



○ **Lilli Haller**

- Born in Germany; Raised in Miami
- Major: Logistics & Supply Chain Management



○ **Ana Madcur**

- Born and raised in Argentina
- Undergrad: Finance
- Masters in Information Systems



○ **Isabella Llamazares**

- Born and raised in Miami
- Major: Civil Engineering



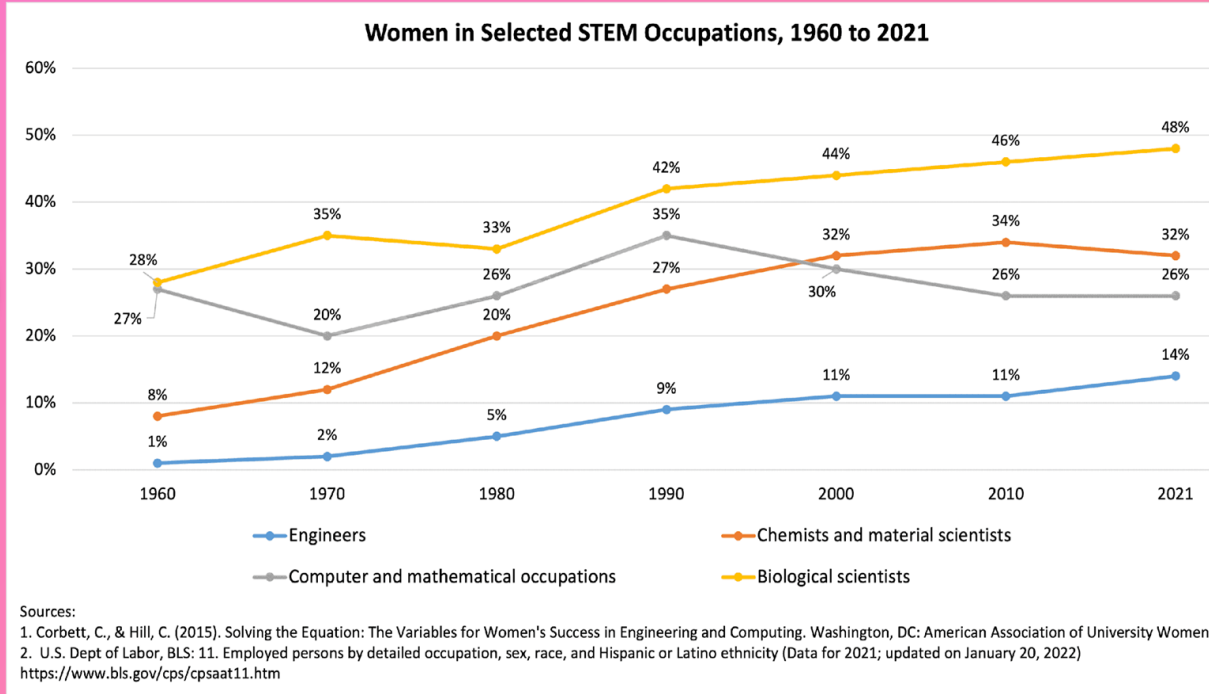
○ **Preetham Mathew**

- Born and raised in India
- Undergrad: Computer Science Eng.
- Masters in Information Systems

UNDERREPRESENTATION OF FEMALE STUDENTS IN STEM

25%

Of women in STEM



50%

Of the workforce is represented by females

“Identify key indicators in the data related to high school and college retention and performance in the FL area”

