

Gender in The Workplace

Women's rapid movement into the paid labor market over the past century has had an impact on childrearing, marriage, gender equality, and the labor market itself. Whereas in the past most women devoted their time to caring for their families, women's life courses are now shaped by the combined influences of family and work. In the early 21st century, women in the workplace experience many opportunities, but there are still key issues and challenges.

Key Issues and Challenges Facing Women In The Workplace

Some of the key issues and challenges facing women in the workplace include the gender wage gap, discrimination, the glass ceiling, and sexual harassment.

The Gender Wage Gap Despite women's increased educational attainment and strengthening attachment to the labor force, women working full-time still earn less than men working full-time. Estimates of the gender wage gap differ somewhat based on whether researchers compare men's and women's annual earnings or hourly wages, because men tend to work more hours than women. Regardless of the measure used, the gender wage gap has closed over time but has not disappeared. From 1979 to 1998 the ratio of women's to men's hourly wages increased from 63% to 80% (Blau & Kahn, 2006). Several factors explain the gender wage gap, including differences in what women and men choose to study in school, the occupations that women and men enter, the number of years women and men spend employed, and discrimination.

As noted earlier, women are now more likely than men to complete a college degree. However, this trend masks variation that is key to understanding the gender wage gap: Women and men choose very different academic majors. In 2000–2001 women earned just 28% of the bachelor's degrees awarded in computer and information sciences, 20% in engineering, and 34% in economics. In contrast they earned 78% of the degrees in psychology, 77% in education, and 84% in health (Blau et al., 2006). Among those with college degrees, these differences in educational choice translate into women and men holding very different jobs—with very different earning trajectories.

Among those without college degrees, women and men also hold different jobs. Different jobs translate into different pay, authority, and social status (Reskin & Padavic, 1994, p. 31). Jobs that are primarily filled by women and/or minorities tend to require lower level skills and, in turn, provide low wages (TomaskovicDevey, 1993). In 2000, women represented more than half of the workers in several major occupational groups such as sales and office work,

service (Gist & Hetzel, 2005). A greater percentage of men (58.1%) than women (41.9%), however, held management, business, and financial jobs, which are generally more lucrative and require more training than sales and service positions. Even after controlling for skill demands, “female occupations” (i.e., jobs comprised of mostly women) pay less than “male occupations” (England, Allison, & Wu, 2007; Huffman, 2004). Pay discrepancies rooted in gender-typed career choices are not easily remedied by public policies. The Equal Pay Act of 1963 requires equal pay for equal jobs. This law does not, however, prohibit employers from paying less to all workers in predominantly female occupations than workers in predominantly male occupations (Reskin & Padavic, 1994).

Jobs that women typically hold have been referred to as women’s work, a derogatory label emphasizing the low status of these jobs (Tomaskovic-Devey, 1993). In particular, care work, which includes jobs such as childcare provider, nurse, and teacher, is synonymous with women’s work. Childhood socialization, in which girls and boys are taught normative gender roles, likely plays a large role in the ultimate educational and occupational choices of women and men. Women do the majority of both paid and unpaid care work, because it meshes with gender roles emphasizing women’s capacity for nurturing. The low pay and support for these workers, despite the large skill set required for these jobs, leads many to argue that care work is devalued (England, 2005). Despite continuing gender segregation in care work, other industries showed a decline in segregation between 1996 and 2003. This decline was due in part to the rise in service sector jobs, which are less segregated than jobs in other industries (Tomakovic-Devey et al., 2006).

A second factor that explains the gender wage gap is the amount of time men and women spend in the labor force. The time invested in paid employment, in terms of gaining work experience as well as skills relevant to one’s own employer, is often called human capital, those skills and experiences that a worker “sells” on the market. Men and women follow very different employment trajectories, with men more likely to work continuously and women more likely to follow a variety of paths that include transitions to and from the labor market as well as spells of part-time employment (Hynes & Clarkberg, 2005; Moen & Han, 1999). Researchers estimate that about 11% of the gender wage gap is due to differences in labor force experience (Blau et al., 2006).

