



Gender stereotypes about girls' careers formed prior to high school

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As revealed in the recent *Hands Up For Gender Equality* report, females in Australia comprise 50% and 60% of management and law graduates, yet the Workplace Gender Equality Agency reported in 2018 that women comprise only 43% of junior and middle management roles, 31% of executives, 17% of CEOs of all firms, and 5.5% of CEOs of Australia's largest firms.

While many factors are cited as underpinning this phenomenon — from women's reluctance to apply for senior roles to women's lack of self-confidence — the *Hands Up* authors write that:

From an economic perspective, STEM degrees are known to lead to careers in more highly paid industries which dominate contribution towards Australia's GDP. STEM graduates are also the pool from which most senior executives and CEOs of our largest companies are chosen. Operational or line roles have been widely reported as being critical in obtaining future executive and board roles.

Despite this, females still comprise 15% of Australian engineering graduates and only two-thirds of these women move into line and operational roles. As the report authors note, it is a "well-researched phenomenon" that organisations tend to divert women away from line roles such as underground mine managers, geologists and factory managers towards support functions in legal, finance, marketing and human resource departments, or to roles such as office assistants.

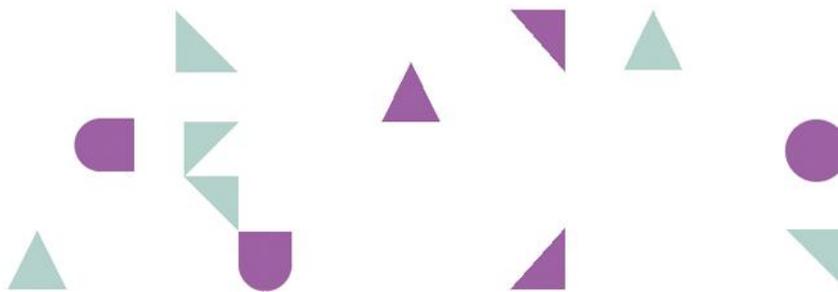
International studies also show that the root causes of women's low participation in certain occupations relates to childhood influences, with gender socialisation reinforcing stereotypes about 'what boys are good at' and 'what girls are good at'. This results in girls being steered away from what the *Hands Up* report authors term "non-gender congenial occupations" such as engineering because mathematics is seen as a "boys' subject".

A 2014 report found that only 6.6% of Australian girls take advanced mathematics in their final year of school, though it should be noted that a 2017 study by Helen Forgasz and Gilah Leder of Monash University found that 36.3% of girls attending single-sex schools in Victoria studied Mathematical Methods and 8.9% studied Specialist Mathematics in their final year. In addition, 7.5% of students at girls' schools studied physics and 27.6% studied chemistry. All of these subjects were studied at higher rates than for girls in co-educational schools.

Recent studies have found that despite the low numbers of girls taking mathematics, science and engineering subjects, girls do not possess less aptitude for these subjects. "Rather," write the *Hands Up* authors, "they form attitudes towards their suitability to undertake such subjects, or careers related to these subjects, based upon input from parents, teachers, friends and the media."

Forgasz and Leder's study included a survey of women aged 18 and over which found that the three most frequently mentioned influences on their initial career choice were being good at one or more STEM subjects, parents, and good employment prospects. However, more graduates of girls' schools nominated their parents as an influential factor than female graduates of co-ed schools (43.4% versus 39.0%) and more girls' school graduates nominated parents as the 'most' influential factor (18.5% versus 13.4%).

For both single-sex and co-ed graduates, teachers were the fourth most frequently mentioned influence on initial career choice. Similarly, teachers did not feature in the top three when female graduates were asked to name the 'most' influential factor in their choice of career.



When graduates of girls' schools were asked about the factors supporting their career paths and goals (as opposed to their initial career influences), 42% nominated their parents, 26% nominated extended family, and 17% nominated teachers. "Again," write Forgasz and Leder, "the influence of parents can be seen to be very strong."

