

Chapter 5 - Methodology and introduction to primary data

Qualitative vs. quantitative methodology

In developing this research study, I was faced with a number of methodological choices. The first choice I had to make was whether or not to make this study primarily quantitative or qualitative. What was the story I wanted to tell, and how? What did I want the material to say, and in what way? I did not want this investigation to be a study of numbers, categories, and variables, but of experiences, narratives, and changing histories. Women's experience both on the Internet and in the IT industry has proven hard to quantify by traditional means, for a variety of reasons, which I explore below. Therefore, I chose a primarily qualitative set of methodological tools: semi-structured interviews by email, phone, and in-person, as well as experiential field notes which tried to capture various situations that I felt were indicative of the themes I wished to develop. I used quantitative tools and data sparingly, to "flesh out" the qualitative information.

There were several advantages to using qualitative information. First, even if I had wanted more quantitative data, little was available on women workers in the IT sector, or it was difficult to find. The rapid development of the field combined with the painstaking task of assembling statistics meant that there was a significant lag on up-to-date quantitative information. At the present time, the "high-tech" industry is plagued by discursive industry hyperbole of boom as well as concrete industry reality of bust. So-called "dot-com" companies spring up like mushrooms within weeks or months, then

disappear again, leaving a trail of data gaps.¹ Massive hirings and layoffs by larger companies are frequent and swift. Self-employment, contract work, freelancing, multiple part-time jobs, and other forms of non-standard labour are common, and many of these workers are statistically as well as literally hidden away. Trying to paint a definitive, or even a partial, picture of the high-tech workforce using quantitative data would be hampered by significant data collection concerns.

Second, the new media and IT sector is not always an easily delineated category with clear criteria for inclusion and exclusion. For example, using Statistics Canada data meant having to puzzle over the occupational categories of "professional, scientific, and technical services", "information, culture, and recreation", or even possibly "utilities". It was easy to place computer programmers, systems analysts, network engineers, and the like into an occupational category of technical computer users, although it was often unclear as to whether they would be located in "communications" or "science and engineering". However, the majority of the women I interviewed held a variety of "non-computer" occupations which, in some way, had been transformed into computer-related positions by their use of and focus on information technology. Thus, not only did the aforementioned "hard core" computer users fit the bill, but also journalists, graphic designers, business developers, writers, marketers, customer service, civil service, education, commerce, health care, accounting, and a host of other fields. Statistically speaking, these women were the "hidden users" of IT and new media, whose involvement

¹ In fact, an entire subculture has sprung up around dot-com "deathwatches". Fucked Company (<http://www.fuckedcompany.com>), a parody of the IT industry publication Fast Company, encourages disgruntled IT employees to submit information about companies which are on their way out.

with the computer cut across all occupational categories, but which was made invisible by conventional groupings of quantitative assessment.

Third, a qualitative methodology is more likely able to tolerate ambiguity, contradictions, crossovers, and the multiple variables of people's lives and work. As mentioned, most of the women interviewed were playing various roles in their work lives. Both their formal, accredited skills and their informal, "soft" skills were diverse. Their career paths tended to be full of twists, serendipity, false starts, conflicting objectives, and a host of other factors which mitigated against a linear progression. Most did not have a degree or certificate in the field where they currently worked, though some did. While their reasons for participating in DigitalEve could be grouped into rough categories, their level and type of participation was diverse. Their expectations and view of the organization, and of women's activism in general, were full of tensions and competing concerns. It would be difficult to express this plurality and depth with quantitative tools.

Luckily, I was not looking for a unifying "theory of everything" which explained the experiences of women working and organizing in IT, except perhaps a theory which postulated a norm of variation, multiplicity, and diversity. There is no "woman in IT" model which can be adhered to or deviated from by research subjects. As the DigitalEve website states, "We are working women, unemployed women, students, married mothers, single mothers, single women, young, old, tech savvy, newbies, artists, programmers, teachers, sisters, daughters, managers, directors and members of society."² This study

² <http://www.digitaleve.com/about/welcome.html>

does not pretend to offer a representative cross-section of women working in IT in general, and in DigitalEve.in particular. Rather, this study is a "snapshot" of DigitalEve at a particular point in its evolution, which allows me to explore a number of relevant issues and questions in terms of the three central themes of women and technology, women and work, and women organizing.

Application to social change

Thus, looking for a norm is to ask the wrong questions. The DE website notes, "The important point is to explore who and what makes up this community and how we can all work together to make a positive difference."³ This brings me to the second question I had to consider in the process of settling on a methodology. One of the central contentions of feminist methodology is that it should be applied to social change.⁴ But what would that mean in the context of this study? How can we "all work together to make a positive difference?" "Social change" as an organizing concept is often somewhat ambiguous, and lacks clear criteria of definition.

