

Development of *Cybermoms*¹: A Computer-mediated Peer Support Group to Address the Needs of Young Mothers

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Abstract

This article presents findings from a three-year demonstration project in Sudbury, Ontario that used Internet-based technologies combined with other program elements to support teen mothers through the establishment of a computer-mediated peer support group. Based on an analysis of survey data and qualitative data from online chat messages, we conclude that most participants of the *Cybermoms* program gained some benefit from access to computers and the Internet, particularly in terms of online peer support. While online participation cannot immediately change life circumstances related to poverty, interactions within the program, such as the real time chat sessions with social service providers and decision-makers supported the young women in transcending some of the limitations and boundaries of their lives. Sharing experiences and knowledge helped young women to deal with the challenges of parenting and to navigate through the requirements of oppressive service systems. Other benefits of ICT technologies included schooling, labour market transitioning, and life skills that arose from interacting with others and learning ICT.

Introduction

Targeting teen mothers (and single mothers more generally) as scapegoats in the battle against the rising costs of social programs was popular in Canada and the United States during the 1990s (Kelly, 2000). There was a shift toward social policies aimed at decreasing benefit levels, eliminating access to programs altogether, or introducing punitive, mandatory programs (Mulvale, 2001; Wijnberg & Weinger, 1998). Similarly, in the UK, benefit levels for lone

¹ The *Cybermoms* demonstration project was funded by grants from the Atkinson Charitable Foundation and the Ontario Ministry of Food, Agriculture and Rural Affairs (Rural Youth Jobs Strategy).

mothers have been restricted and have remained inadequate for maintaining incomes above the poverty level (Pederson, Weise, Jacobs, & White, 2000). In Ontario, there were deep cuts to social assistance benefits, with the Conservative government reducing social assistance benefits by 21.5 per cent in 1995 and later introducing mandatory workfare. During the mid-1990s, federal government actions to abandon the Canada Assistance Plan, introduce new restrictions on eligibility for Employment Insurance benefits (EI), and withdraw support from social housing programs also served to restrict the social safety net and increase poverty among vulnerable groups (Mulvale, 2001).

These changes have affected women disproportionately. Teen mothers, who may be less likely than adult women to have developed skills and knowledge for dealing with rigid, bureaucratic systems, may be further disadvantaged as they attempt to access services required to fulfil the basic needs for themselves and their children. Moreover, the issues faced by teenage mothers may differ from those of adult mothers, given the social construction of adolescence as problematic. It is seen as a period characterized by crisis and risk, multiple transitions, and vital developmental tasks such as identity formation and individuation (Mitterauer, 1992; Roche & Tucker, 1997). Teenage mothers may encounter greater struggles than adult parents due to conflicts between the expectations and reactions of adult society to them as adolescents, on the one hand, and on the other, a service system that has been designed for adults. Disregarding the systemic barriers for young parents increases the risk that they will be isolated, powerless, and lacking the material and social supports that all parents need.

According to Kelly (1996, 1997), many conservative thinkers fear that providing programs to support teen mothers encourages more teen pregnancies, births, and abortions. However, there is no evidence that offering supportive programs and services contributes to increases in teenage birth rates (Moore & Sugland, 1999). The priority should be the development of programs that are responsive to the needs of young mothers and that encourage healthy adolescent and early child development without negative targeting or further stigmatization. This paper presents findings from a three-year demonstration project in Sudbury, Ontario that used Internet-based technologies combined with other program elements to support teen mothers through the establishment of a computer-mediated peer support group.

Teen Pregnancy, Birth Rates, and Social Exclusion in Northern Communities

While there has been an overall trend toward lower teen pregnancy rates in the last two decades, Statistics Canada (1999) reported that

first births among adolescents aged 15 to 19 accounted for 11 per cent of all first births between 1987 and 1997. Furthermore, pregnancy, abortion, and birth rates among teens vary widely across Canada. Dryburgh (2001) reported that there are more pregnancies among teens in the North and in the Prairie provinces. An examination of the patterns of adolescent pregnancies in Sudbury, Ontario indicated that more teen mothers have continued with their pregnancies and there has been a lower rate of abortions compared with the provincial rates (Kauppi & Picard, 1999).

