

Replication in Parapsychology: The Correlation Matrix Method

ABSTRACT:

Background

Theorists have suggested that decline effects and the apparent elusiveness of psi may be overcome by employing an experimental method that permits anomalous correlations to emerge. The Correlation Matrix Method (CMM) has been developed to test these ideas using a micro-PK task. Previous CMM studies have reported positive findings, though employing an analysis method that has some weaknesses.

Aim

We aimed to validate and replicate CMM studies, including more robust analysis and assessing a new method of generating control data (using permuted experimental data), which was compared with the previous studies' method of using control sessions.

Method

The work consisted of one software validation study, and three CMM replication studies. All studies were completed as planned, with variations on some exploratory study hypotheses as agreed with the wider CMM Consortium project to which this work contributes (PI Walach; Bial ref. [400/14](#)).

Results

The first CMM replication study (105 participants, 200 sessions) obtained significant results supporting the CMM hypothesis. This study also demonstrated that it was statistically valid to employ the permuted experimental data as control data, implying that control sessions are not needed. CMM Replication Studies 2 and 3 (each with 100 participants and 205 sessions) therefore used the permutation method without control sessions. Contrary to expectation, both studies obtained overall results that did not support the primary CMM hypothesis and therefore did not replicate earlier positive findings. However, in both studies effects were observed in the direction *opposite* to that predicted. It seems unlikely that this consistent reversal is simply due to chance, however as this was a post hoc finding and there are other uncontrolled procedural variations between the studies, any explanation can only be suggestive at this stage.

Conclusions

Our first replication study validates the original CMM claims using improved analytical methods. However, CMM is still a young and developing paradigm and we recommend that future studies systematically evaluate the role of the control data and of other theoretically relevant experimental variables.

Keywords

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Theory, Replication, Entanglement correlations, Correlation Matrix Method, Micro-PK

Published Work:

Flores, A. (2018). Edinburgh software validation test for researchers in psychology. *Open Science Journal of Psychology*, 5(5), 68-72.

Tierney, I., Watt, C., & Flores, A. (2018). Measuring organisational closure in the MPI/GQT/CMM context. *Journal of Parapsychology*, 82(2), 198-202.

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