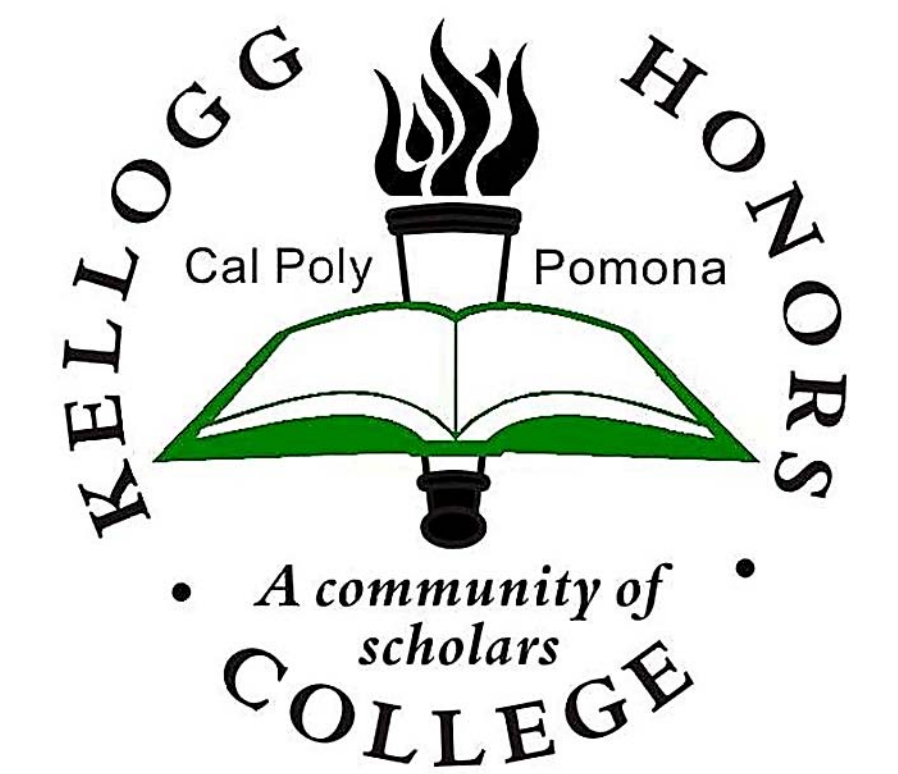


Evaluation of Cal Poly Pomona Undergraduate Water Education



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The continuing growth of the Southern California region has created a significant increase on water demand. In addition to the regional growth, the effects of global climate change have strained the traditional water resources of the region. In this atmosphere, water education and water conservation practices are key components to promoting the development of sustainable water supply sources. The objective of this study was to determine the current level of water education of Cal Poly Pomona undergraduate students. This project evaluated various aspects of water resources of Southern California. The study included the responses from over 600 undergraduates. The survey determined current attitudes and behaviors regarding water conservation efforts. In addition, students responded to statements concerning water supply, water treatment, water quality, water price, and water usage. Results from data analysis suggested that confusion and lack of knowledge regarding current Southern California water resources seemed to contribute to unusual expectations of Southern California's current water supply status. Sixty-five percent of students were aware that annual precipitation was insufficient to meet the water needs of the region's population, while 51% of students responded that Southern California currently has a somewhat or very reliable water supply. By targeting educational disconnects, in addition to encouraging water conservation throughout the region, this study attempts to provide a base water knowledge among Cal Poly Pomona undergraduate students.

OBJECTIVES

- To measure the level of water education on campus.
- To assess the awareness and knowledge of Cal Poly Pomona undergraduate students on water conservation topics to identify areas in which lack of knowledge is evident.
- To define the base knowledge among undergraduates.

METHODOLOGY

I. Survey Description

A survey (IRB Protocol #12-158) was developed to investigate the base water knowledge of Cal Poly Pomona undergraduates. SurveyMonkey was used as a platform to distribute the survey and store the data. When the desired sample size and distribution was achieved, the student responses were collected and analyzed on spreadsheets to determine base level water knowledge.

