CS AND PARENTS' CULTURAL & ETHNIC BACKGROUND

Morse High School

CS LISTEN UP Conference
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Morse High Student Research Team 2021-22

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How do parents' cultural beliefs impact student involvement in CS?

Teacher:
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Abstract

Our research question was: How do parents' cultural beliefs impact student involvement in CS?

We wanted to study this because our school's diversity results in a range of cultural differences and stereotypes that could impact course selections. We used both surveys and focus groups to collect data.

We found parents' cultural beliefs can play a small role in students' lives, yet those beliefs did not affect students' involvement in CS.

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Comprehensive HS in the Skyline Hills Community within San Diego Unified School District (SDUSD).

Top Three MHS Racial & Ethnic Groups	
African American/Black	12% (211)
Filipino	32% (576)
Hispanic/Latinx	41% (727)

Enrollment	Low Income	English Learners
1788	79%	11%

Background Information – Computer Science at Morse

- CS classes been offered here for over 30 years
- CS pathways starting to be developed 6-7 years ago
- One CS teacher
- Three courses currently offered
  - CS Discoveries
  - AP CS Principles
  - AP CS A

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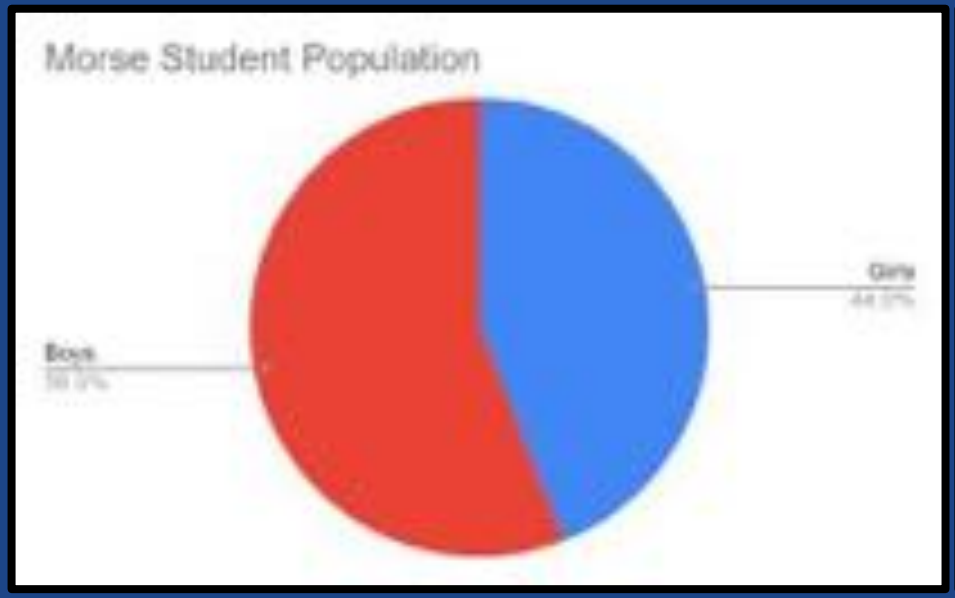
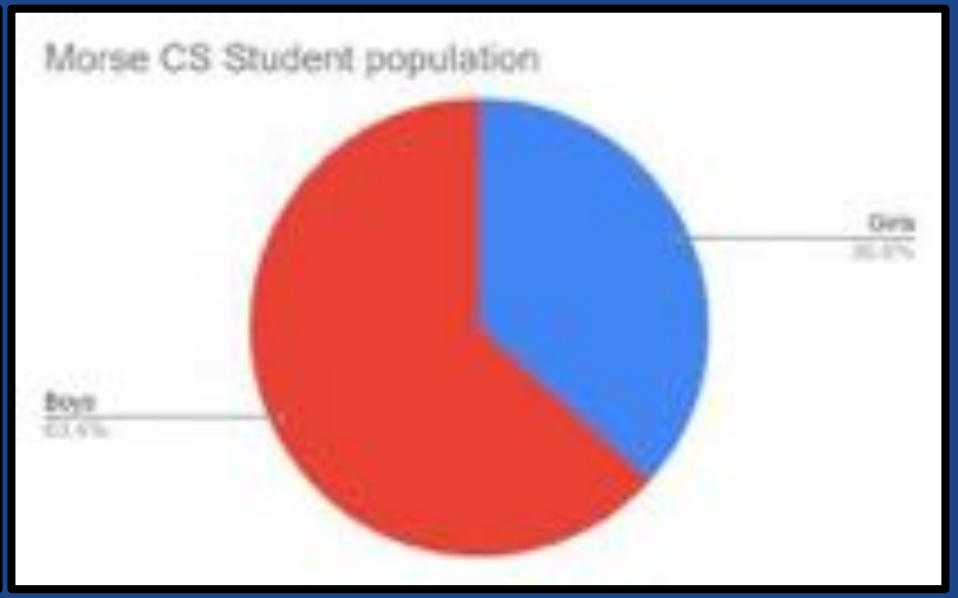
Female Students are Underrepresented in CS Classes





