



LETTER TO THE EDITORS

Response to “Defining the undefined: methodological issues in the genetic study of mediumship”

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We appreciate the comments made by Gonzaga et al.,¹ as they give us the opportunity to clarify the study's methods, objectives, and conclusions.² We fully agree with the authors that mediumship is a complex human experience influenced by a wide range of factors.

The main issue raised by the comments addresses our selection criteria. As mediumship is a subjective experience, we can only assess its presence by asking the person who claims it. This is a limitation inherent to studies of any other subjective experience, such as pain, hallucinations, anxiety, or happiness. For example, one of the questions used in a large study of genetic associations with psychotic experience was “Did you ever see something that wasn't really there that other people could not see?”³ In this line, our criteria are clearly stated: “Mediums were defined as individuals who assert the ability to perceive (either by seeing or hearing) or to act under the direct and evident influence of a purported deceased personality”. All participants were investigated to assess if they followed this criterion. In addition, we added emic criteria: “a minimum of 10 years of experience in mediumship [...] and [...] recognized by their peers as having a notably high level of mediumistic ability”. We thus combined two criteria: the investigator's evaluation of the participant's experience and the evaluation of religious groups who are familiarized and habitually work with mediumistic experiences. Neurofunctional studies on mediumship^{4,5} and other spiritual experiences such as meditation,^{6,7} glossolalia,⁸ and mystical experience of union with God⁹ have consistently employed similar approaches. They relied on the subjective first-person reports of their participants, who were often recruited among the most experienced in their religious or spiritual groups (Carmelite nuns, Buddhist monks, etc.), and that focus on the phenomenology of the experience (e.g., having non-shared visual or auditory perception) and attribution to a purported external source. Based on the criteria we used, we found the differences reported in the paper. Future studies aiming to replicate our findings or to improve our selection criteria, or both will be most welcome.

The second criticism is that we did not establish functional links between the identified genes and their

implications for brain function. We agree; however, we believe that, before establishing such functional links with the identified genes, our findings must first be replicated by other studies. If further studies consistently find associations between mediumship and a specific set of genes, then the next step should undoubtedly be the investigation of their functional meaning.

Gonzaga et al. also pointed out that the hypotheses we present in the discussion are speculative. They are indeed, but these speculations were based on our preliminary findings. We trust that speculating on the basis of data is part of the scientific process, as it may encourage further research in this area and suggest possible directions for the continuation of these studies. We believe that the role of science is to formulate two or three questions where initially there was only one. And it is here that controlled speculation can help guide us on the path to scientific discovery.

We appreciate the questions posed by Gonzaga et al. and would like to conclude by reiterating the final remarks of our paper: “These genes emerge as possible candidates for further investigations of the biological underpinnings that allow spiritual experiences such as mediumship to occur. Replication studies are warranted and necessary before any conclusion can be drawn.”²

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Disclosure

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