Research Articles

Empowerment Zones? Women, Internet Cafés, and Life Transformations in Egypt

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Abstract

Information technology is said to provide paths to empowerment, yet hard data about how this occurs are scant, especially concerning women's IT practices in the Middle East and North Africa. This article uses 25 interviews with female Internet café users in Cairo as a small step toward bridging this gap. In general, this study found three main empowerment narratives among females who regularly use Internet cafés in Egypt (the average number of hours online per week was 9.87 for those interviewed). The Internet is said by participants in this study to 1) increase information access/professional development, 2) expand or maintain social networks and social capital, and 3) transform social and political awareness. While this study is based on a small sample size that cannot be generalized at this stage, the analysis does reveal subtle ways in which Egyptian society is changing—one Internet-enabled person at a time.

Cyberspace cannot remain the domain of the powerful telecommunication companies and markets which profit from its use, nor the child of the (mostly male) technicians which have created the software and language that goes with it. Rather, local groups have to become confident with the medium and to negotiate and to help shape the direction the Internet will take through incisive strategizing. The global communication culture would presumably then take on a much more diverse perspective, responding and interacting to the margins which recognize the politics and power of communications and its potential which is currently only glimpsed. (Harcourt, 1997, p. 3)

We see how the tools of the information age can weave our experiences together. By making women's voices, women's stories, and women's artwork accessible to all, our lives become a map and compass to guide one another forward. Even more important, by enabling dialogue and feedback . . . [the Internet] encourages each of us to communicate and connect—not only with women who seem like us, but with those who are unfamiliar. And, in the process of opening our eyes, minds, and hearts to new horizons, we can help shape a future of understanding, acceptance, and peace. (Queen Rania of Jordan, 2007)

All technological innovation is political. (Barney, 2000, p. 57)

Introduction

Although great expectations are placed on information technology as a tool for transforming women's lives, relatively little is known about how, when, and why such transformations occur. Narratives about the role that ICT can play in empowering Arab women are common in local culture.

For example, Her Majesty Queen Rania of Jordan, addressing the Second Arab Women's Summit in 2002, stated that "it is important for Arab women to make use of the latest technologies, particularly the Internet, to reshape their lives" (Jordan Times, 2002). Similarly, Najat Rochdi, director of the Information and Communications Technology for Development in the Arab Region program at the United Nations Development Program, 1 states that the Internet can be leveraged to expand women's leadership skills provided that "the culture of machismo in Muslim countries is also changed so that women are valued as clever and accomplished people in their own right outside the tutelage of a father or husband and not only as mothers and caretakers" (Rochdi, personal communication, 2003). The United Nations Development Program reinforced these views when in 2002 its Arab Human Development Report observed that failing to provide women with easy and equitable access to IT slows the development and progress of society as a whole. This same report ranked expanding women's access to information technology as the third most pressing concern women in the Arab world face, preceded only by domestic violence and poverty (UNDP, 2002).

In spite of rich rhetoric about the potential for ICTs to empower women that flows freely and frequently from regional leaders in politics and international development, very little evidence exists to warrant the hype. We know from the vast secondary literature on ICT and development that context plays a major role in shaping who can do what with IT, and with what results. For women in the Arab world, several obstacles stand in the way of their empowerment through ICT, including illiteracy, lack of access, prohibitive costs, IT knowledge, and lack of technical training. Additional barriers to their empowerment include powerful authoritarian states that curb the flow of online information (i.e., censorship) and restrict freedom of use (i.e., state cyberpolicing and persecution of individuals who use the Web in ways it finds threatening) in addition to issues of culture and women's honor, which can keep women from stepping outside conservative societal boundaries and norms (Wheeler, 2006).

This article presents evidence of how some Egyptian women are using the Internet to work around

potential obstacles to their own empowerment. The goal of this analysis is to show what Internetenabled empowerment looks like in the context of these women's lives. Using 25 interviews with female Internet café customers in Cairo, this article provides narratives through which we can understand how these women interpret the impact of the technology in their lives. The goal of this research is not to explain the IT experiences of all Arab women, nor even of most Egyptian women, but rather to focus on the Internet-enabled experiences of 25 Egyptian women living in Cairo. Although the data are limited, they are important, because this study makes a small contribution to the growing concern in the international development field with moving beyond measuring access to studying the use and impact of ICTs, especially in women's lives. (ITU, 2006).

Defining Empowerment

A community of interdisciplinary thinkers has probed the link between the Internet and empowerment, which has been broadly defined.² Empowerment can mean many different things. In its most basic form, empowerment can be understood as any process that enables "autonomy, self-direction, selfconfidence, [and] self worth" (Narayan, 2005, p. 3). Feminists have defined empowerment as "a process by which oppressed persons gain some control over their lives by taking part with others in development of activities and structures that allow people increased involvement in matters which affect them directly" (Bystydzienski, 1992, p. 3). Throughout this process, power is "seen as 'power to' or power as a competence which is generated and shared by the disenfranchised as they begin to shape the content and structure of their daily existence" (Bystydzienski, 1992, p. 3). Empowerment is sometimes a slippery concept, because it can be "fluid, often unpredictable, and requires attention to the specificities of time and place" (Parpart, Rai, & Staudt, 2002, p. 4). The following analysis provides insight on how ICTs can, in the words of the World Summit on Information Society Declaration of Principles, "improve the quality of life for all" (WSIS, 2003, p. 1). Furthermore, the interviews reveal subtle ways in which Egyptian society is changing, one Internet-enabled person at a time.

^{1.} See www.ictdar.org

^{2.} See, for example, Youngs (2002), Harcourt (1999), and Wheeler (2004).

