

Age, Gender, and Cognitive Style Differences in IS Professionals

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INTRODUCTION

There is a long tradition of research on IS professionals that has examined potential gender differences between men and women, beginning with early studies by Igbaria and his colleagues (Guimaraes & Igbaria 1992; Igbaria & Chidambaram 1997; Igbaria & Siegel 1992). While these and many subsequent studies posited differences between men and women IS professionals, very few differences have been found—particularly for variables that are commonly studied: job satisfaction, turnover intentions, organizational commitment, and stress. I first summarize the results from many survey studies published in leading IS scholarly journals, as a way to frame my research on the adaptation of IS professionals to innovations in work practices. Then I summarize my program of research examining demographic variables, including age, gender and cognitive style differences as explanatory variables for a range of outcomes among IS professionals.

LITERATURE REVIEW

Research on Gender, Job Satisfaction, and Job Turnover

Numerous studies have consistently sought—and failed to find—gender-related differences in job satisfaction, turnover intentions, organizational commitment, and other job-related attitudes. One difference that has been frequently noted in studies of IS professionals is that women, in general, have fewer years of experience in the IS profession—not surprising, considering the delayed entry of a sizeable number of women to the IS field (Baroudi & Igbaria, 1994/1995). Various comparative studies have reported that the average job tenure of women IS professionals is less than for men, and that women

respondents are younger than their male counterparts (Sumner & Niederman, 2003/2004). However, with the exception of a few studies of job stress among IS professionals, most studies that have posited gender differences in job satisfaction, turnover intentions, and organizational commitment have come up “empty handed.” One recent study, in fact, examined 34 potential differences related to the career history, salaries, job search behaviors, and job satisfaction of IS graduates in the U.S., finding surprisingly few differences in the career experiences of men and women. The only differences noted were that women were more satisfied with their pay than men (despite women’s lower salaries), and that, when they did change jobs, women took longer, on average, to actually leave (141 days for women vs. 75 days for men). All other variables were similar for the men and women, prompting the authors to remark that employees seem to “experience an even playing field in the IS profession, regardless of gender” (Sumner & Niederman, 2003/2004, p. 36).

While it is widely believed that women IS employees have higher turnover rates than men, no empirical study has documented such an effect. The one study that found a significant difference in turnover intentions between men and women reported that “a woman is more likely to estimate *longer* continuing employment at her firm than a man” (Baroudi & Igbaria 1994/1995, p. 198).

Studies of Job Stress

While there has been a growing literature on job stress among IS employees, few consistent gender-based differences have been found. Of more than a dozen studies that have examined job-related stress among IS professionals, however, we note that half of the studies neglected to conduct *any* gender-related analyses (Baroudi, 1985; Igbaria,

Parasuraman, & Badawy, 1994; Sonnentag, Brodbeck, Heinbokel, & Stolte, 1994)—in many cases, even neglecting to mention what proportion of the sample was women (King & Sethi, 1997). Of the few studies that reported what proportion of the sample was women and provided at least a rudimentary analysis of gender differences, most researchers found no gender differences in job stress (Guimaraes & Igbaria, 1992; Igbaria & Chidambaram, 1997; Moore, 2000). One study of IS workers in Singapore, however, identified differences—with women reporting higher levels of work-family conflict, as well as greater stress arising from interactions with supervisors and coworkers (Lim & Teo, 1999). Another recent study of U.S. workers also found that women reported higher levels of job stress (Sethi, King, & Quick, 2004).

Studies of Job Performance

While many studies of IS professionals have examined affective constructs (such as job satisfaction and stress), few studies have examined job performance—and the few studies of job performance have generally neglected gender (Rasch & Tosi, 1992; Wade & Parent, 2001/2002). While most of these studies have reported the proportion of women in their sample (and nothing more), some studies have neglected to report even this (Clark, Walz, & Wynekoop, 2003). One study that conducted a gender comparison of supervisors' ratings of IS workers' performance found no gender differences (Igbaria & Baroudi, 1995). A second study found that women IS workers were more *conscientious* than men and that conscientiousness was, in turn, strongly related to two dimensions of IS professionals' performance (Witt & Burke, 2002). The latter study examined the relationship between performance and the "Big 5" personality factors often studied in psychology research.¹

MAIN THRUST OF THE ARTICLE

Given this body of prior literature and my own interest in studying how knowledge workers adapt to using new technologies in their jobs, I have been engaged in ongoing research to understand what factors shape individuals' abilities to adapt to using

new technologies. My research examines whether demographic variables (e.g., age, gender, job tenure) or cognitive style differences explain IS professionals' ability to adapt to technological innovations and related changes in work practices. Over the past decade, there have been numerous technological innovations that have been introduced in the work of IS professionals and many early writers posited that demographic variables—namely age—would explain the difference between those employees who successfully adapt to these changes vs. employees who do not adapt well. While researchers in this area rarely mention gender as a factor that affects IS professionals' ability to assimilate change, scores of studies appearing in IS trade magazines posited age as a factor—often labeling older IS workers as "old dogs" incapable of learning new tricks (Ambler, 1994; Betts, 1992).

I conducted a longitudinal, mixed-methods study during the mid-1990s to understand how organizations were implementing one popular innovation that changed the practices of IS workers at that time (client/server development). In my study, I examined the implementation processes in four large organizations in the northeastern U.S., combining interviews of IS managers, IS employees, HR managers and training specialists with surveys of IS employees and managers. Interviews in the four firms showed that companies used a broad range of approaches to implementing client/server and "reskilling" their IS employees. These approaches ranged from firms that conducted a highly-structured, centralized initiative to reskill employees—as occurred in one financial services organization (Gallivan, 2001a) to another firm that essentially paid "lip service" to the notion of reskilling their employees to perform client/server development. The latter organization, while promoting the need for employees to "take charge of their careers," was actually in the process of drastically reducing the size of their IS workforce through voluntary lay-offs and other involuntarily measures (Gallivan, 2001b).

The two other firms followed different approaches—with one firm simply hiring new employees with the requisite client/server skills rather than retraining current employees, and the other firm expecting its employees to maintain their technical currency mostly in their "spare time." Not surprisingly, many of these employees in the latter firm (an

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