



Unearthing Inequity: Surveying Collegiate Students in order to Discover the Factors Driving Attrition Rates in Geoscience Fields

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Introduction

- The initial project, titled “Bridging the Gap into the Geosciences,” aimed to enhance awareness of the geosciences among middle and high school students through summer camp experiences.
- In doing research, a study was utilized in which students in the geoscience field were surveyed before and after a 2-week long field trip (Boyd et al., 2022). This model was specifically used to design a way to collect data for creating a geoscience field trip.
- Data for this project was collected through surveying an optional camping field trip in one of the environmental science major classes. The field trip was open to all FSU students, and there was no fee in order to go on the trip. While collecting data, a gap was discovered between collegiate students in the geoscience field that can be correlated to student attrition rates seen in the major.
- The findings within this project can be used to explain why collegiate students are leaving the geoscience field or are not interested entirely. Findings can further be used to create the originally intended summer camp field trip by perfecting an experimental design and modifying it for a younger audience.

Research Question:

- What are the factors driving the spike in attrition rates in geoscience fields, and how can surveys targeting collegiate students be utilized to study this spike?

Methodology:

- The main method of collecting data in this experiment was through 3 surveys.
- Pre and post surveys were given to everyone who attended the field trip, and the class survey was given to the class to evaluate persons who did not attend the field trip.
- Quantitative data, qualitative data and quotes were analyzed from these surveys. There were questions about age, race, gender along with questions about aspects of the trip or why people did not attend. My initial explanation for the “gap” in which I was researching was financially driven, but my findings led to a plethora of factors.

References and Acknowledgements:

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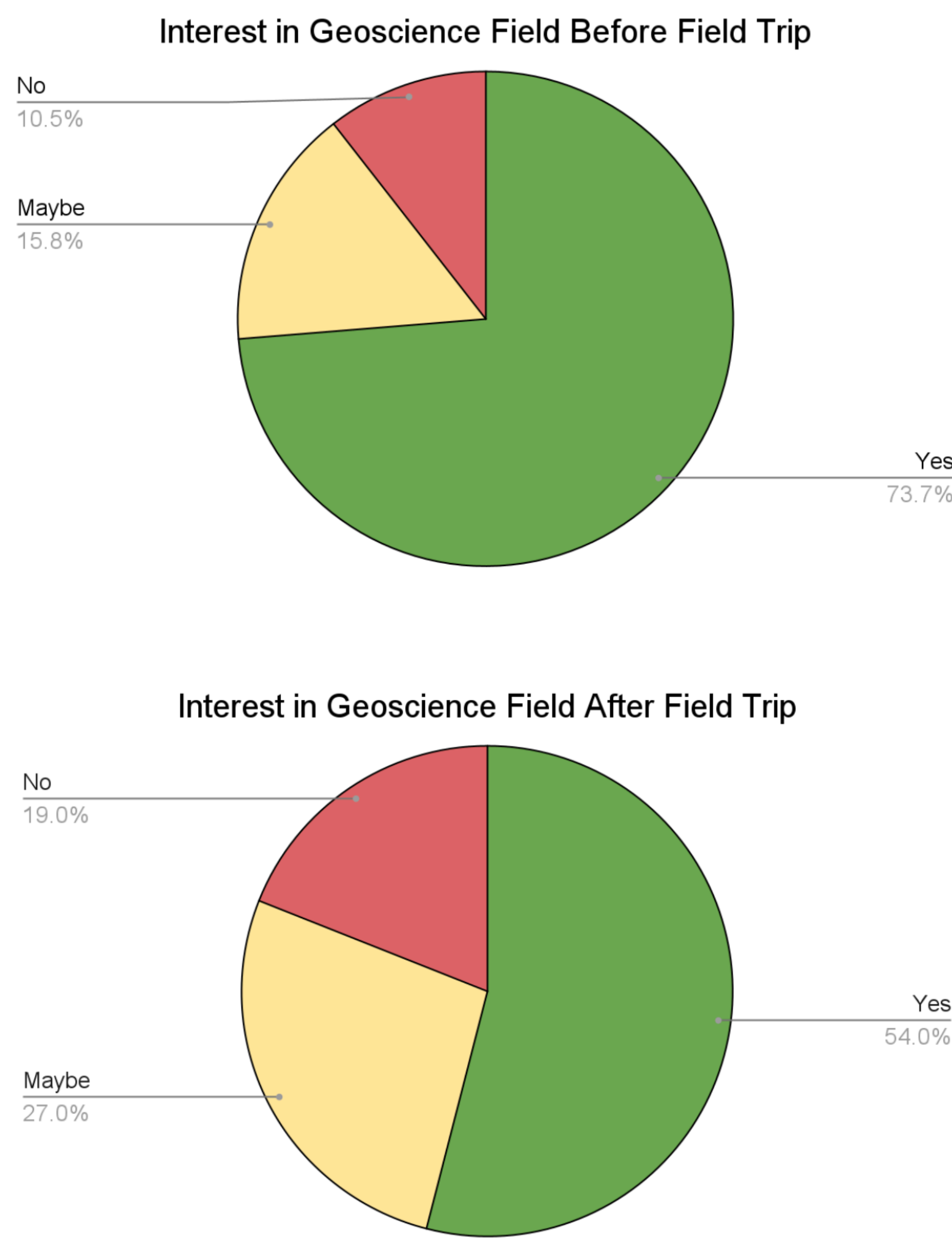