The evidence of higher rates of births to teenage mothers in northern regions of Canada suggests the need for programs to meet the unique needs of young mothers living in rural or remote areas of the country where services may be scarce or non-existent. Adolescents who become mothers may feel socially isolated in small communities where they may be the only teenage parents. Economic and demographic trends in northern communities contribute to the social exclusion of these young mothers from active participation in community life, given population aging, job losses in the resource-based sectors, and the out-migration of youth. Traditional patterns and conservative ideologies often dominate in such communities. Becoming a teenage mother exposes adolescent girls to persistent negative stigma (Kelly, 2000) and excludes them from the usual social activities of their peer groups. The Cybermoms program was initially developed as a three-year demonstration project incorporating a computer-mediated peer support group for pregnant teens and young mothers.

Teens and Computer-Mediated Technology

During the last decade, there has been considerable debate about both the benefits and the potential harm of access to the Internet among children and youth. Concerns about Internet use centre on threats to privacy stemming from private sector advertisement and hacking, as well as the potential for exposure to sites that promote hatred against particular groups, sexually explicit material, or victimization by paedophiles (Clark, 2001). Those advocating for better access to the Internet have argued that computer-mediated communication (CMC) provides opportunities for developing distance-transcending relationships through email or chat (Smith, 1999) or practicing strategies for dealing with gender issues, including harassment (Kelly, Pomerantz & Currie, 2006). Given the recognition of the value of the Internet as a tool for advocacy and activism; some point out that social workers and other practitioners must become better versed in the strategies and techniques for using the Internet to achieve social change (Hick & McNutt, 2002).

While most households are now equipped with home computers

(Statistics Canada, 2006), it is possible to assert that social disadvantages have been reinforced by advances in information technologies. Poor people are less likely to have access to computers and the Internet at home. Based on data from the Household Internet Use Survey conducted in 1999, Dickinson and Ellison (1999) showed that a majority of Canadians in upper income households used the Internet at home compared to only 11 per cent of those in low income households. These findings were reinforced by the results of the 2000 General Social Survey which demonstrated that children whose parents were highly educated, high income-earners were more likely than those with low income parents to use the Internet at home (Clark, 2001). Likewise, girls and women may be outnumbered by male Internet users. The domination of computers and CMC by men has been evident in research on Internet and computer use since the 1960s (Looker & Thiessen, 2003; Sherman, End, Kraan, Cole, Campbell, Birchmeier & Klausner, 2000; Statistics Canada, 2002). During the mid-1990s, boys in the UK were six times more likely than girls to be provided with a computer at home (Cole, Conlon, Jackson & Welch, 1994). American researchers have concluded that the gender gap in the use of Internet technology has persisted (Margolis & Fisher, 2003; Sherman et al., 2000). A recent Canadian study by Looker and Thiessen (2003) indicated that male adolescents were more likely than females to feel comfortable, confident and competent using computers.

Teenage mothers are likely to experience a number of disadvantages in access to information technologies. These stem from poverty, early school leaving (Solomon & Liefeld, 1998), and gender disparities in computer use (Margolis & Fisher, 2003). Objectives of the Cybermoms project were to understand the response of teen mothers to the provision of home computers and free access to the Internet and to determine whether it would be possible to generate a form of “cyberfeminism” (Sundén, 2001) through exposure to CMC and the establishment of an online community guided by feminist principles. Chomsky (2002) raises questions about qualities of the Internet that may be inherently isolating for individuals and asks whether it can be used as a force for uniting people to form Internet communities working for social change or will become a tool for corporate profit-making. Research involving the participants of Cybermoms can provide some insights into the response of young mothers to Internet technologies and the nature of the interactions between the participants of this project.

