ASPREDICTED

Symmetrical Operationns (#6554)

Author(s)

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1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

Is it easier to associate symmetrical operations with symmetrical symbols than it is to associate them with asymmetric symbols?

3) Describe the key dependent variable(s) specifying how they will be measured.

The number of basic arithmetic problems answered correctly in three minutes.

4) How many and which conditions will participants be assigned to?

Two conditions:

(i) Where the operation is congruent to its symbol (e.g. symmetric operations have symmetric symbols)

(ii) Where the operation is incongruent to its symbol (e.g. asymmetric operations have symmetric symbols)

Participants will be allocated based on the parity of their student number (odd numbers to the incongruent condition). This functions as random allocation: students are assigned student numbers based on the order in which they apply to the university (across all programmes of study).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will compare the total number of arithmetic problems answered correctly in three minutes between the two groups, using a t test. (Unless the data are clearly non-normal, in which case we will use non-parametric equivalents.)

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will compute the mean and SD for each group and eliminate any participant who scores 3 SDs away from the mean.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

All students attending the Applied Statistics lecture on Wednesday 8th November 2017 will be asked to participate. All those who agree to take part will be included in the analysis. We anticipate this will be around 50 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

No