Money Trouble: The Cost of Change at Wash. U.

Exploring Student Attitudes Towards the Allocation of Wash. U. Funds

INTRODUCTION

In late October of 2016, the Sumers Recreation Center at the Athletic Complex (AC) opened. While the project cost over $12 million dollars, the lackluster funding to on-campus Student Health Services (SHS) continues and the wait for students to see a mental health professional has increased to 4-8 weeks. Our team set out to explore student attitudes towards the new AC, as well as if they feel the university's money was best spent in this remodeling. We were particularly interested in how these attitudes were affected by learning of the low funding for the mental health resources at SHS. Our research question was thus: How does knowledge of other potential recipients of Wash. U. funding influence students' attitudes towards spending on the new AC?

H_0: Student attitudes are not affected by the treatment prompt
H_A: Student attitudes are affected by treatment prompt

METHODOLOGY

The survey, which was created and distributed through Qualtrics, began with basic demographic questions, including gender, year at Wash. U., and if the respondent was a member of a club or varsity sport.

Respondents were then randomly given one of the following three prompts:

Control Prompt: 2 years ago, construction on the Sumers Recreation Center at the Athletic Complex (AC) began. The project cost over $12 million dollars and was finished just last month. The AC now offers a variety of athletic classes, including TRX, spin, and barre; new recreational courts for basketball, volleyball, and badminton; and massage therapy.*
Treatment Prompt: Meanwhile, average wait times to see a mental health specialist on campus average between five to seven weeks for Wash. U. students. The wait is so long because of a shortage of mental health professionals at SHS (Student Health Services), which stems from the limited funding provided by Wash. U.**
Neutral Prompt: Now you will be asked a series of questions about the new Athletic Complex (AC) at Wash. U. Please answer honestly. Thank you.

*Control prompt included neutral prompt text
**Treatment prompt included control and neutral prompt text

We distributed the survey on Facebook, in official class pages for the current classes at Wash. U. We also randomly selected students to email from FACES. We accumulated 529 responses total, and through Qualtrics randomization, we tested 193 neutral responses, 179 control responses, and 155 treatment responses, with approximately 66% of our respondents identifying as female. Our sampling is classified as both self-selection (volunteer) sampling and simple random sampling. The results for overall favorability by prompt can be seen in figure 2.

CODE BOOK

Prompt	Gender	Sport	Favorability
1 - Neutral	1 - Male	1 - Nonathletes	1 - Definitely Yes
2 - Control	2 - Female	2 - Athletes	2 - Probably Yes
3 - Treatment	3 - Not Disclosed		3 - Unsure
			4 - Probably Not
			5 - Definitely Not

RESULTS

Inferential Models

Variable	Model 1 Coefficient (SE)	Model 2 Coefficient (SE)
Intercept	1.72917	1.07929
Control Prompt	0.15219 (0.09732)	0.12551 (0.09662)
Treatment Prompt	0.30439 (0.10197)***	0.28544 (0.10116)**
Gender		0.01713 (0.08628)
Sport		0.355 (0.10069)***
Adjusted R^2	0.01328	0.03334
F-statistic	4.48	5.458
d.f.	515	513
P-value	0.01178	~ 0

Null Hypothesis: No relationship between variables included in regression and overall favorability ($\beta_p = 0$)

Model 1 includes ust the prompt variable. The resulting prediction equation is:

overall attitude = 1.72917 + 0.15219*control prompt + 0.30439*treatment prompt

The positive coefficient for both prompt variables suggest a positive relationship between receiving the treatment and having a higher response value, or decreasing favorability. However, only the treatment prompt coefficient was significant, with a p-value of 0.003 compared to the control prompt coefficient p-value of 0.118. The high F-statistic indicates that the likelihood of obtaining the values we did solely due to chance is around 0012, according to the p-value.

Model 2 controls for gender and whether or not the respondent plays a club or varsity sport. The resulting prediction equation is

overall attitude = 1.07929+0.12551*control prompt + 0.28511*treatment prompt + 0.01713*gender + 0.35500*sport

Though gender and control prompt coefficients were not significant, both the treatment prompt and sport coefficients were, with p-values of 0.005 and 0.0004, respectively. All variables in this instance suggest a positive relationship between a higher value (see code book) and lower overall favorability. However, the adjusted R^2 value is close to 0, indicating that the suggested linear model is not a very good fit.

For both models, we reject the null hypothesis that there is no relationship between receiving the treatment prompt (and in model 2, not being on a sport team) and lower favorability towards the AC with 99% confidence.

Average Treatment Effect (ATE)

Null Hypothesis: There will be no difference in average overall favorability between those who did and did not receive the treatment.

To determine whether or not the given treatment truly influenced responses, and if so, by how much, the Average Treatment Effect (ATE) was calculated. The final question in the survey asked if respondents' believed if, overall, the new A.C. was a good use of Wash. U. funds. As seen in Figure 1, it is clear that based on the average treatment effect, there was indeed a decreased approval among the respondents who were given the treatment, indicated by a higher average overall attitude response value (2.05) compared to 1.90 among those who received the control and 1.75 among those who received the neutral prompt.

FIGURES

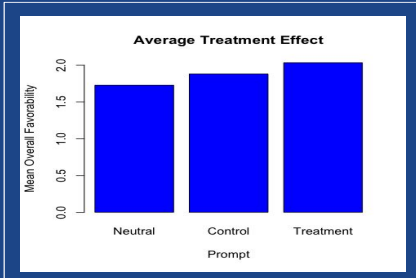


Figure 1

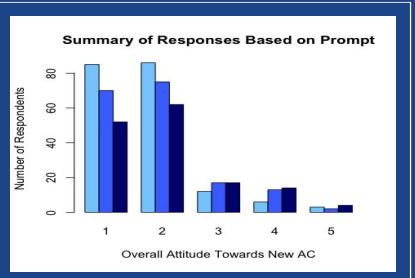
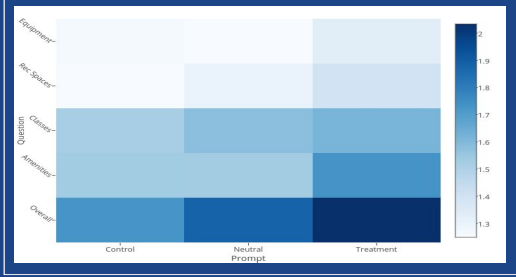


Figure 2



The heatmap shown to the left depicts respondents' attitudes to various survey questions. Darker colors indicate higher average response values for each prompt, and higher values represent lower favorability. The "treatment" column clearly shows that respondents who received the treatment responded less favorably towards all the new aspects of the AC that were featured in the survey compared to the control group.

LIMITATIONS

We identified three potential limitations to our research:

- Selection bias could have occurred because we primarily used Facebook to distribute our survey, thus losing a population of people without a Facebook account.
- There was opportunity for the social desirability effect to sway responses towards supporting mental health regardless of personal desires.
- We identified potential for non-response bias because people who have strong viewpoints on the new AC were more likely to respond to surveys, while those without strong opinions likely would not have felt a need to respond to our survey.

CONCLUSION

Our results prove our alternate hypothesis correct — attitudes of Wash U students were in fact affected by the treatments. As shown by the ATE, students did indeed respond less favorably towards the new A.C. if they received the treatment. Even though the differences in average favorability were small, the regression model indicates that our results were statistically significant. Ultimately, these analyses suggest a clear relationship between receiving the treatment and responding less favorably to the new AC. We can conclude that when students are given the information on the underfunding of mental health services, their attitude toward the worth of the AC is negatively affected.