Parenting demands are among the key reasons why women have more discontinuous work histories than their male peers, but children play a role in women’s earnings beyond differences in labor force participation. Researchers have begun to study differences in earnings between mothers and nonmothers and have found what they now call a motherhood wage gap. Compared to

nonmothers, mothers experience a wage penalty of about 7% per child. Here too, labor market entrances and exits explain only part of the gap in pay between mothers and nonmothers (about one-third), leaving the remaining two-thirds of the gap unexplained (Budig & England, 2001). Research in this area is still underway, but some of the hypothesized explanations for the unexplained gap include differences between mothers and nonmothers in their productivity and energy while at work, their decisions about whether to take demanding jobs or to select more family-friendly jobs, and discrimination (Budig & England, 2001).

Discrimination Most researchers acknowledge that discrimination is likely to account for some of the gap that remains between men's and women's wages after factors such as occupation and experience are taken into account (Blau & Kahn, 2006; Budig & England, 2001). The Civil Rights Act of 1964 prohibits employers from discriminating on the basis of gender during hiring, promotion, and job assignment. The Equal Employment Opportunities Commission was created to enforce this act, but given the subtlety of many employers' intentional and unintentional actions, Joan Williams (2000) points out, it can be difficult to prove gender discrimination.

In addition to gender-based discrimination, evidence suggests that caregivers also experience discrimination, such as being terminated or denied promotion due to family responsibilities. In one case, female grocery clerks were not promoted to management because their employer believed the clerks' childcare responsibilities would prevent them from working long hours (Williams & Segal 2002). Although caregiving discrimination can happen to men, it is more likely to happen to women as they typically assume more caregiving responsibilities.

Employers may also discriminate by offering women lower wages than men. Although illegal, there are still cases in which employers pay women less than men for performing the same job (see examples in Reskin & Padavic, 1994). For example, in 2001 six women filed a lawsuit claiming, among other issues, gender discrimination in pay decisions at Wal-Mart and Sam's Club. In 2004 the federal court made it a class action lawsuit applying to all female employees at Wal-Mart in the United States. The case has not been tried or settled out of court. Pay discrimination occurs at all levels of the occupation hierarchy and is partly responsible for the increasing gender wage gaps over the life course (Maume, 2004). Pay differences and differences in hiring and promotion can have a cumulative effect over time, with small differences early in a career adding up and leading to larger differences later in the life course (Maume, 2004).

Unfortunately, estimating how much of a pay gap is due to discrimination versus other factors is a difficult task as researchers rarely have information on all factors influencing wages, such as individual productivity, job experience, and

whether jobs require comparable skills (Reskin & Padavic, 1994). Experimental studies can help eliminate these challenges by examining how job applicants are rated when the only substantive difference between two workers is their gender or parental status. For instance, Shelley Correll, Steven Bernard, and In Paik (2007) asked college students to rate the application materials of two job candidates for a high-level position. The students were told that their comments would be passed on to a hiring committee and may influence actual hiring decisions. The researchers constructed resumes and other materials making the applications equally qualified for the job, but they experimentally manipulated the parental status of the applicant. Their results showed that mothers were perceived as less competent and less committed to their jobs than nonmothers and that these perceptions translated into lower proposed starting salaries and higher required achievement standards for mothers.

The Glass Ceiling A glass ceiling metaphor has been commonly used to describe the invisible barrier that prevents women, particularly minority women, from advancing in organizations (Williams, 2000). Although many women have management positions, the number of women holding top-level positions, such as chief executive officer of an organization, is very small. In 1995 the Federal Glass Ceiling Commission published a report documenting a stark contrast in the number of male and female senior managers in Fortune 1500 companies: 95% of senior managers were men. Furthermore, when Mary Noonan and Mary Corcoran (2004) examined gender differences in promotion among University of Michigan law school graduates from 1972 to 1985, they found that women were less likely to be promoted to partner in law firms than were men, even after accounting for differences between men and women in factors such as grade point average in law school, number of years they had practiced law, and amount of time taken off, if any, from work to raise children. The Federal Glass Ceiling Commission identified three barriers that account for the glass ceiling: (a) societal barriers (differential opportunities for educational attainment, prejudices), (b) structural barriers within the business (initial placement in noncareer track jobs, lack of mentoring), and (c) governmental barriers (lack of consistent monitoring, inadequate reporting; U.S. Department of Labor, 1995).

Although women may have a difficult time “cracking” the glass ceiling, mothers tend to have an even more difficult time, given the time constraints and responsibilities associated with managing a job and motherhood simultaneously. As noted earlier, mothers with low education and few financial resources often struggle to remain attached to the labor market, which can have immediate negative consequences for their own and their children’s financial well-being. Taking time out of the workforce can also have consequences for career

advancement. For instance, lawyers who took time out of the labor force to care for children were less likely to make partner and earned less if they did become partners (Noonan & Cochran, 2004).

