# Behavior explanation - Explanations based on beliefs v2 - June 2017 (#4355)

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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?**
We hypothesize that when judging explanations of other people's behavior, subjects will favor explanations that are simpler and provide rational support for the behavior.

**3) Describe the key dependent variable(s) specifying how they will be measured.**
Ratings of how satisfying each explanation is on a scale from 1 (very bad explanation) to 7 (very good explanation)

**4) How many and which conditions will participants be assigned to?**
6 conditions in a mixed 3x2 design. One IV is the story (there are three different cover stories). One IV is whether the person took an action (version A) or did not take the action (version B). Let the conditions be labeled 1A, 1B, 2A, ... Half of subjects will see conditions 1A, 2B, 3A; half will see 1B, 2A, 3B (in a random order).

**5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.**
We will compare subjects' average ratings to the predictions of a decision net model that assigns probabilities to all of the candidate explanations. We will fit a free parameter in the model separately for each cover story. The parameter represents the base rate of an event in the story happening. After fitting this parameter, we will compute the correlation coefficient between the model predictions and mean subject average ratings.

**6) Any secondary analyses?**
The two versions of the story are set up so that, for one version, an explanation only provides rational support if it refers to all three factors (example: Why did John eat the appetizer? He didn't know that the goat cheese contained benzatrate, and that the bell pepper contained benzatrate, and that the bacon contained benzatrate); for the other version, an explanation provides rational support as long as it mentions just one factor (example: Why didn't John eat the appetizer? He knew that the goat cheese contained benzatrate).

We will conduct a 3x2x8 ANOVA with one factor being the story, one factor being the story version, and one factor being the explanation. We predict an interaction between story version and explanation such that people judge the explanations differently depending on the version of the story. Additionally, we will conduct t-tests to compare subjects' judgments about the explanations that refer to all three factors. We predict that in one version of each story, these explanations will receive higher ratings, even though in both versions of the story, the explanations provide rational support.

**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 until we have 50 subjects in each condition (100 total), after excluding subjects for failing a manipulation check. Specifically, for each story, there is one explanation that is very poor (example: Why did John eat the appetizer? He knew that the goat cheese contained benzatrate, and that the bell pepper contained benzatrate, and that the bacon contained benzatrate). Subjects who assign a rating greater than 4 for this explanation on at least one story will be excluded.

Because we won't know in advance how many subjects will be excluded, the final number of subjects might be slightly higher or lower than 50 per condition. For example, we will first collect data from 50 subjects per condition, then exclude subjects who failed the manipulation check. We will then collect a second batch of data to get the total number of non-excluded subjects up to about 50. Data collection will not be conditioned on the outcome of the results.

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