Study Registration for the KPU Study Registry

The registration information for the study is given below. Each section can be expanded as needed.

1. The title or name of the experiment (for listing the experiment in the registry).
   Test of mediumship to showcase the facilities at the research laboratory of the Arthur Findlay College — a conceptual replication of Delorme et al.’s 2013 study, *Electrocortical activity associated with subjective communication with the deceased*

2. The name, affiliation, and email address for the lead experimenter(s) for the study.
   Prof. Chris Roe, University of Northampton, chris.roe@northampton.ac.uk
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3. A short description or abstract of the purpose and design of the experiment.
   The proposed study is a laboratory-based experiment that will attempt to conceptually replicate findings reported by Delorme et al. (2013) with a larger sample of UK-based practising mediums. Inter alia, the study is intended to showcase to academic colleagues the facilities now available at the Arthur Findlay College for conducting research with mediums. The experiment consists of two parts.

   In part 1, mediums will be given the Christian name of a person who has died. This is a real person whose living relatives have given us permission to seek information about them. They will be asked to contact that person in spirit and to answer a series of 25 evidential questions about them (for example, relating to appearance, personality, interests, mode of passing) and also to ask if they have a message for their living relatives. We repeat this process with the name of a second deceased person. Response coding categories have already been created for each question (e.g., for the range of possible eye colours, categories of height and build, for types of occupation) and answers have been provided by the living relative. Mediums’ answers will be coded and then scored for accuracy against those ‘correct’ answers and hit rates will be compared against data we have from a student sample who were asked to provide comparison readings (for precedents, see Kocsis, Irwin, Hayes & Nunn, 2000; Wiseman & West, 1997). This evaluation method is deemed preferable to Delorme at al.’s approach in which sitters were provided with a reading intended for them and a decoy reading for two reasons: assessments are unnecessarily subjective; and scaling up the project makes this method cumbersome (sitters would each have to evaluate 4 target readings and 4 decoy readings). While mediums produce information in response to these questions we will be recording their brain activity to see if there are consistent differences between answers which are scored as accurate and answers which are scored as inaccurate.
The experiment will take place over three planned phases to the Arthur Findlay College, with different mediums participating in each phase. This gives a natural break that allows us to analyse data from each phase separately, with phase 1 being entirely exploratory (though inter alia we will be interested to see if we reproduce Delorme et al.’s finding of significant increases in frontal theta band for one of their mediums). Hypotheses will be made based on the outcomes from phase 1 that can be tested against data from phases 2 and 3 combined. This is on the understanding that no data processing from phases 2 and 3 will take place until analysis of phase 1 data is complete and any hypotheses made are lodged with the KPU registry as a separate submission, linked to this one.

In part 2, mediums will be asked to make contact with someone in spirit and to maintain that contact for 2 minutes. They will also be asked to complete some additional tasks (to create an imaginary person, to listen to a description of someone, and to recall someone from memory). They will not be asked to say anything during this time; rather, we will record their brain activity to see whether there are characteristic differences that can distinguish spirit contact from ‘imagination’ and ‘memory’. One planned analysis will seek to confirm Delorme et al.’s finding of statistically significant differences at p < 0.01 for multiple comparisons in electro-cortical activity among the four conditions in all six of their mediums, primarily in the gamma band. Other region and frequency band comparisons will be exploratory, though a sufficiently large sample would allow us to seek to confirm any significant findings from mediums in phase 1 with those from mediums in phases 2 and 3 (see participants section below).

4. A statement or list of the specific hypothesis or hypotheses being tested, and whether each hypothesis is confirmatory or exploratory. (confirm/explore guidance)

All analyses are exploratory for phase 1. For part 1, we will analyse separately each of the 25 questions on the deceased person’s questionnaire using simple chi square analysis to compare mediums’ accuracy with that of our student sample. To attempt to replicate Delorme et al., we will predict that frontal theta band power will be higher for correct than for incorrect responses using a within-subjects comparison for each medium separately. Data for all mediums will be reported in tabular form. Similar comparisons for other regions and frequency bands will be exploratory, though a sufficiently large sample would allow us to seek to confirm any significant findings from mediums in phase 1 with those from mediums in phases 2 and 3.

For part 2, we will test to see if EEG activity is significantly different for the period during which mediums report being in contact with someone in spirit compared with the three control activities (to create an imaginary person, to listen to a description of someone, and to recall someone from memory); i.e. to determine whether such a state of consciousness is physiologically distinct from three other states that are often cited in conventional explanations.