Some accommodations for working mothers, such as reduced work hours, have led to concerns that they place women onto a “mommy track” that then prevents them from maintaining their previous status or from advancing further. Indeed even mothers who are not interested in these accommodations may be viewed differently once they have children and may experience changes in their work arrangements that move them into less prestigious jobs. For instance, the Federal Glass Ceiling Commission reported that upon returning to work after maternity leave, women often received less desirable assignments than they did before giving birth (U.S. Department of Labor, 1995).

Sexual Harassment As women have become a larger part of the American workforce, many have faced sexual harassment in the workplace. The Equal Employment Opportunity Commission (2007a) defines sexual harassment as “unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature ...when this conduct explicitly or implicitly affects an individual’s employment.” Although sexual harassment is illegal, a 1994 survey by the U.S. Merit Systems Protection Board (1995) found that 44% of women reported experiencing some type of harassing behavior at work during the previous two-year period. The most common behaviors reported are sexual teasing and jokes, but 10% of survey respondents indicated that they received letters, calls, or other sexual material, and 7% reported being pressured for sexual favors. Of those who reported experiencing some type of sexual harassment, only 6% reported making a formal complaint. Only half of those who made complaints reported that this improved the situation (U.S. Merit Systems Protection Board, 1995). It is unclear why more complaints were not filed, but possible reasons include fear of retaliation or job loss.

Sexual harassment can have negative consequences for health, workplace morale and productivity, and victims’ career trajectories. For instance, Chelsea Willness, Piers Steel, and Kibeom Lee (2007) show that harassment has been linked to a reduction in mental wellness for female victims and an increase in rates of posttraumatic stress disorder. Sexual harassment has also been linked to heightened stress and physical illness (Rospenda, Richman, Ehmke, & Zlatoper, 2005), which can lead to frequent absences from work, strained coworker relationships, and limited productivity (Willness et al., 2007). Sexual harassment can also have lasting effects on women’s careers. Victims are more likely to be dismissed or lose promotions due to absences from work (Willness et al., 2007).

Professions for men and women/Gender and career choice process

Lack of fit should only create negative performance expectations and subsequent negative evaluative outcomes for women when the job is deemed to be “male.” This occurs when the work responsibilities are ones typically associated with men (Gaucher et al., 2011), and is highly likely when men constitute the overwhelming majority proportionally (Cejka & Eagly, 1999). Maleness is determined not only by the job itself, but by occupation (e.g., the military vs. education), subfields or professional specialties (e.g., surgery vs. pediatrics), academic fields (sciences vs. humanities), and function and level within an organization. In fact, negative evaluations in selection decisions have repeatedly been found to occur more for male gender-typed jobs than other types of jobs (see Davison & Burke, 2000 for a meta-analysis), and there are similar findings concerning competence assessments and performance evaluations. Lyness and Heilman (2006), for example, found that in a large financial services company women were evaluated less favorably than men in line jobs (which tend to be male gender-typed), but not in staff jobs. Similarly, Pazy and Oron (2001) examined the performance ratings of a sample of high-ranking military officers and found that women were rated as less competent than men in male dominated units but not in units where men were less prevalent, and presumably the work less male in gender-type.

The other aspect of the fit model – stereotypic beliefs about women – should also affect the formation of negative expectations that provoke negative evaluative outcomes. According to the model, women are considered to be ill equipped for male gender-type jobs because they are viewed stereotypically, therefore lacking the required attributes needed to succeed. Thus, conditions that heighten the degree to which a woman is characterized stereotypically should produce more negative performance expectations and detrimental evaluative outcomes. It has been shown that women with personal attributes that increase the saliency of their gender, such as physical attractiveness (Heilman & Stopeck, 1985a, 1985b) or motherhood status (Fuegen, Biernat, Haines, & Deaux, 2004; Heilman & Okimoto, 2008) are evaluated more negatively than men than are women who do not share these personal attributes. Structural factors also can contribute to the salience of a woman’s gender. Token or minority status, for example, leads to more stereotyped characterizations (Kanter, 1977), and lesser likelihood of being selected (Heilman & Blader, 2001) or promoted (Sackett, DuBois, & Noe, 1991). Moreover, affirmative action policies (Heilman, Block, & Stathatos, 1997) and diversity initiatives (Heilman & Welle, 2006), both intended to help women and other minorities, have been found to instead sometimes promote stereotyping and negative evaluation. Thus, both personal and organizational factors can accentuate a woman’s gender, exacerbating

perceptions of lack of fit with a male gender-typed job and the negative evaluative consequences these perceptions generate.