The Internet and Women's Empowerment

The global spread of the Internet brought with it expectations for empowerment. It was presumed to help individuals become more autonomous and enable them to better shape their own lives in meaningful ways through networking, knowledge gathering, flexing their voices, becoming activists, and resisting the status quo.3 In terms of how these processes affect women's lives, Gillian Youngs (2002, p. 85) observes, "ICTs are multidimensional tools whose power rests largely in their capacities to link places and people, and we already have strong evidence that women can harness and exploit that power to their own purposes." When it comes to understanding women's relationships with IT in the Middle East and North Africa (MENA), however, the current state of scholarship and scant hard data leaves great room for improvement.⁴ Better data are still needed on women's access to the technology, and for those women with access, on how technology changes their lives if at all. Better data are needed on women's access to the Internet, because there seems to be a gap between the statistical and ethnographic approaches to researching women's Internet access. For example, the most often cited statistic estimates that between 4% and 6% of women in the MENA region are Internet users. This statistic was created in 1998 by a DITnet survey conducted for PC Middle East. In addition to being nine years old and out of date, it is also highly misleading. The reasons the statistic is misleading are twofold. First, more recent data suggest that women in the region have greater access to the Internet than previously assumed (ITU, 2004). For example, women constitute 40% of all Internet users in Tunisia, 38% in the United Arab Emirates, and 15% in Yemen. While the International Telecommunication Union (ITU) report does not provide specific figures for Egypt, regional trends illustrate an increasing role for women in the information society. A second reason the DITnet study needs revision is that by using less precise ethnographic methods, a much larger body of women seems to have Internet access. For example, set foot in any capital city in the MENA region, enter an Internet café or an office building, and one will find many women working with IT and the Internet. In 2001, at a regional meeting of the ITU held in Muscat, Oman, participants concluded that "Despite their significant role in ICT, women Internet users are under-represented in the region and their potential (e.g., for work by telecommuting from home) needs to be further developed" (ITU, 2001). The emerging results from the ITU suggest that regional progress is being made: women are being incorporated into Arab information societies, especially in Tunisia and the Emirates. The following study illustrates the results of growing Internet use and its impact on 25 Egyptian women's lives.

The State of the Internet, the State of Women in Egypt

Before we turn to an analysis of female Internet café users in Cairo, some background information about Egypt should be noted. The Internet became available in Egypt in 1993, the same year Turkey and the United Arab Emirates went online. In the early years, Internet diffusion was slowed by state concerns about losing an information monopoly, low public awareness and demand for the technology, the high cost of access, limited computing skills among the population, and sparseness of Arabic-language Web content (Wheeler, 2005).

Internet penetration in the Arab World is growing at one of the fastest rates on the planet. As shown in Table 1, Egypt had an Internet growth rate of 1,011.1% between 2000 and 2007. In spite of this rapid growth in Internet diffusion, Egypt still ranks among the bottom tier of countries for Internet penetration rates. For example, the West Bank, Tunisia, and Morocco have greater Internet penetration than Egypt. Only 6.9% of the Egyptian

^{3.} The link between the Internet and empowerment is most notable in John Perry Barlow's A Declaration of the Independence of Cyberspace, in which Barlow observes the following: "Cyberspace consists of transactions, relationships, and thought itself, arrayed like a standing wave in the web of our communications. Ours is a world that is both everywhere and nowhere, but it is not where bodies live. We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth. We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity." (Retrieved May 5, 2007, from http://homes.eff.org/?barlow/Declaration-Final.html)

^{4.} For examples of the small community of consultants and scholars attempting to bridge this gap see Huyer, Hafkin, Ertl, & Dryburgh (2005), esp. p. 11 which has some good data on women's Internet access in the UAE, Iran, Yemen, and Tunisia; Wheeler (2005), esp. ch. 9; and Nouraie-Simone (2005), esp. ch. 4.

Table 1 Internet Penetration in the Arab World, 2000-2007

Country	Estimated population in 2007	Internet users in 2000	Internet users in 2007	Population (penetration), %	Growth in Internet use 2000–2007, %
Bahrain	738,874	40,000	155,000	21	287.5
Iraq	27,162,627	12,500	36,000	.1	188
Jordan	5,375,307	127,300	629,500	11.7	294.5
Kuwait	2,730,603	150,000	7,000,000	25.6	366.7
Lebanon	4,556,561	300,000	700,000	15.4	133.3
Oman	2,452,234	90,000	285,000	11.6	216.7
Palestine (West Bank)	3,070,228	35,000	243,000	7.9	594.3
Qatar	824,355	30,000	219,000	26.6	630
Saudi Arabia	24,069,943	200,000	2,540,000	10.6	1,170
Syria	19,514,386	30,000	1,100,000	5.6	3,566.7
United Arab Emirates	3,981,978	735,000	1,397,2000	35.1	90.1
Yemen	21,306,342	15,000	220,000	1.0	1,366.7
Algeria	33,506,567	50,000	1,920,000	5.7	3,740
Egypt	72,478,498	450,000	5,000,000	6.9	1,011.1
Libya	6,293,910	10,000	205,000	3.3	1,950
Morocco	30,534,870	100,000	4,600,000	15.1	4,500
Tunisia	10,342,253	100,000	953,000	9.2	853.8
Total	268,939,536	2,474,800	39,777,500	15.7	1,500

Note. From Internet World Stats. Retrieved January 2008, from www.internetworldstats.com Copyright 2000–2008 by the Miniwatts Marketing Group. Reprinted/adapted with permission of the author.

population has Internet access, which ranks the country 12th in the region. Only Yemen, Iraq, Syria, Libya, and Algeria have lower Internet penetration rates for the Arab world. Egypt's authoritarianism and the fact that 55% of its 72 million residents live in rural areas, where Internet penetration has lagged, help to explain slow diffusion rates in the country (*Wanted in Africa*, 2007). Egypt is also a relatively poor country. It ranks 13th out of the 17 countries listed in Table 2 for per capita income. Per capita income in Egypt (2007 estimated purchasing power parity) is \$4,200. Only Yemen (\$900), Syria (\$4,000), Palestine (\$1,500), and Iraq (\$2,900) are poorer.

Literacy, or lack thereof, is also a contributing factor. Egypt has one of the worst literacy rates in the Arab World; 68.3% of men and 46.9% of women older than 15 are able to read or write (i.e., less than half of all Egyptian women are able to read and write) (Table 3). Only Iraq (55.9% of men and 24.4% of women) and Morocco (64.9% of men and 39.4% women) have worse literacy rates. The analysis below already excludes more than half

of the female population of Egypt, because it does not make sense to ask how IT can empower women if a woman cannot read and write.