Cybermoms: A Computer-mediated Program for Young Mothers

The three-and-a-half year demonstration and research project used computer technology as a tool for supporting and empowering

pregnant teenagers and young mothers during the pre- and post-natal periods. The project design incorporated and added to the basic elements of computer chat and email used in a six-month intervention with teenage mothers conducted in Nova Scotia (Dunham, Hurshman, Litwin, Gusella, Ellsworth, & Dodd, 1998). The main objective was to develop and pilot test a model for incorporating information technology as a means of reducing social isolation, producing positive outcomes for pregnant teens and young mothers, and facilitating—through the use of telecommunications technologies—access to education, training, and marketable skills, as well as access to information in relevant areas. The key components of the program involved the provision of free computers and the Internet, computer training, peer support, formal social and emotional support through a full-time community worker, educational opportunities (e.g., through workshops), and empowerment. These components are described below.

Computers and computer training.

Each participant was given a refurbished computer (initially 486s were provided and these were upgraded to Pentium 133s in 2001) and free Internet access from her home (a local Internet service provider donated Internet accounts for all participants for the duration of the demonstration project). The computer was delivered by the community worker or a part-time computer technician who provided instruction on how to use the computer and the Internet. The computer technician was available to provide support throughout the project via email or telephone, and if necessary, through a home visit. Each participant was also given a password to the secure chat group accessible through the Cybermoms website. ICQ software was installed on the participants' computers allowing them to know when other Cybermoms were online. This enabled participants to engage each other in "real-time" online communications. Weekly live chat sessions were also scheduled to discuss topics identified by the Cybermoms. On occasion, guests with expertise in key areas were invited to participate in the chat sessions so that the program participants could ask questions and receive information about local services.

Workshops and informal gatherings.

The participants were brought together at six-month intervals for one-day workshops offering computer training. These workshops also offered sessions on topics that the Cybermoms identified as being salient (pregnancy and childbirth, parenting, child development, legal issues pertaining to child custody, relationship issues etc.). Informal

gatherings were also organized to enable the participants to interact with each other in an unstructured fashion. Transportation and childcare were provided to all program activities and events.

Program staff

A full-time community worker was available to answer questions online and made a minimum of two home visits annually. The role of the community worker was to support and assist the participants by providing information, making referrals to other community programs and services as needed, staying in contact with them by email, computer chat sessions, telephone, by monitoring the messages posted in the website and by organizing workshops, gatherings and group events for the participants. The community worker typically maintained a caseload of approximately 30 to 35 participants at any given time. A half-time computer technician repaired the computers, provided technical support, developed user-friendly computer training manuals, and offered computer workshops on computer basics (hardware and software). The project staff members were trained in the use of key software and were provided with refurbished computers and free Internet access in their homes in order to allow them to have ready access to the Cybermoms website, email and the chat group, and to maximize their availability to the participants.

Peer support

As noted above, the participants were brought together for workshops and informal gatherings that provided an opportunity for the program participants to meet face-to-face and to get to know each other. These activities were designed to link young women in similar circumstances, thereby decreasing their isolation. The Cybermoms program was primarily delivered via an Internet discussion group, regularly scheduled live chat sessions offered via ICQ software, email (for private communications), and the telephone. The access to computers allowed these young women to maintain contact with each other and the Cybermoms staff through the secure (i.e., password protected) computer-mediated social support network at all times (i.e., 24 hours per day, 7 days per week).

Education

The Cybermoms website was used as a tool to facilitate learning about the requirements of a healthy pregnancy, positive parenting and child development, and other issues of interest to young mothers. Links to

accessible, high quality sources of information were posted on the website.

Empowerment

Feminist values and a strengths approach guided the development of the Cybermoms program. The underlying assumptions of the program were growth, autonomy, social competence, healing, valuing families, building resilience, and empowerment. The participants were given information about the effects of social and economic policies on the health and well-being of single mothers and their children, as well as with information on how to lobby governments and advocate for change. Cybermoms were supported to participate in political events such as an all candidates meeting for a federal election, policy forums on poverty and welfare issues, local government committees, and community workshops on women's issues.

