors after testing their accuracy skills in a previous study (Tressoldi et al. 2020).

Eight sitters will be contacted by email mailing lists by the authors, from people with a serious interest in having a reading with respect to a deceased relative or friend, regardless of cause of death or length of time since the death. The only exclusion criteria will be a not well-defined relationship with the requested deceased person that could preclude a complete knowledge of him/her and consequently a difficulty in the evaluation of information given by the mediums.

Each medium will be asked to contribute a reading for each of the eight deceased persons for a total of 64 readings.

### Procedure

Each trial, that is each consultation with the medium and each task assigned to the sitters, will comprise two readings related to deceased individuals of the same gender, male or female, as the only common characteristic.

The experimental procedure will be similar to that adopted by [Tressoldi, Liberale, Sinesio et al. \(2020\)](#) which was a reduced version of that presented by [Beischel \(2007\)](#), with some variants aimed at further excluding a mental connection with the sitter.

Furthermore, in order to keep the task difficulty as similar as possible for all mediums, they were requested to obtain response to a set of ten identical questions (see *Extended data*) plus two or three further questions requested by the sitters to increase their confidence of the authenticity of the contact with the requested deceased.

The steps of the procedure of each session are the follow:

1. To a pair of sitters interested in having a free consultation for a deceased loved parent or friend of the same gender, they will be asked to provide the deceased first name, and the time since the deceased passed.
2. This information will be kept by one of the co-authors, who will be called 'research assistant B' (raB).
3. The medium will be contacted for the consultation by another co-author, who will be called 'research assistant A' (raA).
4. On the day of consultation, raA will contact the medium either via Skype or WhatsApp and for each of the two paired deceased persons will give the medium only the deceased and the sitter's first name (without the family name) sent by raB.
5. For each of the two paired deceased persons, the medium will be required to respond either in oral or written form to the ten fixed questions (*Extended data*) and to provide all information pertinent to the deceased's identification as asked by the sitter, as well as anything the purported deceased wishes to communicate to the sitter. For oral form, the information will be recorded by raA using an audio recorder.
6. At the conclusion of the reading, raA will transfer all information into a vertical list, excluding generic statements, e.g. "*I love you*" or "*Don't worry about me, I'm well*", and will send them to raB.
7. Once raB receive the two readings from raA, the information will be listed vertically for evaluation of each piece of information and for overall evaluation (see the example in *Extended data*).
8. Afterwards, both reading A and B will be anonymously sent to the requesting sitter, providing assistance, if needed, for the evaluation procedure, i.e. sitters will be asked to go through the two lists of information and mark as 'perfectly correct', 'clearly wrong', 'somewhat correct' or 'I do not have information for evaluation'.

In summary, the research protocol will comprise three levels of blindness for the deceased's identity: the medium, raA; and for the sitters which of the two readings is that intended for their deceased.

### Evaluation of information from the two readings

All information will be classified in two categories: those comprising very detailed information, e.g. "*he (the deceased person) got a car accident when very young*"; "*she said to you (to the sitter) do not sell her gold ring left in her bedroom*", and those comprising less detailed information e.g. "*he was a very nice person*"; "*she was very in love with her husband*".

- Each item of information from the reading list related to the “detailed” category evaluated by the sitters as “Perfectly correct” or “Clearly wrong” will be given a value of 1 or  $-1$ , respectively.
- Each item of information from the reading list related to the “less detailed” category evaluated by the sitters as “Perfectly correct” or “Clearly wrong” will be given a value of .5 or  $-.5$ , respectively.
- Finally, each item evaluated by the sitters as “somewhat correct” will be given a value of 0.5 regardless of being in the detailed or less detailed category.

Subsequently, excluding information marked as “I don’t have information for evaluation”, the percentages of correct and incorrect information (ratio of this information with their total number) and their difference will be calculated. These differences could range from  $-100\%$  if all wrong, to  $100\%$  if all correct.

The reliability of this scoring will be tested by an independent judge who will analyze all the readings following the same criteria.

As well as evaluating each item of information from the two readings, the sitter will also be asked to give an overall evaluation of each reading using a scale from 0 (totally wrong) to 6 (excellent: effectively free of errors and containing compelling evidence of authentic communication), identical to the scale used by [Beischel \(2007\)](#). If both readings are given identical scores, the sitter will be asked to choose the one considered to be closest to their own deceased person.

### Statistical analyses

*Statistical Power:* from the results observed by [Tressoldi, Liberale, Sinesio et al. \(2020\)](#), 64 readings are sufficient to detect a global score difference of 1.5 on a scale of 0-6, a 15% above chance of readings identification and 25% of correct information difference with respect to the incorrect one, that we consider to be the smallest effect size of interest, setting the statistical power to .80 and a directional hypothesis with  $\alpha = .05$ .

