

## Teapot experiment I (#12526)

Created: 07/10/2018 06:32 AM (PT)

Shared: 09/13/2018 03:58 AM (PT)

---

This pre-registration is not yet public. This anonymized copy (without author names) was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) will become publicly available only if an author makes it public. Until that happens the contents of this pre-registration are confidential.

---

**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?**

Does the attraction effect go away when the two attribute dimensions cannot be processed independently?

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

The main dependent variable is the proportion of trials in each condition (numerical, pictorial) on which the target was chosen (excluding trials where the decoy was chosen).

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

There are two conditions: numerical vs pictorial representation of stimuli. Each participant will complete both conditions, but the order of the conditions will be randomised.

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

First we are going to test if the order of the conditions has an effect on the strength of the attraction effect. This will be tested with a mixed effects regression where we will be including an interaction between condition and order. We do not expect order to have an effect, but if it does, we will only analyse each participant's first condition. Then, we will assess the strength of the effect by condition by calculating a 95% confidence interval for our key variable in both conditions. Using a one-sided t-test, we will test whether the mean of our key variable is significantly greater than 0.5 in the two conditions. We will also test the difference between these two means with a paired/unpaired (depending on whether order will have an effect) sample t-test. Supplementary analyses will involve testing the effect of the number of practice trials on the strength of the effect (mixed effects model), and the effect of the target-decoy value difference on the likelihood of choosing the target (mixed effects logistic regression).

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

We will exclude participants whose 1) accuracy on the catch trials are 2.5 standard deviations below the average 2) choice pattern is in the the lowest 2.5% of the entropy distribution 3) autocorrelation is in the upper or lower 2.5% of the autocorrelation distribution. We will exclude 2.5% of fastest trials. We will also exclude any trials where the subject selected the decoy.

**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.**

We will collect data from a 100 participants.

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