Morse girls are underrepresented in Computer Science classes by **13.4%**.

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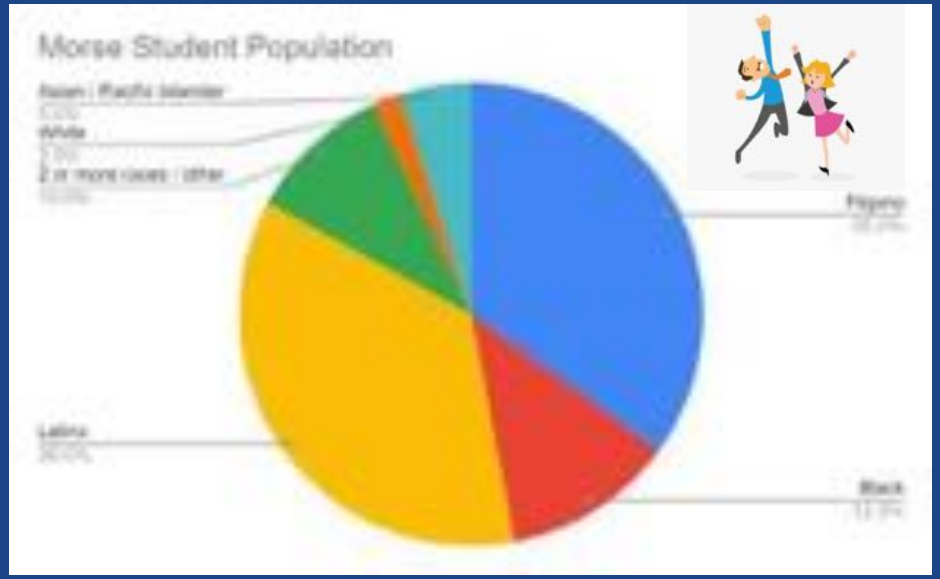
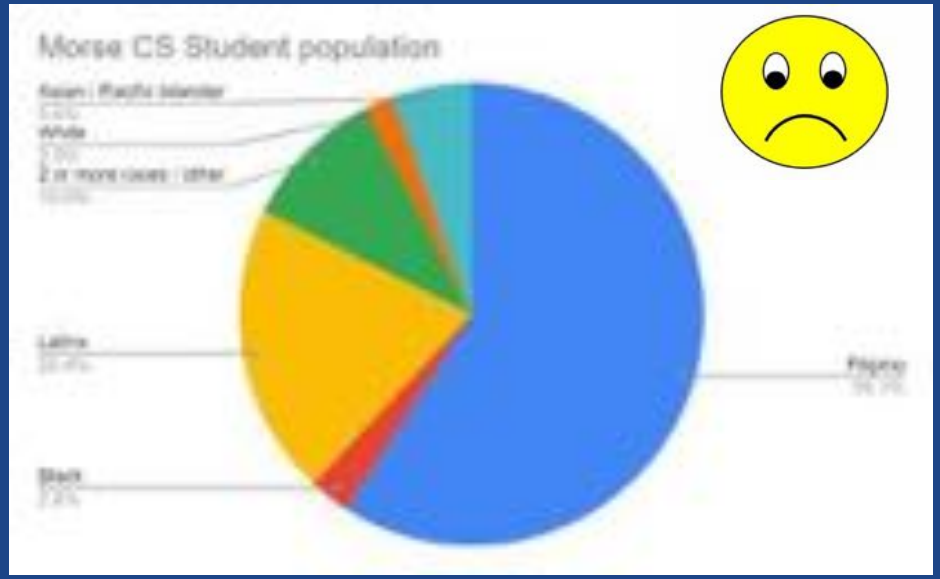
Latinx and Black Students are Underrepresented in CS Classes