It is relevant here to note the difficulty posed by doing feminist research on non-feminist women. As previously mentioned, one of the stated goals of feminist research is emancipatory, geared towards social change. But what if my version of emancipation does not match that of my research subjects? I will expand later on the diverse political

³ <http://www.digitaleve.com/about/welcome.html>

⁴ For example, see Pauline Hesse-Biber, Christina Gilmartin and Robin Lydenberg., Feminist Approaches to Theory and Methodology: An Interdisciplinary Reader (New York: Oxford University Press, 1999); Gesa Kirsch, Ethical Dilemmas in Feminist Research: The Politics of Location, Interpretation, and Publication (New York: SUNY Press, 1999); Shulamit Reinharz, Feminist Methods in Social Research (New York: Oxford, 1992); Mary Margaret Fonow and Judith Cook, Beyond Methodology: Feminist Scholarship as Lived Research (Philadelphia: Open University Press, 1991).

viewpoints expressed by the women, most notably on the subject of feminism in general and organizing in particular. Suffice it to note that their views varied from openly antifeminist to Marxist feminist, and their vision of the organization varied from corporate networking forum to activist collective. As researcher, I hold a level of ideological power, both in one-on-one interpersonal interaction, as well as in my epistemological and methodological choices in the course of this project. How do I articulate my own viewpoint while "allowing" other voices to be heard (and is merely "allowing" them to be heard enough)? How do I do research directed towards a version of social change which may not be shared?

And what if the women hold positions of considerable power, influence, and economic security, and their "need" for "empowerment" is minimal by any stretch of the imagination? Some of the women I interviewed were successful, high-status executives such as CEOs, presidents, and vice-presidents of companies. This population required me to think hard about what capability and intent of empowerment I was envisioning.⁵ Since, as I have mentioned, and will expand upon further in upcoming sections, the population of women studied varied widely in social positioning, this challenged me as a researcher to develop a paradigm of empowerment which incorporated (and interrogated) both my own agenda and their multiple locations. Many women were delightfully

⁵ Millen takes these issues up in her article "Doing Feminist Research on Non-Feminist Women," arguing: "A study of elite women, or women who hold some measure of social power, highlights the need for a more subtle and detailed characterisation of power within feminist research than has so far been available. Power is multi-layered and dynamic, and therefore empowerment is also situational and fractured: some women do have access to some social power and privilege through their ethnicity, their economic position, or their sexuality, all of which differences impinge upon any notion of their empowerment." D. Millen, "Doing Feminist Research on Non-Feminist Women," *Sociological Research Online* 2, no.3 (1997): 2. <http://www.socresearchonline.org.uk/socresonline/2/3/3.html>

contradictory. For example, one subject was a Caribbean-born lesbian who discussed the potentially deadly effects of homophobia in numerous Caribbean countries, the challenge of finding work as an immigrant to Canada, the role of commonsense racism and sexism in employer-employee relations, and her powerful managerial role which, as she cheerfully noted, involved "kicking everybody's ass... and I get the respect that I need, that I should have." To understand this woman's experiences, and the experiences of all the other subjects, required viewing it as an expression of her multiple identities and positions, and asking, as Millen does, "Are all experiences equally valid, and if not, how do we judge which are to be defined as knowledge and which are to be discarded?"⁶

As a result of struggling with these questions, I found it helpful to shift the emphasis of the study to an examination of how the structure of the organization reflected (or did not reflect) the needs, concerns, and aspirations of its members and leaders. In part, this is both a metanarrative of the evolution of an organization, as well as a series of micronarratives about the experiences of women working and organizing in IT. While the diversity of these things inhibits production of a normative model which purports to explain a universal process, I can begin to explore the strategic advantages and disadvantages of organizing a specific group of people in a particular way. Thus, in the context of this study, applying this methodology towards social change would mean investigating ways of organizing, identifying issues, concerns, practices, and ideas which could be germane to future women's organizing, both in IT and in general. While I prefer to avoid generalizations or mis-application of a specific case study to a larger whole, I do

⁶ Millen, "Doing Feminist Research on Non-Feminist Women," 4.

think that DigitalEve provides a model of a women's organization which might be instructive to others. Hence, the goal of this study is ultimately to suggest ideas for future feminist and women's organizing.

Researcher-subject relationship

The third choice I had to make was how to navigate the relationship between researcher and subjects. Feminist methodology suggests that the division between the two is deliberately blurred. The researcher does not position herself as an "expert" who dispenses knowledge, but rather places the subjects at the centre of the research. Interviewing then becomes a collaborative process.

