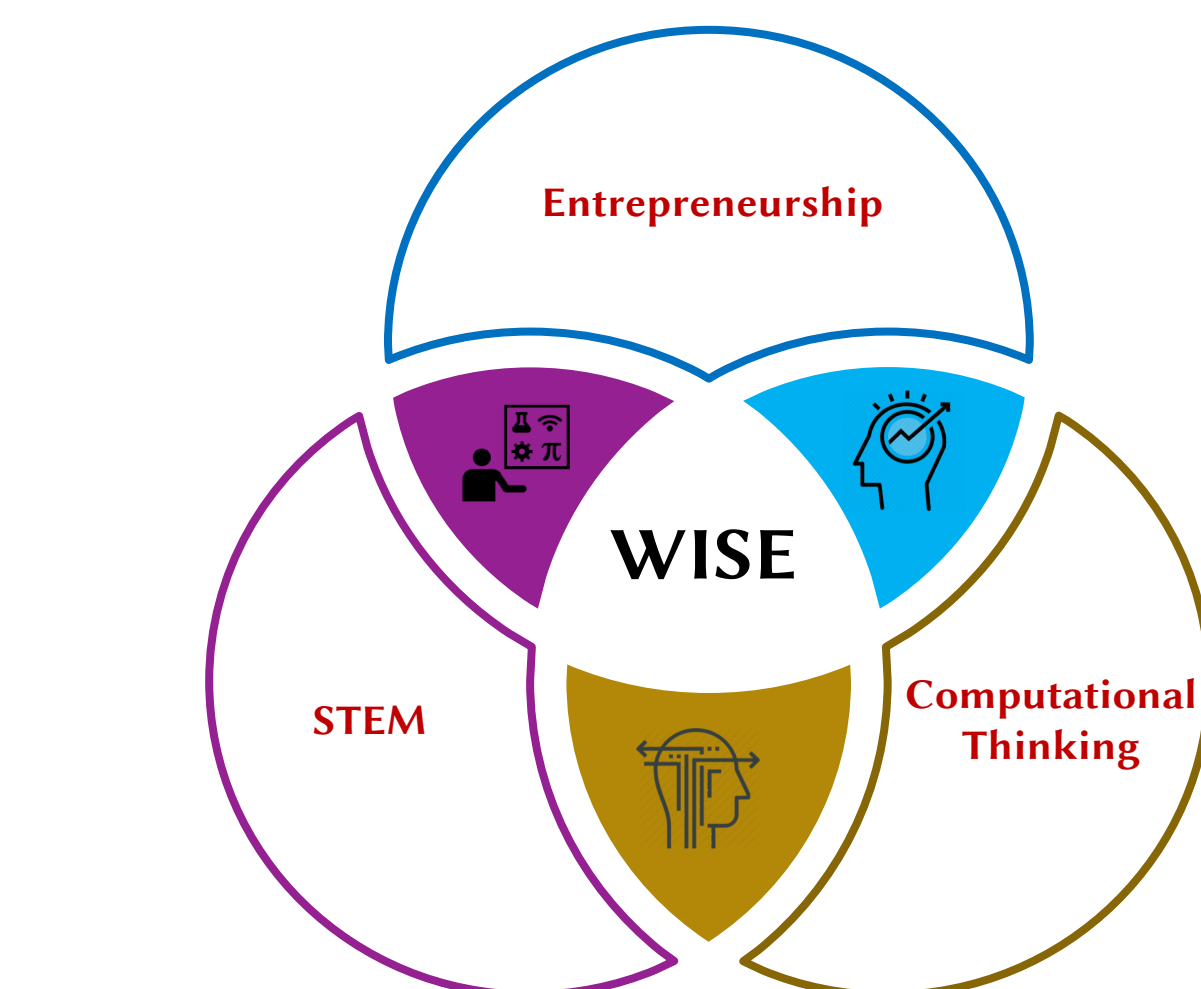


Goals



Develop a technology-focused entrepreneurial mindset amongst young women

Increase awareness and participation of young women in STEM

Understand how young women develop and perceive computational thinking practices

Icons taken from: www.iconfinder.com

WISE Program Stages

1 IoT concept development workshops

Activities

- 193 Year 10 Victorian female students, grouped into 52 teams, attended three one-day workshops
- Developed creative computational solutions with the micro:bit device to personal and socially relevant problems