Data and Methods

The initial group of participants was recruited through a poster campaign (i.e., posters were placed in physician's offices, pharmacies, high schools, and other locations in the community). Pregnant teens and teen mothers self-referred or were referred by family members, teachers, or friends. Participants were selected based on a screening interview conducted by the community worker. The key criteria used to determine eligibility centred on the young mother's need for support and her housing situation (i.e., the participants had to be in stable housing). A focus of the project was to support pregnant teens and young mothers who had little social support or were socially isolated; however, teens who were in unstable situations, and thus did not have a room in which to install the computer could not become participants (e.g., homeless teens or those at high risk of becoming homeless). The project typically maintained 30 to 35 participants at any given time. There was high mobility among this group of young mothers and approximately half of the participants moved away or gave up their computers in each year of the project. When a place in the program became available, cases on a waitlist were reviewed for recruitment into Cybermoms. Fifteen participants who were recruited in 1998 stayed in the program for the duration of the demonstration project (3.5 years). The remaining participants were recruited into the program between 1999 and 2000.

Extensive research data were gathered from the participants recruited into the Cybermoms project between 1998 and 2001 (n=72). The current paper focuses on data about computer use and the perceptions of the Cybermoms about the program; the data were gathered at the end of the second and third years of the project in 2001

(n=42 in 2000 and n=30 in 2001). Quantitative and qualitative data were collected at regular intervals. The community worker conducted structured interviews with all participants at intake and a self-administered questionnaire was also completed by each of the participants to gather background information about their living situation and income, families of origin, social support networks, health as well as social and psychological well-being and experience with computers. Follow-up interviews were conducted at 12-month intervals in which in-depth information was collected about changes in living circumstances, relationships with parents/guardians, partners, social support, mental and physical health (including additional pregnancies and abortions), special needs, child development, experiences of abuse, access to programs and services, future plans, use of computers, and experiences and perceptions of the Cybermoms program. With consent from the participants, the content of the electronic support group and live chat sessions also provided qualitative data for the research project. On a bi-weekly basis, the messages were downloaded from the website.

This paper draws on two types of data: first, quantitative and qualitative data on computer use and the perceived benefits of the Cybermoms project were gathered through structured interviews conducted in the second and third years of the project. Second, qualitative data in the form of messages posted on the Cybermoms website and real-time chat sessions are used to illustrate the quantitative findings.

Background Characteristics of the Participants

The participants were pregnant teens and young mothers between the ages of 15 and 19 (two-thirds were 17 or older). The linguistic and cultural backgrounds of the participants reflected the composition of the population in the City of Greater Sudbury. Over three-quarters were Anglophones of European origins (49 per cent) or Francophones (29 per cent). Aboriginal youth were over-represented in the sample (22 per cent) compared with their proportion in the Sudbury population (2 per cent). Most of the participants were not from two-parent families. A third of the parents of these teens were married or in common-law families while the remainder of their parents were divorced, separated, never married, widowed, or deceased. In general, while most of the participants were from low socio-economic backgrounds, they were a diverse group from a range of cultural backgrounds and family structures.

Living Arrangements

A fifth of the participants were living with their parents/foster parents,

a fifth were living with their boyfriends (in a few cases, with the boyfriend's parents), and the remainder were living on their own, with a sibling, or with a roommate. However, their living arrangements changed over the course of the project. Most of those who did not live with their parents noted that their mothers and fathers lived less than 30 kilometres away from them.

Sources of Income and Low Income Status

Information on the participants' sources of income indicated that the major source of income, at all data collection points, was social assistance; three-quarters of the participants reported that they were receiving social assistance. Additional sources of income for the participants were paid employment (18 per cent) or parents (16 per cent). A few of the Cybermoms stated that they received income from child welfare authorities or other government income support programs. An analysis conducted in 1999 on the low-income status of the participants showed that the participants' incomes ranged between \$150 and \$2,000 per month. The average income for these teen mothers was \$675 per month. The average annual income of \$8,100 for the teen mothers in Cybermoms was only 43 per cent of the Statistics Canada Low Income Cut-Off (LICO). Half of the Cybermoms were living in deep poverty, with incomes that were 45 per cent or more below the low-income cut-offs.