Moreover, my perspective was not one of an "outsider looking in", but rather an "insider looking both in and out". I anticipated that shared experience of technology use would provide a connection between me and my research subjects, a connection which might not otherwise exist. Although not an expert in the technology, I am familiar with the terminology and use of software and hardware, and can discuss it easily with others in the field. This familiarity and shared experience removed a number of possible barriers to communication between me and the research subjects. Women working professionally in technology are often made to feel like they are not "real women", and/or that they are part of a marginalized community. I found that they welcomed the chance to talk about

their field with "one of their own": another woman who shared, in some part, their general concerns, skill set, and interests.⁷

Thus, the division between researcher and subject was blurry right from the beginning. This was further muddied by my primary format of data gathering, which was semi-structured in-person interviews. I would most often meet my subjects in a cafe of their choice and sit down with them to talk over coffee. While from my collection of paraphernalia (notebook, tape recorder, consent forms, etc.), and from the structure of the discourse, it was clear that an interview was being performed, most of the time the interaction felt like an informal chat. Both the subject and I created the material in our mutual interaction. Often the conversation would veer in unexpected directions, and often fortuitous ones. I often left the interview feeling as if I had developed a personal relationship with my subject, and indeed, in many cases, I had.

This is not to say that placing the subjects in the centre of the research was easy. I had to learn to articulate a dual politics of knowledge: allowing myself to be "subjective" while also allowing the material and subjects to speak for themselves. Millen is critical of the proposed closeness of interviewer and subject. She states: "How can we take into account some feminist ideas about the intimacy of the research relationship when researching women with whom we have little ideological or experiential common ground, women of higher status than ourselves, or women who are hostile to the aims and

⁷ Knowing that my subjects preferred to begin with email contact, I posted my call for participants on the DigitalEve email list, and then followed up with a website which explained the project, gave downloadable consent forms, provided a bibliography, and enabled website readers to email me directly.

ideas of feminist research?"⁸ While I shared much common ground with my subjects, we often diverged in many ways.

I think an anecdote from my field notes is illustrative of this tension. Early in the research, I went to a panel discussion, sponsored in part by Webgrrls, on women and technology. Several important women in the IT sector, including Denise Shortt, head of Wired Women, and Jennifer Evans, presently head of DigitalEve Canada, were assembled to speak. The setting was a posh business club in Toronto's tony financial district. The room where we were seated virtually reeked of old money. Sleek male public relations droids slid through the crowd, smoothing the edges of the group, always looking occupied and intent, yet with a veneer of polite formality. The seats were filled with anxious young women, most of whom would clearly much rather be in a desk chair in front of a glowing screen than sunk into the plush, understatedly tasteful embrace of the fake antique chairs. The room was almost full, a turnout of about two hundred and fifty people. The session was primarily a question-and-answer format, with the panel taking questions from the crowd. After the opening remarks from each panel member, audience members submitted questions they would like answered. I settled into my faux velvet chair, pen at the ready, and awaited the pearls of wisdom about women working in technology. The first few questions were banal. How to choose an internet service provider. How to find out about intellectual property rights. How to make a business plan. The male moderator tried to shift the discussion to women and technology. The crowd quietly rippled with indignation, and the questions kept coming. How to do taxes.

⁸ Millen, "Doing Feminist Research on Non-Feminist Women," 6.

How to write off a small business. Which software was best for intranets. What industry associations would be most profitable. The women on the panel were beginning to look confused at the change in subject, and the moderator was now visibly discomfited. He tried to rein in the discussion and forcibly shift it back to women and technology. Members of the crowd began to heckle him. Eventually he collapsed, defeated, and allowed the panel to field the influx of business-related questions.

After an hour or so during which the issue of women and technology was not raised once, I left. As I walked home, I puzzled over this apparent conundrum. Why would a group of over two hundred women, when faced with a discussion that should surely concern them, not wish to talk about their own experiences in technology? Why would they ask small business questions instead of gender equity questions? My puzzlement changed to indignation. What was wrong with them? Why would everyone not want to talk about this? Then I realized I was placing my own agenda at the centre of the research. I had to take a step back and re-frame the question from a strategic standpoint. What choices were being made in that discussion? Why were women finding it more important to talk about tools for small tech businesses? The answer which dawned on me was that this *was* about women and technology: women creating a network of information gathering and peer interaction. Women were asking the questions that they needed to ask in order to address their immediate concerns, and they were doing it without fear in a primarily female environment.

