**Consent to Participate in Research**

**Description**

If you choose to participate, you will take part in a study about "Validating statistical methods to detect (potential) data fabrication". If you participate, you will be asked to fake research results.

**Benefits**

You will receive 100 euro's, with a potential additional 100 euro's if your fabricated results are one of the three that are hardest to detect (out of 20).

In addition, we try to incrase scientific knowledge. Specifically, this study investigates faked research results, as they are usually reported in research papers (e.g., statistical test results). We focus on studying whether faked data can be detected with statistical methods and how valid these methods are in detecting (potentially) problematic data (e.g., the power and the false positive rate). The goal is to become better informed about the validity of these methods and whether these methods are valuable in practice.

**Risks/Discomforts**

The interview would take approximately 45 minutes, fabricating the data at least 30 minutes but is not limited. There is a small risk that you may become uncomfortable during the study. If at any point during the study proceedings you become uncomfortable, you may elect to withdraw your consent to participate without consequences to you. If any feelings of discomfort emerge you are free to contact the lead investigator with any questions or concerns using the email address listed at the bottom of this consent form. While there is a small chance that the confidentiality of the information collected could be compromised, we will take care to prevent this from happening. This study has been approved by the Tilburg University Psychological Ethics Committee.

**Confidentiality**

Your contact information is only used to send an invitation e-mail and will not be connected to your responses. After sending out the Amazon gift cards, all e-mail addresses are permanently deleted. To ensure anonymity, we disabled the logging of your e-mail address or IP-address by Qualtrics when responding to the survey. The data from this study will be made publicly available at the Open Science Framework for as long as possible, such that other researchers can verify and reanalyze the data.

**Voluntary Nature of Participation**

Your decision to participate in this study is completely voluntary. Thus, you may refuse to join the study or terminate your participation at any time without negative consequences.

**Contact Information**

In case you have any remaining concerns or questions about this survey, please feel free to e-mail one of the following persons: Chris Hartgerink (c.h.j.hartgerink@tilburguniversity.edu), Jelte Wicherts (j.m.wicherts@tilburguniversity.edu), or Marcel van Assen (m.a.l.m.vanassen@tilburgunviversity.edu)

**Consent**

If you are willing to participate in this study and if you agree with the anonymization and storage of the data, please confirm below and continue with the survey.

* I have read and understood the description and consent to participate in this study and agree with the outlined anonymization procedure and data storage, knowing that I can stop my participation at any time.

intro Task  
  
We require you to fabricate summary statistics (means, standard deviations) that look as real as possible. Each fabricated set of summary statistics must support the hypothesis that we provide.  
  
We request you to fabricate summary statistics of one study on the Stroop effect (Stroop, 1935).   
   
In the actual Stroop paradigm, participants are asked to determine the color a word is presented in (i.e., word colors), but the word also reads a color (i.e., color words). The presented word color (i.e., “red”, “blue”, or “green”) can be either presented in the congruent color (e.g., “red” presented in red) or an incongruent color (i.e., “red” presented in green). The dependent variable in the Stroop task is the response latency. It is hypothesized that latency is on average higher for incongruent than for congruent words.

Q27 Reward  
  
   
Each participant fabricates the mean and SD of latency for congruent and incongruent conditions, for 25 (fictional) individuals (i.e., 2 conditions × 2 statistics × 25 persons = 100 data points).  
  
Subsequently, we anonymously analyze these fabricated and genuine statistics and try to detect which statistics were fabricated and which were genuine.  
  
Researchers who participate are compensated with €100. The three participants who fabricate the datasets that are the hardest to detect will get an additional reward of €100. In other words, if you are able to fool us with your fabricated statistics, you will receive a bonus.  
  
   
  
The study starts on the next page.

filler\_01 Fabricating results: Stroop effect

temp\_01 Stroop effect  
   
Below, a link is provided to a spreadsheet in which you have to fill out your fabricated summary statistics for the Stroop effect study.   
  
Your task is to fabricate the mean and SD of latency for congruent and incongruent conditions, for 25 (fictional) individuals (i.e., 2 conditions × 2 statistics × 25 persons = 100 data points).  
  
After you fill out the highlighted yellow cells, the spreadsheet automatically calculates and displays the test statistics (t-values and p-values) concerning one hypothesis. How you decide to fabricate the results that you fill out in the spreadsheet is up to you. Your task is to fabricate means and standard deviations such that  
   
1. Latency is on average higher for incongruent than for congruent words

conf\_01 Please double check whether the fabricated data support the hypothesis, as indicated by the checkmarks in the spreadsheet.

* No, the fabricated data do not support the hypothesis
* Yes, the fabricated data support the hypothesis

res\_01 Copy and paste the contents of the yellow cells into the textbox below.   
Direct copy-pasting is sufficient and no adjustments are allowed.

Q25 Debriefing questions (page 1 of 2)

deb\_01 What is your current knowledge of statistics? (1 = extremely poor; 10 = excellent)

* 1
* 2
* 3
* 4
* 5
* 6
* 7
* 8
* 9
* 10

deb\_02 Which statistical analysis programs do you frequently use (multiple answers possible; frequent is at least once a week)?

* SPSS
* R
* Stata
* SAS
* Matlab
* Python
* Other
* None

deb\_03 Debriefing questions (page 2 of 2)  
  
Did you use a (pseudo) random number generator to simulate data during this study? If you do not know, fill in "No".

* Yes
* No

deb\_04 How many different combinations of means and standard deviations did you try?

deb\_05 Please describe in words how you fabricated the research results for the   
Stroop effect study. Indicate if you used different procedures per study.

Q35 Thank you very much for participating in our study. As a final reminder, we would like to note that fabricating data is only allowed within this experiment and should not be taken as an invitation to fabricate research results elsewhere. Data fabrication is a serious form of scientific misconduct and is widely and explicitly condemned by professional organizations, institutions, and funding agencies alike.  
   
  
If there are any remaining questions about this study, feel free to email Chris Hartgerink (c.h.j.hartgerink@tilburguniversity.edu)  
  
You can close this window now.