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Understanding the 'Mommy Tracks': A Framework for Analyzing Work-Family Issues in the IT Workforce

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ABSTRACT

Despite the recent growth in the number of women in the U.S. labor force, women are still underrepresented in IT work. This paper presents a framework for analyzing work-family conflicts as a way of better understanding the contribution of this factor to the underrepresentation of women in IT. Data from a field study of women employed in the American IT workforce is examined through the lens of the individual differences theory to show the range of ways in which work-family considerations influence women's IT career decisions. This framework depicts four categories of decisions made by women: the "non mom," the "working mother," the "back-on-track mother" and the "off-the-track mother."

INTRODUCTION

The twenty-first century has seen significant growth in the number of working mothers. The National Council of Women's Organizations (2003) estimates that 63 percent of women with children under the age of six and 78 percent of women with children ages six to seventeen are currently employed in the labor force. This signals a shift in societal thinking about mothers working outside the home (McRae, 1996; Trauth, Nielsen and von Hellens, 2003). Yet, despite these changes there is still an underrepresentation of women in the IT workforce. In 1990, women comprised 33 percent of the IT workforce (U.S. Census Bureau, 2002). By 2001 this figure had dropped to 26 percent. Some speculate that IT work is not a good fit for working mothers because of long work hours that encroach upon personal time, conflicts with family responsibilities and the difficulty of returning to an industry with ever evolving technologies after maternity leave (Webster, 1996; Kuosa, 2000). Thus, one factor that is relevant to explore is the influence of work-family considerations on women's participation in the IT workforce. In this paper we present a framework for analyzing these work-family issues. It integrates relevant literature from sociology, labor studies and information systems along with empirical data from a field study of the life stories of professional women employed in the American IT workforce.

BACKGROUND

The literature about working mothers presents two stereotypical women: the devoted mother and the cold careerist. Yet, the majority of mothers do not fit either extreme of this dichotomy. Peters (1997) argues that stay-at-home mothers and working mothers are not mutually exclusive roles. Stay-at-home mothers may work part time[1] and mothers working outside the home also work inside it (Boyd, 2002). The following sections discuss the literature about the motherhood dichotomy, the balance between the spectrums and the role of motherhood in the IT industry.

A False Dichotomy: Devoted Mother or Cold Careerist

Choosing between an independent life and a baby is not a decision that women should have to face. Yet this dichotomized view of motherhood permeates the working mother literature. For example, Mason (1988) discusses two types of women: those who work to live and those who live to work. The former place an importance on children at the expense of a career; do not compete for high status, male dominated positions; and tend toward female-dominated fields. Women who live to work are motivated by career status rather than money and feel that equality means competing with men for their jobs. Nevertheless, these women encounter difficulty because the rules have not changed to include women.

The Middle Ground: Today's Working Mother

Although both women and men report work-family conflicts (Greenhaus and Parasuraman, 1999), the literature also shows that women contribute more time to domestic duties and are more likely to make career sacrifices than men. One study showed that the average woman contributes 35.1 hours a week to domestic duties while the average man contributes 17.4 hours a week (National Council of Women's Organizations, 2003). Also, women adjust their jobs around family responsibilities more so than men (Mennino and Brayfield, 2002). Women average 11.5 years out of the paid labor force for care giving responsibilities whereas men average 1.3 years (National Council of Women's Organizations, 2003). Thus, while men and women both may report job-family conflict, they exhibit different behaviors in response to that conflict (Mennino and Brayfield, 2002).

Today's working mothers must cope with a conflict between paid work and the family (Bolton, 2000). Maintaining this balance involves trade-offs between career goals and personal responsibilities. Mennino and Brayfield (2002) found that people in male-dominated occupations make more family trade-offs and fewer employment trade-offs than people in other occupations. Engberg (1999) also found that maintaining work-family equilibrium presents such a challenge for women that the problem is perhaps not so much the glass ceiling as it is the sticky floor. Boyd (2002) introduced the concept of "being there" as more than quantity time or quality time to cope with work-life balances. "Being there" is bio-social and political integration of work and life at an

emotional level that can be used as a "potential lever for dislodging the dichotomy constructions that shape and constrain the experience of mothering" (p. 463).

Working Mothers in IT

What literature there is on mothers working in IT can be found in studies of gender in IT. The findings of these studies are mixed as to whether the IT workplace is a conducive or an unfriendly environment for working mothers. Trauth's (1995) study of women in Ireland's emerging IT sector found positive views because the industry had not had time to develop traditional gendered patterns. Yet, in spite of more accepting societal views, many working mothers found it very difficult to manage work-family conflicts. Similar findings resulted from a study of women in the Australian IT workforce: despite shifts in societal views about working mothers, balancing work and family is still difficult for women in IT. Participants in this study found it challenging to manage domestic responsibilities while trying to keep pace with a rapidly changing field (Trauth, Nielsen and von Hellens, 2003).