Moreover, literature on women and work⁹ suggests that it is difficult to differentiate "public" from "private" issues, "important" questions from "unimportant" ones. Traditional literature on work has tended to focus on paid labour in the public sphere, and yet we know from other literature that a variety of "private" factors, such as unpaid domestic demands, should be considered in the study of women's labour. In the case of the anecdote above, if a female small business owner got the opportunity to be in a room with other very successful women, it is unlikely that she would waste time mulling over the metaphysical questions of gender identity online, or whether gender shapes technology, when she could benefit from the other women's concrete advice. Ostensibly "unimportant" (to me) questions like how to find a good reliable internet service provider *were* significant women-in-technology issues because they could have an impact on the quality, success, and professionalism of a woman-owned small business, and by extension her economic viability. As I realized in the course of the research, women's work in IT had to be situated in a variety of intersecting contexts. The question then became: why do these particular women make these particular choices in this particular way? This theme was a framing one for the study, and I think it is germane not only because it allows me to suggest the depth and diversity of people's experiences, but also to position them as agents who make decisions based on a series of options which they feel are available to them.

⁹ Such as Pat Armstrong and Hugh Armstrong, The Double Ghetto: Canadian Women and their Segregated Work (3rd ed.) (Toronto: McClelland & Stewart, 1994).

Choosing variables

The fourth choice I had to make was which variables to place at the centre of the research. Although giving gender theoretical centrality, as part of a feminist methodology, seemed to make sense, particularly since the population studied was bounded mostly only by gender, this choice raises some significant questions in this particular context.

First, privileging gender as a variable erases or minimizes important intersections of other elements of identity: race, class, sexuality, age, etc. These intersections cannot be separated out from gender, and indeed, many interesting conversations developed when my subjects and I discussed them. I think the visible diversity and variability of the DigitalEve membership and leadership is noteworthy in and of itself. I had expected when doing this study to find that DigitalEve members were primarily young, white, affluent professional women, and indeed some of them were. However, as I mentioned earlier, the only norm which seems to be definable with regard to DigitalEve is that there is no norm. Even in my small population, I had a range of ages, abilities, sexualities, ethnicities, education levels, job status levels, citizenships, and income levels. The current leadership of DigitalEve Toronto is also diverse: several women of colour hold senior leadership positions, and the Steering Committee itself has a mix of ages, experiences, political stances, and various other concrete markers of identities. Noting this fact is not meant to suggest that diversity is demonstrated through a "laundry list" of who is present, but rather that DE's mandated commitment to diversity also appears to be demonstrated through its structure.

This is also not meant to suggest that systemic barriers based on various identity markers have been eliminated, though this is a common trope in much of the discourse around information technology.¹⁰ The focus on erasure of identities consequently manifests itself in a perception that gender and other markers of social positioning are not relevant online. The January 2001 meeting of DigitalEve featured the topic "Getting Women Online." The literature handout stated, "The Internet is the great equalizer. It knows no barriers. Geographical barriers. Cultural barriers. Social barriers. Age related barriers. Or gender barriers. On the Internet, we women can all be successful, if we believe we can." This is a tempting viewpoint, but one that does not appear to play out in material relations and experiences, in that it does not address the concrete issues of structural workplace dynamics, such as harassment, racism, and homophobia, nor does it interrogate the normative status or privilege given to particular groups. From the interviews, it is clear that despite significant advances, race, age, sexuality, immigration status, and other variables do indeed come into play not only in the "real life" workplace, but also in online interaction. Success in this quoted paradigm is presumably financial, and based on belief and self-interest. It implies that failure (or success) is entirely a result of individualized factors. As I have indicated in the preceding literature sections, this is a limited paradigm for understanding women's experiences in the field of IT work.

Moreover, the emphasis on the *absence* of structural determinants such as race and class is as significant in and of itself. Insistence on absence can indicate strategies

¹⁰ For example, Turkle, in her germinal work on online subjectivity, contends that conventional markers of identity are erased online. She argues that "[t]he Internet has become a significant social laboratory for experimenting with the constructions and reconstructions of self that characterize postmodern life. In its

for dealing with workplaces which may indeed be stratified. In Chapter Seven, for example, I suggest that becoming "one of the boys" in the workplace is a coping strategy used to deny structural inequality, and as a self-preservation mechanism which is intended to prevent psychological distress at evidence of discrimination. Emphasis on absence can also indicate a point of view developed from particular positions of privilege, which I discuss further below in the context of occupational choice. One of the central contradictions in DigitalEve as an organization is its current focus on women's professional development, in conjunction with a mandate that promotes access for all women; the organization may render itself inaccessible to the very women who need it, while convincing itself that it has ensured formal equality.

Thus, while I continue to make gender a central variable in terms of population selection (primarily because I am studying an organization which has, for the most part, a gender-specific membership mandate), I also acknowledge, and will continue to do so, that people and their experiences are not divisible. I will also acknowledge that relations of power and privilege shape our understandings of our experiences, as well as the structure in which we participate.

