

Research Briefing No. 10

Getting In, Getting On in Construction

Experiences of women and men studying Built Environment in Scottish Universities 2008

The UK Resource Centre for Women in Science, Engineering and Technology, recommends this research carried out by Dr Kiril Sharapov and Jenny Tizard of Napier University.

Construction is an industry where women remain under-represented in both manual and managerial positions: they make up about 10% of total employment, 2% of

manual and 32% of non-manual employment, mostly administrative and support (ConstructionSkills, 2005). Women are also under-represented on built environment degree programmes. In Scottish universities in 2006-07 women made up only 30% of undergraduate students of architecture, building and planning, and 12% of students of engineering and technology (Scottish Government, 2008).

This briefing is based on a study undertaken by the Scottish Resource Centre for Women in Science, Engineering and Technology. The research was commissioned by ConstructionSkills and their Equality Adviser in Scotland helped steer it. The study explored factors affecting the progression of undergraduates at five Scottish universities from built environment programmes into the construction industry. The main sources of data were (a) an online survey of students, (b) a survey of employers representing the diversity of the construction sector in Scotland, and (c) interviews with employers. The interviews and surveys were conducted in early 2008.



Research Findings

What influences students to join the sector?

Family and friends: Families and friends play an important role in encouraging or discouraging students in their career decisions. Most students perceived their influence to be far more significant than that of schoolteachers or career advisors. About 40% of male students, and slightly fewer female students, indicated that having a family member working in construction was a positive influence. Promoting careers in the sector to families, as well as potential recruits, is likely to influence more people to consider working in construction.

Career advice: Only half of respondents in this study found the career advice they received at schools and colleges to be accurate and realistic. There is scope for improvement in career advice. The issue of potential divergence between career advice received at school and family/peer advice received at home needs further research.

Previous experience: Positive pre-university experiences of the construction sector can often be a catalyst for a decision to join a university programme. Although the majority of respondents in this study were under 25, about half of them had previous experience of working within the sector. This experience, however, may be one of the 'channels' through which negative behavioural practices of the industry find their way into university classrooms and laboratories (see Gale 1994).

Practical experience: utility, expectations and reality

Most students perceived practical experience to be essential to their post-university employment and expected to gain such experience during their time on a study programme. However, only 75% of female students and 57% of male students gained such experience. The majority of students who took up a work placement found it beneficial. It

is worth noting that around 10% of students were disappointed and discouraged by their experience of the industry whilst on a work placement.

Work-related experience makes students more confident and more employable. Increasing numbers of employers tend to recruit students who have carried out a work placement. Universities and employers need to make sure that a variety of work experience options are available and are taken up. They are especially important for women, who are less likely to have relevant experience prior to studying.

My work experience was invaluable. Even in a small practice in a small town where some would think there is limited experience to be gained (Final year female student)

Graduate training schemes ensure that new graduates quickly become productive and effective team members. Students were keen to enter such schemes. However, employers in this study knew little about them and thought they would be expensive to run.

University experiences

The majority of female students described the atmosphere in their departments as neutral or women-friendly. However, about a quarter of final year female students reported feeling isolated in male-dominated group settings and felt under pressure to prove themselves in everyday situations.

Lecturers and staff are very encouraging but some of the fellow male students are condescending at times especially in group work (Final year female student)

Sometimes I am in a class on my own. Very few men will talk to you until they are used to you (Final year female student)

Women cannot afford to make any mistakes as it'll be immediately obvious. Women need to be pushy and strong to succeed in what is essentially a male dominated industry (Final year female student)

Gender: does it matter?

Most (85%) of the employers taking part in the study agreed that women provide a different perspective to the built environment sector. Only 8% of the employers said that they felt women needed to follow male career patterns, though 54% said that women needed special skills to succeed.

About half of first year female students thought that women must follow what could be described as 'male career patterns' (no career breaks and long hours of work) to succeed in a built environment career.

Some male students suggested that women needed to accept gender based discrimination and act like 'one of the boys'.

Most female students tended to 'idealise' the role of qualifications and personal determination in pursuing a successful career in built environment. It may be that gender-based inequality and stereotypes are so embedded that some students are unwilling to admit to encountering prejudice on account of their gender. Instead, they identify other factors, which they perceive as gender-neutral, for example, lack of role models or lack of established career patterns for women.

