Computer Science Research and Data

This research is funded by the National Science Foundation CSforAll Grant Award #1923406.

Celia
Main Research Question:

Which factors heavily affect the number of students taking CS at Orange Glen?
Background Information: OGHS

- Students come from families of diverse ethnic and socio-economic backgrounds.
- The majority of this school consists of Hispanic/Latino students at 87% of the school population.
- 89% of students attending are socioeconomically disadvantaged.

For more information: https://www.orangeglenhigh.org/
Background Information in CS at OGHS

- Introduction of CS to our school has been recent.
- We currently have 2 CS courses offered at school
  - Exploring Computer Science (est. 2019) (hiatus)
  - AP Computer Science Principles (est. 2017)
  - AP Computer Science A (est. 2020)
- Current CS-After School activity
  - Robotics
  - Psych codes
- We currently have the help of local colleges such as CSUSM who help us in some after school programs.
  - Code Queens (run by CSUSM) (rip)
Methodology

- **Survey questions:**
  - Related to being informed and what students consider when asked about the computer science course.
    - Scaled questions (Rating, 1-5)
    - Yes/No questions
    - Why?
  - Survey with at least 303 responses
- **Attempted interviews with counselors** (not significant)
Analyzed Survey Question(s)

- Do you think certain types of people take Computer Science?
- If you had room in your schedule, would you consider taking a Computer Science course?
- Do you know what requirement Computer Science covers? (for graduation OR A–G)
- Does your current daily schedule impact the classes you decide to take?
- Have you heard of Computer Science on campus?
Findings:
Do you think certain types of people take Computer Science?

- No: 211
- Yes: 92
- Total: 303

A lot of people who said yes either said the people who take Computer science were people who were:

1) Smart people
2) People who want to do coding/cs as a career
3) People who are interested in computers.

Gender:
- 47 - Female
- 44 - Male

Jocelyn, Arlin, Celia
If you had room in your schedule, would you consider taking a Computer Science course?

- Females are less likely to consider taking CS
- The majority of students did not know what CS was

### Ethnicity

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</table>

### Gender

- Prefer Not To
  - Male: 19.3%
  - Female: 8.0%
- Yes: Gender
  - Male: 72.7%
  - Female: 8.0%
- No: Gender
  - Male: 47.5%
  - Female: 50.0%

Jocelyn, Arlin, Celia
Do you know what requirement Computer Science covers? (Graduation/A–G)

- The majority of students don't know the requirements but have heard of it on campus
- (lower class men are less likely to know the requirements CS covers)
- the number between the difference of males/females is not that different however, less females are aware of the requirements covered by CS
Does your current daily schedule impact the classes you decide to take?

- A majority of the Female students use their schedule to decide which classes they end up taking
- Underclassmen are less prone to factor in their daily schedule into their classes than Upperclassmen
- These two points could explain why there are fewer Female students in CS and why the student population taking CS has more Underclassmen.
Have you heard of Computer Science on campus?

- The majority of the kids at Orange Glen High School have heard of Computer Science on campus.
- Males have heard of about Computer Science more than any other gender.
- Sophomores and Juniors are more aware of Computer Science on campus.
- More than half of the 9th graders have not heard about it on campus which can be concerning.

Gender Summary:

<table>
<thead>
<tr>
<th>Gender</th>
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<tr>
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<tr>
<td>Female</td>
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<tr>
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</table>
Overall Conclusion

- Major factors that affect the number of students taking Computer Science:
  - Gender
  - Grade level
Recommendations:
Recommendation #1 for Action Cycles

- In class recruitment-- speaker
  - Sending out students currently enrolled to recruit
    - Give out information about the course (A-G requirements and course coverage)
    - Spread knowledge/awareness (class description)
  - Guest speakers who have taken the course/works currently in Computer Science
  - Specifically target female students
  - Get student female representation
Recommendation #2 for Action Cycles

- Having posters/flyers about the course-- general information and persuasion tactics through what’s being presented
  - (Include the a-g requirements and what CS covers)
  - Include advertisements in school publications

- Go to Middle Schools to inform kids about Computer Science,
  - show projects, pictures from class, the benefits, opportunities if they went into CS
  - Puts the idea in their mind
Recommendation #3 for Action Cycles

- Recruitments with counselor help
- Include a description of the class in the schedule.
  - Could help clarify any misconceptions on Computer Science
Thank You!