Population studied

Once my epistemological grounding was in place (or, more accurately, once I had grabbed something sturdy to hang on to for weathering the subsequent storms of data collection and interpretation), defining the study population seemed easy by comparison.

virtual reality, we self-fashion and self-create." Sherry Turkle, Life on the Screen: Identity in the Age of the Internet (New York: Simon and Schuster, 1995), 180.

To put this thesis in its most reductionist form, the central question then became, "Who are some of the members of DigitalEve, and how are their concerns, needs, and experiences reflected in the structure and mandate of the organization?" The population was bounded only by membership in DigitalEve.

I studied the Toronto chapter of what was originally Webgrrls, which, as I have already mentioned, in the course of my research became DigitalEve Toronto (I expand on this process in Chapter Nine). In the Toronto chapter which I studied, this meant a relatively easy division by geographic location and gender (U.S. chapters do not restrict their membership to women, although their mandate is clearly gender-specific). The DigitalEve Toronto website states that DigitalEve members are: "women who are professionals in the Internet or technology community, women interested in new media and the Internet[, and] women who want to learn more about computers and technology."¹¹ The site adds, "You can be a member of DigitalEve if you are female, have an email account[, and] live in the Toronto area." At latest estimate, DigitalEve Toronto had over four thousand members and was the largest chapter in the world. However, at this stage in the organization's development, membership remains difficult to define clearly. Members are presently counted by their subscription to the main mailing list, so people subscribed with more than one email address would be counted twice. Since there is no membership fee, and membership card application is voluntary, there is no way to establish accurate records of "card-carrying" members. Thus, the member count is at best a rough estimate. While rumours of men on the membership list have not

¹¹ <http://www.digitalevetoronto.com>

been substantiated, it is logical to assume that since one only needs a working email address to sign up, they are quite likely present and lurking on the email list(s).¹²

My main methodological tool, as mentioned, was in-person interviews (see Appendix A for a listing of subject characteristics). I selected interview subjects in a few ways. At the beginning of the project, I emailed the members of the Steering Committee directly (addresses are provided on the DigitalEve website), and made contact with many. The ones I spoke to introduced me to other Steering Committee members, as well as to the international leaders. I also prepared a website with the dissertation abstract, and more information about the project, and put out an open call for participants on the DigitalEve email lists. I interviewed all members who responded.

I conducted fifty-two interviews in all, including thirteen current or former organization leaders (leaders are also considered members of the organization). The members were all from the local Toronto chapter, and while I was able to speak to a few of the leaders of DigitalEve International, most of the leadership subjects were drawn from the Steering Committee of the Toronto chapter. The members ranged in age from twenty-five to sixty (average age about thirty-five), and held a variety of occupations, both directly technology-related (e.g. CD-ROM manufacturer, network engineer) and indirectly technology-related (e.g. project manager, director of media relations). While the majority were Canadian-born, there were women who had immigrated from Asia, South America, the U.S., and the Caribbean. A wide range of ethnicities and cultural

¹² "Lurking" is not meant to suggest an ominous presence. Rather "lurking" is a term applied to users ("lurkers") who read email lists and Usenet groups, but who do not post messages or participate in discussion.

affiliations was represented. There were numerous lesbian and queer-identified women, as well as one transsexual woman. While the membership population I interviewed was surprisingly diverse, I must indicate that it is not intended to be representative of the membership as a whole.

I was also able to use two surveys conducted by Digital Eve, both conducted online. The first was a general survey of the membership with two hundred respondents, and was conducted in summer 2000. This survey data can be found below. The second was a survey done in January 2001 to find out what members wanted in terms of a selection process for DigitalEve executive. This survey data can be found in Appendix B, and I will expand on the second survey in Chapter Nine.

The first survey was useful for getting a sense of the demographics of the membership. At the time it was done, DigitalEve (then Webgrrls) had approximately thirty-five hundred members (with above caveats of determining exact membership numbers). The survey population size was two hundred people, which means that, in theory, it represented approximately 6% of the membership. This population is limited in its applicability because of its relatively small size, but I think it is nevertheless worthwhile to examine, in part because it is the only demographic data available for the membership. In addition, the data in this survey is an interesting comparison to my in-person interview population.

Table 5.1 (p.203) compares some of the basic demographics of both my interview population(IS) and the Webgrrls survey (WGS). While ages in the WGS ranged from under nineteen to over fifty-six, the bulk of the members sampled (50.5%) were between

twenty-six to thirty-four years old, with the next largest category (25.5%) being thirty-five to forty-four. This correlated closely with the smaller IS in which 56.3% were between twenty-six to thirty-four, and 29.2% were thirty-five to forty-four. While in the IS, respondents were more likely to be married or common-law (56.9% partnered, and 37.2% single), in the WGS, there was a slight majority for being single over partnered (52.5% and 44.5% respectively). A very significant majority of the WGS (81%) were childless, as were 76.0% of the IS. The parental status (and in the WGS population, the marital status) likely correlates with the relatively younger age. Of the Webgrrls survey population of two hundred respondents, of the thirty-eight who had children, ten were lone parents (about 26% of all parents). In my indepth interview population of fifty-two, six out of twelve women with children (or half of the parents) were lone parents.

