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A SURVEY PAPER ON WOMEN IN COMPUTING

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Abstract

Substantial reasons for the under-representation of women in professional engineering professions are career stereotyping and misperceptions regarding the essence of computing. Fifteen women with work experience in many areas of computing were asked in this research about their motivations for entering computing, what they enjoyed about working in computing, and what they hated. Although there are several shared threads, individual variations still occur. Popular reasons for selecting computing as a profession included.' Exposure to computing in an atmosphere that helped them to see the versatility of computers; the influence of someone close to them; personal skills that they considered to be suitable for a computer career; and qualities that appealed to them to such professions. In general, women employed in the sector love the role they are doing.

Keywords: *Women, Computing, Career, Opportunity, Skill, Profession, Social issues, Family concern.*

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I. INTRODUCTION

It has long been known that in programming classes, women are underrepresented, and even in the workplace of computers. Latest statistics show that, considering the exposure this issue has gained, the proportion of women enrolled in computer science courses has declined in recent years. The latest research shows that computer science is not seen by girls as a common career option. Women working in the sector view computation as having features that can make it a common career option for girls [1]. Their job is characterized by computer professionals as: challenging; diverse; and offering opportunities to meet people, travel, and work at home. Sadly, the view schoolgirls have of computers is commonly false. The reasons why women may prefer working in a non-traditional profession such as computing are important to consider. The examined literature discusses some of the reasons why a career in computing should be regarded by schoolgirls and women pursuing a career change; reasons why they do not; reasons why few women occupy senior computer

positions; and reasons why computing needs more women [2]. The research replicates previous studies in which women were asked if they choose computing as a profession, what they enjoy and what they don't like about computing jobs.

II. REASONS WHY GIRLS OUGHT TO CONSIDER PROFESSIONS IN COMPUTING

Below are three related reasons why school girls should consider a computer career. They are:

i. women typically work in jobs that pay lower than, and have fewer benefits and opportunities for advancement than men;
ii. women are more likely to be the primary financial support for their families today than in the past; and
iii. Computing jobs pay well and provide opportunities for growth.

A. In low-paying jobs, women are overrepresented, with less resources and benefits than men.

Since 1950, the proportion of women in the workforce has almost doubled, but women are still clustered in a few professions that are comparatively low paying and typically female [3]. For example, 54.7 per cent of working women in the Australian workforce in 1995 were clustered in two occupational groups: clerks and sales/personal service employees. Women: taking up more of the positions that include care for or supporting others, indicating their family roles; undergo fewer and less rigorous instruction under more adverse circumstances than men; and are more likely to occupy subordinate positions than men. Women's role in computers represents their position as a whole in the workforce [4]. Girls are less likely to continue their studies at a higher level. In occupations with short career paths and poor wages, such as data entry and database operations, they are overrepresented and underrepresented in senior technical roles.

B. Misunderstandings around computing courses and careers

Many girls mistakenly conclude that: they're not going to be successful at computing; they're not going to like the job; and/or they're not going to be able to get a place in the industry. Their lack of knowledge of the true essence of professions in computing, assuming that computing is performed in solitude, sitting all day on a laptop, and doing programming or office management, convinces girls that it is important to escape computer studies [5]. Women who have not studied programming at school at the tertiary level may incorrectly believe that they are not sufficiently trained to perform computer studies. The perceived need for mathematics and the technological existence of the subject was deterred by some.

C. Reasons why computing needs more women

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In computing, there is still an unmet need for skilled individuals. One way to address this need is to attract more women with technological skills into the industry, with women forming a minority in the computing sector [6]. There will be more focus on capabilities not historically known as desirable in computing in the future as work requirements shift. Some of the latest computer positions could be appealing to women who are not interested in what was traditionally known as strictly a professional profession.

D. The demand for capable professionals in computing

Computing possibilities continue to grow and can provide capable workers with resources long into the next century. A number of new positions that require new skills have been generated by the hardware and technological advances of the past decade [7]. Although many opportunities do remain for women in the growth of existing structures, there are many new opportunities as well.

E. The demand for various skills

Women have distinct talents, personalities and abilities from males. It is also possible that attracting more women into computers, particularly women with expertise not previously seen as important, would generate greater user satisfaction. Watt cites from a 'Women into IT' study saying that' much of the projected future IT employment would require more than technological expertise for business skills, people-oriented skills and 'Multi-tasking' management capacity.' Some individuals assume that women are more likely to have these forms of talents than men. Multiple explanations follow. Jones believes that increasing the number of women in computing would allow the field to become more open to the needs of society [8]. White explains the development of an application by two parties, of which only one involved individuals with traits seen more frequently in women than in men. The project was finished by this community on schedule, with the users fully pleased. The proposal was not completed by the other party. Gunson and Fielder found a variety of areas of machine weakness that they attributed to the introduction of the 'masculine' management model after asking information technology (IT) administrators about their work, and suggested that all of these problems would be solved by the 'feminine' style. Although 'male' and 'female' management styles are not necessarily practiced by individuals of the corresponding sex, there is sufficient competition to have the styles named accordingly. While a wider spectrum of expertise does not exclude professional abilities, gradually there may be prospects for both women and men who may not be technically qualified.

F. Reasons for choosing computing as a career

As may be predicted, at various points of their lives, women made their career decisions. While still in high school, some focused on computing, some made the decision at university, and some started to work in another career, then switched to computing. Nearly all women offered many explanations why they wanted to pursue computing, indicating that career choices are taken over time, rather than focused on a particular case. Thus, while single interventions such as attending a

computer workshop or watching a video are unlikely to cause girls to decide on computing as a profession, such interventions will cause certain girls to choose computing at a later time in combination with other activities that occur in their lives [9][10]. This can be taken into consideration by planned interventions to attract women into computers. The motives for preferring computing as a profession fell into two different categories: incidents or factors that prompted computing to be taken into account by these women; and qualities of women themselves, or professions in computing. In the first group are: causes while at school, college, or after beginning another profession or job; the effects of family and friends; and, for a couple, the beneficial impact of discouragement.

III. CONCLUSION

This paper's introductory sections discussed explanations why computing is a suitable profession for women, why it is not a common option, and why if more women were to join the field, computing would benefit. The data supports similar outcomes from previous research. The female participants perceive computing as an exciting profession that provides good opportunities. In short, the challenges that discourage many girls from computing as a profession are not reinforced by the experiences of women employed in the field, it can be argued. Many women are capable of discovering niches they love. There are few dislikes they have for the job they do. Political and attitude problems for some women distract from an otherwise satisfying career.

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