2 Entrepreneurship training workshops

Activities

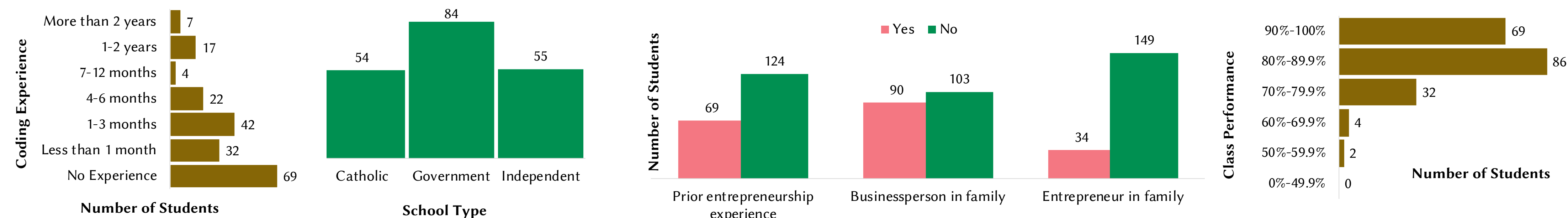
- 14 of the highest performing teams attended a two-day workshop
- Learned how to turn their entrepreneurial ideas into an economically sustainable product

3 Trip to Silicon Valley

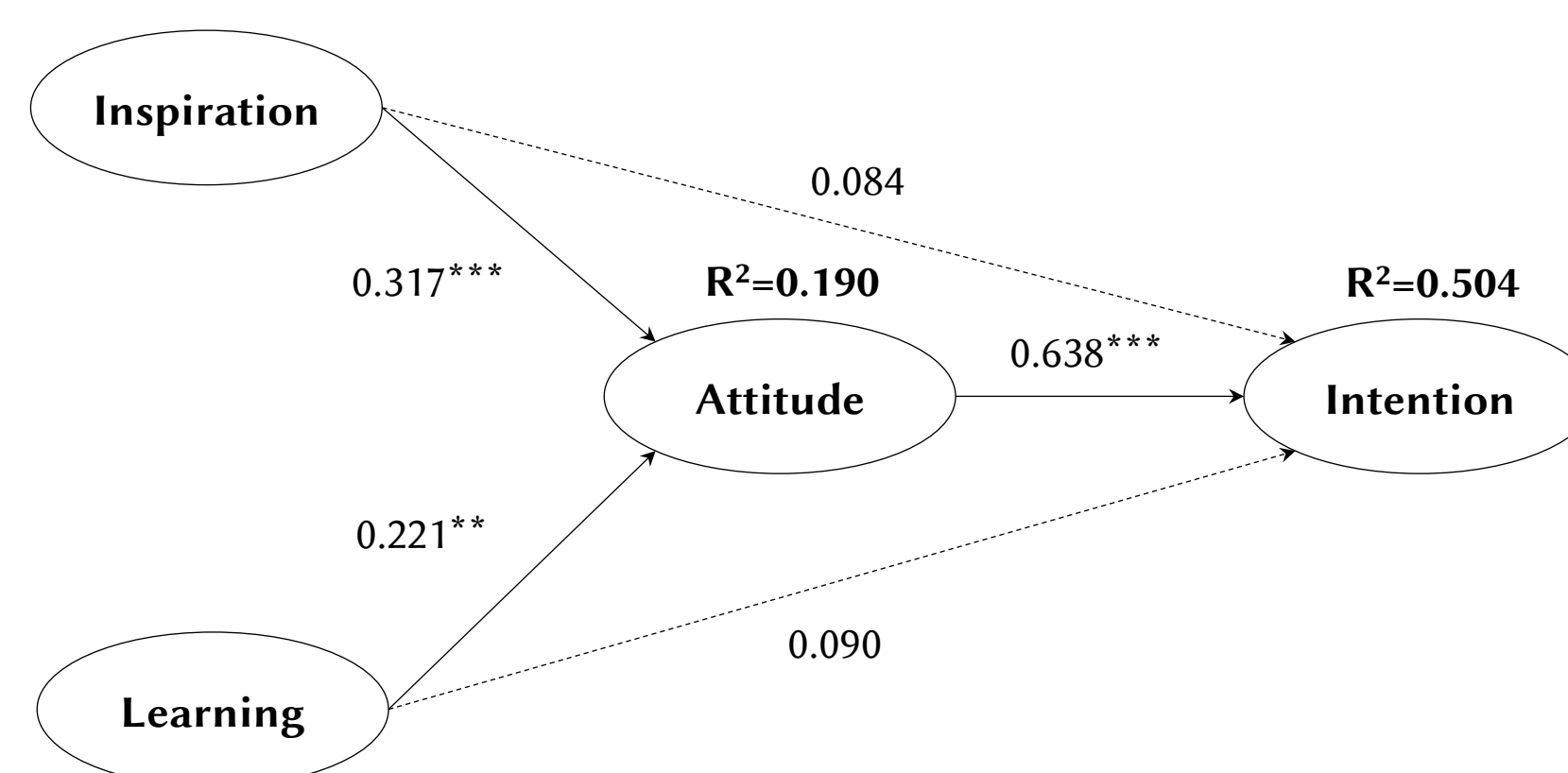
Activities

- Two best teams received an advanced immersion entrepreneurship experience in Silicon Valley

Demographics of Secondary School Female Students



Factors Affecting the Entrepreneurial Intention of Secondary School Female Students