II. Sample and Population

In order to determine the characteristics of participating subjects, the survey included a variety of demographic questions. The sample (660 students) matched the campus population (20,530 students) in regards to age, grade, and race/ethnicity. However, while the sample revealed an even split of gender, the campus is 56% male. The survey sample showed the following college affiliation split, which contrasted with the campus population.

- 3% C.L.A.S.S. (15% of campus)
- 10% Business Administration (21% of campus)
- 18% Science (17% of campus)
- 13% Environmental Design (7% of campus)
- 30% Engineering (24% of campus)
- 20% Agriculture (8% of campus)



Figure 1. CPP CLA Building.

RESULTS

I. Water Quality

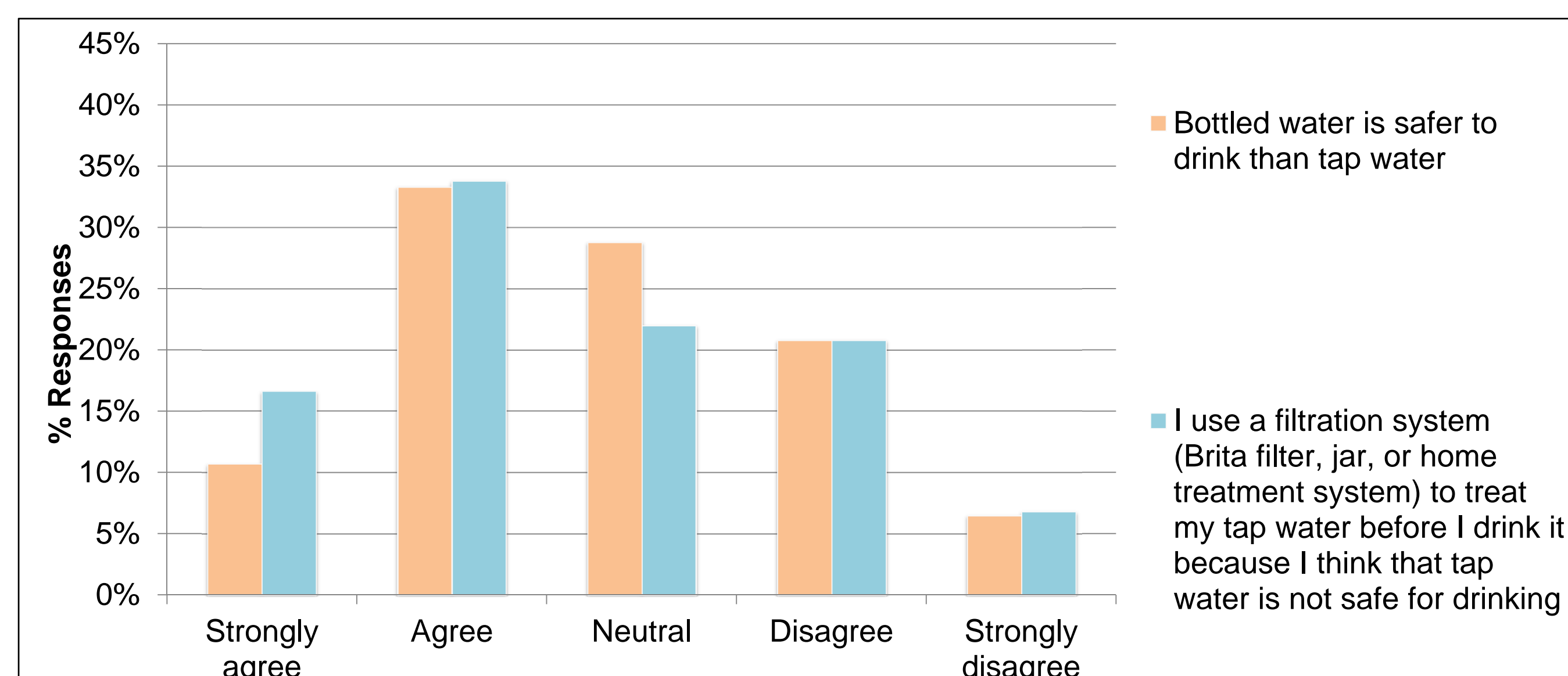


Figure 2. Tap Water Safety.