In addition to illiteracy, a recent article in Al-Ahram Weekly claimed that in Egypt, "gender equality and women's empowerment are up against several obstacles—legal, economic and socio/ cultural" (Khafagy, 2006, p. 1). Substantiating these challenges, a World Economic Forum study of the gender gap worldwide found through an analysis of 58 countries that Egypt had the worst gender gap of all countries surveyed. Countries were ranked on various terms, including equal pay and access to jobs, representation in decision-making structures, equal access to education, and access to reproductive health care (BBC News, 2005). In 2003, a study of human development indicators in Egypt found that women constituted a mere 2.4% of members of Parliament, 10% of upper level management, and only 29% of the total professional and technical labor force. The estimated ratio of female to male earned income was 0.39. On a more positive note, women in Egypt have been able to vote or run for

Table 2 Per Capita Income in the Arab World, 2006–2007

Country	Per Capita Income (2006–2007), 9
Bahrain	25,300
Iraq	2,900
Jordan	4,900
Kuwait	21,600
Lebanon	5,500
Oman	14,100
Palestine (West Bank)	1,500
Qatar	29,400
Saudi Arabia	13,800
Syria	4,000
United Arab Emirates	49,700
Yemen	900
Algeria	7,700
Egypt	4,200
Libya	12,700
Morocco	4,400
Tunisia	8,600

Note. From CIA World Fact Book, 2007. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/index.html

public office since 1956. Women hold 6% of all ministerial level jobs (UNDP, 2003). At the seventh conference of the National Council for Women, Suzanne Mubarak gave a speech entitled, "What Women Need," in which the idea of "empowerment" figured prominently. Empowerment was best facilitated, she contended, by ending illiteracy, increasing women's access to the labor market, enhancing political participation, and promoting IT awareness.

Methodology

The data for this study were collected in the spring and summer of 2004. Cairo was selected as a field site because 25% of the Egyptian population lives in this location, in which it is estimated there are more than 18 million residents. Recent pro-democracy protests in the city symbolize what a group of "post-positivist" scholars calling themselves "the Cairo School" call "an emancipatory counter-ethic beyond the limits of nationalism, fear, and narrow

identity politics" (Singerman & Amar, 2006, p. 4). For these scholars, Cairo is "a critical site for action and inquiry" (Singerman & Amar, 2006, p. 4). This study of women and the Internet in Cairo roots itself within this context of activism by asking whether or not enhanced abilities to communicate, relatively anonymously, make a difference (politically or otherwise) in the lives of 25 women. The difficulties of conducting ethnographic research in the Middle East, especially in a country like Egypt, where formal surveying of large population samples can only be done with state permission, are evident in this analysis. To overcome state regulations of survey research, a small, informal ethnographic approach was taken. Ethnographic strategies provide a more in-depth view of a few subjects and help to define issues and patterns that deserve further analysis. Moreover, an ethnographic approach was selected to allow the subjects to define the meaning and implication of Internet use in their lives. While the data examined in this study are not a representative sample of Egyptian women who use the Internet, this small sample does enable us to, in the words of one scholar endorsing the use of such methods in Egypt, "specify the nature of the linkages between initial conditions and outcomes with greater precision than is possible in large-n, quantitative studies" (Wickham, 2002, p. 20). In her study of Islamist mobilization in Eygpt, Wickham effectively employs a similar methodology to cope with an equally sensitive subject and finds that "openended interviewing and participant observation" allow her study to "explore the micro-dynamics of Islamic mobilization in settings on the periphery of the formal political system" (p. 20). In the same way, this study uses a small sample of female Internet café users in Cairo to see how the Internet enables (if at all) micro-processes of empowerment in their everyday lives. In this study, empowerment is considered to be any process that increases women's autonomy, voice, confidence, knowledge, well-being, civic engagement, or agency.

Data were gathered in spring of 2004 by a Jordanian research assistant who asked each of the 25 participants a series of 28 questions (see Appendix 1). The interviews were conducted in Arabic. The research assistant was Muslim, female, and a former resident of Cairo. The interviews took place in five Internet cafés in the following neighborhoods: Mohandiseen, Dokki, Zamalek, Garden City, and

Table 3. Communications and Literacy Indicators in the Arab World, 2002

Country	Daily newspapers per 1,000 people	Households with TV, %	PCs per 1,000 people	Literacy rate (read and write) of men older than 15, %	Literacy rate (read and write) of women older than 15, %
Bahrain	_	_	_	91.9	85
Iraq	_	_	8	84	64
Jordan	74	97	55	95.9	86.3
Kuwait	_	95	183	85.1	81.7
Lebanon	63	93	113	93.1	82.2
Oman	_	79	47	83.1	67.2
Palestine (West Bank)	_	94	48	96.3	87.4
Qatar	_	_	_	89.1	88.6
Saudi Arabia	_	99	354	84.7	70.8
Syria	_	80	32	89.7	64
United Arab Emirates	_	86	116	76.1	81.7
Yemen	_	43	15	70.5	30
Algeria	27	98	9	78.8	61
Egypt	31	95	32	68.3	46.9
Libya	14	_	24	92.4	72
Morocco	29	76	21	64.9	39.4
Tunisia	19	90	48	83.4	65.3

Note. Dashes indicate that the data were not available. Data are from the World Bank and UNESCO.

Downtown Cairo. The responses suggest that Internet-based forms of empowerment take place within individually defined structures of power and capability that govern individual women's lives. For this reason, a constructivist approach to information technology is used.⁵ Using open-ended interview questions such as "Has the Internet changed your life, and if so, how?," the analysis is informed by the ways in which Egyptian women define the meaning and terms of their Internet use. Moreover, by considering participant narratives in light of individual social and demographic circumstances, we can grasp the context of empowerment. The interview questions yielded the following important social and demographic information about the participants: their number of siblings; whether their parents used the Internet; their level of education; whether or not they were employed; whether they were comfortable using English; whether they received any IT training in school or on the job; whether they owned a mobile telephone; or

whether they had access to the Internet at home, school, or work.