Thus, perceived lack of fit has been shown to give rise to gender bias in evaluations, with the severity of these outcomes dependent on the degree of the perceived lack of fit and the resulting negativity of performance expectations. But whether lack of fit perceptions have detrimental effects on women is not determined solely by the negativity of the expectations they produce; the level of ambiguity also plays an important role.

Women, Work and Empowerment in a Global Era

Ruth Pearson

The discussions at the ‘Gender Myths and Feminist Fables’ workshop reflect a contradiction in our thinking about women and work, a contradiction which is intensifying in an era of increasingly global economic relations and policies. What is it that we are seeking in terms of women’s engagement with paid work and employment?

There are two strands which we need to consider. The first is what I have termed “The Engelien myth”. This is the view that women’s empowerment, or emancipation as it used to be called, lies in their incorporation into the paid workforce; the position that reflects Joan Robinson’s oft repeated observation that ‘the only thing worse than being exploited by capital is not being exploited by capital’. Certainly the Marxist tradition has long emphasised that identity, and thus political strategy, should be

led by the vanguard “working class” and that women’s political interests lie in being incorporated, on an equal basis, into that vanguard.

For many feminists and for some time, a lot of emphasis has been laid on the importance of women’s paid employment. Within a socialist feminist tradition, the conditions under which women worked were of course highlighted. Particular concern was paid to equal pay, opportunities for promotion, training and progression through the hierarchy, and that women’s priorities – such as flexible hours and leave, protection of reproductive health, freedom from harassment and appropriate non-wage benefits – were recognized by both trade unions and management.

Another strand of feminist economists’ work has focused not just on decision making

and rewards in the paid labor force, but on intra-household relations and decision making, foregrounding the variations in (mis-)match between the amount of paid and unpaid work women do, and how – and by whom – income from work gets spent by and on behalf of different household members. Nancy Folbre's (1986) significant observation, that both Marxist and neo-classical economics treated the household as a "black box" ruled by a benevolent dictator underlined the importance of interrogating the link between women's paid work and the implications for gender relations in the private as well as the public sphere. Subsequent work, not least Amartya Sen's (1990) re-conceptualizing of intra-household bargaining as "cooperative conflict", has challenged the automatic assumptions that women's earning capacity automatically translates into empowerment and autonomy. Earning money may extend women's options, as Naila Kabeer (2000) argues, but it also intensifies their workload and responsibilities without necessarily increasing their autonomy.

These unsettling contradictions are very apparent in the ways that we think about women's increasing role in global production – in globally traded garments and electronics, in the supermarket trade in seasonal fruit and vegetables from more temperate climes, in the out-placing of computer related services such as data entry and call center operations. The debates about women's employment in export sectors have raged since the 1970s: does the employment of women in world market factories offer opportunities or exploitation for women in growing numbers of countries in the developing world? While there are sharp exchanges between different positionalities, which argue that factory employment either offers women a chance to be independent of their families, and to have more say in household decision making, others return to the image of the "global sweatshop", or even in the modern-day version of Foucault's electronic panopticon to insist that the work is underpaid, degrading and exploitative. The earlier analysis Diane Elson and I made in the 1980s (Elson and Pearson 1981) that women's subordination could be intensified, decomposed or

recomposed by the construction of a new nimble-fingered female labor force are swept aside as particular cases studies or standpoints provide different evidence and conclusions. But interestingly, with a few noble exceptions, such as Diane Wolf's (1992) study of 'Factory Daughters' in Indonesia, there have been limited efforts to empirically test theoretical assumptions about the implications of factory work for different groups of women workers in terms of status and power within households and communities.

The Engelian myth has also spread to the debates about microcredit for women. The literature abounds with assertions and refutations about the extent to which borrowing money, being responsible for putting it to a hopefully productive use, repaying it and making some profit, constitutes a path for empowerment of poor women. Again there has been little systematic effort to interrogate the evidence and, particularly in the world of development organizations, a general acceptance that money in women's hands – and the subsequent market-oriented activity it might facilitate, must challenge women's subordination. Of course the debates are more sophisticated than this, with Mayoux (2001), among others, suggesting that it is the collective activity carried out in groups which has often been associated with programmes that offer financial services to the (very) poor, that constitute the basis for empowerment even though women contract individual loans and work on individual (or family-based) small businesses.