The above graph illustrates the perceptions of students regarding the safety of tap water. While 44% of students agreed that bottled water is safer than tap water, 50% of students reported using an additional at-home filtration system due to concerns for water safety.

ACKNOWLEDGEMENTS

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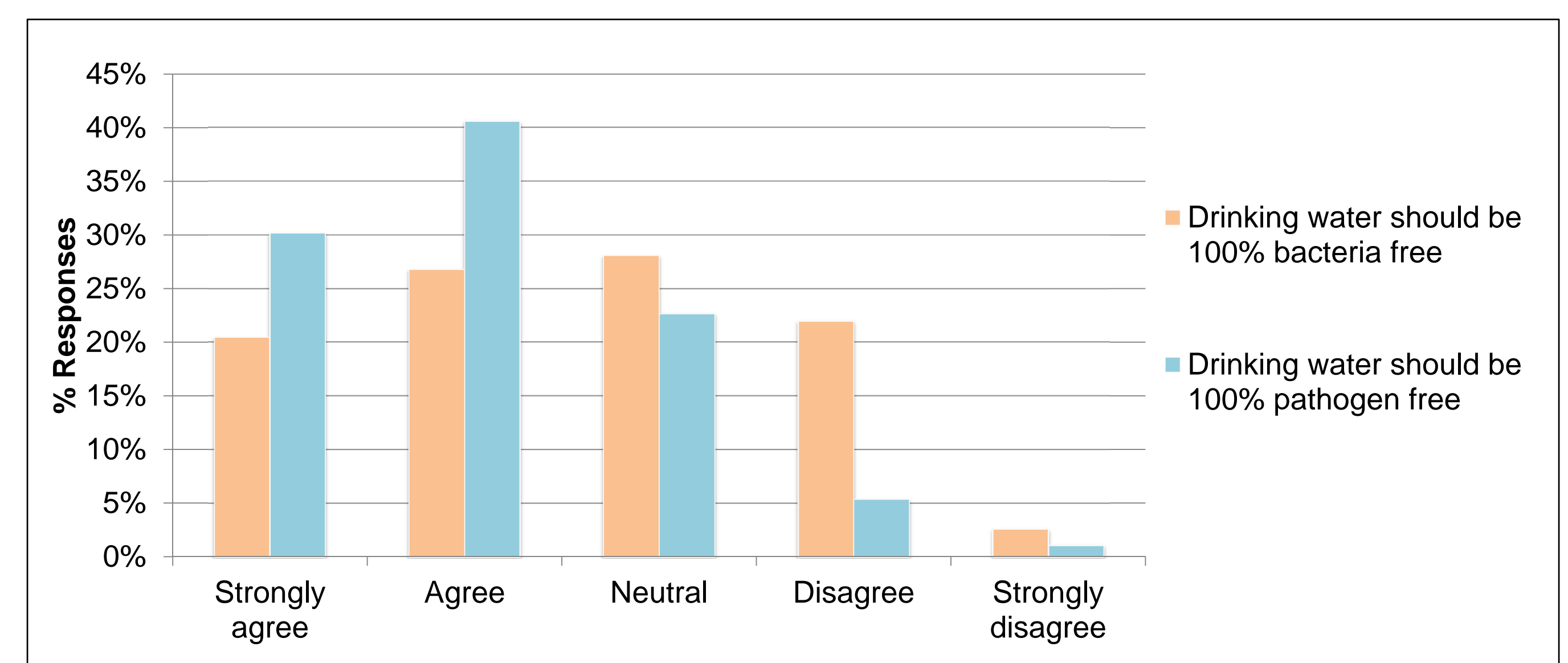


Figure 3. Bacteria and Pathogen Removal.

The above illustrates the perceptions of students regarding bacteria and pathogen removal. Pathogens, which are harmful to human health, should be completely removed, and 71% of students agreed with this fact. Bacteria, though, does not need to be completely removed. Of the respondents, only 12% of the students were able to correctly distinguish the differences between bacteria and pathogens.

