The recent disappearance of Malaysia Flight MH370 has elicited a large number of conspiracy theories as to what happened to the plane, including ideas such as: the Illuminati, government conspiracy with the NSA, aliens, the Bermuda Triangle, and magical energy field vortexes. If we look at recent tragedies, we find that the average number of conspiracy theories per event is 4.6 with a standard deviation of 3.2. Because of the unusual nature of this event, we expect to find that the missing flight causes an **increase** in the number of conspiracy theories. We interviewed 15 participants about what they think happened to the plane, and they averaged 6.1 conspiracy theories. Using the *p* < .05 level, did this event create a significantly higher number of theories than the population average?

**u um = 4.6**

**o = 3.2**

**N = 15**

**M = 6.1**

**P < .05, one tailed greater than test**

Research Design:

1. What is the population of interest? **People’s** **conspiracy theories for weird events**
2. Why would the researchers choose to assess a sample rather than the entire population? **More efficient, cheaper, less time, we don’t have access to everyone**
3. Is random selection possible in this case? **No, we don’t have access to everyone in the world**
   1. What type of sampling can we do instead? **Convenience**

Z-scores:

1. What would be the z-score for the top 15% of conspiracy theories in the population? **1.04**
   1. What would be the raw score number of conspiracy theories? **7.92**
2. What percent of scores are between 2.5 and 5.2 given the population data? **31.85**

Hypothesis Testing:

1. List the six steps of hypothesis testing for this experiment.

**Step 1:**

**DV is scale – yes, ratio because we can have zero theories**

**Random selection – nope, random assignment – nope**

**Normal, don’t know N < 30**

**Step 2:**

**N: Malaysia Flight MH370 < = Normal conspiracy theories**

**R: Malaysia Flight MH370 > Normal conspiracy theories**

**Step 3:**

**M = 6.1 u = 4.6**

**N = 15 o = 3.2**

**om = 0.83**

**Step 4:**

**P < .05, greater than test**

**1.64**

**Step 5:**

**Z = (6.1 – 4.6) / .83**

**1.81**

**Step 6:**

**Yes reject the null**

1. What is the confidence interval for the sample mean?

**Lower = 4.48**

**Upper = 7.72**

**Half credit for 4.74 and 7.46**

1. What is the effect size of this experiment? **.47**
   1. Is that small, medium, or large? **medium**
2. What is the power of this experiment? **56.77**
   1. Give two examples of how you might increase power. **Lower SD, higher effect size, higher alpha, type of test, more people**