Latinx, Filipinos, and Black students are the majority of Morse, making the school very diverse.



Filipinos are overrepresented in CS Classes while Latinx, & Black students are underrepresented.

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Our Morse High School Research Question

How do parents' cultural beliefs impact student involvement in CS?

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Methodology

- We held focus groups to conduct our research
- Two focus groups with only students
  - First group: 5 students
  - Second group: 8 students
- Three focus groups with only parents of the same ethnicity
  - Black / African American Group: 2 parents
  - Latinx Group: 2 parents
  - Filipino / Pacific Islander Group: 3 parents

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Male Students Express More of an Interest in STEM Fields

Male students we interviewed want to be in STEM related fields as a career choice.

Only 25% students wanted a career in STEM and all were male.

100% of girls we interviewed **did not** express an interest in STEM careers.

One female student was encouraged to be in the medical field to fulfill her mother's dream job as a doctor.

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Fathers tend to be more strict towards their Daughters

When interviewing female students, we found that they perceive their fathers to be stricter towards them than their brothers.

We found that male students don't view their fathers as strict.

We wondered: Could this could be related to why Morse's male students are overrepresented in Computer Science by 13.4%?

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Not Cultural but Parenting Issues

We asked, "Are there specific roles for girls and boys in your culture?"

- Black parent participants have no specific roles, they do everything.
- Both Filipino/Pacific Islander and Hispanic/Latino parents have previous cultural divisions between the sexes when it comes to roles in the household.

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Parenting and Devices

Our parent participants believed their parenting style is:

- more involved/strict (Filipino/Pacific Islander).
- trying a balance between strict and lenient parenting (Black and Hispanic/ Latino).

“How do you feel about your child being on devices?”

- Of our participants, Black parents find that devices make the household chaotic.
- Hispanic/Latino parents in our study believe child is not responsible with electronics.
- Filipino/ Pacific Islander parents in our study have time restrictions but believe there can be a balance.

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Parenting and Devices

- Many parents believed that technology can brings harm and be unnecessary
  - They see devices limited to social media and video games, therefore technology cannot be taken seriously

- Parents are not educated on technology-based occupations
  - Parents are new to the idea of Computer Science as a career pathway

- Students said their parents pay more attention to the medical field for its good pay
  - They don't believe that device-based jobs can help you make a living

Parental involvement highly affects education choices

Commonalities across students of various different ethnic backgrounds we spoke to...

- Parents tend to want better opportunities for their children in terms of education and occupation .
  - a parent will encourage their children to take chances they regret not taking in the past.
- Parents monitor their children's education choices less when they're aware of their behavior.
  - If a child usually receives good grades, parents worry and intervene less.

