PUBLICATION BIAS AND ALL THAT:
ASSESSING PARAPSYCHOLOGICAL META-ANALYSES

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**Background:** Evidentiary support for psi phenomena (e.g. pre-cognition, psychokinesis (PK)) relies to a large degree on meta-analyses (MAs). In the last decades, MAs of psi protocols have been reported in mainstream journals. MAs of the Ganzfeld, pre-cognition, clairvoyance, micro-PK and presentiment effects all find evidence for significant deviations from the Null hypothesis. The results are controversial and may be due to publication bias, or other questionable research practices (Qrps). Recently Bierman et al. modeled Qrps via Monte Carlo (MC) simulations to assess the Ganzfeld. With reasonable Qrp frequencies, they account for no more than half of the effect. They conclude that a real effect remains even when controlling for the presence of multiple Qrps. Simulation is promising because it can strengthen the statistical evidence for an effect and provide better effect size estimates for replications. But a cost is high computational overhead, which puts some practical limits on the range of modeled Qrps.

**Aims:** Analysis is done on three MAs: the dataset of Bierman; the micro-PK MA; and the Global Consciousness Project (GCP). Technical developments enhance the scope, power and speed of the Qrp analyses.

**Method:** 8 distinct Qrps are modeled in >105 combinations and levels. A fitness function for each model tests the MA data against model Pcurves (distributions of P-values), effect size, heterogeneity and small-study effects. Each model is a weighted linear combination of 8 ‘basis’ models. Thus only 8 MC’s are needed which gives a speed-up of ~1000x.

**Results:** The Ganzfeld results follow Bierman et al.’s. Proper effect size definitions are unclear for m-PK and GCP. However, maximal Qrps so underestimate the m-PK heterogeneity that this independently supports rejecting the Null, despite the lack of effect size definition. Seeking a definition for the GCP led to determine that the GCP is a goal-oriented experimenter effect (see reference).

**Conclusions:** Qrp simulation can help settle interpretational questions of MAs.

**Keywords:** Parapsychology, Meta-analysis, Ganzfeld, Publication bias, Heterogeneity

**Publications:**

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