Results and Discussion

Computer and Internet Use

Upon entry into the project, most of the participants had little experience with computers. Only four participants had computers in their homes and these were used mainly by their brothers or fathers. This was expected given the high poverty rate among teen mothers and the high cost of computers and Internet access, as well as the evidence of the ongoing male domination of computer culture (Margolis & Fisher, 2003).

The Cybermoms' confidence level with using computers was assessed in the second and third years of the project. The results indicate that there was, on average, a 30 per cent increase in confidence levels with various aspects of computer use following involvement in the program. A majority of the participants had learned how to perform the basic tasks of using computers for word-processing, including saving, copying, and deleting files. After one year in the program, all but three of the participants stated that they liked their computers (93 per cent) and they were using them frequently. Well over three-quarters reported that they were using the

computer every day or every second day.

The participants who developed more advanced computer skills helped other Cybermoms who were less skilled. The following message and response² posted in the Cybermoms chat room in May 1999 reveal a common strategy for sharing software and Internet sites:

I'll send you a chatroom program called MIRC in your e-mail as soon as I can. ICQ, and MIRC is a live chat, and people on there (Sudbury room MIRC) are nice, and ICQ is something like e-mail but if your on my list, it tells me when your on and we can talk to each other. After I send it to you, if you don't understand it, call me [phone number]. Well got to go now so I'll talk to you later. and you did spell my name right. Bye for now, from Lisetta.

Hey how's it going? This is Jody, I'll probably end up calling you about that chat room. I know nothing about these things.

The participants often asked each other for advice on dealing with computer problems and they frequently posted messages in the website for the community worker or the computer technician in which they asked for help. Technical problems occurred quite often, at times caused when siblings, boyfriends, or the fathers of the participants changed settings on the Cybermoms computers. At the beginning of the program, the computer technician could not keep up with the workload. However, with time, these problems were resolved as the Cybermoms became more familiar with their computers and seemed to exercise more control over how they were used by others. Nevertheless, throughout the project, there was a continual need for a part-time computer technician since the refurbished computers required repairs from time to time or software problems occurred. Most Cybermoms developed basic skills in computer trouble-shooting; however, a majority of the participants in the last year of the demonstration project stated that they needed help with solving some computer problems and with aspects of learning about computers. This is not unexpected since Cybermoms was not intended to produce high level computer expertise, but rather proficiency in basic computer tasks.

In the second year of the demonstration project, over three-quarters of the participants stated that they were using the computer for email, online chat, and searching the Internet for

²Note that the messages posted in the chat room have been inserted in their original form, without any editing. However, names have been changed to pseudonyms in order to maintain confidentiality.

information (i.e. “surfing”). A few of the participants had become highly experienced computer users and had constructed their own websites which included content such as their own poetry, prose, photographs, etc. We hired these Cybermoms to work as tutors for some of the participants who were having difficulty with aspects of computer use. The proficiency with computers among some of the participants was evident at the Cybermoms computer workshops. We observed that a number of them opened multiple screens and engaged in a range of online activities while keeping up with the lessons. However, other participants were not interested in learning more than the basic tasks of email, chat, and Internet searching. Interview data showed that the Cybermoms used the Internet primarily to search for information for school projects, to look for educational opportunities, or to obtain information about career options.

Second, the participants stated that they searched for information on parenting and child development. Thirdly, they looked for websites providing information about pregnancy, motherhood, or health issues. Other types of Internet searches were reportedly for personal interest, entertainment for themselves or their children, or shopping. The participants stated that they appreciated the ability to obtain information without having to leave home. Some commented that it was fun or “cool” to be able to use the Internet.