II. Water Supply

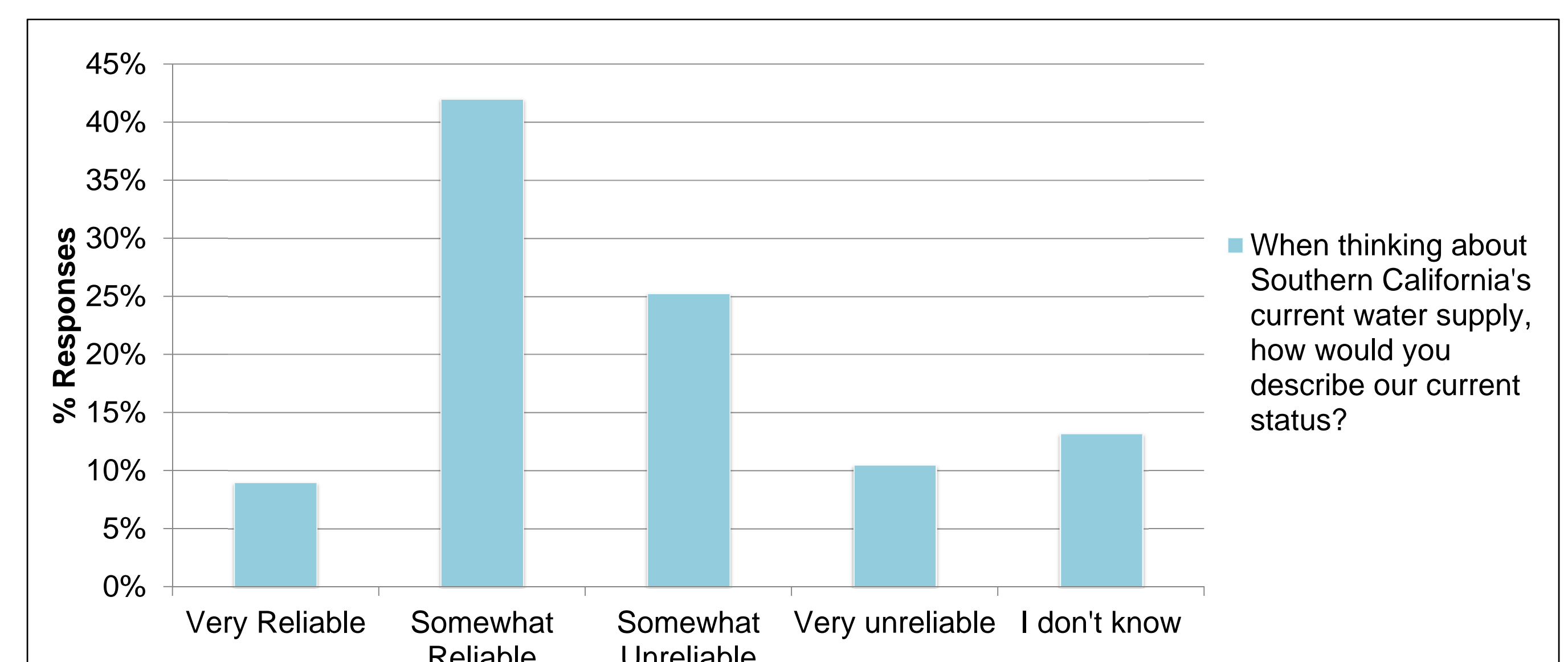


Figure 4. Southern California Water Supply Status.

The above graph reveals the respondent's perception of the local water supply status. Only 35% of students were able to correctly identify that Southern California has an unreliable water supply. However, in another question, 64% of students agreed that annual precipitation is not sufficient to meet Southern California demands.

CONCLUSIONS

Approximately 50% of respondents felt unsafe to drink tap water. Only 12% were able to correctly identify differences in bacteria and pathogen removal. These both correlate to a lack of understanding regarding water quality. There is a disconnect concerning the reliability of Southern California's water supply. Cal Poly Pomona Students are concerned with tap water safety, and they believe the local water supply is reliable. Increasing the water education level of students will promote confidence in the consumption of tap water, which is a highly-regulated commodity.

FUTURE WORK

- Expand survey to more specifically address water knowledge questions.
- Enhance on-campus undergraduate water education.