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).

Imagination and Reactance in a Psi Task Using the Imagery Cultivation Model and a Fuzzy Set Encoded Target Pool

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.

The principles of (i) the Imagery Cultivation Model (Storm & Rock, 2009a), and (ii) Reactance Theory (Brehm, 1966), will be used to manipulate psi in positive and negative directions, respectively.

4. A statement or list of the specific hypothesis or hypotheses being tested, and whether each hypothesis is confirmatory or exploratory. (confirm/explore guidance)

Both hypotheses are exploratory:

1. There is (i) an IC Main Effect (IC-treated individuals score higher than non-IC-treated individuals on Direct Hitting [DV]); (ii) a Reactance Main Effect (reactance-treated individuals score lower than non-reactance-treated individuals on the DV); (iii) a Sheep-Goat Main Effect (reactant goats score lower than non-reactant goats on the DV), and (iv) a Discrepancy Main Effect (‘Discrepants’ score lower than ‘non-discrepants’). (Trait Reactance is controlled as a covariate in a Univariate ANCOVA test.)
2. There is a positive relationship between psi scoring and RASGS (Rasch-scaled Australian Sheep-Goat Scale (Lange & Thalbourne, 2002; Thalbourne, 1995) scores (data tested using Pearson’s $r$).

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

240; one trial each.

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 Wednesday March 29th (four participants expected).

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 given it has mostly new design parameters (i.e., the interventions are not established and are being developed as part of the study). Also, there are no clear precedents as to the outcomes, but theoretically certain predictions are made—i.e., it is expected that there will be (i) a sheep-goat effect, and (ii) group differences in psi performance based on the treatment combinations (see Hypotheses in section 4 above). Thus, I consider the hypotheses to be largely exploratory rather than fully developed.

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

There are four groups; 60 participants in each group (total $N = 240$). For the present study, it is expected that the hit rate for the most psi-conducive group (i.e., Imagery Cultivation) will fall in
the region of 22% to 24%, where MCE = 20% since the present study is a ‘5-choice’ experimental design.\(^1\) The 5-choice design is extremely rare (only one in a ganzfeld database of 67 studies—Storm et al., 2010) so I was not able to find suitable studies to guide me in setting an appropriate sample size. This design was governed more by time constraints and participant availability, and 240 was the highest number of participants I could reasonably expect to test in 7 or 8 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.

Randomisation for assignment to one of four groups 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.

10. A detailed description of the experimental procedure.

Procedure
Participants are randomly assigned to one of four groups: 120 participants will be in the IC condition: 60 given the Reactance treatment (R); 60 not given the Reactance treatment (Non-R); and 120 will be in the Non-IC condition—60 in R; 60 in Non-R.

Step 1 (all 240 participants): Instructions outlining the experiment are presented on-screen, and if participants choose to participate, they will move to another page which lists a series of consent statements. Participants then complete the RASGS and the HPRS (Hong’s Psychological Reactance Scale; Hong & Faedda, 1996).

Reactance Stage (all 240 participants): Participants read the on-screen communication (see Storm et al., 2013). This communication is a modified version used by Silvia (2005), and is presented surreptitiously as basic information about participating in a psi study:

“This short communication was written by a university professor: This Picture ID Task has been developed in parapsychology over many decades and I claim that it is the best of all procedures that have hitherto been applied in parapsychology. I am utterly convinced that psi exists and that participants cannot avoid letting their psi power come to the fore when they correctly predict a randomly generated target picture. Every person, I claim, is expected to display such power. *I know I have persuaded you about this. I know you agree with my opinion. In fact, you’re really forced to agree because university students can’t have differing opinions on this issue*.”

\(^1\) 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.
The additional sentences between the asterisks (i.e., *I know . . . this issue*) are the threatening elements; they will not be in asterisks in the study, and will only be presented in the reactance condition \((n = 120)\).

All 240 participants rate their reactions to the communication by completing the Discrepancy Scale.

IC Stage (all 240 participants): The computer program will then:

(i) inform 120 participants that they will undergo the IC visualisation procedure (duration: 9.5 minutes). The 120 participants who do not go through the IC treatment will go straight to Step 2 below;

(ii) instruct each IC participant to wear a mask and sit back in his/her chair;

(iii) ask IC participants to listen to pre-recorded instructions on CD adapted from Harner (1990, p. 32)—e.g., “You are now reaching the end of the Tunnel … you will see a set of doors … now visualise the doors in front of you … Now push open the doors … Now visualise the future target photograph before you … Study the photograph in all its detail … Remember this information for later.”

After the IC procedure, participants are instructed on-screen to make notes (mentation) about their impressions of the future target. At this stage, neither the participant, nor L.S., knows what the target is since it has not been generated.

Step 2 (all 240 participants): This procedure encourages direct conscious participant interaction using a Schmidt RNG to generate target sets and targets. While ostensibly precognitive (target selection comes before target generation) and not overtly psychokinetic, operationalizing the task this way encourages crossover psi effects where “precognition could actually be psychokinesis” (Millar, 2015, p. 165; see also, Storm & Rock, 2014). The design may therefore be more facilitative of psi compared to conventional psi tasks—in point of fact, it is not the aim of this study to differentiate psi using conventional categories (see Thalbourne, 2004).

The target set is generated using the RNG in “Roulette Mode” (i.e., a random number of steps). The selection procedure follows May et al.’s (2012) recommendation. First, the RNG is used to select randomly one Group of twelve, followed by one photo from each Category in that Group, from the fuzzy set encoded target pool totalling 300 photographs. The RNG lights are numbered G1 to G12 for Group, two rounds of C1 to C5 for Category (only RNG outcomes between C1 and C5 inclusive are used for Category, so participants may have to repeat the run as 2 of the 12 lights are necessarily excluded and say “Spin Again”). Six randomly generated numbers \((G+C1+C2+C3+C4+C5)\) are entered into the computer, thus identifying the target set of five photos for automatic on-screen presentation for participants to rank (target selection is not performed until Step 4).
Step 3 (all 240 participants): 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 that matches the mentation, to #5 = ‘least likely’ photo that matches the mentation). Non-IC participants are merely asked to rank the photos according to which photo they think the computer will select as the target photo. IC participants are permitted to re-read their mentation, in order to prompt their memories, thereby assisting them in the ranking process. The experimenter does not offer personal interpretations of the mentation as this may mislead participants. The experimenter makes sure that the participant types under each photo a rank number.

Step 4 (all 240 participants): Using the “C1 to C5” procedure again on the RNG to generate an RNG light number (between 1 and 5 inclusive), the target photograph is generated. This target will be one of the five already selected and ranked (MCE = 20%). The RNG light number is typed into the computer, which automatically tells the participant whether that number matches the target photo. The participant is debriefed.

References