This study was able to isolate the following three ways in which technology matters in Egyptian women's lives:

- 1. Increases information access and professional development;
- 2. Expands or maintains social networks and social capital; and
- 3. Transforms social and political awareness.

While Internet-enabled transformations clearly make a difference in these 25 women's lives, such localized forms of empowerment "do not automatically and immediately overturn the state and corporate based power that holds sway" (not to mention the power structures of family and community) over their lives (Youngs, 2002, p. 77). Where these processes of change in 25 Egyptian women's lives, and how these women's Internet practices, relate to the broader community of which they are a part remain

^{5.} See for example Bijker, Hughes, & Pinch (1989); Pinch (1996); and Latour (2005).

a question for further research. The small sample size of this study makes generalization difficult at this stage, but it nonetheless brings to light initial evidence of the ways in which ICTs matter in some Egyptian women's lives.

The analysis in the following pages is part of a larger study of Internet café use in the Arab world. The complete study includes 250 interviews with male and female Internet café users in Jordan and Egypt. Fifty interviews (25 with women, 25 with men) were conducted in Cairo and 200 interviews (100 with women, 100 with men) were conducted in Jordan. In addition, 25 Internet café managers were interviewed, including five in Cairo and 20 in Amman. Despite the difference in the number of people interviewed, the different field sites, and the different sexes, striking patterns emerged from these interviews. They are the subject of a booklength project that looks at the broader meaning of the information revolution in the Arab world.

Results

As illustrated in Appendix 2, most of the women Internet café users selected for this study were active Internet users (the interviews indicated that they used the Internet an average of 9.8 hours per week). On average, the 25 interviewees had been Internet users for nearly 3 years. Through the interviews, we were able to determine the informational lives of the participants, and through their own words, hear why and how technology empowered them. The changes emerging in Internet cafés in these women's lives provided a small-scale view of the Internet's potential to empower women one person at a time. To illuminate this process, in the participants' own words, we analyze a selection of narratives in light of key factors shaping the participants' use of technology and its impact, including number of years online, age, employment, and marital status.

Number of Years Online

On average, the women interviewed for this study had been Internet users for 2.8 years.

One participant had been a netizen for 10 years. She was 45, had a BS degree, and was Muslim. She was a widow and lived in Mohandiseen. She only had Internet access at a café and used the Internet for approximately 6 hours per week. She was taught to use the Internet by her brother and used it for

e-mail, chatting, health-related concerns, and work. Although she received IT training on the job, she did not have regular Internet access at work. She was comfortable using English and in fact preferred surfing English-language Web sites (a trait that made her narrative unique). She had never taught anyone else to use the Internet, read a daily newspaper, and had not met friends online. She only chatted with her sons who were living abroad.

This woman's narrative revealed that she was not typical compared with the others interviewed. First. as was previously mentioned, she had been a netizen for longer than any other participant. Moreover, she was older than most female Internet café users in Egypt profiled here (the average age of the participants was 25). She had more education than most users. Only 7 out of the 25 participants had completed a university degree. It was also possible to infer that her socioeconomic status was more than likely above average given her long-term Internet use, her high education level and fluency in English, and her address (i.e., she lived in Mohandiseen, an upscale neighborhood in Cairo). The fact that she had sons living abroad also added a level of cosmopolitanism to her profile. She was also atypical in that she was only one of four people interviewed who had never met a friend online. The interview data suggested that women older than 40 tend not to look for friends online but rather tend to chat with relatives living and traveling abroad. In fact, their Internet use is often explained in terms of the technology's affordability and access to relatives it provides. This perspective is illustrated in the following narrative by this participant:

The Internet has definitely changed my life. It made contact with my children abroad a lot easier and cheaper. We are closer now because of the Internet. International phone calls are a back breaker and are not financially feasible for long conversations. The Net is a great way of communication and a source very useful for things related to my work. (Interview, Cairo Internet café, June 2004)

Her marital status as a widow also shaped her Internet practices. Younger single or divorced women, both Muslim and Christian, often chat online with members of the opposite sex. It is interesting to note that the widow used the Internet for work-related pursuits but did not have access to the

Internet on the job. This information suggested that she was a middle- to lower-range employee on the work status hierarchy.

One study (Mintz, 1998) of information culture in Egypt illustrated four examples in which Internet access was monitored and controlled by upper-level management. He observed:

In one instance, the owner of a business introduced the Internet but noticed that he was unable to control and monitor all communications. As a result, he discontinued Internet service and went back to a fax system where he could read all incoming and outgoing messages before his staff did. In another situation, a visit was made to a large government ministry which had 30 computers wired into the Internet. However, only six ministry officials were given written permission, from a high level manager, to use the Internet. In a third case, the principal of a school keeps the computer wired to the Internet locked in his office and therefore inaccessible to students. In a fourth case, the one computer wired to the Internet in a business association is located in the manager's office, so he can supervise anyone that wants to go online. (p. 30)

Perhaps this evidence of hierarchical information environments in Egypt, although dated, can shed light on why a 45-year-old woman would go to an Internet café to do research for work when she received computer training on the job and also needs access to the technology to do her job. Her report that she did not have access at work could parallel the more authoritarian information environments in Egypt noted by Mintz.

Aae

The average age of an Internet café user interviewed for this article was 25. The youngest woman interviewed was 17, and the oldest woman interviewed was 48. Six out of 25 of those interviewed were 17 years old, which was the highest concentration of any age group.

