Finding Availability Bias Occurrences Through Student Involvement

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Introduction

The following study seeks to observe the presence of availability bias in college students. The study does so by observing the bias' influence on student involvement. This is interesting to track as it draws a line between how likely someone perceives the possibility of future involvement, not to personality traits or personal values, but to proximity and frequency of exposure to opportunities. On one hand, this is common sense and explains the prevalence of advertisements. On the other, effectively changing someone's perception of the future and their own preferences is a nuanced endeavor. Applications of the availability bias may be used to learn about the demographics most likely to respond to opportunities for involvement. This particular bias becomes more pronounced with age, and college students are more susceptible to availability bias than middle or high-school students. (Khazanov, 2012) This makes conducting the experiment on a college student-aged demographic more relevant.

Literature Review

The availability bias was first coined by Kahneman and Tversky as the availability heuristic. (1973) This bias is the psychological mechanism behind how individuals assess the frequency or likelihood of events. Availability bias is the determination of an event's frequency, or probability of occurrence, based on the cognitive ease required in the recall of that event. (Kahneman & Tversky, p 208) Several factors can increase or decrease the cognitive ease of an event. An example Kahneman and Tversky give is in regard to an individual calculating the divorce rate. This individual assesses their estimate by recalling the percentage within their own community that is divorced. Zooming out, availability bias occurs through an individual's use of personal exposure and experience to determine a probability. Hence, its results are exposed to the same dangers of sample data.

This macro-framework applies to other biases as well, such as the gambler's fallacy. Before analyzing the presence of availability bias within our survey collection, it is important to acknowledge that there are other methods for determining frequency and probabilities. An

additional method that involves a cognitive bias is the representativeness heuristic (Kahneman & Tversky, p 208), where individuals estimate the probability of a given outcome based on previous, independent probabilities as well as whether an outcome set fits their expectation of randomly distributed.

In this study, the influence of availability bias is expected to be observed through its positive effect on student involvement. Particular aspects of an on-campus student's experience predispose them to greater levels of cognitive ease in recalling student events. According to the availability bias, seeing individuals (in this experiment, via a survey) with more exposure to such events would cause these individuals' frequency (perceived probability) of campus involvement opportunities to increase.

This study connects a greater perceived probability of student events to the outcome of more student involvement. The underlying assumption behind this connection is that students want to be involved with active institutions where things are happening. Activity is measured through frequency. Perceived frequency plays a critical role in where someone sees opportunities worthy of engaging. In the same way that an individual bases the divorce rate on the percentage observed within their community, students estimate the student engagement rate based on their direct community. The implication of a school with a high engagement rate is that the engagement opportunities are worth engaging with.

Students on campus are disposed to a community with higher levels of engaged individuals. This is expected to lead to increased availability (or associative distance) that will increase their cognitive ease and perceived frequency of student events. This increased perception of student engagement implies quality events and host organizations, which increases motivation to participate with those student organizations. Observing student organization participation (also known as student involvement), especially in particular demographics, is a key indicator in knowing whether or not availability biases played a role.

Hypothesis

This study hypothesizes that a higher involvement score will be observed among students within the age range of 20 to 23, pointing to the presence of availability bias. In addition, a higher involvement score is expected to be seen among students residing on campus. Since these groups are the most exposed to on-campus events and actively involved communities, higher student involvement would be the natural byproduct given that availability bias is present within the sample. Hence, a higher student involvement rating among 20 to 23-year-old on-campus residents is expected to have the highest involvement rate.

The primary age range of actively involved students is expected to be 20 to 23 because this age range is more likely to have greater exposure to opportunities and an increased perception of campus event frequency. Ages below this range are predicted to have lower involvement since these individuals tend to not be involved for lack of exposure to opportunities. Ages above this range are predicted to have lower engagement due to different life priorities as well as a disconnect from the community leading to less exposure to events.