Data collection will end when 64 readings are evaluated by the sitters without any missing values.

In order to test the robustness of results, we will adopt both a frequentist and a Bayesian statistical approach with the statistical package JASP v.0.14.1 ([JASP Team, 2020](#)).

The percentage of correct readings identification will be analyzed using a frequentist binomial test with chance probability equal to  $\frac{1}{2}$  and a Bayesian binomial test with beta prior parameter  $a = 1$  and parameter  $b = 1$ .

The mean of the overall score assigned to correctly identified readings will be compared with that of the control readings by using a one-sided permutation *t*-test estimated with 5000 bootstrap samples and the confidence intervals will be bias-corrected following the procedure of [Ho et al. \(2019\)](#) and with a Bayesian independent sample *t*-test with a Cauchy prior of .707.

The same statistics will be used for:

- the comparison of the difference between the percentage of correct minus incorrect information in the correctly identified readings with that of the control readings.

The syntax of the statistical analyses will be available at Figshare.

### Dissemination of information

Raw data and statistical analyses scripts will be made available open access in the extended data repository

### Study status

At present we have completed the recruiting of the mediums and sitters.

### Conclusion

With this study, we aim to contribute to the investigation of mediumship accuracy and the source of their information with a triple-blind protocol free of questionable research practice.

Even if our results cannot be generalized beyond the participants (mediums and sitters/deceased) enrolled in the study given their large individual differences, they can be an example of how it is possible to study a controversial phenomenon, such as mediumship, with the best methodological scientific tools.

## Data availability

### Underlying data

No data is associated with this article.

### Extended data

Figshare: Mediumship, <https://doi.org/10.6084/m9.figshare.13311710.v4> (Tressoldi et al, 2020).

This project contains the following extended data:

- List of common questions
- Excerpt of the reading format

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

## Acknowledgments

We thank the Proof Readings Service for English revisions.

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# Open Peer Review

Current Peer Review Status: ?

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Version 2

Reviewer Report 23 June 2021

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## Alexander Moreira-Almeida

Núcleo de Pesquisas em Espiritualidade e Saúde (NUPES), Faculdade de Medicina, Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, Brazil

This paper presents a good research protocol to investigate anomalous information reception by mediums. This protocol is based on recent studies on the topic and will help to enlarge and diversify the studies on this topic.

Below, some specific comments:

### Introduction

- “scientific investigations into mediumship are quite recent”, actually, they are not recent, they started in the mid-19<sup>th</sup> century
- The MS would benefit if the authors are less absolute in their statements regarding certain methodological strategies. It would be good to avoid terms such as “must” or “the only” to refer to good methodological choices made by the authors, but they are not the only ones possible and useful. For example:  
The “complete separation and visually and auditory isolation between the sitter and the medium” is one strategy to deal with information leakage. However, it would not proper to state that “research protocols must ensure” that complete separation. There are other ways to deal with this issue.  
In the same sense, it is not proper to state that “the only person who can judge the accuracy of information is the sitter”, researchers can also judge the accuracy based on documents and or interviews.  
Another example: “research protocols must require the sitter to be given at least two anonymous lists of information”
- The study’s objective could be more clearly stated.

### Methods

- How would it be assessed that the selected sitters have “a serious interest in having a reading with respect to a deceased relative or friend”?
- Based on the literature, perhaps restricting the length of time since the death may increase the possibility of positive results.
- In addition to the “set of ten identical questions” it would be useful to have an open question regarding further features and information the medium may have obtained about the deceased. This would be useful, since it has been often reported by mediums and researchers that we can not predict what sort of information the medium will be able to produce in a giving sitting.
- It could be checked with the medium if they feel capable of contacting with the target deceased with no other information rather than the first name.

**Have the authors pre-specified sufficient outcome-neutral tests for ensuring that the results obtained can test the stated hypotheses, including positive controls and quality checks?**

Yes

**Is the rationale for, and objectives of, the study clearly described?**

Yes

**Is the study design appropriate for the research question?**

Yes

**Are sufficient details of the methods provided to allow replication by others?**

Yes

**Are the datasets clearly presented in a useable and accessible format?**

Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Investigation of spiritual experiences, specially mediumship

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

Author Response 23 Jun 2021

**Patrizio Tressoldi**, Padova University, Padova, Italy

Thank you for your helpful comments. We had better answer after receiving a second review at least, before submitting a new version of the paper.

**Competing Interests:** No competing interests were disclosed.



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