Challenge: Evaluate an Experiment Analysis

1) Emperor Palpatine’s slogan is given to one set of fifty droids while Darth Vader’s slogan is given to another set of fifty droids. The flaw in this experiment is sampling bias because Emperor Palpatine/Darth Sidious is stronger with the Force than Darth Vader is and Palpatine is the emperor while Vader is his top enforcer and Palpatine is a better manipulator than Vader is. These factors would bias the results of the two slogans in Sidious’s favor. I would correct this experiment by having a total of two hundred captured droids split into four groups of fifty. Emperor Palpatine would deliver the “Anger” slogan to one group of fifty droids and he would deliver the “Together” slogan to another group of fifty droids. Darth Vader would deliver the “Together” slogan to one group of fifty droids and he would deliver the “Anger” slogan to another group of fifty droids. With this new setting, there is bound to be a lot more accuracy about which slogan is really the best slogan to use for the Sith Lords.

2) The Jedi send Jar Jar Binks and Mace Windu to four friendly planets and four unfriendly planets, respectively. The flaw with this experiment is bias in assignment to conditions because Jar Jar is sent to the friendly planets while Mace Windu is sent to the unfriendly planets. Jar Jar Binks is friendly, so the friendly planets are very likely to respond positively to Jar Jar. Mace Windu is firm, so the unfriendly planets are more likely to respond positively to Mace Windu. Jar Jar is a friendly Gungan with a good heart; therefore, Jar Jar’s softness and friendliness are very likely to win people over. Mace Windu is a firm and stoic Jedi with great fighting skills; therefore, Mace’s diplomatic skills and fighting skills are more likely to win over the unfriendly planets. If Jar Jar Binks were sent to the unfriendly planets and Mace Windu were sent to the friendly planets, then the odds would be against each of them. I would correct this experiment by having Jar Jar Binks visit four friendly planets and four unfriendly planets. I would also correct this experiment by having Mace Windu visit four unfriendly planets and four friendly planets. I would make these corrections to better determine which of these two characters should be the representative of the Jedi.

3) A company sends you data on employee satisfaction rates for workers in Human Resources and workers in Information Technology in five different countries. The flaw in this experiment is contextual bias because most of the HR workers are concentrated in three of the five countries while the IT workers are equally distributed across worksites. The uneven distribution of the HR workers is almost certain to mess up the results of the experiment. I would correct this experiment by evenly distributing the HR workers across the five countries, so that the results will be more accurate.

4) People install the Happy Days Fitness Tracker app and their level of physical activity data is automatically sent to the company for product research purposes and the company tells you that the data show that people’s activity levels rise steadily. The flaw in this experiment is observer bias because the company tells you in the interview that people’s activity levels rise steadily. People do different types of physical activity and some people do little physical activity while other people do more physical activity, so the data couldn’t show that people’s activity levels rise steadily. Therefore, the company must be lying about the data, so that the company can make great sales on the product. I would correct this experiment by having the company be honest about its product having diverse results because customers value honesty in companies. This experiment could also be corrected by having the company show you the results in the interview.

5) A teacher writes three versions of a test and the teacher stacks the three versions of the test together and gives them to the students and finds that students who took Version B scored higher than those who took either Version A or Version C. The flaw with this experiment is sampling bias because the three test versions were stacked in order and given to the students instead of being shuffled in the stack and given to the students. I would correct this experiment by having the teacher mix Versions A, B, and C up, so that the results will look naturally spread out.