KEY PERFORMANCE INDICATORS

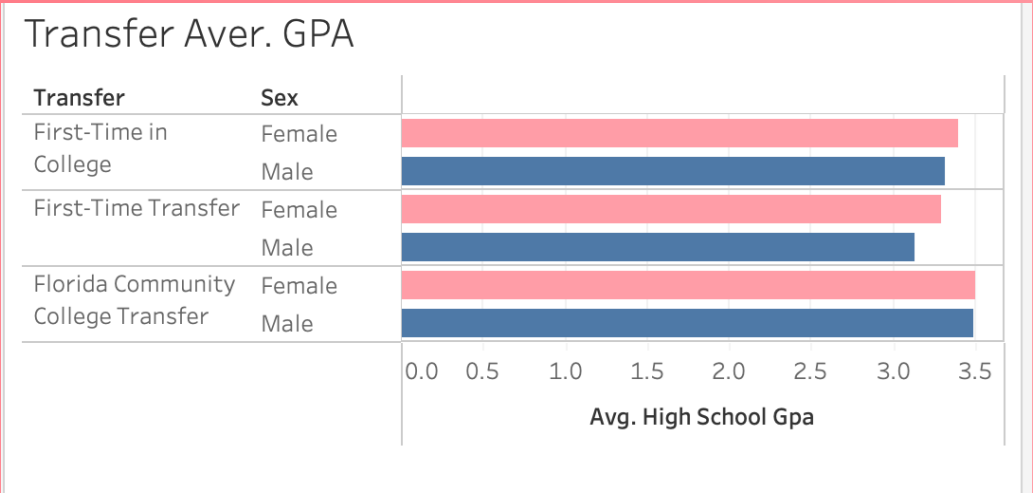
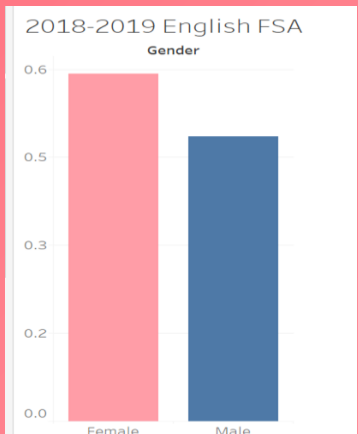
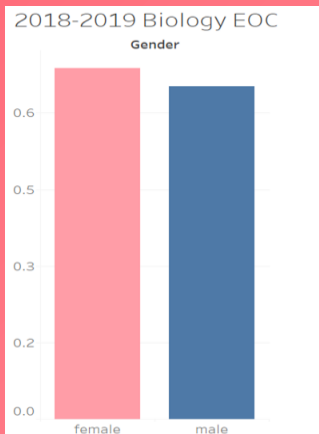
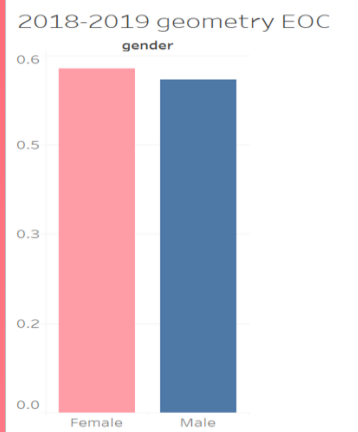
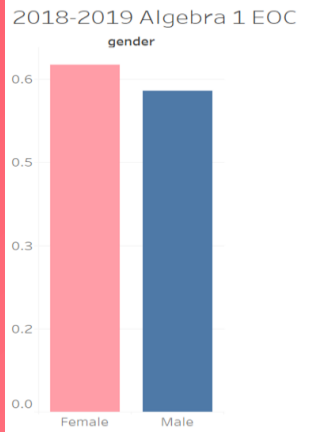
- Four Achievement Components
- Four Learning Gains Components
- Graduation Rate
- SAT/ACT Score
- Overall GPA
- College and Career Acceleration
- Student Faculty Ratio
- College Retention

“Identify key factors that correlate with retention and performance of female students at the high school level in comparison to college level.”