Table 5.1 Comparative Demographics of Interview Population and Webgrrls 2000 Survey Population by Age, Marital Status, and Children

Category	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
Age				
0-19	0	0	3	1.5
20-25	2	4.1	30	15.0
26-34	27	56.3	101	50.5
35-44	14	29.2	51	25.5
45-55	3	6.3	10	5.0
56+	2	4.1	5	2.5
No information available	4	0		
Total	52	100.0	200	100.0
Marital status				
Single	19	37.2	105	52.5
Married/common-law	29	56.9	89	44.5
Divorced	3	5.9	6	3.0
No information available	1	0		
Total	52	100.0	200	100.0
Children				
0	38	76.0	162	81.0
1	5	10.0	19	9.5
2	7	14.0	13	6.5
3	0	0	4	2.0
4+	0	0	2	1.0
No information available	2	0	0	0
Total	52	100.0	200	100.0

Table 5.2 Comparative Demographics of Interview Population and Webgrrls 2000 Survey Population by Employment Status

Employment status Category	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
Employed				
Full time	32	61.5	122	61.0
Part time	2	4.0	11	5.5
Self-employed	17	33.0	47	23.5
Unemployed	1	1.9	19	9.5
Retired	0	0	1	0.5
Student				
Part time	0	0	27	13.5
Full time	3	5.8	12	6.0

Note: In the interview population, many people had more than one category of employment status, such as full time combined with self-employment, and/or part-time employment combined with part-time student status. In the interview population, respondents were only labelled as students if they were full-time students. In the Webgrrls survey, student status was a separate question from employment status, and was divided into part-time and full-time student status. Percentages for the Webgrrls survey have been calculated out of the full population of 200. Percentages for the interview population have been calculated out of the full number of 52.

Table 5.3 Comparative Demographics of Interview Population and Webgrrls 2000 Survey Population: Education Level and Field of Study, By Highest Educational Attainment

Education level Category	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
Some high school	1	2.0	2	1.0
High school diploma	2	4.0	8	4.0
Some college/university	6	12.0	30	15.0
College diploma	9	18.0	30	15.0
Technical/trade	2	4.0	9	4.5
Undergraduate degree	26	52.0	100	50.0
Master's	4	8.0	18	9.0
Doctorate	0	0	2	1.0
No information available	2	0	1	0.5
Total	52	100.0	200	100.0
Education by field of study				
Arts and sciences	2	3.8	n/a	n/a
Business and commerce	7	13.2	n/a	n/a
Engineering and applied sciences	5	9.4	n/a	n/a
Fine and applied arts	14	26.5	n/a	n/a
Health sciences	1	1.9	n/a	n/a
Humanities	4	7.5	n/a	n/a
General arts	7	13.2	n/a	n/a
Natural sciences and primary industries	4	7.5	n/a	n/a
Social sciences and services	9	17.0	n/a	n/a
No information available on field of study, or no formal postsecondary educational credentials	10	0	n/a	n/a

Total	63	100.0
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Note: Many respondents in the interview population had more than one field of study. I counted each field of study of their highest level of formal credentials. Information on field of study was not asked (n/a) in the Webgrrls survey.

Table 5.4 Comparative Demographics of Interview Population and Webgrrls 2000 Survey Population by Occupation

Category	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
Occupation				
Account manager	3	5.8	1	0.5
Administrative	2	3.8	49	24.5
Art/creative dir	0	0	6	3.0
Communications and PR	6	11.5	4	2.0
Computer/graphic art	3	5.8	8	4.0
Consultant	3	5.8	16	8.0
Content developer	4	7.7	1	0.5
Desktop publisher	0	0	4	2.0
Education	2	3.8	2	1.0
Engineer	1	1.9	1	0.5
Marketing	0	0	20	10.0
Other	10	19.2	28	14.0
Process documentation	1	1.9	1	0.5
Production	4	7.7	3	1.5
Programmer	0	0	4	2.0
Recruiter	0	0	1	0.5
Sales	2	3.8	5	2.5
Technical - systems admin	2	3.8	1	0.5
Technical writer	1	1.9	6	3.0
Writer/journalist	4	7.7	10	5.0
Web designer	4	7.7	22	11.0
No information available	0	0	7	3.5
Total	52	100.0	200	100.0

Note: for the sake of consistency I have used the same job categories as in the Webgrrls 2000 survey to identify the breakdown of the interview population. However, I assigned the categories to these jobs, and there were many jobs which did not fit neatly into the categories. Moreover, there are crossovers between jobs; many women, for example, had extensive programming skills despite not working as programmers.

