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INVESTIGATION OF NON-INFERENTIAL PERCEPTION USING A 3D-COMPUTER-ASSISTED DOWSING TASK: INTERIM REPORT OF A MULTI-REPLICATION PROJECT USING AN ADVANCED META-EXPERIMENTAL PROTOCOL

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Background and aims: This study aims to employ several methodological innovations in a test of the hypothesis that humans can guess with above chance success a hidden target location on a virtual sphere presented on a computer screen which is determined by a pseudo-random event generator (pREG).

Method: The study is conducted online via the internet. It involves a participant selection process based on the assumption that only a small proportion of the general population has the ability to succeed in the task ("gifted" participants). A Monte Carlo type simulation was developed to determine the optimal number of selection stages and optimal selection thresholds depending on the assumed prevalence and size of the effect in question. As part of the Advanced Meta-Experimental Protocol (AMP) three counterfactual control conditions were introduced as a diagnostic tool for the detection of false-positive or false-negative results: i) one control condition examines participants who in the screening stage of the experiment perform close to mean chance expectancy ("non-gifted" participants), ii) another control condition replaces the target location with another pREG generated "sham target location" and iii) the project involves a test strategy involving exclusively pREG based experiments without participants. The project will undertake an AMP-based multi-replication effort. Multi-replication denotes the strategy to prospectively plan and perform several pre-registered exact replications within the same lab to assess the replicability of results over several confirmatory replication studies. This will involve up to 20k participants in up to ten replications.

Preliminary results: This project is in an exploratory stage and results are to be reported in the future.

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Keywords: Advanced Meta-Experimental Protocol (AMP), Pre-registered confirmatory multi-replication, Non-inferential perception, Gifted participants

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