Method

In order to observe availability bias, a survey was designed with questions pertaining to factors pointing to student involvement exposure (campus proximity, full or part-time student, and classification), life commitments (work and school hours), and personal information (GPA, and demographic information). After designing the questions, they were inputted into Google Forms. After this, a QR code to the survey was distributed to a number of university students through digital communications such as Groupme. The sample size of the study is 29 students.

Analysis

The participant submissions include 29 college students ranging from ages 17 to 29. In line with the hypothesis, this analysis focuses on students within the age and residence demographic. This group was chosen as the group most likely to be exposed to campus events, which makes them the most likely to experience availability bias.

Percentages on Campus

Firstly, 82.4% of participants that are 20-23 years of age live on campus. This fraction is larger than the 60% of students 17 to 19-year-olds as well as the 16.67% of 24 to 29-year-olds that participated. This information supports the belief that 20 to 23-year-old students are the most exposed to on-campus events.

Involvement Scores

In this analysis, a three-point-scale involvement score is calculated for three age groups: 17-19, 20-23, and 24-29 years of age. Each group's involvement score sheds correlational insight regarding the presence or lack of availability bias. If a relatively higher involvement score is observed in the 17-19 demographic, this would suggest that the data does not support the presence of the availability bias. If a relatively higher involvement score is observed in the 20-23 demographic, this would suggest that the data does support the presence of the availability bias. If a relatively higher involvement score is observed in the 23-29 demographic, this would suggest that the data does not support the presence of the availability bias.

The involvement scores are calculated based on survey input as follows:

1 point: 1-2 events per week

2 points: 2-4 events per week

3 points: 5-10 events per week

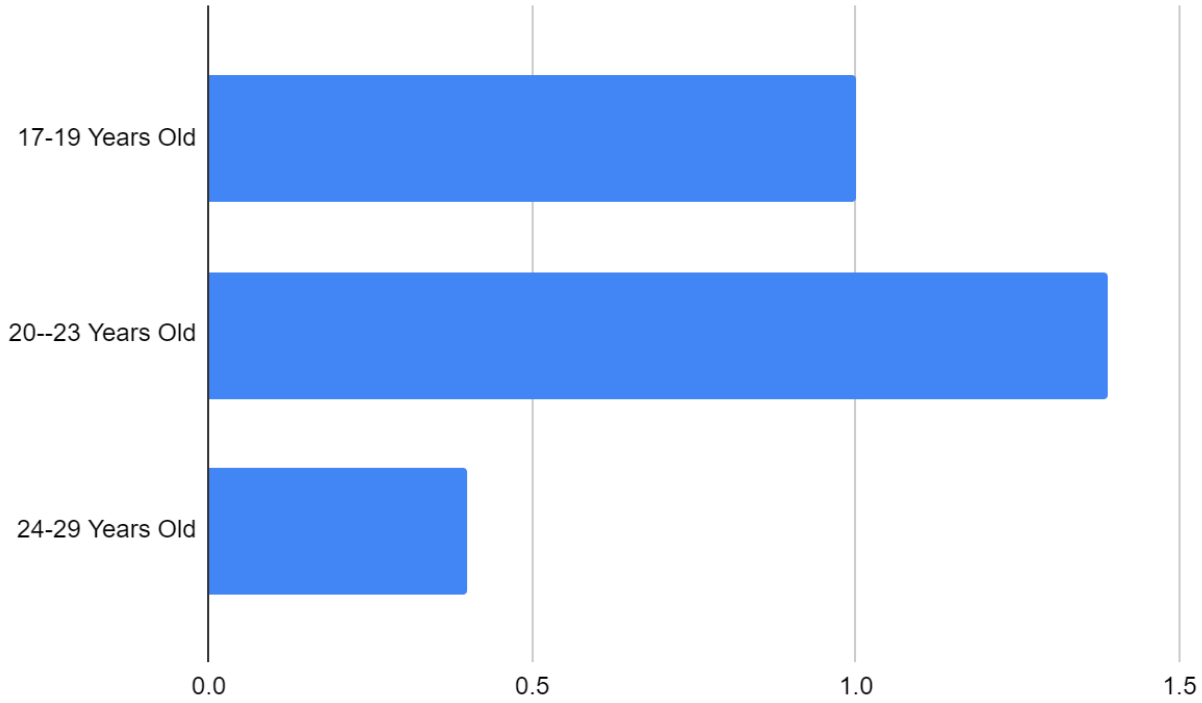

Figure 1-1

The following figure displays that the 20-23 year old demographic has an involvement score of 1.39, the 17-19 year old demographic has an involvement score of 1, and the 23-29 year old demographic has an involvement score of 0.4.

Comparative Involvement Scores within Age Demographics

The involvement score of 20 to 23-year-olds living on campus is greater than the involvement score of 20 to 23-year-olds off-campus. 1.57 > 0.75

The involvement score of 17-19 year-olds living on campus is equal to the involvement score of 17 to 19-year-olds off-campus. However, the sample size difference was 4:1, off-campus: on-campus. 1 = 1

The involvement score of 24-29 year-olds living on campus is greater than the involvement score of 24 to 29-year-olds off-campus. However, the sample size difference was 4:1,

0.4 > 0

Discussion

Interpreting Age Demographics of On-Campus Residents

The fact that a greater share of participants within 20-23 years of age lives on campus more than any other age range supports the notion that this demographic is the most exposed to an active student body community as well as events. If availability bias is present, this information concerning this group's access to event and involvement information means that they will be relatively more active than other age ranges living on campus as well as off-campus.

Internal Validity & Areas for Improvement

The internal validity of this study is far from perfect. A major reason for this is the sample size. Specifically, the disproportional sample size for specific intersections of demographics. For instance, there was only one on-campus individual in the 24 to 29-year-old group. In addition, the omission of an inquiry regarding whether or not the participant is a transfer student undermines the insight that may be taken from the specified classification. These are substantial reasons to reconsider designing the methodology as well as to take the results with caution.

External Validity

The external validity of this study, controlled for previously mentioned methodological errors, is relatively good. The structure of college institutions is very similar across the nation in regard to the dormitory experience as well as student age.

Interpreting Involvement Scores

The involvement scores strongly support the hypothesis and, hence, availability bias. The highest involvement scores are observed within the 20-23 year range set as expected, and the on-campus students had much higher student involvement rates compared to off-campus students. Both these findings point to a strong correlation between these two variables (on-campus residence and age) and student involvement. It is clear that these two variables play a significant role in increasing exposure to student events and active communities that increase cognitive ease accordingly. In turn, this increased availability leads to increased

perceived frequency. This greater frequency of events and active members points to a high student engagement rate (many students are involved on campus). A high student engagement rate implies quality events that motivate students to become involved. Hence, seeing the highest scores distributed in the areas of the highest frequency confirms the conclusion that availability bias is present.

Conclusion

Through this experiment, I learned about what factors most influence an individual's cognitive ease, the interaction cognitive ease has with perceived frequency (availability bias), as well as the outcomes it creates in the context of college student involvement. Through observing the presence of a bias using involvement scores and age demographics, I learned how to connect within this behavioral chain reaction. If this study were to be repeated, I would recommend getting a significantly larger sample size to ensure proportional sample sizes across all combinations of residency and age. In addition, a question about whether or not a student is a transfer student should be added to the survey.

Works Cited

Kahneman, D. & Tversky, A. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, *5*(2), 207-232. https://doi.org/10.1016/0010-0285(73)90033-9

Khazanov, L. (2012). CORRECTING THE AVAILABILITY BIAS DURING THE FIRST YEARS IN COLLEGE. *Mathematics and Computer Education, 46*(1), 24-34. Retrieved from http://search.proquest.com.ezproxy.lib.uh.edu/scholarly-journals/correcting-availability-bias-during-first-years/docview/923625093/se-2