Table 5.5 Comparative Demographics of Interview Population and Webgrrls 2000 Survey Population by Industry

Category	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
Industry				
Advertising/marketing	6	11.5	15	7.5
Communication	1	1.9	1	0.5
Consulting	0	0	3	1.5
Education	5	9.6	33	16.5
Entertainment	0	0	5	2.5
Finance	2	3.9	13	6.5
Government	1	1.9	3	1.5
High-tech	1	1.9	17	8.5
Information systems	7	13.5	14	7.0
Internet	10	19.2	27	13.5
Manufacturing	1	1.9	1	0.5
New media	11	21.2	20	10.0
Non-profit	2	3.9	1	0.5
Other	1	1.9	29	14.5
Publishing/journalism	4	7.7	10	5
Recruitment	0	0	5	2.5
Sales	0	0	2	1.0
No information available	0	0	1	0.5
Total	52	100	200	100

Table 5.6 Demographics of Webgrrls 2000 Survey Population by Income

Total annual income, in thousands of dollars	Interview Population		Webgrrls Survey 2000	
	Count	Valid percentage (%)	Count	Valid percentage (%)
\$0 - 24	n/a	n/a	27	13.5
\$25 - 34	n/a	n/a	25	12.5
\$35 - 49	n/a	n/a	38	19.0
\$50 - 64	n/a	n/a	22	11.0
\$65 - 79	n/a	n/a	16	8.0
\$80 - 99	n/a	n/a	20	10.0
\$100 - 149	n/a	n/a	32	16.0
\$150 or more	n/a	n/a	11	5.5
Decline/blank	n/a	n/a	9	4.5
Total	n/a	n/a	200	100.0

Note: Reliable and complete income information for the IS was not available, for reasons discussed below. However, informal answers to questions about income ranged from \$0-24k yearly to over \$150k.

However, there is another factor to consider in the lack of children, which is the awareness of having to navigate both work and childcare responsibilities. All of the women with children whom I interviewed discussed the challenge of balancing paid and unpaid labour. This double burden is quite likely another consideration for women with career commitments, especially since the majority of them work full-time. Table 5.2 (p. 204) compares the employment status of the women in both populations. The majority of both the IS and WGS are employed full-time in the same relative percentage (61.5% and 61% respectively), with the second most common employment practice being self-employment (33.0% and 23.5% respectively). This finding was somewhat surprising to me. I had anticipated that more people would be self-employed, because much of the traffic on the list deals with running one's own business and/or freelancing. A small but significant group in the WGS identified also as part-time students (13.5%). I did not collect this piece of demographic information in the IS, but I suspect that the percentage of part-time students in the population would be similar. Many IS respondents mentioned or alluded to their participation in some kind of coursework. It seemed to be a common perspective that workers in the IT industry were in constant need of coursework and skills upgrade. The percentage of full-time students was consistent in both groups (5.8% in IS, 6.0% in WGS).

In terms of education, Table 5.3 (p. 205) shows that the member population is well-educated. The most common level of educational attainment is an undergraduate degree (52% in the IS and 50% in the WGS). According to 1996 Statistics Canada data for Ontario, this is much higher than the provincial average: only about 15% of the

population of Ontario has a university education, and two-thirds of that group holds a bachelor's degree as their highest level of education.¹³ Trailing behind in the IS was a college diploma (18.0%) and some college or university (12.0%). WGS membership population was an even split (15% in both cases) of both college diplomas and some college or university. It was not uncommon for IS respondents to have both college and university education (usually a university degree followed by a college diploma). I accounted for this under "Field of study", recording university in this case as the highest educational attainment under "Education level".

While the WGS did not ask for the field of study, I compiled data for the IS which took field of study into account. The most common field of study in the IS was fine and applied arts (26.5% of respondents), followed by social sciences and services (17.0%), with business/commerce and general arts tied for third place (both 13.2%). Statistics Canada data shows that in 1998, both engineering and applied science, and mathematics and physical science represented about 3% each of all female graduates.¹⁴ In contrast, by Statscan data, the field of fine and applied arts represented about 4% of all female graduates, and social sciences represented about 39% of all female graduates. In the IS, engineering and applied sciences alone accounted for 9.4% of degrees held; when added to natural sciences and related industries, plus health sciences, the science-related category accounted for 18.8% of all respondents' field of study. This is higher than the

¹³ Statistics Canada, "Population 15 Years and Older by Highest Degree, Certificate, or Diploma," 1996 Census Nation Tables, 1996.