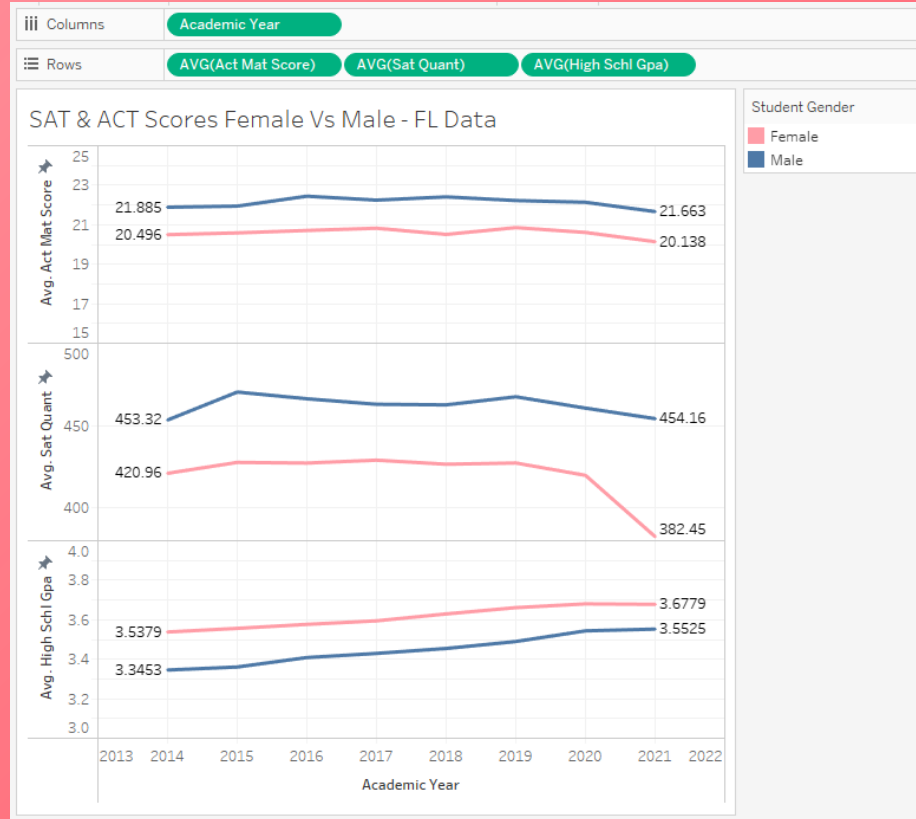
FACTORS INFLUENCING RETENTION

- Academic Advising & Selectivity
- Parent and Teacher Influence
- Mentorship
- Confidence and Mindset
- Social Connectedness
- Involvement & Engagement
- Business Procedures
- Learning Experiences
- Student Support Services Including Scholarships

HIGH SCHOOL PERFORMANCE DATA



SAT/ACT/GPA Comparison - Female Vs Male



CHI SQUARE TEST - GENDER VS "DEGREE PLAN=BS"

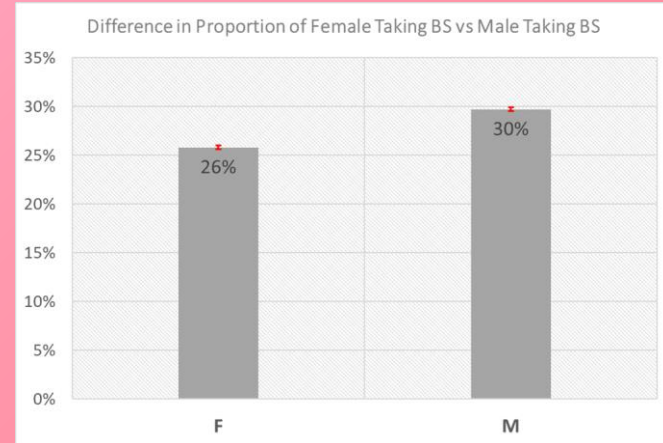
DATA -observed counts				
	var Y	Var X		Total
		F	M	
	BS	17749	13509	31258
	NO BS	51058	31968	83026
	Total	68807	45477	114284

Expected counts				
% under 5	var Y	Var X		Total
		F	M	
0	BS	18,819.51	12,438.49	31,258.00
	NO BS	49,987.49	33,038.51	83,026.00

Chi Square components				
	var Y	Var X		
		F	M	
	BS	60.89	92.13	
	NO BS	22.93	34.69	

χ^2 Statistic	210.640
P-value	0.0000

Critical χ^2 3.841459



IMPLICATION

- ***There is statistically significant evidence to conclude that women are underrepresented in STEM.***

ISSUES WOMEN FACE IN & OUT OF COLLEGE

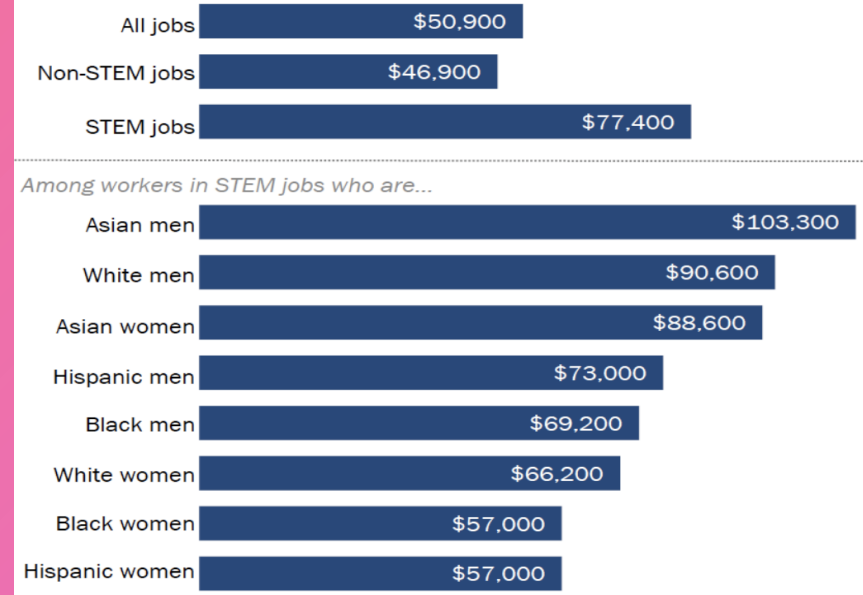
CNBC suggests that there are 3 main issues that women face when they are starting their STEM careers in and out of College:

