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**As Predicted:***"Individual Differences in Receptivity to Scientific Bullshit: Study 3"* (#16517)

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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 will focus on two main questions:  
1) We will test the correlations between pseudo-profound bullshit receptivity (PPBR), scientific bullshit receptivity (SBR), belief in science, science literacy, and political orientation (social and economic conservatism). In particular, we will focus on two specific predictions:  
1a) The correlation between belief in science and SBR is stronger than the correlation between belief in science and PPBR.  
1b) The correlation between social conservatism and PPBR is stronger than the correlation between social conservatism and SBR.  
2) We will test the hypothesis that science literacy moderates the correlation between PPBR and SBR; more specifically, we expect that the positive correlation between PPBR and SBR will be weaker for individuals high (vs. low) in science literacy.  
  
**3) Describe the key dependent variable(s) specifying how they will be measured.**  
Our two key dependent variables are PPBR (Pennycook et al., 2015) and SBR (a new measure). In this study, the SBR will not include real scientific statements (in order to shorten the study length).  
  
**4) How many and which conditions will participants be assigned to?**  
We will measure the following variables:  
1) Social and fiscal conservatism will be measured with SECS – Social and Economic Conservatism Scale (Everett, 2013).  
2) Belief in science will be measured with Belief in Science Scale (Farias, Newheiser, Kahane & Toledo, 2013).  
3) Science literacy will be measured with 7 true / false statements related to general scientific knowledge (Braman, Kahan, Pieters, Wittlin, & Slovic, 2012)  
  
  
**5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.**  
We will use correlational analyses to test the relationships between PPBR, SBR, belief in science, and political orientation. Z-tests will be used to compare the correlations between the two types of bullshit and belief in science (question 1a) and social conservatism (question 1b). We will conduct these analyses on the data from this study, and we will conduct internal meta-analyses of these tests including data from Studies 1 and 2.  
  
Regression analyses will be used to test whether science literacy moderates the relationship between PPBR and SBR. We will estimate a regression predicting SBR with the following predictors: science literacy, PPBR, and the literacy-by-PPBR interaction term. In the event of a significant interaction, we will use simple slopes to test the relationship between PPBR and SBR for individuals who are 1 SD above and 1 SD below the mean in science literacy.  
  
**6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.**  
The study will include an attention check. We will test whether excluding participants who fail the check changes the results of our primary analyses.  
  
**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 determined the needed sample size by computing it based on expected coefficients. Our calculation with α = 0.05, β = 0.1 (90% statistical power) and r = 0.10 resulted in a minimum sample size of 1043 participants (expected sample = 1050).  
  
**8) Anything else you would like to pre-register?  
(e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)**  
1. We will report a correlation matrix including all of our measures.  
2. We will also examine the relationship between political extremity and PPBR / SBR / scientific bullshit detection. To examine these relationships, we will use both deviation analyses (measuring participants’ deviation from the scale midpoint) and quadratic regression analyses.  
3. We will also include demographics, and test for the relationship between demographics and the two types of BS receptivity.