The woman who was 48 was unique because she was the oldest study participant. What characterized her use patterns, and did her experiences mirror in any way the 45-year-old widow? The first similarity was that she also had a university degree—rather than a BS, this woman had a BA. In contrast, however, the 48-year-old woman had only been an Internet user for 2 years, not 10. Rather than having been taught to use the Internet by her

brother, this woman was taught by her daughter still, both women were taught to use the Internet by a family member. In this study, 10 of the 25 interviewed were taught to use the Internet by a family member. Ten others were taught by friends. Only 5 out of 25 received their Internet knowledge from work, colleagues, or a computer training center. Instead of spending 6 hours a week online, as was the case with the 45-year-old, this woman used the Internet café for an average of 4 hours per week. (The average for the interview group as a whole was 9.8.) Compared with the rest of those interviewed, the only activity she did online was chatting; she was the only participant who listed chatting as her sole online activity. Most people interviewed performed various online activities. Similarly, she had never taught anyone else to use the Internet, read a daily newspaper like her 45-year-old counterpart, and also had never met anyone online—rather, she chatted with her daughter, who was abroad. In contrast with the 45-year-old, however, the 48- year-old Internet café user was a housewife and not employed. This woman lived in Zamalek, a relatively upscale neighborhood in Cairo, thus placing her in the middle- to upper-status brackets of Egyptian society. She was, however, not high enough on the status hierarchy to have Internet access at home, suggesting that she was more than likely middle class. She was comfortable using English, which again indicated that she was of middle- to upper-class status. The fact that she had a daughter studying abroad also placed her among the more cosmopolitan class. Her narrative resonates with that of her 45-year-old counterpart. She observed the following about how the Internet had changed her life:

My daughter is studying abroad and I can't keep making international calls. It costs a fortune, but through the Internet I do talk to her more often and hear her voice more often. I am glad that it occurred to her that we do this. (Interview, Cairo Internet café, May, 2004)

If 17 was the most common age for those interviewed, what characteristics and patterns were present in their profiles and Internet use? In addition to being the same age, all of these users were high school students. These students spent from 6 to 18 hours per week online in an Internet café. All six of the 17-year-old participants were Muslim and single. All of the 17-year-olds interviewed only had Internet

access at a café, not at home or school. All of these young women were taught to use the Internet by a friend or family member in an Internet café. Five of the 17-year-olds had taught someone else (including friends and family members) to use the Internet. All of the 17-year-olds interviewed read a daily newspaper and had met someone online; five of the 17year-olds had met men online. This result raises questions about the ways in which the Internet interrupts customary relations between genders, which stress the importance of keeping men and women separate outside of the household and family network. Four of the 17-year-olds owned a mobile phone and sent an average of 18 text messages per day. This result, in addition to the fact that they read a daily newspaper and spent an average of 10.3 hours per week in an Internet café, suggests that the 17-year-old Internet café users profiled were information savvy. All six 17-year-olds used the Internet for e-mail: all of them chatted: five used the Internet for their studies: three used the Internet for access and information about music (music downloads are illegal in Egypt); two used the Internet to get advice; one used the Internet for health-related concerns; and one used the Internet for sports information. Only one of the 17-year-old women profiled stated that she was not comfortable surfing in English. The rest of those interviewed either surfed in English or both Arabic and English. Three of the 17year-olds came from households where neither parent used the Internet, two had fathers who used the Internet, and only one had a mother who used the Internet. None of the 17-year-olds had a job in addition to being a high school student. Only one of the 17-year-olds went to Internet cafés alone. The other five usually visited Internet cafés with someone.

Perhaps the most interesting data yielded by the interviews with six 17-year-old female Internet café users were the narratives regarding the ways in which the technology transformed their lives. For example, a 17-year-old who used the Internet about 6 hours a week, typically went to cafés with her sister, and lived in Mohandiseen observed the following:

The Internet has helped me greatly with my studies and for school reports and papers that teachers ask for. It is fun and I got to know many people and made many new friendships. I have friendships here in Cairo, but through the Internet I got to know people outside of Egypt. I know how they live and think and we discuss many is-

sues. I also came across nice, educated men here in Egypt and I have met some in real life. The Internet is a great way to get information, a great way to communicate, and it is entertaining. (Interview, Cairo Internet café, May 2004)

The themes expressed by that participant resonated with another 17-year-old participant. She also lived in Mohandiseen, typically went to Internet cafés with someone, and spent on average 15 hours per week in an Internet café. She offered the following observations:

The Internet is very useful when I need information for school tasks and reports. It saves me time and money because with the tool I do not have to get books and information from other sources. I enjoy my time surfing and chatting and sending jokes, cards and e-mails to friends I made online. It is very entertaining, especially since we don't have much of a chance to travel to other countries like the people that come here—tourists. (Interview, Cairo Internet café, May 2004)

Once again reinforcing the theme of virtual travel and civic engagement online, a 17-year-old female Mohandiseen resident, who typically went to Internet cafés alone and spent on average 18 hours per week online, offered the following statement:

I enjoy my time surfing and chatting. I made friends in the Gulf, Syria, and some foreign friendships with people in Spain and Greece. I enjoy discussing cultural things and our differences. I realized that our cultural differences are much more significant than I realized in the past. I hope one day to be able to travel and see how others live. Their society seems different and they have much more freedom and choice than we do in Egypt. I also use the Net for my school work and research papers. I find all the info I need and it makes it easier for me to finish my papers and tasks quickly. I also get all the information I need about the novels I would like to read much more easily on the net. (Interview, Cairo Internet café, May 2004)

A 17-year-old Muslim female who lived in Dokki and spent on average 7 hours per week online chatting, e-mailing, getting advice, and researching in addition to meeting members of the opposite sex online observed the following:

The Internet has helped me with my school work and reports. I find all the information I need online, better than searching for books everywhere

which even might not give me all the needed information. I enjoy chatting and knowing people all around, especially foreigners who live in Egypt and speak some Arabic. I am trying to improve my English language and they help me. (Interview, Cairo Internet café, May 2004)

Once again highlighting the sense that there are freedoms online that go beyond the practice of routine interactions offline, a 17-year-old female from Zamalek who spent approximately 10 hours per week online said the following:

The Net is an open gate for personal freedom and self expression. I enjoy chatting and making new female friendships. It's also useful for my school work and reports. Sometimes people around me find me too open-minded and not conservative enough. On the Net, I only chat with girls that I think are like me, no boundaries, free spirits. (Interview, Cairo Internet café, May 2004)