- **Imposter Syndrome**
- **Lack of Mentorship**
- **Lack of Knowledge on how to negotiate to get compensated accurately**

The PEW research center has found that ones' respective race and gender impact salaries

Across all racial and ethnic groups, women in STEM earn less than their male counterparts

Median annual earnings of full-time, year-round workers ages 25 and older, in 2019 dollars



OUR PROPOSED SOLUTIONS

APPROACH TOWARDS SOLUTIONS

INSTITUTIONAL
LEVEL

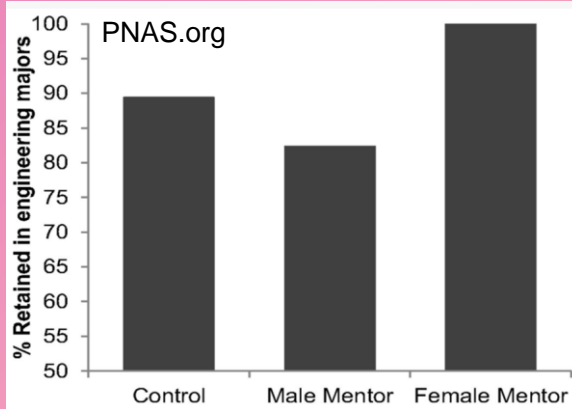
INDIVIDUAL
LEVEL

APPROACH TOWARDS SOLUTIONS

HOUSEHOLD
LEVEL



SCHOOL
LEVEL



WORKFORCE



WIS: An evolving APP with the goal of boosting female STEM talent

Content:

- Networking & mentorship platform
- Comprehensive STEM lesson plans
- Career opportunities
- Parental involvement

Problems targeting:

- Lack of mentorship
- Lack of confidence
- Lack of knowledge in STEM
- Subject matter expertise
- Gender stereotypes

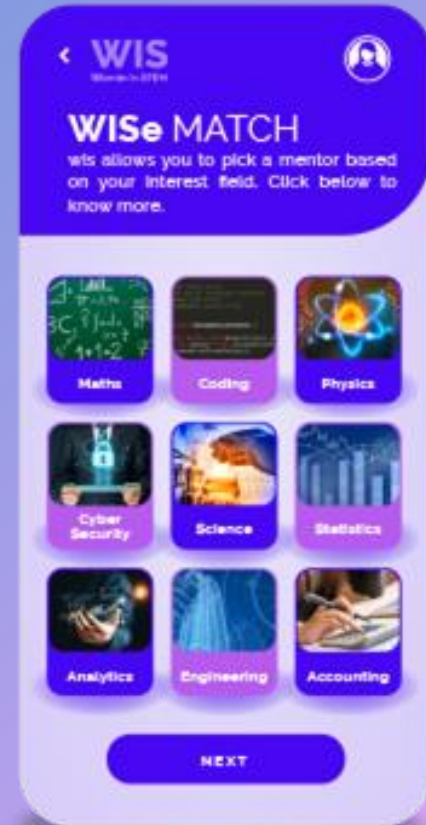
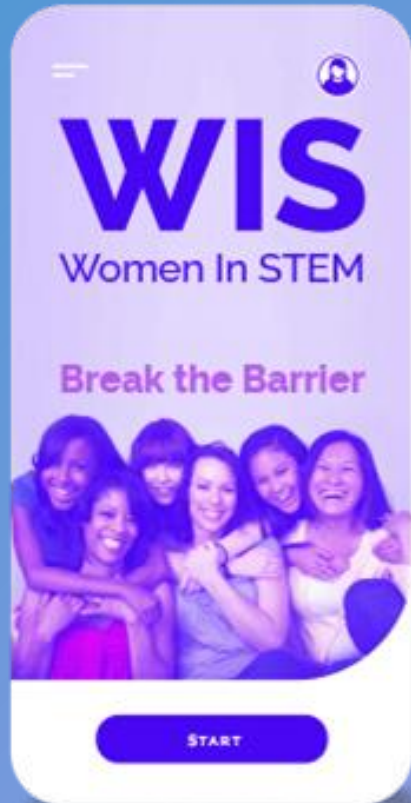
Implementation ("walk the talk"):

