

UNIVERSITY OF TEXAS AT AUSTIN

Project # 1

The Experiment Experiment.

1.1. **Guided listening.** After (or during) listening to the podcast, please, provide your answers to the following questions.

**Problem 1.1.** (1 point) What was it that prompted *Brian Nosek* to undertake the project described in the podcast?

**Problem 1.2.** (1 point) What did the project designed by Brian Nosek consist of?

**Problem 1.3.** (1 point) What is the (at least one) reason that scientists do not habitually repeat studies?

**Problem 1.4.** (1 point) How many experiments did the volunteer scientists “do over”?

**Problem 1.5.** (2 points) What was the source of the chosen experiments? Were they obscure with the field?

**Problem 1.6.** (1 point) What is the “*afternoon-treat hypothesis*”?

**Problem 1.7.** (1 point) Did the project originator Brian Nosek keep constant track of how many of the experiments were successfully replicated? Or did he wait until the entire experiment experiment was completed?

**Problem 1.8.** (1 point) How many original conclusions were confirmed?

**Problem 1.9.** (1 point) Is the conclusion that the scientists are faking their data?

**Problem 1.10.** (2 points) What experiment did the journalist conduct the morning of taping the podcast? What were the results?

**Problem 1.11.** (3 points) What is the **file-drawer effect**? What is its consequence in the field of psychology?

**Problem 1.12.** (1 point) Does the **file-drawer effect** completely explain the 39/100 ratio?

**Problem 1.13.** (1 point) Which example of a common mistake does Dr. Lindsey describe?

**Problem 1.14.** (1 point) Which other disciplines are now trying to do the experiment experiment?

**Problem 1.15.** (1 point) What remedy does Brian Nosek propose?

**Problem 1.16.** (2 points) Is this idea already being implemented in a certain research field? Has this changed the frequency of positive results?

**Problem 1.17.** (1 point) Should we lose faith in scientific results?

1.2. **Open inquiry.** This part of the project gets the total weight of 27 points. The points will be allotted according to the TA's judgement.

Please, research the topic of the podcast further and write up a report of what you did. You should pick only **one** activity and pursue it thoroughly. Some possible activities are:

- Design and execute a simple experiment consisting of trials such as coin tosses, or rolls of a die. See how close to “fairness” your results are. Are you tempted to increase the number of trials? Plot your findings and comment on the presented data.
- Find some available studies which were discussed in the podcast. Comment on the original and the replicated study.
- Go to the “Center for Open Science” website at <https://cos.io/> Find examples of how their work might facilitate data gathering.
- Look into the following article

<http://www.statnews.com/2015/12/18/clinical-trial-reporting/>

What is the take-home message?

- Look into the following article

<http://www.statnews.com/pharmalot/2015/12/16/pharmalot-nih-drug-trials/>

What is the take-home message?

- Compare *Andrew Wakefield's* work to the conclusions of

<http://www.cdc.gov/vaccinesafety/concerns/autism.html>.