But of course, whether women are working in export factories or in credit financed microenterprises, they are generally adding to their domestic responsibilities the task of earning money to support their households. The need for money has intensified over recent decades, with a raft of social services previously provided by the state – requiring cash – for school uniforms and medicines if not for school fees and clinic charges. Women's traditional responsibility for the well-being of household members has been monetized by the introduction of user charges and the general commoditization of different aspects of local

economies. Women have to earn money to meet their gendered household responsibilities. Their work burden is often intensified by their income generating activities, but their role and their status can remain unchanged.

How do we respond politically to this situation? On the one hand, like Oxfam we can protest about inequality of wages and bad working conditions for poor women workers in different parts of the world; undoubtedly this continues to be a central issue. We can insist that remuneration and working conditions comply with internationally agreed standards, or codes of conduct as has been done in the vegetable and fruit sector (Barrientos *et al.* 2000) as well as in manufacturing and that these codes reflect the priorities of women workers (Pearson and Seyfang 2002). We can also examine the ways in which women's contribution to foreign exchange earnings and economic growth can be reflected in the ways in which labour regulation and social policies are organized, rejecting the view that participation in the global economy denies nation states – and thus women's movements in particular countries – the possibility of locally negotiated settlements about social protection, workplace norms and non-wage benefits (Razavi and Pearson 2004).

There is another issue that connects the two upto-now separate debates about empowerment of women in export production and in credit-supported micro-enterprises. We have tended to assume that factory production for export represents, for women, access to the norm of male employment – that is in the formal regulated economy, with all the concomitant benefits and social protection which such employment signals. Women factory workers, particularly those in manufacturing sectors are thought to have joined the (previously male) labour aristocracy. And we have spent three decades lamenting the fact that very often, via devices such as special (export processing zones) or subcontracting arrangements, women seldom enjoy extensive non-wage benefits. However, it would be more sensible to reconceptualise women's work in most areas of the developing world as being by definition

unregulated and unprotected, regardless of whether it takes place in large-scale workplaces, small or family-based workshops or within women's own houses or compounds. Women provide "cheap" labour, which is part of the so-called "informal" economy. The informal economy is not the exception in most developing countries – it is the norm, and by all statistical accounts it is growing both because the formal sector is becoming informalised, and because the range of market-oriented informal economic activities is expanding to meet the needs of poor households for cash. Women are playing a bigger and bigger role in this economy, and policies and demands, which might improve their position, should be based on this reality.

We also need to acknowledge that the Engelian myth is based on a conceptualisation of work which somehow has remained independent from the extensive analysis in the 1970s, which we then called the 'Domestic Labour Debate' (Molyneux 1979). Although wages for housework was dismissed as an essentialist and radical feminist fantasy, it is time to extract from this something important. Women's participation in the money economy – whether through factory employment, home-based production for nationally and internationally traded goods such as fashion wear or sports shoes, or small-scale trading and services which provide money for daily survival – is not on its own going to achieve women's equality or empowerment.

By the beginning of the twenty-first century, the labour force participation of women had doubled worldwide; but if we add to this women's involvement in all kinds of market-oriented activities, it would be hard to find any group of women who could not be said to be economically active. Poor women, like men, earn their entitlements to adequate returns on their labour, but also to publicly provided resources to ensure that they can cover their responsibilities to their children and other household members. Economic participation is manifold and the entitlements which accrue from it should include, but not be limited to, the ways in which money income can be increased. Poor women need

money, but increases in wages will not on their own make women either less poor or more powerful. Improvements in the conditions and returns from work must be coupled with expectations that the state will ensure that they achieve a minimum income; that they have access to affordable and high-quality education, and health and transport services; and that their environment is healthy and their lives are not blighted by community and domestic violence.