Inequality and discrimination can be accepted in two ways: actively, where recognition of gender-based inequality translates into daily practices and behaviour, and passively, where gender-based inequality is not endorsed or agreed to but, at the same time, is not actively challenged or resisted.

Diversity training has the potential to address entrenched gender stereotypes, which often translate into gender-based discrimination in workplace.



Research Findings

Future careers: what do students want to do and do they feel confident enough to do it?

The majority of students felt confident about their decision for a career in construction. The exceptions were female students in their first year, most of whom were uncertain about their choice. By the final year the female students displayed the same level of confidence in career choice as the male students.

Most students were confident (in January 2008) about their chances of finding employment after graduation. However not all intended to look for jobs in construction; government surveys suggest that up to 15-20% of final year students decide against entering the sector (Prospects, 2007). This study suggests some may perceive the culture as unwelcoming, macho, gender-biased, requiring long hours and paying low wages. Their rejection of the culture might explain the initial 'leak' in the pipeline of qualified professionals where the number of graduates from built environment programmes at Scottish universities does not translate into the number of women and men employed in managerial and professional positions within the industry.



I think the lack of women in the construction industry is mainly due to a cultural problem. There are no female role models (or few that one hears about) and most schools do not encourage potentially good female engineers to do maths, physics etc. The first step to change is to encourage women to take subjects which are more untraditional in schools. Once you're in university, you know what you're in for - that working will be a challenge due to your gender so you're more prepared to accept it. The continent encourages women more than in the UK. We're doing something wrong
(Final year female student)



Somewhat unexpectedly, high levels of confidence among students about their career choice and employability did not translate into high levels of confidence about the relevance of the skills they developed to industry's current employment needs. More than half of final year students were either unsure or did not think that their programmes equipped them with the right mix of skills and knowledge.

Students indicated a range of concerns about working in the built environment. There was a noticeable difference in the perception of potential difficulties by first and final year, and male and female students.

Final year female students raised more concerns than first year female students about negative aspects of working in construction. Safety was the only exception to this - the least important area of concern for female students. Overall, final year female students were most concerned about

long hours and low pay, followed by 'inflexibility', 'sidelining' and 'parenthood'.

By contrast, final year male students identified fewer concerns than their first year male counterparts. 'Macho culture' was the least concern for final year male students, followed by poor working environment and parenthood. Overall, final year male students were most concerned about 'long hours', followed by 'low pay' and 'no scope for creativity'.

Students were asked what attracted them to working in the built environment. There were clear differences in the responses of first and final year female students. First year students were more positive, particularly about 'working as a team', 'career progression opportunities' and 'pay and benefits'. Final year male students were more positive about working in the sector than first year male students.

It would appear that the 4-year engagement with the construction culture which takes place within university departments and work placement had tended to decrease the attractiveness of the sector to female students and increase its attractiveness to male students.

At the time of the study, employers participating in the study reported problems in recruiting managers, professionals and craft workers. The majority of companies (77%) said they were willing to support positive action events targeting women and girls.

What did students think should be done?

Students were asked for suggestions of what could be done by employers, universities and professional organisations to encourage students to 'get in, get on and stay on' within the built environment sector. The resounding recommendation from students is that employers and universities should work in closer partnership, supporting placements and work based learning projects.

Recommendations from the Research

1. Women are less likely to have experience of working in the sector than men, and are more likely to have discouraging influences. Initiatives such as 'Scottish Young Women in Construction Conference' and 'Construction Ambassador' programmes are important in building bridges to construction careers for women.
2. Employers and universities should share best practice in supporting student placements and work experience. Work placements are especially important for women students.
3. Graduate training schemes for small and large companies should be supported. 'Inspire Scholarships', one of the construction industry's leading scholarship schemes, is an example of an initiative focusing on bringing the brightest and best graduates into the industry.
4. Universities and employers should consider how new entrants can be encouraged through contact with successful role models. Networks for women can reduce isolation and build contact with professionals. 'Women In Property' provides a network for graduates and women professionals. 'Connect' at Napier University is an example of a student peer support network.
5. Equality and diversity training can play an important role in challenging attitudes and influencing workplace culture. 'ConstructionSkills' provides support for training training in Scotland through their Equality Adviser, Jacqueline Kerr email jacqueline.kerr@cskills.org

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The full research report is published by Napier University and can be downloaded from www.napier.ac.uk/src/reports

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