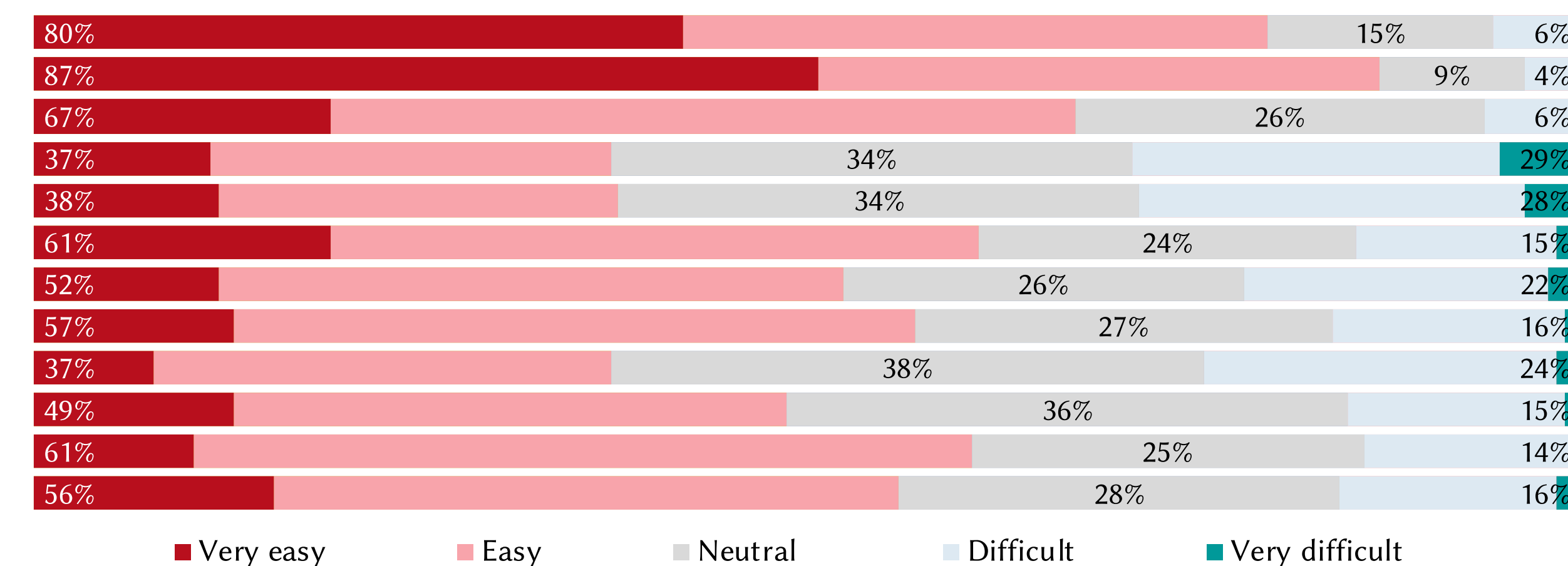


Path coefficients (*: p-value < 0.05, **: p-value < 0.01, and ***: p-value < 0.001). Note: Dashed lines indicate the relations that are not statistically significant.

- The WISE program **significantly** increased the intentions of secondary school female students towards entrepreneurship.
- The students who indicated greater inspiration from the WISE program showed a **significantly** higher attitude towards entrepreneurship.
- The students who indicated greater inspiration from the WISE program showed a **higher** entrepreneurial intention, but it was not at a significant level.
- The students who indicated greater learning from the WISE program showed a **significantly** higher attitude towards entrepreneurship.
- The students who indicated greater learning from the WISE program showed a **higher** entrepreneurial intention, but it was not at a significant level.

How Secondary School Female Students Perceive Computational Thinking Practices

Reaching a consensus in group decisions
Working collaboratively with team members
Giving feedback to teammates and making suggestions to improve idea/code
Finding a solution to fix the identified errors in code
Identifying errors in code
Testing code frequently to check if it works
Exploring diverse solutions to an idea, until the ideal solution is achieved
Creating a series of ordered steps to implement an idea with the micro:bit
Developing a general solution that can be applied to other problems in the future
Leaving out the irrelevant detail/information in the description of an idea
Breaking down an initial idea into smaller, more manageable steps/parts
Planning an idea before implementing it with the micro:bit



“Debugging” (i.e., measured by the statements “*finding a solution to fix the identified errors in code*” and “*identifying errors in code*”) is the most difficult computational thinking practice to apply.

Key Finding

Collaborative practices of computational thinking, including “*reaching a consensus in group decisions*”, “*working collaboratively with team members*”, and “*giving feedback to teammates and making suggestions to improve idea/code*” are the easiest practices to apply.

Key Finding

Having prior experience in coding significantly reduces the difficulty level of “*identifying errors in code*” and “*finding a solution to fix the identified errors in code*”.

Key Finding