Being exploited by capital is the fate of virtually all women in today's global economy, but the exchange value of their labour will not on its own provide the basis for women's empowerment. If we challenge the separation between factory work and home-based work, between the formal and informal sector, we will have a clearer perception of what women's economic and social rights might cover. If we challenge the myth that the poor women have endless resources of time and energy to dedicate to improving the return on their labour in the marginal economies of the informal sector, the role for public policy will become clearer. Demands for international support to improve the working conditions and wages earned by poor women must be linked to explorations of universal entitlements in terms of minimum income and services. It is not reasonable to assume that the improvements required for the genuine empowerment of poor women can come solely from selling their labour without resourcing collective provision of services and rewarding women's responsibilities in reproductive activities.

Role of women in information technology and Impact of technological development on women

The two important factors of current labor dynamics in the IT field and gender's influence on technological innovativeness, it is important to promote women's entry and advancement of women in the IT work force. Given the current labor shortage in the IT industry, turnover and retention issues have come to the forefront (Maitland, 2001). Several popular as well as academic sources point towards a HR shortage in IT (McFarlane, 1990; Pfleeger & Mertz, 1995). Vitalari & Dell (1998) have reported that the cost of filling a vacancy is as high as 120% of the yearly salary for the position. In this environment, 'women may prove to be a key resource of skilled technology workers for international IT markets' (Maitland, 2001, p 9). However, despite a host of efforts to attract and keep women and minorities in computing, their retention and advancement continues to be a significant challenge in computer-related disciplines (Pfleeger & Mertz, 1995). As a result, more and more companies are reassessing practices that may lead to turnover, including those related to balancing family and work life (Goff, 2000). Under these circumstances, it has become more important than ever to identify factors affecting women in IT careers that may act as sources of leakage in the pipeline of IT career paths. Once identified, these barriers can be addressed and appropriate solutions to overcome them can be found.

McFarlane (1990) has argued that since women now account for a very large portion of the workforce and occupy an increasingly important position in the economy, the IT profession needs women in its ranks so that it can really represent those who are carrying out the work. The US Bureau of Census (1993) suggests that higher percentages (48%) of women than men (35%) in the US labor force are computer users. This argument is strengthened by the recent studies on effects of gender that suggest that gender can play an important role in determining technology use (Gefen and Straub, 1997; Venkatesh & Morris, 2000; Venkatesh *et al*, 2000). For instance, Venkatesh *et al*. (2000) found gender differences in individual adoption and sustained usage of technology in the workplace. In their study, men's decisions in this regard were more strongly influenced by their attitude toward using the new technology, while women were more strongly influenced by subjective norm and perceived behavioral control. The findings were robust across income, organization position, education and computer self-efficacy.

Gefen and Straub (1997) have argued that gender effects are themselves largely cultural differences (Coates, 1986; Tannen, 1994). Srite (2000) examined the influence of national culture on technology acceptance behaviors while controlling for gender found both these factors to be influential in explaining technology acceptance.

Many have suggested that proportional presence of women in higher ranks where decision-making takes place will go a long way toward making the workplace and academic research alike have confirmed that women in IT fields are concentrated at the lower and middle levels and are under-represented at the higher levels (Frenkle, 1990; Myers, 1990; Marengi, 1992; Mulqueen, 1996).

In one of very few academic studies on gender differences in IT careers, Truman and Baroudi (1994) concluded that this field may not be immune to the problems of gender discrimination. They analyzed the data gathered by the Society of Information Management (SIM) and found that women received lower salaries than men even when job level, age, education and work experience

were controlled. They also observed that there were a disproportionately high number of men in the managerial ranks. Investigating this issue further, Igarria and Baroudi (1995) investigated the impact of gender on job performance evaluations, job performance attributions and career advancement prospects. Although they did not find any significant differences in job performance ratings, they reported that women are perceived to have less favorable chances for promotion than men.

Womens' participation in management has been addressed from a variety of directions, no definitive work has presented a model that explains the role of women in the field of IT in a comprehensive manner. There is a need to understand this role, what the future may hold, and how or if IT differs from other professional endeavors in offering opportunities to women. In this paper, my goal is to identify the social and structural factors that may contribute to the status of women in IT. I propose a life-cycle stage model of factors constraining womens' entry and advancement in the field. The model, when tested, may help explain the pyramid structure of womens' presence in the field of IT. While many of the issues discussed are specific to IT, some are global issues that have resulted from organizational changes occurring in response to two critical forces – slowed economic growth in developed nations and the globalization of most industries and organizations.