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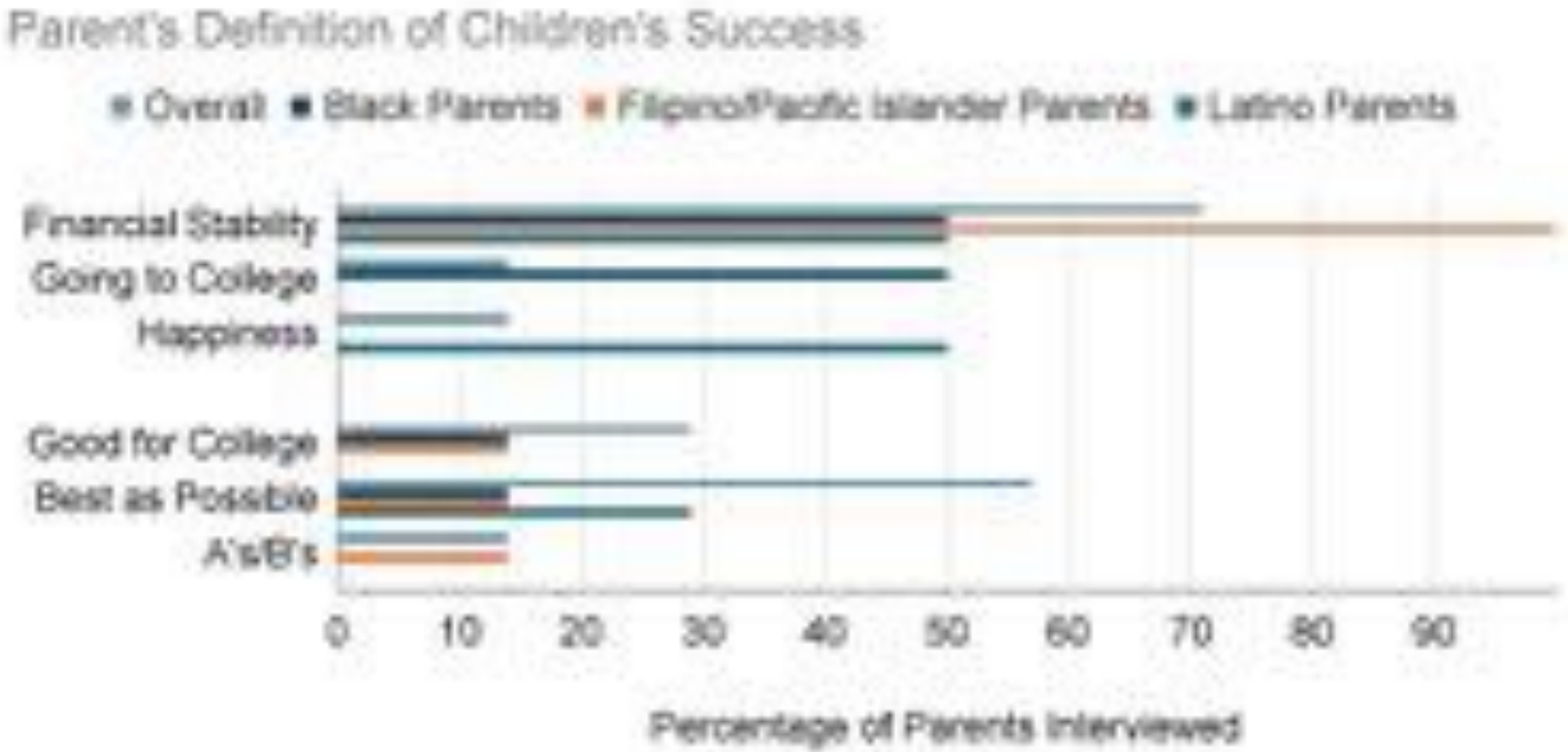

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College and Career Paths

Parent participants want their children…

- To explore their interests in college *(Latinx & Black)*
- To go for any opportunities *(Black & Filipino)*
- To go straight to college *(Pacific Islander)*
- A hybrid of exploring and planning for career pathways *(Filipino & Pacific Islander)*

Their thoughts for their kid's career paths were…

- Mostly on STEM
- Other on business, agriculture, nail art *(Black)*
  (all due to the children's interests)

No parents mentioned Computer Science as a possible career pathway for their child

