

# Women and Recruitment to the IT Profession in the UK

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## INTRODUCTION AND BACKGROUND

Early commentary on the development of the field of Computing and its relationship to women was generally optimistic in tone. Many early software workers were female, and the associations of computing with a qualitatively different, and cutting-edge, technological domain, caused projections that women would comfortably enter professional Computing work in a manner unparalleled for scientific and technological occupations (Faulkner, 2002; Woodfield, 2000). The rationalisations shaping the decision of early female entrants to the field often mirrored those buoying up the optimism of commentators. An established female computer professional in the late 1980s, for instance, reported applying for her first job within the IT sector a decade earlier because she had believed the area to be “one of the first businesses with no sex prejudice” (Cowan, cited in *The Guardian*, 1989).

A review of the literature that chronicled the *actual* movement of women into IT work cross-nationally since these early predictions, however, leaves little doubt that women were quickly established as the under represented party within IT roles. As Elizabeth Gerver suggested at the close of the 1980s, Computing effectively became established as a “strangely single-gendered world,” and although women’s under-representation may have varied “from sector to sector and to some extent from country to country,” the evidence of its male-domination and, indeed, its maleness, became so ubiquitous that it tended “to become monotonous” (1989, p. 483). A large body of work has underpinned the ongoing legitimacy of this observation since the 1980s (Faulkner, 2002; Hall, 2004; Millar & Jagger, 2001; Peters, Lane, Rees, & Samuels, 2003; Woodfield, 2000).

## The Participation and Progress of Women in UK IT Occupations

Women are under represented within occupational roles within the UK IT sector, or IT roles in other sectors, and especially within the more prestigious and well-rewarded roles.

Their estimated numbers within the broad category of IT workers vary, but available statistics suggest that it is lower in the UK than in other countries, including the U.S. and Canada. Women, it is variously claimed, comprise between 13% and 22% of all IT workers, including those outside of the IT sector itself (see Faulkner, 2002; Millar & Jagger, 2001; Miller, Neathey, Pollard, & Hill, 2004; Sørensen, 2002). This represents a decline since the turn of the millennium (Faulkner, 2002; Millar & Jagger, 2001). Indeed, the president of the British Computer Society recently announced a 3% drop in female participation between 2002 and 2003 alone (Hall, 2004).

Female participation patterns in the UK follow global trends and are unevenly distributed throughout the sector and occupations. Best estimates claim women comprise only 16% of all IT managers, 21% of computer analysts, and 14% of software professionals (although less than 10% of software engineers). They are more substantially represented in the lower echelons of IT work as operating technicians, for instance, where they comprise approximately 30% of the workforce (EOC, 2001b; EOC, 2004; Miller et al., 2004).

Another characteristic of female participation, however, is that women are far more likely to work in an IT role outside of the IT sector itself. Indeed, it is estimated that they comprise only 9% of IT workers within the area (Faulkner, 2002; Millar & Jagger, 2001).

It is worth noting, however, that those women who find themselves joining the IT workforce are likely to experience slightly less severe gender pay differentials than women in other types of work. For instance, computer analysts/programmers can expect to be paid 7.7% less than comparable males, and IT managers can expect a lag of 12.1% behind their male peers (Miller et al., 2004). This compares well against the 18.4% average deficit that women experience more generally. The trend is for pay gaps to increase the further down the occupational scale IT roles are situated, but they are still marginally better than national averages for comparable work (Miller et al., 2004).

This does not, however, help retention rates, which are generally worse for women, including at the more senior levels. The most recent reports suggest that the industry is losing more female staff than it is recruiting (Computer Weekly, 2003; Grey & Healey, 2004; Hall, 2004).

### **Women's Propensity to Self-Select out of IT**

One explanation for low female participation rates in occupational IT is women's propensity to self-select out of the field. The masculine nature of IT's culture and image has, rightly, been cited as a key reason underlying this tendency. Research suggests that the identification of occupations as either gender-appropriate or gender-inappropriate starts early (EOC, 2001a; Miller et al., 2004), and, as females progress through their education, they tend to drop out of subjects allied to gender-atypical careers with increasing frequency. Their over-representation within the lower echelons of the field may also, then, be partly related to their tendency to drop out of educational qualifications that are required for the more professional-level roles within it.

If this were the primary reason for the general picture of female participation and progression rates, however, we would expect women with professional-level IT qualifications to be present within the sector in terms broadly proportionate to comparable men. These women have bucked the gender trend and demonstrated their commitment and interest in the field by choosing to study an IT-related subject to a level that qualifies them for such a role.

### **The Progress of Women with Computer Science Degrees into Professional-Level IT Work (with Engineering as a Comparator)**

An examination of the first occupational destinations of men and women graduating from university with computer science degrees<sup>1</sup> is a useful way of assessing whether women progress into professional IT work with the same frequency as men when they persist with their education in a subject that eminently qualifies them for it. To ascertain whether the conversion rates for Computing are part of a general Science pattern, or more specifically interesting, it is useful to compare them with conversion rates for men and women on a cognate degree programme: engineering. As with computer science, engineering is male-dominated both at the university and occupational level—more so in fact (Scenta, 2005), and also shares the characteristic of having a reasonably clear vocational link between degree-level study and professional work in the field.

Table 1 records the relationship between undergraduate programmes in computer science and engineering, gender and the occupation a graduate is within six months after graduating.

It can be seen that women fail to enter professional IT roles with the same frequency as we would expect, and with about half the frequency that comparably qualified males do. Moreover, over twice as many women as men with a computer science degree end up in an occupation within the non-professional category “administrative & secretarial”, and they represent over a quarter of all women with this qualification. Indeed, women with a computer science degree are *more* likely to go into “administrative & secretarial” work than they are to convert their degree into a professional-level job within IT.

Additionally, 10% more women with engineering degrees make the transition to professional-level engineering work than women with computer science degrees make the transition into professional-level IT work<sup>4</sup>. Women with engineering degrees are also more likely to secure a professional level job in any sector. More generally speaking, female Computer Scientists provide the sole exception to the rule that sees women UK graduates more likely than male graduates to secure employment after graduating (Millar & Jagger, 2001).

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