Computer Science Research and Data
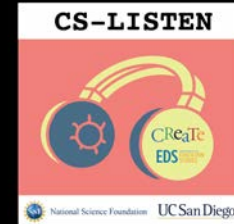
Celia

Our :)
Team

Celia

Background for SCR Presentation

Main Research Question:

Which factors heavily affect the number of students taking CS at Orange Glen?

DeAngelo

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/

Celia

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)

Celia

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)

Jocelyn

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?

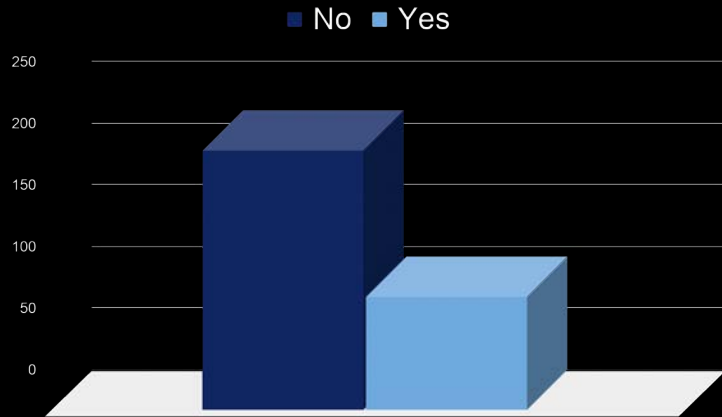- Have you heard of Computer Science on campus?

Jasmin

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:
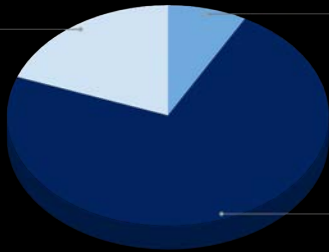47 - Female
44 - Male

Jocelyn, Arlin, Celia

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

■ Yes   ■ No

Yes: Gender

Prefer Not To
19.3%

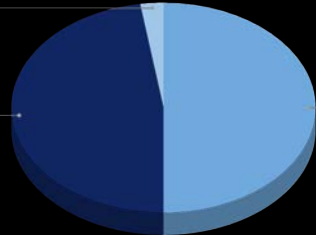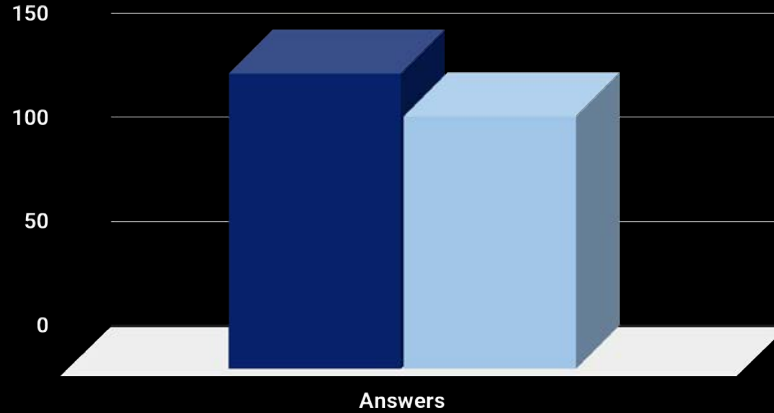Female
8.0%

Male
72.7%

150

100

50

0

Answers

- **Females are less likely to consider taking CS**

- **The majority of students did not know what CS was**

No: Gender

Prefer Not To
2.5%

Female
50.0%

Male
47.5%

Ethnicity	Asian	Black/ African American	Egyptian	Hispanic/ Latino(a) / Latinx	Native American	Mexican American	White
Yes	8	2	1	124	2	1	4
No	7	5	0	103	1	0	6

Jocelyn, Arlin, Celia

Do you know what requirement Computer Science covers? (Graduation/A-G)

