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).

The Effects of Imagery-Cultivation on Mood and Psi Performance

2. The name, affiliation, and email address for the lead experimenter(s) for the study.

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3. A short description or abstract of the purpose and design of the experiment.

Historically, paranormal effects (psi) have been linked to altered states of consciousness (ASCs; Bem & Honorton, 1994; Luke, 2011). Little is known about the possible mood shifts individuals may experience while in an ASC. The purpose of the present study is to investigate experimentally mood changes due to a shamanic-like journeying technique called Imagery Cultivation (IC; Storm & Rock, 2009a). One hundred participants will be randomly assigned to one of two conditions—either: (1) the IC treatment, or (2) non-IC (control) condition. After these conditions, participants will engage in a psi task; namely, a picture-identification task using randomly generated target sets devised by May et al. (2012). Participants' moods will be quantified, before and after these conditions, using the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971) as a feedback measure of mood change during the two conditions. Paranormal belief and experience (psi belief) will also be assessed using the Australian Sheep-Goat Scale (Thalbourne, 1995), as psi performance can often be predicted by psi belief.

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 three hypotheses are exploratory:

1.   Psi-scoring (Direct Hitting) is higher for (i) the IC group compared to controls, and (ii) sheep compared to goats.

2.   Pre/post POMS difference scores (Tension, Depression, Anger, Vigor, Fatigue, and Confusion, plus Total Mood Disturbance) correlate positively with Direct Hitting.

3.   The mood changes (pre/post POMS differences scores on Tension, Depression, Anger, Vigor, Fatigue, Confusion, and Total Mood Disturbance) are larger and positive for (i) the IC group compared to controls, and (ii) sheep compared to goats.

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

Students from University of Adelaide ($N = 100$). One trial per participant.

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.

Testing is scheduled to start March 1, 2021 and conclude July 31, 2021. It is planned that testing will not commence until after registration.

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.)**

The study is exploratory since the POMS has not been used in a psi study featuring the Imagery-Cultivation (IC) Model. Storm and Rock (2009b) found a significant overall hit-rate on Direct Hitting (rank #1 counts) in their IC group, but controls scored at MCE only. However, the IC design protocol has been changed considerably since that study, and used by Storm (2019), and Storm and Goretzki (2021). Also, in both studies, hit-rates were at chance so expected outcomes even if significant could not be called confirmatory.

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

There are two groups; 50 participants in each (total $N = 100$). For the present study, it is expected that the hit rate for the IC-participants will be significantly above chance (> 20%), but the hit rate for controls will be at or below chance, where MCE = 20% since the present study is a 'five-

choice' experimental design.[1] This design is to be governed by time constraints and participant availability, and 100 was the highest number of participants I could reasonably expect to test in five months given a 1/4-time work load and other commitments.

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

Randomization to determine assignment to one of two groups (treatment or control) is done by pseudo-random program written into the code for the study which is presented on a computer monitor. Psychology I students sign up online and choose their own time for testing; other participants volunteer by ballot-box, and are contacted via mobile phone (SMS) by the experimenter—a series of time slots are offered; participant selects most suitable time. Randomization of targets is also conducted using a true-noise RNG (Schmidt, 1970, 1973).

10. A detailed description of the experimental procedure.

Step 1: After the preliminary pages, the Australian Sheep-Goat Scale (ASGS; Thalbourne, 1995) and the Profile of Mood States–Short Form (POMS-SF; McNair et al., 1971) is completed on-screen via computer monitor.

Step 2: Via on-screen message, 50 participants selected at random will be (i) informed that they will undergo the IC procedure (duration: 9½ minutes; 50 control participants go to Step 3); (ii) asked to relax in their chair, start the pre-recorded instructions, close their eyes, and listen to pre-recorded instructions adapted from Harner (1990): Excerpt:

> "… *Now visualise the future target photograph before you…. Remember this information for later*." After IC, participants make notes (mentation) about impressions of the future target.

Step 3: Target selection following May et al.'s (2012) recommendation. The RNG is used to select randomly one Group of twelve, followed by one photo from each of five Categories in that Group, from the fuzzy set encoded target pool. The RNG lights are numbered on a template '1' to '12' for Group, and '1' to '5' (twice) on a second template for Category. These six randomly generated numbers (one for Group, plus five for Category) are entered into the computer, thus identifying the set of five photos for on-screen presentation and ranking (target selection is not performed until Step 5).

Step 4: Ranking—once the set of five photos appears on-screen, the experimenter instructs the participant to rank the five photographs from 1 to 5 (#1 = 'most likely' photo the RNG will select, to #5 = 'least likely'). Control participants are instructed to rank the photos in accordance with whatever feelings or thoughts they have about the future target generated by the RNG. Those in the IC-procedure, rank photos according to mentation.

Step 5: All participants complete the POMS for a second time. Using the same Category procedure in Step 3, the target photograph is generated by the RNG. This target will be one of the five already selected and ranked with the decoys (hence, MCE = 20%). The participant enters

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[1] I am using Ed May's (May et al., 2012) picture set designed with 12 Groups containing 5 photos in each of five categories, so that each target set has 5 photos per array (i.e., per trail).

the RNG number into the computer so it can present the target photo with the participant's ranking (e.g., if the photo is ranked #1, it is a Direct Hit). The participant is debriefed.

References

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