Forgasz and Leder's survey also revealed that female graduates of single-sex and co-ed schools were equally likely to pursue a STEM career, but graduates of girls' schools were more likely to study health-related STEM degrees, while girls from co-ed schools were more likely to pursue engineering. This finding prompted Forgasz and Leder to suggest that it would be worthwhile undertaking further research to investigate why parents of girls attending single-sex schools play a greater role in the career choices of their daughters and whether they encourage their daughters to pursue health-related careers rather than take up the hard sciences, including engineering.

Factors mentioned by participants in Forgasz and Leder's survey as hindering career paths and goals were children/childcare/parenting (25%), self-belief (15%), gender stereotyping (14%), and teacher/career advice/limited subject choice (9%). A small number of girls' school graduates (7%) said their parents had hindered their career decisions, while 15% said they had encountered no hindrances.

Given the fact that Forgasz and Leder's study included women aged from 18 to over 70, it is not surprising that older women provided examples of hindrances to their career paths and goals. More worryingly, some young women who attended girls' schools provided examples where they felt teachers, careers advisers or school environments hindered career decisions. Their comments included:

- "Society stereotypes and some teachers who weren't supportive" (18-20 year old).
- "Career advice was very narrow minded at times, which meant it was hard to come up with back ups if you didn't get into your first choices in what you wanted to do; career counsellor had less information than what was online" (21-30 year old).
- "expectations that as a successful student I should apply for law or medicine, and lack of extracurricular activities for maths and the physical sciences compared to sporting pursuits and the arts" (21-30 year old).

The *Hands Up For Gender Equality* report, based on data from 10,000 girls and boys attending single-sex schools in Queensland, found that while they were equally self-confident, a significant difference between boys' and girls' activities and career domains was evident:

These domains were highly gendered and had already been formed prior to entry to high school. While some individual activity preferences changed by age, overall career domain preferences remained robust and unchanged from Year 7 to Year 11.

Presented with sixty activities and tasks, Year 7 boys from single-sex schools named their top three choices as designing and building robots, being the manager of a company, and designing laser cutting machines. Year 7 girls from single-sex schools named their top three choices as designing clothes, planning colour schemes for the interiors of buildings, and being the manager of a company.

Year 11 boys nominated being the manager of a company, working out the best stocks and shares to buy, and estimating the value of houses, while Year 11 girls selected being the manager of a company, giving guidance to people with personal problems, and helping people who have been in accidents to walk again.

While boys and girls had adjusted their preferences by Year 11, with both nominating being the manager of a company as their top preference, analysis of the sixty activity items grouped into their six career domains revealed that significant differences remained between boys and girls. Boys were more interested than girls in the 'Technology & Science' and 'Finance & Economics' domains, while girls were more interested than boys in the four domains of 'Social Services & Healthcare', 'Biological Sciences & Medicine', 'Art & Design', and 'Language & Literature'.

So what can parents, teachers and the wider community do to discourage boys and girls from believing that some activities, subjects and careers are 'for boys' and others are 'for girls', as well as encouraging girls to pursue degrees and careers in STEM fields that will open the doors to higher-paid careers, as well as to management, executive and CEO roles?

The *Hands Up For Gender Equality* authors recommend that schools:

- shift the focus of attention from secondary to primary school in terms of undoing stereotypes about what 'boys are good at' versus what 'girls are good at';
- do more at primary school to encourage girls to engage in science and technology activities, and boys to engage in social services and healthcare activities; and,
- seek out role models that disconfirm traditional stereotypes to speak with children, e.g., female firefighters and male nurses.

It is equally important that parents:

- talk to their children about the stereotypes they see on television, social media and other forms of media;
- actively encourage their children to consider all career domains equally from a young age; and,
- explicitly discuss their own education and careers with their sons and daughters from primary school age, with emphasis placed on informing girls of their parents' — and particularly their mother's — education, qualifications and work history.

References

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