Ethnicity

- **Yes** 36.6%
- **No** 63.4%

Yes ■ No ■

Hispanic/Latin, Black/African American, Asian, White, Native American
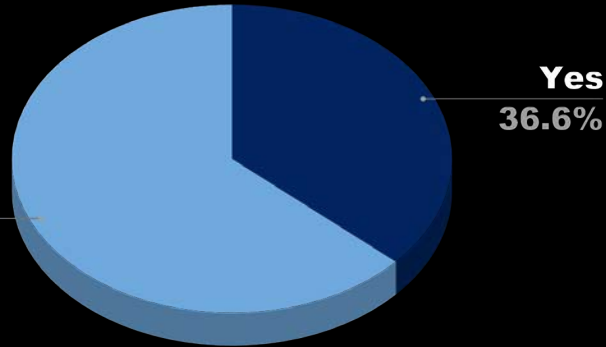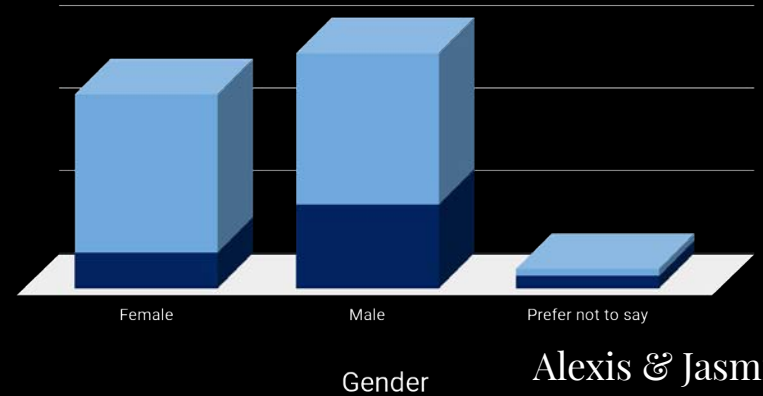
- The majority of students don't know the requirements but have heard of it on campus
- (lower class men are less likely to know the requirements CS covers)
- the number between the difference of males/females is not that different however, less females are aware of the requirements covered by CS

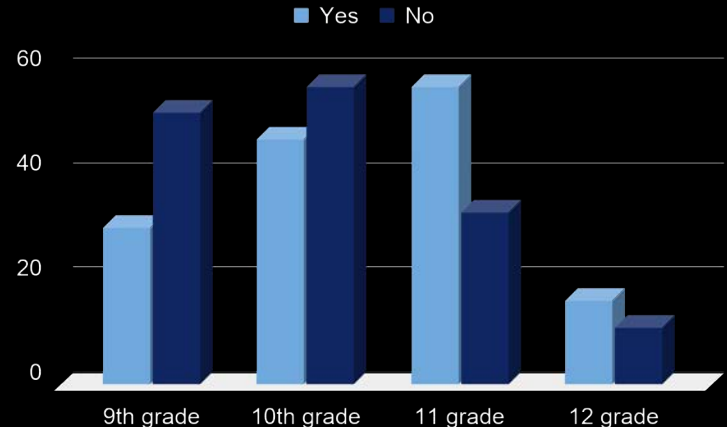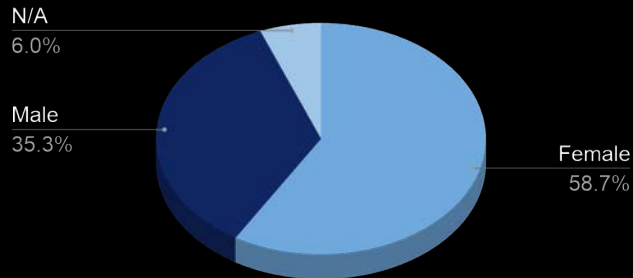No ■ Yes ■

