**Dining Services Water Taste Test**

**Executive Summary**

**Overview of the experiment:** Identical containers of water were labeled A, B, and C. Participants were instructed to drink from all three containers, but randomly assigned to the order in which they drank. Participants were told to rank the waters in order of preference, but they could give two (or even all three) waters the same rank. Their ranks were returned on individual slips of paper, so participants’ choices could not bias one another.

**Outcome:** The total number of participants was 202. Of these, 165 expressed a preference between all three waters (no tied rankings) and 37 ranked two or more waters the same.

Of the 165 who ranked the waters 1, 2, and 3 (no ties):

* 40.5% (67) felt B was best (ranked B #1)
* 29% (48) felt A was best
* 30% (50) felt C was best
* 21% (35) felt B was worst (ranked B #3)
* 36% (60) felt A was worst
* 42.5% (70) felt C was worst

These differences are more than we would expect due to random chance. Specifically, the 40.5% who choose B as favorite is significantly higher than the 33% we would expect by chance. (Similarly, the 42.5% who choose C as least favorite is significantly higher than the 33% we would expect by chance.)

Breaking the data down further and focusing on individual sequences of ranks,

* 21% (42) ranked B as #1, A as #2, C as #3
* 17% (35) ranked C as #1, B as #2, A as #3
* 14% (28) ranked A as #1, B as #2, C as #3
* 12.5% (25) ranked B as #1, C as #2, A as #3
* 10% (20) ranked A as #1, C as #2, B as #3
* 7.5% (15) ranked C as #1, A as #2, B as #3

Again, these differences are more than we would expect due to random chance. Random chance dictates that each sequence would be chosen around 1/6 of the time (17%, or 28 people). In this case, the 21% who ranked B, A, C (and the 7.5% who ranked C, A, B) are significantly higher (lower) than we would expect by chance.

Of the 37 who had some tied rankings:

* 32.5% (12) had no preference between the three waters (all ranked the same)
* 46% (17) felt B was best (along with another water)
* 46% (17) felt A was best (along with another water)
* 32.5% (12) felt C was best (along with another water)

In addition,

* 13.5% (5) felt B was worst
* 19% (7) felt A was worst
* 24% (9) felt C was worst

This indicates that among people who had less preference between the waters, B was still the favorite, followed by A. C was the least favorite.

**Conclusion**: For both groups of participants (those with three rankings and those with ties), it is clear that B is most likely to be chosen as the favorite, and this preference is statistically significant. Whether there is a true preference between A and C is less clear; although C came in last in the rankings, the differences between C and A are not statistically significant.