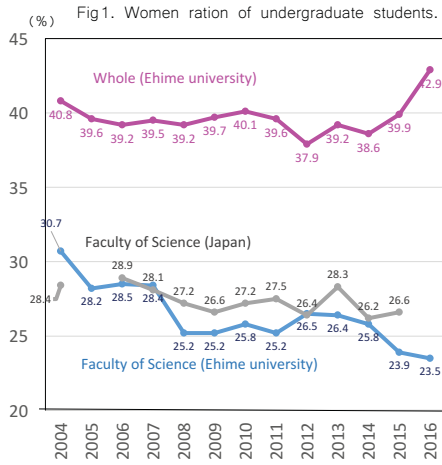


Activities supporting STEM education for pre-university students

The science princess project at Ehime University, Japan

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The ratio of women in STEM fields is rapidly increasing, and many universities are continuing to encourage and promote women in academics and administration. However, in the past 10 years, the ratio of female students choosing to study science at Japanese universities has been gradually decreasing (Fig. 1: 28.9 → 26.6% in Japanese universities, 28.5 → 23.5% in Ehime University).

We surveyed female students of Ehime university pursuing their first degree (N=345) and asked why and when they decided to study science, engineering, or related fields in college.

Results indicate that more than 93% of students decided their major in high school. A large percentage of students in science, agriculture, and engineering departments (approximately 40%) reported that they performed scientific experiments and activities during junior and high school, while less than 10% of non-STEM students participated in those activities. **Therefore, it is important for women who study STEM to be exposed to scientific activities starting in elementary school.**

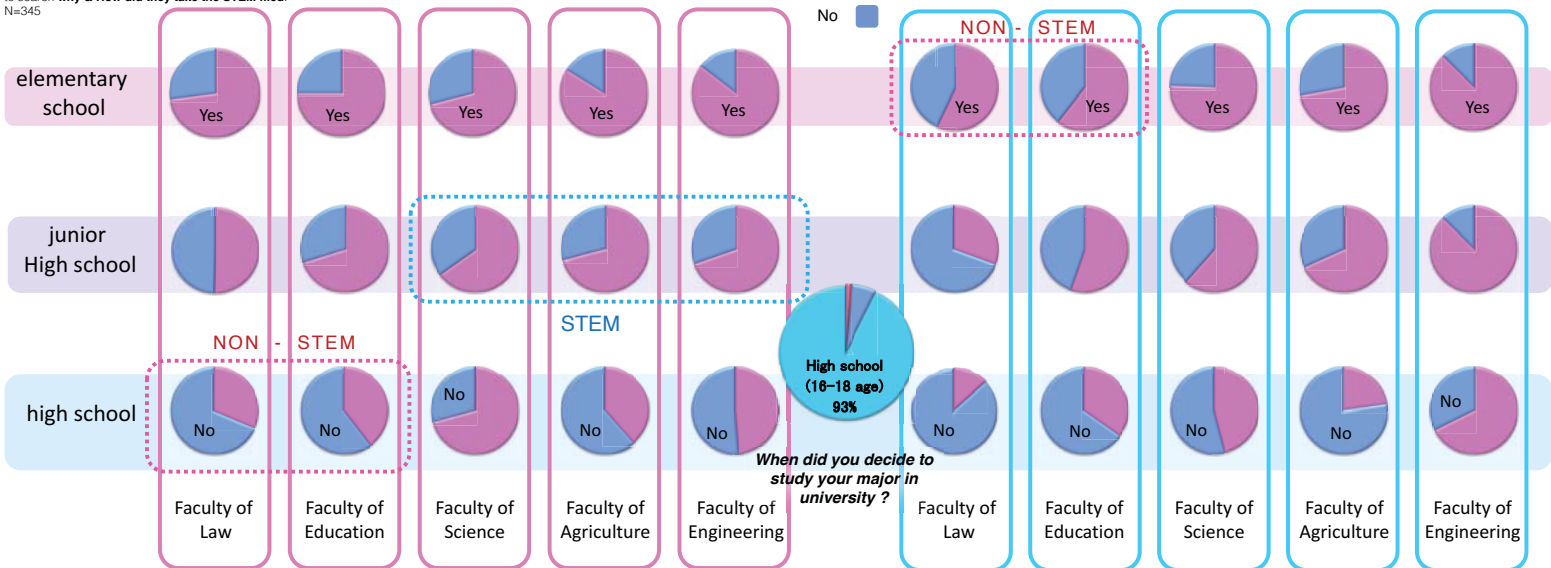
Based on these data, the Women's Future Development Center at Ehime University hosted the science princess program, starting in 2012, supported by JST (2016-2017), for female pre-university students and their parents to provide an opportunity to explore STEM education at a university level.



Survey
 for the first degree students of Ehime Univ.
 to search why & How did they take the STEM filed.
 N=345

Q: Are you doing well Science in school?

Q: Are you doing well Mathematics in school?



On the Basis of these results, the age of junior high school is important time for female students to make a decision for taking STEM study in future.

The science princess project at Ehime University since 2012 JST program for Female Students in Choosing Science Courses (2016-2017)

The program consists of three parts:

- 1) visiting laboratories of STEM faculty,
- 2) visiting companies interested in encouraging their female staff
- 3) discussions by female students who are currently studying STEM fields.

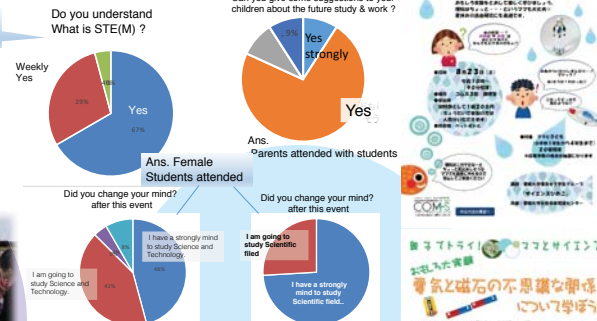
Career Path Support for junior/high school students



Visiting "RIKEJYO-OHEN" companies interested in encouraging their female staff



Results of this program examples



For more Information



Support for students to choose scientific path with Laboratory visiting. Lecture of alumnae and consulting.

Through these activities, more than 80% of female pre-university students and their parents who attended reported a positive attitude toward STEM fields and reduced gender bias.

It is effective for female students who are thinking about to go to study STEM that their parents attend to these scientific events with them. Through the experiments, parents can reduce gender bias and understand what is STEM, and then after its education (job and future) as well as student attendances. Our results show most parents answered that they can give some positive suggestions when their children make a decision about their future.