Personality Characteristics of Established IT Professionals I: Big Five Personality Characteristics

Ronald A. Ash
University of Kansas, USA

Joshua L. Rosenbloom
University of Kansas & National Bureau of Economic Research, USA

LeAnne Coder
University of Kansas, USA

Brandon Dupont
Wellesley College, USA

INTRODUCTION

Women are under represented in the information technology (IT) workforce relative to the overall labor force, comprising about 35% of the IT workforce and 45% of the overall labor force (Information Technology Association of America, 2003). A basic question to be addressed is whether this under representation is a function of barriers to employment of women in this career field, or a function of career-related choices that a majority of women make during their lives. The research reported here is part of a series of studies attempting to better understand the reasons underlying this under representation of women in this reasonably lucrative profession. Through a grant provided by the National Science Foundation (NSF 29560) and in partnership with Consulting Psychologists Press, we have been able to design and conduct an extensive survey of professional workers, IT professionals and a comparable set of non- IT professionals. The non-IT professionals included individuals who are similar to the IT sample in terms of education level (but not specific degree fields) and who work in jobs with comparable human attribute demands, including written comprehension, oral comprehension, oral expression, written expression and deductive reasoning. The survey items include measures of Big Five personality constructs (NEOAC) and Core Self-Evaluations (CSE). The purpose of this article

is to document similarities and differences between established IT and non-IT professionals and between males and females on these variables, thereby establishing a benchmark for comparisons with future samples of IT professionals.

Why is this worth doing? Because in the last decade of the 20th century, a critical mass of knowledge related to personality in work organizations has developed. Personality contributes to all that happens during a person's career, and informs our understanding of things like work motivation, job attitudes, citizenship behavior, leadership, teamwork, well-being and organizational culture. Increasingly, we have realized that personality plays an important role in determining who is hired and fired (see Schneider & Smith, 2004).

BACKGROUND

The Survey Sample

Data were obtained from individuals who voluntarily responded to an online survey prepared and managed by the Policy Research Institute at the University of Kansas between December 2003 and September 2004. Participation in the survey was solicited from employees at several large organizations with offices in the central United States (U.S.), and from business school and computer science alumni

of a large mid-western university. Note that this business school offers several management information systems (MIS) courses.

Each survey respondent was asked to indicate his or her current career field (one of 13 categories or "Other") and specific job title (open-ended). The researchers used this information to classify respondents as either an IT or non-IT professional. The sample consists of 703 working professionals who completed the survey. Seventy-three percent (510) are non-IT professionals; 27% (193) are IT professionals. Fifty-eight percent (405) are male; 42% (298) are female. The non-IT professionals include accountants, auditors, CEOs, CFOs, presidents, consultants, engineers, managers, administrators, management analysts, scientists, technicians, nurses, teachers and so forth. The IT professionals include application developers, programmers, software engineers, database administrators, systems analysts, Web administrators and Web developers.

Respondent Demographic Information

Table 1 shows means and standard deviations on several demographic variables for the sample.

The age range of the respondents is 22 to 70 years. The mean age is 38.7 years, with a standard deviation of 9.8. Twenty-two percent of the respondents are in their 20s, 33% in their 30s, 30% in their 40s, 13% in their 50s, and 2% are 60 years of age or older. On average, IT respondents are 1.8 years older than non-IT respondents.

The respondents are highly educated. Ninety-three percent hold 4-year college degrees, and 45% have graduate school degrees. Six percent have some college, and less than 1% report having only completed high school. Mean years of formal education is 16.8, with a standard deviation of 1.5. On average, the non-IT respondents have 0.8 year more formal education than the IT respondents.

IT professionals in the sample report having worked for pay 20.1 years on average, almost 2 years more than the non-IT professionals. This is consistent with the average age of the IT respondents being almost 2 years older than that of the non-IT respondents. The IT professionals report having worked in their current career field 13.8 years on average, 3 years more than the non-IT professionals. Respondents report having worked for their current employer for an average of 7 years (standard deviation = 6.5 years), and having held their current positions for an average of 4.3 years (standard deviation = 4.4 years). They report having held an average of 3.3 jobs in their current career field (standard deviation = 2.2).

Male respondents report being exposed to computers an average of 1.6 years earlier than female respondents (at 15.4 vs. 17.0 years of age). The majority (55%) took no computer science courses in high school, 21% took one computer science course,

Table 1. Demographic information for the professional worker sample (NEOAC & CSE)

Demographic Variable	Means (top) and Standard Deviations (bottom)								
	Total Sample N = 703	Non-IT N = 510	IT N = 193	Male N = 405	Female N = 298	Non-IT Male N = 273	Non-IT Female N = 237	IT Male N = 132	IT Female N = 61
Age	38.7	38.2	40.0	38.6	38.9	38.3	38.1	39.2	41.8
	9.8	9.7	10.0	9.8	9.8	9.7	9.8	10.2	9.3
Years of formal education	16.8	17.0	16.2	16.9	16.6	17.3	16.8	16.2	16.0
	1.5	1.4	1.5	1.4	1.5	1.2	1.5	1.6	1.3
Years worked for pay	18.7	18.2	20.1	18.7	18.6	18.3	18.0	19.6	21.1
	9.5	9.4	9.7	9.7	9.2	9.6	9.1	9.9	9.2
Years in current career field	11.6	10.8	13.8	11.8	11.4	11.0	10.4	13.3	15.1
	8.1	7.8	8.6	8.2	8.1	7.9	7.6	8.4	8.7
Years with current employer	7.0	6.8	7.5	7.0	7.1	6.9	6.8	7.1	8.3
	6.5	6.6	6.3	6.4	6.8	6.5	6.8	6.2	6.4
Years in current position	4.3	4.2	4.6	4.4	4.1	4.4	3.9	4.4	5.2
	4.4	4.4	4.3	4.5	4.2	4.7	4.1	4.2	4.6
Number of jobs held in current career field	3.3	3.2	3.4	3.2	3.3	3.2	3.2	3.3	3.7
	2.2	2.2	2.3	2.3	2.1	2.3	2.1	2.3	2.2
Age first exposed to computers	16.1	16.2	15.9	15.4	17.0	15.6	16.8	15.0	17.8
	6.8	7.0	6.4	6.2	7.5	6.3	7.8	6.1	6.5
Number of computer science courses taken in high school	0.8	0.8	0.9	0.9	0.7	0.9	0.7	0.9	0.7
	1.2	1.1	1.3	1.2	1.1	1.2	1.0	1.2	1.4
Number of computer science courses taken in college	5.3	3.5	10.1	6.2	4.0	4.2	2.6	10.5	9.1
	7.1	5.3	9.1	8.0	5.6	6.1	3.9	9.6	7.8

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