- College students and high school students
- FIU Start-Up
- Incentives and opportunities provided

Audience:

- Available to general public
- Advertised towards female college and high school students interested in STEM

WIS APP



FLDOE INDICATORS FOR SCHOOL GRADE

CURRENT

Four Achievements Components:

1. English/Language Arts
2. Mathematics
3. Science
4. Social Studies

Four Learning Gains Components

5. English/Language Arts
6. Mathematics
7. Learning gains of lowest 25% - Eng
8. Learning gains of lowest 25% - Math
9. Middle School Acceleration
10. Graduation Rate
11. College and Career Acceleration

PROPOSED



CURRENT 11 INDICATORS

+

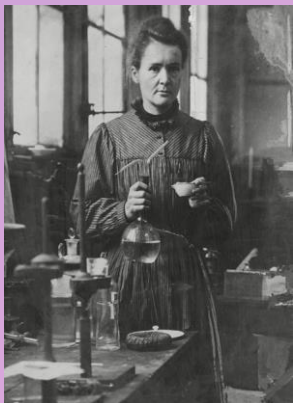
12th Proposed Indicator:

STEM Performance of Female Students - schools are graded based on female student achievement and exploration in STEM. Grades determine whether schools receive sufficient resources.

FLORIDA DEPARTMENT OF EDUCATION 12th INDICATOR



Katherine Johnson



Marie Curie

Problems targeting:

- STEM performance of female students
- Retention in STEM
- Lack of resources

Implementation:

- Present the idea to the FL Department of Education located in Tallahassee

Suggested initiatives:

- Celebrate “WOMEN IN STEM” Week

Audience:

- All FL students (K-12) enrolled in any FL school



Rosalind Franklin



Shakuntala Devi

CITED PAGES (RESOURCES)

- (Slide 2) →
 - Corbett C, & Hill “Solving the Equation: The variable for women’s success in Engineering and Computing” American Association of University Women, 2015.
 - U.S Dept of Labor, BLS: 11 “Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity (Data for 2021; updated on January 20, 2022), <https://www.bis.gov/cps/cpsaat11.htm>.
- CNBC(Slide 7)→
 - Farheen, Sabiha. “Women in STEM: 3 Challenges We Face and How to Overcome Them.” *CNBC*, 9 Aug. 2021, <https://www.cnbc.com/2021/08/09/women-in-stem-3-challenges-we-face-and-how-to-overcome-them.html>.
- PEW Research Center(Slide 7)→
 - Fry, Richard, et al. “Stem Jobs See Uneven Progress in Increasing Gender, Racial and Ethnic Diversity.” *Pew Research Center Science & Society*, Pew Research Center, 1 Apr. 2021, <https://www.pewresearch.org/science/2021/04/01/stem-jobs-see-uneven-progress-in-increasing-gender-racial-and-ethnic-diversity/>.
- PNAS.org(Slide 10)→
 - Dennehy, Tara C. “Female Peer Mentors Early in College Increase Women's Positive Academic Experiences and Retention in Engineering.” *Proceedings of the National Academy of Sciences*, 1 Jan. 2017, https://www.academia.edu/es/33264912/Female_peer_mentors_early_in_college_increase_women_s_positive_academic_experiences_and_retention_in_engineering.
- Florida School Grades (Slide 13)→
 - Corcoran, Richard. *2020-21 Guide to Calculating School Grades and District Grades*. July 2021, <https://www.fldoe.org/core/fileparse.php/18534/urlt/SchoolGradesCalcGuide21.pdf>.

“She does not know what the future holds, but she is grateful for slow and steady growth”- Morgan Harper Nichols

“It doesn't matter if you are a woman or a man, the most important thing is your determination”- Milka Duno

“There is no limit to what we, as women, can accomplish”-Michelle Obama

“Science is not a boy's game, it's not a girl's game. It's everyone's game”- Nichelle Nichols

“We must reject not only the stereotypes that others hold of us, but also the stereotypes that we hold of ourselves”-Shirley Chisholm

THANK YOU

“Never think you can't do anything because you're a woman; Everything is open to you as a girl. The future is yours.”-Christiane Amanpour



“Girls having role models allows for them to gain more confidence”
-Isa



“Being around support can determine your ability to accomplish great things”- Lilli



“To be outstanding You have to get comfortable with being uncomfortable” - Pree



“Being surrounded by strong women has helped me feel part of something special. It has made me feel stronger as a woman”-Ana

“A mentor is someone who allows you to see the hope inside yourself”-Oprah Winfrey