The social dimension of the Internet was the most important aspect of the Cybermoms program. As the Cybermoms entered the “chat room,” they learned from the experiences of the group, gave their own thoughts, and often offered assistance with material things (e.g., by sharing baby clothing or other items), advice, information, or a personal connection to others who have experienced the same circumstances. The Cybermoms chat room was a forum for heated discussion of the issues facing young parents such as relationships with boyfriends, making ends meet on a poverty-level budget, the custody and access rights of the biological fathers of their babies, “deadbeat dads”, and the joys and sorrows of parenting. When asked what they got from the program, the participants described the importance of being able to “talk” to others, socialize, meet new friends, stay in touch with friends or relatives, save on long distance charges, and get advice online. An excerpt from an interview with Mariam describes why she liked the program.

Cybermoms is awesome because it made me realize that there's a lot of teenage mothers like me. And I can talk to anybody about it because they understand what I'm going through—and I like the computer (laughing)! If

there's anything I need to find out, I can look on the internet for it, like—anything. Like if he's [son is] sick or something like that. Um, I like talking to anybody at any time of the night, like whenever I want to, like with ICQ. And I like everything about it. I use my e-mail a lot, like, to contact my aunts from out of town and stuff like that cause they have it [internet]. Instead of writing letters, you just write e-mails. It's easier that way; you keep in touch better. (Mariam)

Mariam appreciated the Internet access primarily because it enabled her to connect to others. She found some comfort in knowing that there were others in the same situation and being able to share experiences. She also appreciated the ability to communicate with friends and family members. The ongoing examination of the messages posted in the Cybermoms chat has shown that the participants most often used the online support group to share their experiences, exchange advice, and seek support from the other participants. The workshops were instrumental in providing opportunities for getting to know each other and building on the relationships established through the online communication. The following messages, posted in the weeks before one of the Cybermoms' workshops, illustrate the importance of combining the online support group with organized gatherings:

Hi, ...I was just wondering if you were going to bring Heather [daughter] to the workshop on June 13 , I'm bringing Cherie [daughter]. I hope you bring her, so I can see her! Talk to you later. Cybmom31

This is Marie. Yes, I will be bringing her. Can't wait to see your little one too.

This is Cybmom31, I have one can of Similac powder formula, if anyone can use it let me know. I only have one can so let me know soon. See you at the workshop!!

This exchange reveals a common strategy for offering social and material support via the chat room. Messages about giving or trading clothing, furniture, equipment, and even food were frequently posted.

When asked in the interviews about the negative aspects of using the Internet, the participants complained most about the computers. They were irritated because the computers were slow, sometimes froze up ("crashed"), disconnected from the Internet prematurely, or became infected by viruses. A second area of complaint centred on

“spam” or unwanted email. Finally, about a third of the participants mentioned that they did not like the sexual content or porn sites that they encountered on the Internet. We held workshops to discuss negative aspects of the Internet such as pornography and sexual predators in order to engage the participants in a discussion about sexist, misogynist, or generally unsavoury content and practices. The face-to-face discussions suggested that teenage mothers were well aware of the obscene and offensive imagery and some of them expressed disgust that their boyfriends were using their computers to access such sites. However, in messages the Cybermoms posted on the website, they seldom mentioned disturbing content on the Internet. Rather, when complaints or negative aspects of computers were discussed in the chat messages, they usually focussed on problems the participants were experiencing with the computers.

Formation of an online community

Interview data showed that the participants greatly valued the computer-mediated support network and the relationships they established with other young mothers through their involvement in the Cybermoms project (see Table 1). The categories shown in Table 1 overlap to some degree since they reflect the social dimensions of the project. For example, inter-relationships exist between the components of friendship, support, sharing experiences, and receiving advice. Taken together, these components accounted for 83 per cent of the responses of the participants. The messages posted on the website in a typical month dealt with a wide range of issues. The main themes were:

- mutual support, encouragement, caring about each other and their children, reaching out to each other, and sharing feelings, aspirations, hopes and accomplishments;
- asking for advice/giving advice or information or offering practical support such as baby or household items, help with chores/tasks;
- experiences of parenting, child development, ideas on parenting;
- experiences with men (fathers of their children and boyfriends)—relationship problems, custody, denial of responsibility/lack of involvement with the children;
- experiences with service providers such as income support workers, physicians, community services and offering advice or information on services; and
- computers (problems and advice).