A 17-year-old Muslim female who lived in Dokki, spent 6 hours per week online, was taught to use the Internet by her mother, noted that she liked to use the Internet to get advice about relationships, and had made friendships with men online (and subsequently met them in real life) noted the following:

Surfing the Net is a fun activity and so useful, especially for my school work. It has everything about everything and everybody available very quickly. I made new friendships online. It's a great way for communicating with people and friends all around the world. I enjoy learning new things and getting to know about other cultures, countries, and societies. (Interview, Cairo Internet café, June 2004)

The resonance of these narratives is stark. We can conclude that the 17-year-old women interviewed for this study were drawn to the Internet because it aided in their studies, gave them access to world cultures and identities, and because it enabled them to more comfortably engage those who were different than they were—both geographically and gender-wise. One young woman strategically used the technology to improve her English. Another was drawn by the technology's ability to enable her to find like-minded individuals—to paraphrase her, "those who are open, free, and are willing to communicate and interact free from boundaries." Because several of these young women spent nearly

20 hours per week online, it was clear that the Internet was a significant part of their everyday lives.

Will these tastes of boundary-breaking freedom result in significant differences in how these young women, and others like them, live their lives? How representative are the young women profiled in this study of the rest of the 17-year-old women living in Egypt? Do most of them have Internet access? Do they find the technology equally empowering? Will Internet access make women more demanding or give them increased agency? We received significant hints about answers to these questions from the narratives above. For example, one woman's observation that her conversations with people in Europe revealed that "their society seems different and they have much more freedom and choice than we do in Egypt," suggested a kind of political and social awakening. This same kind of awakening was evident in the observation by another of the young women that "the Net is an open gate for personal freedom and self expression." Also expressed in these narratives was a collective sense that the Internet saved time and money in addition to providing instant access to information. Much of this information, in their judgment, was of better quality and availability than what they found in books or other sources. A celebration of efficiency and instant information access, both represented significant changes from cultural norms in which information is associated with power and kept concentrated in the hands of the few (at least in ideal circumstances) and the pace of life is slower. As one recent article about conducting fieldwork in the Middle East observed, "everything takes longer than you think" (Clark, 2006). These narratives revealed the ways in which those young women's lives are transformed by technology. Given the small sample size, no matter how revealing these results may be, it is difficult to generalize from the data. The missing element in this analysis is a sense of critical mass. How widespread are 17-year-old female Internet users in Egypt, and how many of their experiences mimic those profiled above? These questions will remain issues for future research.

Employment

Nine of the 25 women interviewed for this study were employed. Seven were high school students (including the six 17-year-olds and one 18-year-old). Seven were university students. One was a house-

wife. One is a community-college student. Interestingly, none of the women stated that they were unemployed. This is interesting, because among men and women in Jordan and among the men interviewed in Egypt (25 from 16 to 45 years old), unemployment was relatively common. Two of the 25 women interviewed in Egypt listed their professions—one was a secretary, and one was a business owner. Both of these women stated that the Internet helped them with their jobs. For example, the secretary (who was divorced) used the Internet 20 hours per week on average, received her computer training through a course at an IT center, read a daily newspaper, and was not comfortable using English (she surfed the Net in Arabic only) observed, "The Internet helps me apply for jobs. I am not comfortable where I work. I don't like the office environment." The business owner, who was 33, was a Christian, had a BS, read a daily newspaper, was comfortable using both English and Arabic, and was taught to use the Internet by her husband observed the following:

Of course the Internet has changed my life. I believe it changes many people's lives, socially, business-wise, mentally. It's a great source for educating people. It added to my knowledge in business, and it's a great way to make business contacts and to stay in touch with them. It's a means to fast correspondence, and it has great reliability. The Internet has all kinds of information about any topic, especially feminine topics and female health problems and well-being. (Interview, Cairo Internet café, June 2004)

In other interviews it has been noted that some "female issues" are ones that are too sensitive and culturally difficult to discuss in face-to-face conversations, even with friends, family members, or a physician. The Internet provides an avenue to information on these sensitive topics so women can get the help they need without paying the high social costs of disclosure. The Internet is also a tool used by both men and women in the region to find new jobs. ⁶

Marital Status

Most of the female Internet users interviewed for this study were single (17 out of 25). One was widowed and two were married. The second largest categories were engaged and divorced, both with three each. Two of the three divorced women were in their thirties, and the third was 26 years old. All three of these women indicated that the Internet provided a support network while they worked through the challenges of divorce. For example, one participant, who used the Internet approximately 6 hours per week, was 31, had a BA, was employed, read a daily newspaper, and surfed the Internet in Arabic only, offered the following response when asked if the Internet had changed her life:

Yes, greatly, it helped me for information concerning my marital status and problems. Also, I get information related to my work, but mainly chat helped me a lot in taking things easy. I get support and advice from women in other countries who went through separation and divorce. This means a lot to me, especially because this is a very sensitive issue in the Arab world and in Egypt in particular. I cannot discuss my private problems with family and even with friends who know me and my husband. Some things are very private, but talking about it with women on the Net helped me a lot and some of these women became my best friends and I hope that one day we can meet. (Interview, Cairo Internet café, May 2004)

Ironically, this woman was taught to use the Internet by her husband. Perhaps he had no idea that she would find a global support network and encouragement to aid in her divorce, which still is not culturally acceptable in Egypt. Two other women interviewed for this study were also divorced. Both of these women noted that the Internet allowed them to find new relationships online (and subsequently offline), which eased their loneliness and isolation. One of these women was 26, had a high school diploma, was taught to use the Internet by her cousin, read a daily newspaper, was not comfortable using English-language Web sites, surfed only in Arabic, and spent on average 20 hours a week in an Internet café (and usually went to those cafés alone) noted that on the Internet "I made new friendships and met new guys even in person." She explained in the interview that of those men she met online, "some were living here (in Egypt) and some were in the Gulf, but came to Egypt to meet