Female, Male, Prefer not to say
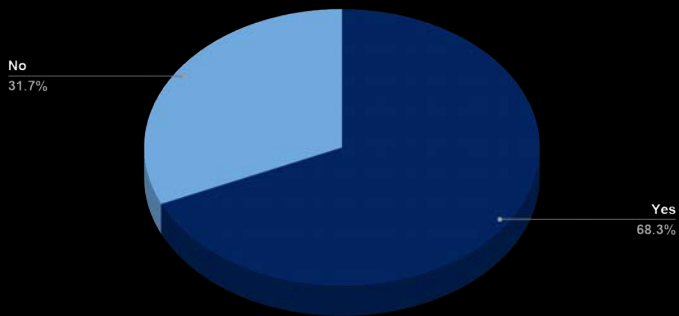
Gender

Alexis & Jasmin
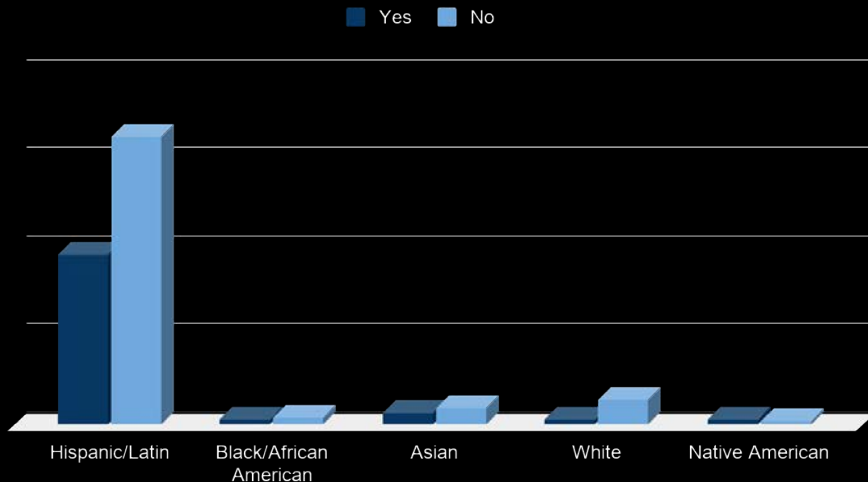
Does your current daily schedule impact the classes you decide to take?

- 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.

Number of Students who said Yes

N/A
6.0%

Male
35.3%

Female
58.7%

Yes   No

60

40

20

0

9th grade   10th grade   11 grade   12 grade

Deangelo and Angel

Alexis, Jasmin, Natalia

Have you heard of Computer Science on campus?

No
31.7%

Yes
68.3%

- 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.

Grade Level

no   yes
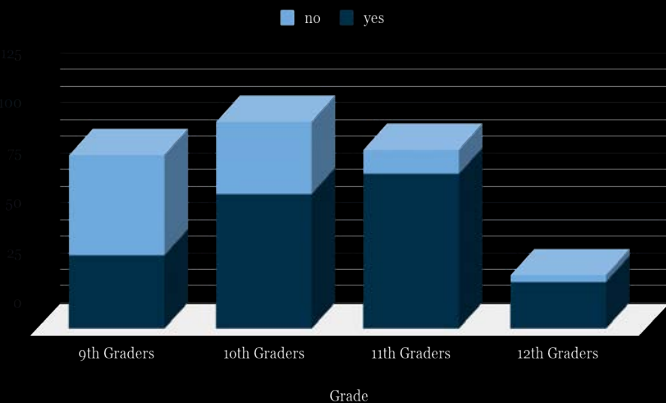
Gender	Yes	No
Male	103	40
Female	97	51
Prefer not to say	7	4
Other	0	1

9th Graders   10th Graders   11th Graders   12th Graders

Grade

Overall Conclusion

- **Major factors that affect the number of students taking Computer Science:**
  - Gender
  - Grade level

Recommendations:

Arlin

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

Arlin

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

Youssef

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

Alexis

Thank You!

Deangelo