¹⁴ All data cited in this paragraph from Statistics Canada, "University Degrees Granted by Field of Study, By Sex," CANSIM, cross-classified table 00580602, 1998.

general population indicated by Statscan data, but still relatively low for people working in an ostensibly technical field.

Table 5.4 (p. 207) compares the occupations of the WGS and IS, and shows the extensive range of occupations held by the membership. This data is particularly useful for showing the diversity of occupations which could be considered "IT-related". The evolution of technological equipment and practices means that almost any job now has the potential to be technology-related. It is also indicative of the methodological difficulty of occupational classification which I discussed earlier. For consistency, I used the WGS occupational and industry classification to break down the IS. There are over twenty occupations given, and at least seventeen industry categories (the "other" category in the IS contains occupations like "CEO" which were hard to categorize using the WGS criteria). Thus, using conventional data such as Statistics Canada labour statistics would be problematic, because IT work is now spread across so many occupational categories and jobs. Examining the 1996 Statistics Canada Census data tells us only that women in the Toronto area are concentrated in two major job categories: approximately 34% of all female workers are business/finance/administration (i.e. largely clerical work) and approximately 28% in sales/service work. Quite likely, many jobs in the first occupational category could be considered IT-related, whereas ten or twenty years ago, they would not have been. Statscan shows that only 3% of women in Toronto worked in natural and applied sciences (and related occupations), which is the most commonly used

category for what we tend to think of as IT work.¹⁵ Yet relatively few of the members I interviewed held a science or engineering degree, or worked in what would be considered a science-related field, despite their extensive technical skill sets and often highly technical work. I expand on this difficulty of defining the "science and technology" category in Chapter Two.

Work occupation does not always correlate to industry. For example, the "Education" category in the "Occupation" column contains two subjects each in both the IS and WGS population, while the "Education" category in the "Industry" column (Table 5.5, pg. 209) contains five in the IS population, and thirty-three in the WGS population. I interviewed one woman whose industry category would have been Education, since she worked directly for the Toronto Board of Education, but whose actual role was as an IT media technician. Although her work was highly technical, if it had been counted under conventional occupational classifications, it would have disappeared under a "non-tech" classification.

It is worth noting that I did not locate a single member who worked in what we would think of as a "deskilled" technological occupation, such as a call centre worker or low-paid teleworker. Nobody had lost their job due to technological restructuring; rather subjects had experienced the expanded possibilities for employment in new fields. I do not point this out to suggest that the literature on deskilling and technologically-related job loss is incorrect, for it is quite clear that there is a substantial workforce whose menial tasks and low pay are facilitated by, or even depend on, technological means. Rather, I

¹⁵ Data on occupation and sex from Statistics Canada, "Experienced Labour Force 15 Years and Over by

indicate it because I think it is quite relevant in understanding the meanings the subjects accorded to their work practices. They understood their work in a particular class and "work-status" context. "IT occupations" to them meant professional or semiprofessional career-track jobs which resulted in relatively good wages and working conditions. They did not understand IT work as repetitive, closely monitored, quantified, low-status, low-waged occupations. No doubt this substantially affected their concerns in terms of DigitalEve.

The data on income was particularly interesting to me. I have provided only the WGS population data in Table 5.6 (p. 210), since I had difficulty getting income data from the IS (so many people were reluctant to discuss income in person with a relative stranger that I eventually gave up asking). The income categories were rather evenly divided, with 19% earning in the \$35-44,000 range, and 16% earning in the \$100-149,000 range. At the high and low end of the spectrum, 13.5% of the population earned below \$25,000 and 5.5% over \$150,000. It is useful to compare these earnings with 1998 Statistics Canada data on women's earnings, which shows the average female full-time worker's wage at \$32,553.¹⁶ Statistics Canada, in 1996 census data, also indicates that Toronto workers (both male and female) with a university degree earned an average of \$47,019.¹⁷ This data, then, indicates that not only do approximately two-thirds of the membership population earn more than the average for full-time women workers, about half of them also earn more than the average for all university-educated workers in their

Occupation and Sex," *1996 Census Nation Tables*, 1996.

¹⁶ Statistics Canada, *Survey of Labour and Income Dynamics*, 1998.

¹⁷ Statistics Canada, "Average Earnings of the Population 15 Years and Older in 1995 by Highest Level of Schooling," *1996 Census Nation Tables*.

locale. This suggests that technology skills may significantly augment women's earning potential, at least in the case of the occupations performed by the DigitalEve population.

This limited quantitative data is interesting, and provides a good starting point for understanding the interview population, both relative to itself, the general membership base, and to some degree, the IT industry as a whole. However, in that the quantitative data tells us a little bit about what these women do, and who they are, but does not tell us much about *why* or *how*, we must now turn to the qualitative data in the next several chapters to begin understanding their experiences and perspectives, and how these relate to their participation in DigitalEve.