^{6.} Web sites such as www.Bayt.com and www.careerEgypt.com are just two of the many examples of job networking sites.

me." The other divorced woman, who also had only a high school diploma, was 33, learned to use the Internet at a computer center, was employed, and surfed the Internet only in Arabic for about 8 hours a week stated the following:

The Internet has significantly changed my life. It gives me something to do, and fills my free time, when I am not working or taking care of my kids, with fun and relaxation. I enjoy chatting with people and getting to know new people to expand my social circle. Now I am dating an Egyptian man I met on the Net and hopefully something serious will develop out of it. He accepted me and my circumstances [as a divorced woman] before we met in person. (Interview, Cairo Internet café, June 2004)

High social costs discourage Arab women from divorcing. For example, many men and their immediate families will not consider divorced women as acceptable marital partners. There are shame networks which often keep women from seeking such a change. In many Arab countries it is not legal for a woman to initiate a divorce. In Egypt, legislation enacted in 2000 made it legally possible for women to initiate a divorce, but the social stigmas for doing so are still high, and women have to be financially independent and able to support themselves and their children to pursue such a change. As the woman profiled above observed, the Internet can interrupt such processes of social isolation. She found a man who knew about this "blemish" and still accepted her. The notion that she is expanding her social circle is likewise a form of empowerment.

Conclusion: Types of Transformations and Their Implications

As I have discussed, in general, Internet-stimulated empowerment falls into the following three main categories:

- 1. Increasing information access and professional development;
- 2. Expanding or maintaining social networks and social capital; and
- 3. Transformations of social and political awareness.

The narratives of the 25 women in this study exhibit all of these changes. We observe the first cate-

gory of empowerment when a woman uses the Internet to improve her English, find a better job, or expand her business. We observe the second category of empowerment when a divorced woman expands her social circle to find men to date who will accept her in spite of her divorce. We also observe the second category of empowerment when women use the Internet to stay in touch with friends and family members. The third category of empowerment is the most subtle, but we see new forms of political and social awareness when women come to expect information on demand in addition to experiencing new forms of awareness by interacting across gender lines, national borders, and cultures. This new consciousness was expressed poignantly by the woman who discussed political and social issues with foreigners and learned that foreigners' societies seem to be freer and more open. Most revealing, however, was the narrative of the woman who used the Internet to find open minded and transparent forms of interaction through which she could counteract her society's conservatism. Overall, these narratives, and the broader interview results that they represent, suggest the subtle ways in which Egyptian society is changing, one Internet-enabled person at a time. The results of this study suggest that the Internet, if it does empower, does so through the small windows of opportunity created by the technology and its users as they work in tandem or isolation to subvert norms and social orders. Until a critical mass of people has access to Internet technology and uses the tool to interrupt existing power relations, empowerment will remain contextualized in everyday life—in this case, in the lives of 25 women living in Cairo. ■

References

- Barlow, J. P. (1996). A declaration of the independence of cyberspace. Retrieved May 5, 2007, from http://homes.eff.org/?barlow/Declaration-Final.html
- Barney, D. (2000). *Prometheus wired: The hope for democracy in the age of network technology.*Chicago: University of Chicago Press.
- BBC News. (2005). Gender gap is biggest in Egypt. Retrieved May 16, 2007, from http://news.bbc.co.uk/go/pr/fr/-/hi/business/4550789.stm

- Bijker, W. E., Hughes, T. P. & Pinch, T. (Eds.). (1989). The social construction of technological systems. Cambridge, MA: The MIT Press.
- Bystydzienski, J. M. (1992). Introduction. In J. M. Bystydzienski (Ed.), Women transforming politics: Worldwide strategies for empowerment. Bloomington, IN: Indiana University Press.
- Clark, J. (2006). Field research methods in the Middle East. *PS: Political Science and Politics*, XXXIX(3), p. 417–424.
- Egypt's new population figures released. Retrieved May 6, 2007, from Wanted in Africa Web site: http://cairo.wantedinafrica.com/news/news.php?id_n=2983
- Harcourt, W. (1997). *An international annotated guide to women working on the net.* Rome: UNESCO/Society for International Development.
- Harcourt, W. (Ed.). (1999). Women. London: Zed Books.
- Huyer, S., Halfkin, N., Ertl, H., & Dryburgh, H. (2005). *The digital divide to digital opportunities: Women in the information society.* Quebec, Canada: Orbicom/Claude-Yves Charron.
- International Telecommunication Union (ITU). (2001, May 28–30). Conclusions: Arab Region Internet & Telecom Summit. Paper presented at the International Telecommunication Union meeting, Muscat, Oman. Retrieved May 6, 2007, from http://www.itu.int/arabinternet2001/conclusions.html
- International Telecommunication Union (ITU). (2004). World telecommunications indicators. Cited in Huyer, Hafkin, Ertl, and Dryburgh. (2005). From the Digital Divide to Digital Opportunities: Women in the Information Society (Quebec: Orbicom/Claude-Yeves Charron), p. 11.
- International Telecommunication Union. (2006).

 World telecommunications/ICT development report: "Measuring ICT for social and economic development—executive summary." Retrieved October 15, 2007, from http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-WTDR-2006-SUM-PDF-E.pdf
- Khafagy, F. (2006). Empowerment: A battle for both men and women. *Al-Ahram Weekly*. Retrieved