Table 1. Perceived Benefits of the Cybermoms Program		
Benefits	Number of responses	Percentage of responses
Friendship/knowing there was always someone there	53	27
Access to the computer, internet, and information	39	20
Support and encouragement	31	16
Being able to share experiences with other young mothers	28	15
Receiving advice	16	8
Access to the Community Worker and advocacy	14	7
Gaining computer skills and having an opportunity to attend workshops	13	7
Total	193	100
Note: These data are based on an open-ended question. Results are based on the multiple responses of 43 participants at the end of 2000 or 2001.		

The messages posted in any given week or month revealed that the secure chat room was a source of support and encouragement for the participants. It was a place where they felt safe in sharing their experiences as mothers and receiving affirmation that they were good parents. The following exchange was initiated when one of the participants updated the group about the progress of her premature baby. These messages are typical of the manner in which the Cybermoms shared their experiences and offered encouragement to each other.

Hi girls. Sorry I haven't written in a while...I've been in Ottawa with my son. I have GREAT news.....He is coming back to sudbury hospital to morrow morining and I'm hoping he'll be in our arms by the second week of June!!! Well....I'm just happy that he is in Sudbry close to his family!!!! One step at a time cybmom15

I am so glad your little guy is coming home to you. Being in a strange place waiting for your son to get

better must have been so hard on you. You have my admiration. Your little guy is lucky to have such a dedicated Mom. Congradualtions and take care of yourself, Dawn.

Hey how is your litle one. Has he come home yet. When do the doctors think he can come home. Just so you know I knew he was going to pull threw...I am so happy to hear that he is finally back in Sudbury. Now let's pray he will be home soon in your arms and not in the hospital any more. Agnes

The participants had been posting messages of support from the time of the baby's birth. Similarly, in interviews, participants discussed the strong bonds they had developed with other young mothers who had been through similar experiences as their own:

There's another Cybermom also, her son was premature. And she was my angel in disguise. Like, oh, I don't know how many times I have called her, like two o'clock in the morning, like, crying my eyes out. And she was there for me (Marni).

In interviews and at Cybermoms' events, the participants mentioned that a positive aspect of being part of a support group comprising only young mothers was that they did not feel judged. The teen mothers described how they felt stigmatized and criticized for early childbearing in the community and in most other service settings, and consequently many stated that they avoided mainstream services. The strengths approach that guided the Cybermoms project enabled the participants to feel good about themselves and their capacity to be good parents.

Empowerment and political awareness

By providing information about the politics of alterations in social policies and programs in Ontario and Canada, the participants were engaged in discussions about the structural and systemic barriers they faced as they struggled to meet basic needs. The following exchange from a scheduled chat session about the government social support program, Ontario Works (OW), demonstrates the participants' recognition of the government's attack on social assistance recipients as the source of the problems they experienced with the system:

Lisa-- what's the chat about tonight???????????

Mary-- Ontario works.

Lisa-- oh god, where do we all start?????????????// actually I inform my worker [about aspects of the program] cause she's new....lol [laugh out loud].... service...well....see the more I try the less they do.....

Mother of Olanike-- I think the service is terrible they treat us like crap all of the time.

