

Female students have a higher preference than male students to work in jobs that can help other people and that they think are meaningful.

Male students have a higher preference than female students to work in jobs with a higher social status and with STEM-related characteristics.

	Girls	Boys
Preferred Job Characteristics		
High social status		
Can manage/order other people	2.95	3.07
Considerable income level	4.10	4.11
Respectable/high social status	3.32	3.41
Meaningfulness		
Can help other people	3.64	3.37
The work is meaningful	4.14	3.98
STEM-related characteristics		
Related to technology, computing or internet	2.38	3.09
Maintenance or construction related	2.02	2.58
Operating machinery or mechanical tools	2.11	2.74

Note: In a scale of 1 to 5, with 5 indicates the most positive response

GENDER DIFFERENCES IN HONG KONG'S STEM EDUCATION

To better understand whether and why young boys and girls in Hong Kong choose STEM subjects as electives in the Diploma of Secondary Education (DSE) exams, university majors, and future careers, The Women's Foundation – with support from MTR Corporation — commissioned Dr Anita Chan and Dr Adam Cheung of the Education University of Hong Kong to conduct a research. Over 2,800 F.5 male and female students from 43 schools in Hong Kong participated in the study which included self-administered questionnaires and intensive focus group interviews.

What should we do?



Be more vigilant of the specific beliefs – discipline or subject related – that deter girls from pursuing STEM later on.



Provide access to more “ordinary and diverse” female role models to help counter negative stereotypes, as our study indicates that students tend to see “outstanding women” as exceptional or even abnormal.



Make math or science-related subjects more relevant to students' real life.



Actively promote a more “humane” image of STEM to attract more young women, who prefer jobs that are meaningful but do not see such characteristics in STEM jobs.

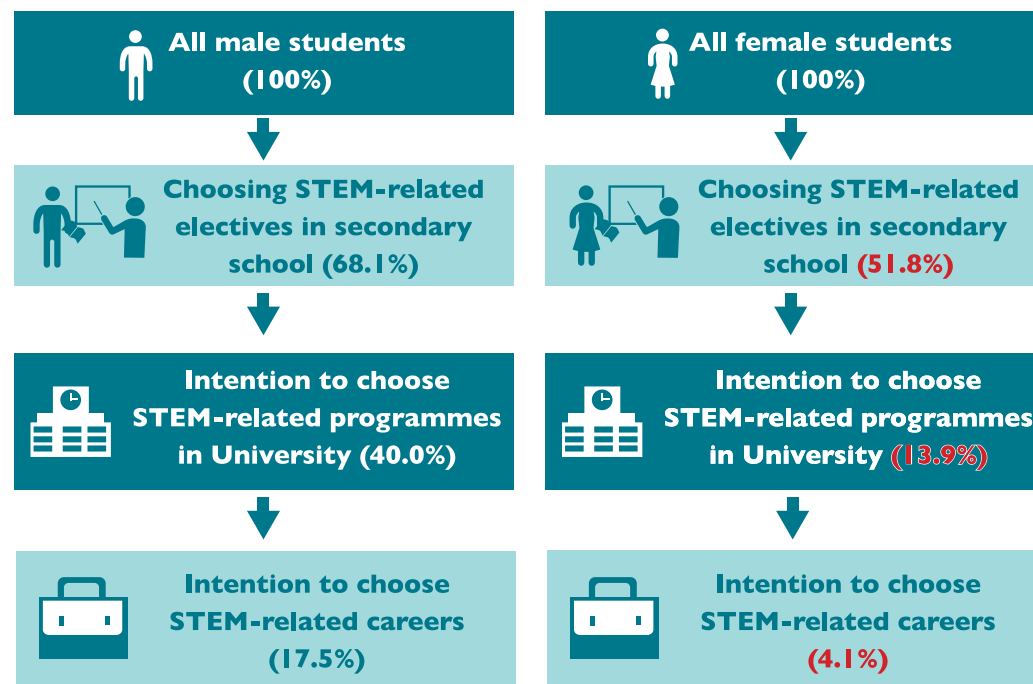


Enhance the status and significance of ICT.

Research Findings



Female students not only start with a lower proportion of STEM-related electives in the DSE curriculum, but they are more likely to drop STEM-related courses than male students later on.



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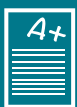
The gender differences in the subject perceptions (self-efficacy, interests, and perceived values) largely explain the gender differences in the DSE subject choices.



Students' subject choice in DSE is also shaped by school culture and university admission's strategy. High achievers prefer pursuing science subjects.



Male students reported higher self-efficacy, interest and perceived instrumental value in learning mathematics, sciences and ICT compared to female students.



Even though female students tend to spend the same amount or more time and effort than male students on STEM-related subjects, male students are more satisfied with their performance in STEM electives than female students.



Girls had higher levels of self-reported efficacy in language and humanities subjects and ranked these subjects as more important for their future studies and careers than the male students.

Schools in HK tend to prioritise the sciences over the arts by encouraging the best students to choose STEM-related electives

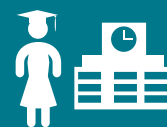
"In our school, students with good grades, usually the top 30%, chose Physics, Chemistry and Biology." (a female student from a co-ed school)

"In my school, only students from Class D, an EMI class, are allowed to take M1." (a female student from a girls' school)

"In my school, ICT is a life-saving subject. Only when your desired subjects are not available, then you'd choose it." (a male student from a co-ed school)

STEM students who are high achievers see the sciences as a strategic choice

"If you take Science, and if you go to university, you can basically choose any major. But if you take Arts, it may not be the case." (a male student from a co-ed school)



Even female students who are high achievers and have chosen STEM electives in DSE, they are reluctant to pursue STEM as a university major or as a future career. Gendered perceptions in math and job characteristics matter.

Math ability is seen as a masculine quality that is inborn and effortless

"Girls are sensitive and boys are sensible." (a female student from a co-ed school)

"Boys have stronger (math) sense. Although there are individual girls who are very good too, most of the boys are good at math; they think faster." (a female student from a girls' school)

	Girls	Boys
Language/humanities perception		
Self-efficacy	3.24	3.06
Interest	3.50	3.40
Perceived values	3.76	3.50
Mathematics perception		
Self-efficacy	3.03	3.67
Interest	3.21	3.78
Perceived values	3.43	3.80
Sciences perception		
Self-efficacy	2.85	3.36
Interest	3.42	3.81
Perceived values	3.33	3.68
ICT perception		
Self-efficacy	2.71	3.37
Interest	2.66	3.53
Perceived values	2.61	3.27

Note: In a scale of 1 to 5, with 5 indicates the most positive response