Figure 1, Interest in Geoscience Fields Before and After the Field Trip



Figure 2, Pictures of the digging and camp sites.

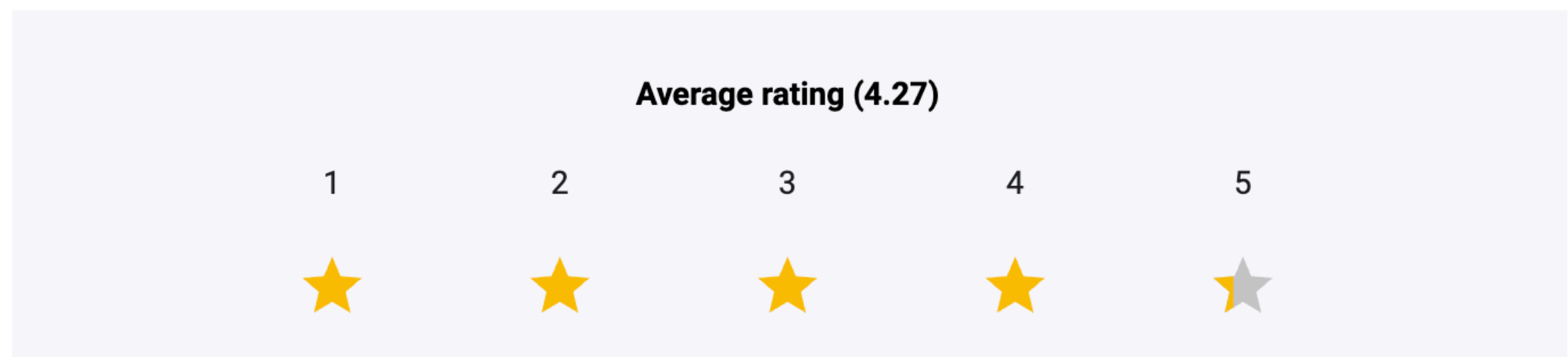


Figure 3, Average Rating of the Field Trip

Results:

- (1) Attributes of the trip that people did not enjoy could have impacts on their future career choices. Some of these attributes were feeling excluded because of a lack of experience, undesirable facilities/equipment and bad weather (Figure 1).
- (2) A majority of people who opted out of the trip chose to do so because they did not know anyone going on the trip.
- (3) There were assumptions that were made about students going on the field trip that may be limiting geoscience field interest.
- (4) There is an understanding that field trips are important in educational environments, but there is a lack of underclassman/pre-collegiate field work.

Important Quotes:

- “I think my answer is technically the same but I am leaning more towards the geoscience field after the trip. Originally I wasn't sure if I would enjoy this kind of work but I liked it more than I expected so now my maybe is yes leaning.”
- “I didn't expect to enjoy camping, but I actually really enjoyed it and could see myself doing it a lot. I also learned a lot, even though I haven't studied a lot of geology. It deepened my love of ecology and learning about systems interactions.”
- “Looking for fossils was a similar kind of fun as an Easter egg hunt when you're a kid. Breaking rocks with a hammer all day was tiresome but it's also very satisfying to break a rock with a hammer.”

Discussion:

- There are factors within geoscience fields that deter people from entering or staying. These include a feeling of exclusivity, lack of experience during childhood, uncomfortable conditions and fundamental issues in inclusivity of those with certain gender identities, ethnic background, race and disabilities.
- Improving these obstacles by addressing different aspects in trip planning that account for these factors may improve the overall attrition rates for geoscience fields.

Further Research:

- Findings can be used to improve the geosciences program field trips to make career options more appealing to more FSU students.
- Findings can be used to modify the field trips middle and high school students participate in during the geoscience summer camp program to prepare them for future geoscience careers.