Career choice and persistence

At the career choice stage, women make the critical choices about the field in which they would like to pursue a career. Social expectations and work– family conflict play important roles in this decision. At the same time, as women are influenced by both educational institutions and industry, structural factors begin to play larger roles in their careers. Shuttleworth (1992) investigated the role of traditional attitudes to women, education and training. She concluded that although women have the potential to take up new opportunities in this field, many of them fail to see IT as an attractive option and are technically ill-equipped to do so.

If a woman finds a way to overcome barriers that may have stopped her from choosing an IT career, she may still find that these factors continue to hamper her persistence in this career.

Social expectations

Boys are expected and encouraged to use computers both at home and school (Fetler, 1985; Turkle, 1988). Girls, on the other hand, are less likely than boys to be sent to computer classes and camps (Didio, 1996). Also, girls are steered toward softer subjects like liberal arts and literature, and away from mathematics and sciences. Regardless of the debate on the extent of its effect, the role of social expectations on confidence levels and performance in computer fields (Collis, 1985; Steering Committee on Women in Science, Technology, Trades and Engineering, 1995) is well documented.

As indicated earlier, Gefen and Straub (1997) have argued that gender-related social expectations have roots in national culture. For example, on Hofstede's (Hofstede, 1980) scale of masculinity-*versus*-femininity, certain countries consistently show a masculine tendency. The USA and Switzerland show somewhat masculine tendencies (62 and 70 on a 1 to 100 scale, where 1 is the lowest and 100 is highest) and Japan shows strong masculine

tendencies (a score of 95 on the same scale). It has been suggested by Gefen (2000) that gender-related differences and stereotypes are so strong that many societies have predetermined communication styles that are expected of women and men. Gefen further suggests that these expected communicational styles differ notably among national cultures. These cultures establish gender differences in attitudes regarding computers in grade school (Collis, 1985), and these attitudes widen with age (Smith, 1986). Attitudes towards computers, in turn, have been correlated to achievement in the computer-related classes (Fetler, 1985; Steering Committee on Women in Science, Technology, Trades and Engineering, 1995).

The effect of the social factors discussed above may be evident in the gender differences in adoption and use of computer-mediated communication (Gefen, 2000). In general, studies have reported differences in terms of communication styles, computer conferencing (Stowers, 1995), and the use of internet (for a review of this literature, see Gefen, 2000). Gefen and Straub found that both cross-cultural (national) and gender effects on the perceptions of social presence, usefulness and ease of use, but showed only cross-cultural effects on self-reported e-mail use. Specifically, women were found to feel a stronger sense of social presence than men in the same national culture did, and a stronger perception of the usefulness of the software, but felt the software to be less easy to use than the men did.

Further, significant differences have been shown to exist between electronic communication styles of women and men in that women tend to use electronic communication for rapport building and men for reporting (Gefen, 2000). Stowers (1995), similarly, showed that there was a gender difference in the use of computer conferencing and found that men posted more informational items and women more discussion, personal and support items. Interestingly, training and support reduced gender differences. Much of this literature is in its infancy, and many more studies are required to build a literature base in this area.

Consistent with Gefen's findings, Colley *et al.* (1994) showed that girls and women are less likely to enjoy, use and fully adopt computers and computer tools at all stages of education. Women tend to participate less and are less comfortable with computers than are men (Moldafsky & Kwon, 1994). The role of social expectations in the gender differences in computer abilities has been shown in Collis's (1985) work. Collis found that girls expressed general confidence in female abilities with regard to computers, but did not display the same confidence in their own abilities as individuals displaying a 'we can, but I can't' syndrome.

It is then no surprise that in general, women have been found to display lower computer aptitude (Fetler, 1985), and higher levels of computer anxiety (Morrow *et al.*, 1986; Igarria and Chakrabarti, 1990) compared to men. There is recent evidence from real world settings that women tend to be more anxious than men about computer use (Bozionelos, 1996). A significant body of research in psychology (eg Hunt & Bohlin, 1993) has shown an inverse relationship between computer anxiety and computer self-efficacy, a known determinant of perceived ease of information systems use (Venkatesh & Davis, 1996). Thus, research suggests that higher levels of computer anxiety among women can lead to lower self-efficacy, thus increasing their computer avoidance (Igarria & Parasuraman, 1989; Venkatesh & Morris, 2000). Anxiety in general has also been found to be negatively related to performance and persistence in the profession (Brod, 1982; Friend, 1982; Humphreys & Revelle, 1984). All these factors may reduce women's probability of first choosing and then persisting in IT careers.

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