The IT industry has also been known for its pragmatic approach to working practices that can have a positive impact on working mothers (Lynch, 2000). These practices include innovations in telecommuting, job-sharing and technical advances in office communications. Telecommuting allows care givers to spend more time in the home (Nie, 1999). In companies such as British Telecom job-sharing is a common practice (Lynch, 2000). Working mothers in IT leverage technology such as cell phones, conference calls and email in order to balance the demands of the job with the needs of their children (Zimmerman, 2003).

Nevertheless, the research continues to raise issues with respect to working mothers in the IT field. Work-family conflicts have the most negative effect on women's performance in computer-related fields during the career choice and advancement stages (Ahuja, 1995). Hence, Igbaria and Chidambaram (1997) found that women in IT tend to be younger, have shorter job tenure and less number of years in the industry than men. Furthermore, women have been found to hold lower level IT positions than men (Baroudi and Igbaria, 1994-95; Igbaria and Chidambaram, 1997). Consequently, Baroudi and Igbaria (1994-95) point to family-related constraints as partial explanation of the underrepresentation of women in managerial positions. Similarly, Sumner and Werner (2001) found the burden on family-career balance from overtime and administrative tasks to be a barrier to women in management.

This review of the literature shows two themes that warrant further investigation. First, today's working mothers in IT are not necessarily at the extremes of "devoted mother" or "cold careerist." They represent a range of locations along the career-family spectrum. Second, there is no consensus in the IT literature as to whether the industry is advantageous to working mothers. More investigation in these areas is needed to determine the motherhood factors influencing women in IT and the possible role they may play in the underrepresentation of women in the IT industry.

METHODOLOGY

The theory guiding this research is Trauth's (2002) individual differences theory which looks to the social shaping of gender and IT at the individual level. This theory examines the individual variations among women resulting from a combination of individual characteristics and environmental influences, in order to explain the underrepresentation of women in the IT workforce. In this paper we employ the theory of individual differences in developing a framework of the range of career-family choices among female professionals in the IT workforce. In this paper, the following research questions are addressed:

1) What are the work-family choices facing women in the IT workforce?
2) What factors shape the decisions about these choices?

In-depth interviews were conducted between October 2002 and July 2003 with twenty-eight female practitioners working in the American IT field.[2] These women represent a wide range of ages, races, educational backgrounds, employment sectors and three regions (Massachusetts, Pennsylvania and North Carolina). In open-ended interviews lasting approximately ninety minutes in length, participants discussed their experiences and insights through their development as IT professionals. The interviews explored three main areas: 1) the participants' demographic information including educational and work histories; 2) significant socio-cultural, institutional and interpersonal influences on their career or self development; and 3) broader comments or feelings on the topic of gender and IT in America.

A detailed coding scheme based upon the individual differences theory was developed to enable an analysis of the interview data. The constructs that emerged from this open coding process fall into three categories: objective data; shaping and influencing factors; and emergent theory.

THE WORKING MOTHER FRAMEWORK

A framework of decisions about work-family conflict emerged from analysis of the interview data. (See Table One). This framework is comprised of four categories of women in IT: "the non-mom," the "working mother," the "back-on-track mother" and the "off-the-track mother."[3]

The Non-Mom

The *non-mom* category is comprised of women employed in the IT workforce who have chosen not to have children. The non-moms consist of two groups of women: 1) young single women who are not at a point in life to start a family; and 2) older women who have decided not to have children. The non-mom participants in this study ranged in age from 23 to 53 and represent an equal number of single and married women.

During the interviews most of the participants did not offer an explanation for the decision not to have children. When they did, the reasons varied across participants. They appeared to be quite satisfied with their decision not have children. For example, when Debbie was asked about her family responsibilities she replied "I'm single, most definitely!" A few participants commented on the freedom they enjoyed by not having to make work-family trade-offs:

> I'm in a career that pays me really well right? So I'm not struggling. I'm not going: "Oh I'd love to do this but I can't even survive, I can't support my family that I don't have…" But you know it's, I don't have any of those really awful life trade-offs that I have to make [Linda].

Although the non-moms have chosen not to have children, it does not mean that they are solely focused on themselves or their career. The majority of non-moms talked in great depth about their values regarding family, pets and personal life. Many of the participants spoke of nieces and nephews and other family commitments.