5. The planned number of participants and the number of trials per participant.

20 mediums have been recruited; 6 during the first phase, 7 during phase 2 and 7 during phase 3. Each medium will attend for just one session. The experiment has been advertised in the trade newspaper Psychic News and on the website of the Spiritualists’ National Union. Those who emailed to express an interest were provided with a more
detailed participant information sheet, which describes what the experiments entail and lists the inclusion criteria; participants must be:

- 18 years or older
- a practising medium with at least 5 years’ experience
- confident that they will be able to make contact with people in spirit that have been randomly selected for them and to provide information about them that we can verify
- willing to have their brain activity monitored during the experiment using an EEG cap

6. A statement that the registration is submitted prior to testing the first participant, or indicating the number of participants tested when the registration (or revision to the registration) was submitted.

We hereby confirm that this project has not yet begun. Although recruitment of mediums is complete, no experimental trials have been conducted.

The following additional information is needed for studies that include confirmatory analyses:

7. Specification of all analysis decisions that could affect the confirmatory results, including: the specific statistical test for each confirmatory hypothesis, whether the test is one-sided or two-sided, the criterion for acceptable evidence, any transformations or adjustments to the data, any criteria for excluding or deleting data, and any corrections for multiple analyses. Checklists and examples for registering classical analyses, permutation and bootstrap analyses, Bayesian analyses, and classification analyses are provided in the statistics registration document. (This information can be included in section 4 above for simple experiments.)

8. The power analysis or other justification for the number of participants and trials.

No power analysis has been conducted. However, the original study consisted of 6 mediums and we have recruited 20 mediums, limited only by practical considerations around the number of available slots that can be filled.

9. The methods for randomization in the experiment. If a pseudorandom generator is used, specify how and when the seed(s) will be obtained.

Randomisation will be used to allocate deceased persons to the mediums from among a pool of 10 such persons. Thereafter all comparisons are either quasi experimental (comparing mediums’ performance against that of students) or within-subject comparisons (accurate versus inaccurate statements; connecting with spirit versus the other three conditions).
10. A detailed description of the experimental procedure.

All persons who express an interest have been provided with a participant information form that describes the procedure and our intentions with respect to the data produced (in particular to emphasise that this is a test of this proposed method of working with mediums rather than a test of each individual’s claim to mediumistic ability per se). Those persons who are happy with the conditions of the experiment then contact the PI to be allocated a 150-minute time slot. Mediums will be met at the AFC laboratory and introduced to the equipment and the lab personnel, and any outstanding questions will be answered before they are asked to complete a consent form. They will then have the EEG cap securely placed, checking that all electrode sites are providing recordable data. All mediums will complete the experiment in the same order, with part 1 occurring before part 2. The protocol for collecting data will follow that described by Delorme et al.

Mediums will be given the Christian name of a person who has died. This is a real person whose living relatives have given us permission to seek information about them. They will be asked to contact that person in spirit and to answer a series of 24 evidential questions about them (for example, relating to appearance, personality, interests, mode of passing) and also to ask if they have a message for their living relatives. These will be scored for accuracy based on previously obtained responses from that person’s living relatives and hit rates will be compared against data we have from a student sample who were asked to provide comparison readings. While mediums produce information in response to these questions we will be recording their brain activity to see if there are consistent differences between answers which are scored as accurate and answers which are scored as inaccurate. We repeat this process with the name of a second deceased person.

Mediums will be asked to make contact with someone in spirit and to maintain that contact for 2 minutes. They will also be asked to complete some additional tasks (to create an imaginary person, to listen to a description of someone, and to recall someone from memory). They will not be asked to say anything during this time; rather, we will record their brain activity to see whether there are characteristic differences that can distinguish spirit contact from ‘imagination’ and ‘memory’. Each of these states will be maintained for 60s followed by a recovery period of 60s. Each state will be adopted twice in a counterbalanced sequence ABCDDCBA.

A submission has been made to the Faculty Research Ethics committee at the University of Northampton, which oversees staff research activity. Mediums will be free to withdraw from the study at any time during the experiment without having to give a reason. They will also have a cooling off period of 7 days in which they can request that their data are removed. During this time the data will not have been analysed and mediums will have no direct way of knowing how ‘successful’ their session had been.

Data will be stored and processed in accordance with GDPR requirements (https://gdpr-info.eu/). Responses are mainly in the form of short answers. All of the deceased persons will remain anonymous throughout the process. The researchers may report on qualitative descriptions given by mediums but these will be modified where necessary so as to protect their identity. Researchers have made it clear that the study is not a test of their mediumship and that their contribution will remain anonymous. Mediums will be
reminded that they are not permitted to refer to their participation as a test of their mediumship nor to claim that they have been formally tested by the University of Northampton.

References