- from http://weekly.ahram.org.eg/2006/780/sc4.htm
- Latour, B. (2005). *Reassembling the social: An introduction to Actor-Network-Theory.* Oxford: Oxford University Press.
- Mintz, S. (1998). *The Internet as a tool for Egypt's economic growth*. Burke, VA: International Development Professionals, Inc.
- Narayan, D. (2005). Conceptual framework and methodological challenges. In D. Narayan (Ed.), *Measuring empowerment: Cross-disciplinary perspectives.* Washington, DC: The World Bank.
- Nouraie-Simone, F. (2005). Wings of freedom: Iranian women, identity, and cyberspace. In F. Nouraie-Simone (Ed.), *On shifting ground: Muslim women in the global era*. New York: Feminist Press, City University of New York.
- Parpart, J. L., Rai, S. M., & Staudt, K. (Eds.). (2002). Rethinking empowerment: Gender and development in a global/local world. London: Routledge.
- Pinch, T. J. (1996). The social construction of technology: A review. In R. Fox (Ed.), *Technological change: Methods and themes in the history of technology* (pp. 17–35). Amsterdam: Harwood Academic Publishers.
- PS: Political Science and Politics, (2006) "Symposium—The Methodologies of Field Research in the Middle East," with contributions by S. Carapicio, J. A. Clark, A. Jamal, D. Romano, J. Schwedler, and M. Tessler, July, No. 3, (Washington: DC, APSA), pp. 417–442.
- Rania, Queen of Jordan. (2007). To all the friends and participants in Imagining Ourselves. Retrieved April 29, 2007, from Imagining Ourselves: A Global Generation of Women Web site: http://imaginingourselves.imow.org/pb/Story.aspx?id=639&lang=1&g=0
- Rochdi, N. (2003). Cultural boundaries and cyberspace. *Women's Wire*. Retrieved May 5, 2007, from http://www.womenswire.net/opinion.htm
- Singerman, D., & Amar, P. (2006). Introduction: Contesting myths, critiquing cosmopolitanism, and creating the new Cairo School of Urban Studies. In D. Singerman & P. Amar (Eds.), *Cairo cosmo-*

- politan: Politics, culture and urban space in the new globalized Middle East (pp. 3–43). New York: American University in Cairo Press.
- Tessler, M., Nachtway, J., & Banda, A. (Eds.). (1999). Area studies and social science: Strategies for understanding Middle East politics. Bloomington, IN: Indiana University Press.
- Tessler, M., Palmer, M., Farah, T. E., & Ibrahim, B. L. (1987). *The evaluation and application of survey research in the Arab world.* Boulder, CO: Westview.
- United Nations Development Program (UNDP). (2002). *Arab human development report.* New York: Oxford University Press.
- United Nations Development Program (UNDP). (2003). Human development report: Human development indicators, Egypt, 2003. Retrieved May 6, 2007, from http://hdr.undp.org/reports/global/2003/indicator/cty_f_EGY.html
- Wheeler, D. (2004). Blessings and curses: Women and the Internet revolution in the Arab world. In N. Sakr (Ed.), Women and the media in the Middle East: Power through self expression (pp. 138–161). London: IB Tauris.

- Wheeler, D. (2005). Digital governance and democratization in the Arab world. In A-V. Anttiroiko & M. Malkia (Eds.), *Encyclopedia of digital government* (pp. 1–12). Hershey, PA: IGI Global.
- Wheeler, D. (2006). Gender sensitivity and the drive for IT: Lessons from the Netcorps Jordan project. *Ethics and Information Technology,* 8, p. 131– 142.
- Wheeler, D. L. (Under contract). *Information (without) revolution in the Arab world.* Boulder, CO: Lynne Rienner Press.
- Wickham, C. R. (2002). *Mobilizing Islam: Religion, activism, and political change in Egypt.* New York: Columbia University Press.
- WSIS. (2003). World Summit on the Information Society declaration of principles. (Document No. WSIS-03/GENEVA/DOC/4-E). Retrieved October 20, 2007, from http://www.itu.int/wsis/docs/geneva/official/dop.html
- Youngs, G. (2002). Feminizing cyberspace:
 Rethinking techno-agency. In J. L. Parpart,
 S. M. Rai, & K. Staudt (Eds.), Rethinking empowerment: Gender and development in a global/local world (pp. 79–94). London: Routledge.

Appendix 1 The Interview Questions

- 1. Sex?
- 2. Age?
- 3. Religion?
- 4. Married or single?
- 5. Highest level of education obtained?
- 6. Age when started using the Internet?
- 7. Who taught you to use the Internet?
- 8. Have you ever taught anyone to use the Internet?
- 9. Do you have Internet access at:

Home?

Work?

School/university?

- 10. Neighborhood where you live?
- 11. Are you employed?
- 12. Number of hours of Internet use per week?
- 13. Do you usually come to cafés alone or with someone?
- 14. What do you use the Internet for?

E-mail

Chatting

Gaming

Health-related concerns

To get advice

Religious purposes

Music downloads

News sites

For study/research

For work/business

For shopping

Sports

- 15. Has the Internet changed your life? If so, how?
- 16. Did you receive computer training at school, university, or on the job?
- 17. Do you read a daily newspaper?
- 18. Are you comfortable using English?
- 19. Do you prefer to visit Web sites in Arabic or English?
- 20. Do your mom or/and dad use the Internet?
- 21. What are your favorite Web sites?
- 22. How many brothers and sisters do you have?
- 23. Do you have a favorite chat room?
- 24. Have you ever made a friend online?
- 25. Were they your same sex?
- 26. Did you ever meet them in person?
- 27. Do you own a mobile phone?
- 28. About how many text messages do you send per day?

Appendix 2 Overview of Select Interview Results of 25 Women Internet Café Users in Cairo

1 30 3 6 Employed Vork Y Arabic S 2 1 2 20 Employed Cosin N Arabic S 4 33 5 1 Employed Cosin N Both S 5 2 1 2 10 Student Friends N Both S 6 2 1 2 10 Student Friends N Arabic N 10 2 1 4 Student Friend N Arabic N 11 1 2 10 Student Friend N Arabic S 14 1 4 Student Friends N Arabic S 14 1 5 1 Student Friends N Arabic S 14 1 5 1 Student Friends N	Interview#	Age	# yrs. online	Avg. # hrs. online per wk.	Employment status	Taught to use the Internet by whom?	Have you taught others to use the Internet?	Surf the Internet in English, Arabic, or both?	Marital status
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21 3 20 Student University Y	24	17	2	9	Student	Sister	>	Both	S
	25	21	m	20	Student	University	>-	English	S

Note. Y indicates yes, N indicates no, S indicates single, D indicates divorced, M indicates married, E indicates engaged, and W indicates widowed.