The Working Mother

The second type of mother is the *working mother* that is comprised of women who have both children and a career in IT. These are women who do not fit the working mother dichotomy discussed previously. While working mothers represent a range of ages and relationship statuses they are motivated by similar factors. Their motivation to work

Table 1: Summary of the IT Working Mother Framework

Category	Characteristics	Portion of Participants
The Non-Mom	No children Currently employed in the IT workforce Represents a range of ages and relationship statuses (single, partner, married)	50% (14) 14% <35 (4) 36% >35 (10)
The Working Mother	One or more children Currently employed in the IT workforce Experienced continuous employment (i.e. did not leave the workforce beyond maternity leave to raise children) Represents a range of ages and relationship statuses	39% (11) 4% <35 (1) 21% 35-45 (6) 14% >35 (4)
The Back-on-Track Mother	One or more children Currently employed in the IT workforce Experienced an employment break (i.e. left the workforce beyond maternity leave to raise children) Typically married or in a committed relationship	11% (3) 4% 35-45 (1) 7% >45 (2)
The Off-the-Track Mother	One or more children Retired or not currently employed	0% (0)

and raise children simultaneously is powered by both financial and personal needs. Although, these women acknowledge the financial benefit of working, an overwhelming sentiment is that they seek employment because of the personal value they place on being active and continuing to grow as a professional. When asked how important work is in her life Donna explained that:

I think it's very important for me… I mean I still need the money, but it's not like it was when [my daughter] and I were together by ourselves. For me it's important to keep my mind active to keep challenged and to like what I do. When I stop having fun at this job that's probably when I'll decide it's time to move on. I think it's very important to stay active [Donna].

Other themes that were raised by working mothers include the support they receive from their partner or spouse, their change in attitude after having a child and the societal pressures to become working mothers. Several women commented on how supportive their partners or spouses have been of their roles as working mothers.

My husband, I don't think, would have married anybody who wanted first and foremost to be an at home mom… So we were probably more compatible that way. And he has been very supportive, particularly when I chose to work with that colleague of mine who was a big risk... We were both willing to invest in a year and see if that would fly and he was very supportive of it. So he's been supportive. And he's probably been my biggest advocate [Rose].

The working mothers also reflected on their change in attitude once they had their children. Many women spoke about how they are less willing to travel or work on-call hours now that they have a child. Several women also spoke about societal pressures to be a working mother. They felt that society expected them to have both a professional career and to be a mother and wife.

Women can be run ragged. I mean I only have one child but not only are women expected to go to work, maintain a household, budget everything. Most people that I know, the women manage the money... Your kids, every season, are expected to be in extra-curriculars that usually it's the woman that's responsible for that. And then you have a job on top of that! I mean it's just constant [Jill].

The Back-on-Track Mother

The third type of mother is the *back-on-track mother* comprised of women who, for a variety of reasons, took time away from work to raise children and then later returned to the IT workforce. Most of back-on-track mothers are older in age (mid 30s and above) and tend to be in a committed relationship where the main source of income comes from their partners. One common theme was that women should take time away for work to stay home because it was the right thing to do.

I think typically [the societal view] is, that, when the woman has had a child that she should stay home and take care of them. The male would be the financial supporter [Francie].

A common shared experience of the back-on-track mother was the amount of work required to prepare for reentry into the IT workforce. The back-on-track mothers spoke in great detail about the difficultly of getting back up to speed in IT.

Now I feel like I'm in catch up mode... For instance while we're sitting here new things are being developed, and so I have to be able to … I think in this field you have to be able to absorb a lot that's going on around you and be able to understand it quickly [Sue].

The Off-the-Track Mother

The fourth type of mother is the *off-the-track mother* comprised of women who leave the IT workforce permanently upon having children. Because our study participants were drawn from women currently employed in the IT workforce, we have not captured data regarding the off-the-track mother. However, for purposes of conceptual completeness we include this category in our framework. Future research will include data from these women.

CONCLUSION

In this paper we show how the individual differences theory is used to help us understand the range of factors influencing decisions about a career in the IT workforce. Specifically, our analysis demonstrates that there are several explanations for the gender gap in IT. It is not due, solely, to a lack of interest in technology or the perception of IT as a male domain, themes that are prominent in the literature. Rather, we show how factors related to family responsibilities also influence IT career decisions. These findings suggest that, in our attempts to better understand the gender divide in the IT workforce, we focus on a range of factors, including work-family decisions. In order to assist in this analysis, we present a framework of IT career decisions that reflect the current literature about work-life decisions as well as empirical data on this topic.

FOOTNOTES

[1] It is important to note that stay at home mothers are engaged in unpaid work, which is work nonetheless.

[2] This research is funded by a grant from the National Science Foundation.

[3] We acknowledge that this framework is not all inclusive. That is, the role of step mothers, foster mothers and fathers, particularly stay-at-home fathers is not included in this framework. This is an area that would be important to explore in future research.

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