**Challenge: Evaluate an experiment analysis**

1. Multiple possible confounding variables, the droids used may not be representative of the general population, Palpatine could be more convincing then Vader, the droids may know that Palpatine is more powerful so may feel coerced to join Palpatine over Vader and Vader may not be as motivated to give convincing speeches as Palpatine is.

To address this we could have Vader and Palpatine switch phrases with different groups while also testing these phrases on more then just droids and seeing what the outcomes are. We can also have some presenters who are not as powerful as Vader or Palpatine and see how those people do using different slogans around different groups. Essentially we would be running several A/B tests all under the umbrella of one experiment but we should only test for one variable at a time and this will help give us baseline results for any test.

1. Simpsons’ Paradox. For this I would like to see the data planet by planet. Depending on what the data shows we may have to ask Windu to rethink how people see him. It is also possible that Windu has a higher number of people very favorable to him then Jar Jar does so it may be the really loud supporters of his are biasing his idea of how planets view him.

Also how is Windu measuring the success rate he has? Because Jar Jar went to already friendly planets so it could be the planets already had a 75% approval rating or higher and Windu had a net increase in approval rating while Jar Jar had a net zero or even negative effect. I don’t know because I need more data.

1. Sampling bias may warp the results because two worksites have almost no HR people. I would have to see what the overall satisfaction rates are and also see what the satisfaction rates are between HR and IT at certain locations and see if there are any observations that can be made. Without seeing the results I would have to just think of different things that can go wrong that I would have to look at during my data exploration.
2. Sampling error due to the differences between people who opt in and those who do not. I do not know how to fix this because we are not allowed to collect data on people who do not want their data collected. I am sure aclever but legal solution exists but I cannot think of one.
3. It’s possible that the middle section of the class tends to concentrate students who get better grades or they were cheating off of each other. A fix would be have the stack be one test of each group, followed by the next group, so A,B,C,A,B,C for the whole class.