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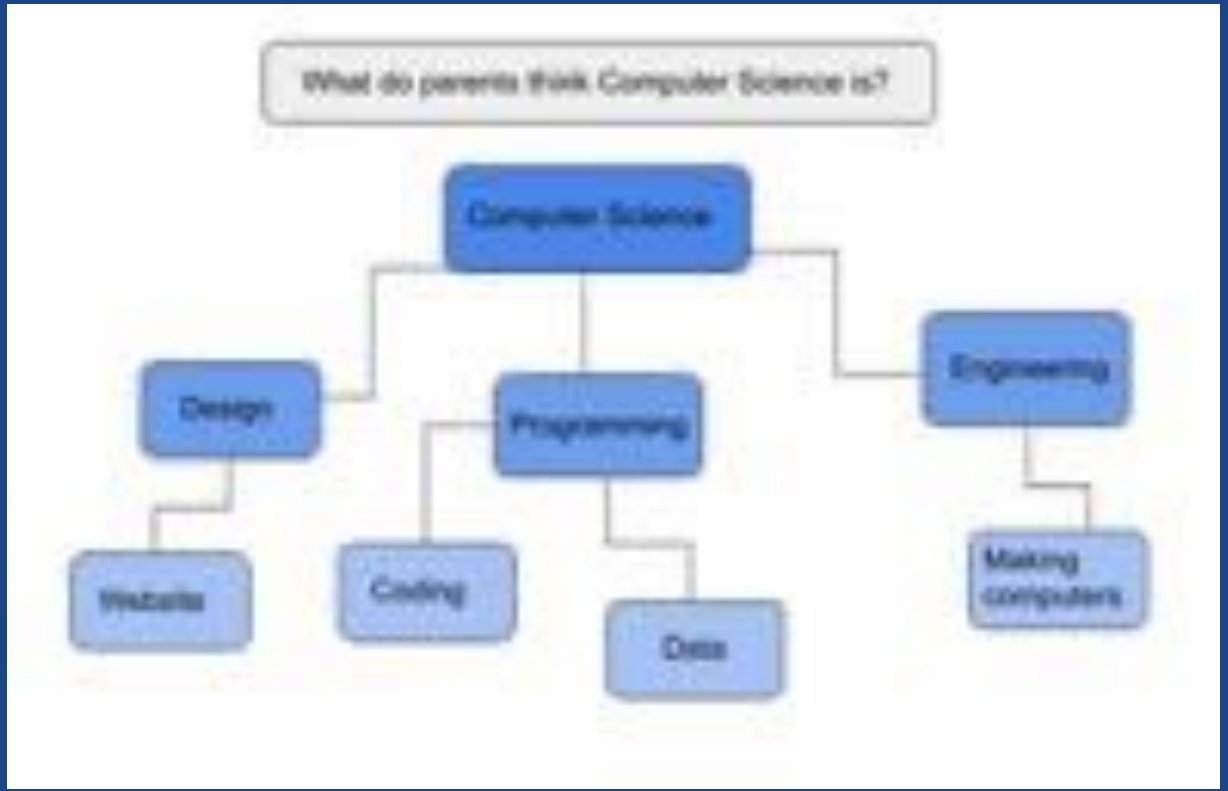
Parents' Definition of Computer Science



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Parents' Definition of Computer Science

Parents believe Computer Science classes are important because:

- Used on a daily basis
- Gives them future-oriented abilities such as organization
- Beneficial in the future

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Overall Conclusion of Our Findings

- Parents' cultural beliefs play a small role in students' lives and do not affect students' involvement in CS
- Student's participation in a class or career is influenced by their parents' definition of success and their desire for their child to be in a class or career they enjoy
- Parents believe that CS classes are important, however the parents we spoke to are not encouraging their students to take CS courses

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Recommendations for Action Cycles - In Progress!

We are looking for input as to what our recommendations should be to increase Computer Science enrollment overall, and to encourage underrepresented student groups to enroll in Computer Science courses.

We would love your help with our recommendations!

Come talk to us!!

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Questions?

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