Lisa-- like it's pathetic....MIKE HARRIS is AWFUL

Joanne-- We do not get enough money.. I think personally

Mother of Olanik-- I agree with ya hun

Michelle-- mike harris certainly isn't helping

Lisa-- you know wht??????????? I have a job....and only ALOUD to make 275\$ over what ontario works gives...outta that I have to pay my own transprtationso really I should just stay home and be a "welfare mom". I'll never get ahead unless I meet a rich man.....lol

The exchange of ideas allowed young mothers to recognize the oppressive aspects of the social assistance system under the neoconservative provincial government of Mike Harris such as the forced labour requirements of workfare, earnings restrictions, and the dehumanizing treatment. The discussion of topics of interest to the participants through real time chat sessions, as well as messages posted in the secure website, enabled the Cybermoms to exchange information about shared experiences. They also used the chat as a means of offering each other information and advice on strategies to deal with the tactics used by government workers to implement regulations (e.g., of the social assistance system as well as other social services).

When asked about their perceptions of the benefits of the Cybermoms program, few of the participants mentioned the access to the community worker, the computer technician, and the computer workshops in comparison to the computer-mediated peer support group. These program elements of the program were essential to the functioning of the online peer support group but were clearly less salient to the participants. The project staff was needed to set up the computers and deliver them, provide the initial orientation to the computer and the secure chat group, and to organize the workshops. In

addition, the role of community worker in monitoring the messages posted in the Cybermoms chat group enabled her to respond to identified needs. A particular strength of the Cybermoms model is the combination of peer, professional, and practical supports. When the three-and-a-half year demonstration project was ending, a number of the participants posted messages expressing concern that the program would be discontinued and stating reasons why funding should be renewed:

WHAT do you mean this is the last year for cybermoms? why wouldn't we get [more] funding! Don't they know what this program is doing for ALL of us young Moms! We have made so many friends and built so many memories! We have all learned a lot about ourselves and each other and we most deffinatly learned so much about computers Thanks to you and the program. This is devstating news (Sara and Matthew [son]).

Cybermoms has given to me a support circle of women my own age... Where I can get help with problems I face on a day to day bases such as toilet training, or bigger problems that some times crop up...(Erin).

In the past couple of years I have had a pretty hard time raising my two young son's as a single mother... I truly believe that cybermoms has given me a place to be able to express myself, my emotions, my self-motivation, my anger, my daily struggles. They say that writting is was of the best stress releifs that you can ever do. Well that's great and all, but being able to do that as well as getting feedback from other young mother's in the same community as yourself has made a great impact on my life. Having been able to meet new friends who you can turn to and they can turn right back to you is a great feeling. Learning how to respect yourself, your decisions and the decisions of others was a must in this program...(Jenna).

It was clear that teenage mothers perceived the community of young women in similar circumstances formed through the Cybermoms program as the main benefit of the project. The computers and the Internet were tools that facilitated the connections between them. Both in chat messages and in communications with the Cybermoms' community worker, the participants expressed fear and anger that their community would be threatened by the withdrawal of support in the form of Internet access and group facilitation services.

Internet chat, combined with in vivo gatherings, was a means of developing a supportive community, building self-esteem and empowerment, obtaining assistance from local agencies through referrals from the community worker, and gaining access to information and practical computer skills for schooling and work.

Discussion

Adolescence has been seen as a period in which there is a preoccupation and struggle to attain an integrated conception of self by “acquiring and maintaining significant attachments with others” (Unrau & Krysik, 1996, p. 238). One argument contends that powerlessness is a common theme among youth, in part due to representations of adolescence as a period in which there is a need for adults to exert strong measures of control over them in order to prevent problem behaviours (Griffin, 1997). The focus of public attention on pregnant teens and young mothers has often centred on the “morality play” surrounding adolescent sexuality (Kelly, 1996, 1997). The discussions have tended to focus on the concerns about irresponsible behaviour and a shift away from the traditional, two-parent family. Given the theoretical arguments regarding the need for adolescent mothers to form social relationships and the isolating effects of the enduring stigma of teenage parenthood (Kelly, 1996) programs are needed to offer forms of support to this group.

Margolis & Fisher (2003) have concluded that women’s participation in projects incorporating computer technologies is vital to ensuring that technology is used in a positive fashion to address the issues confronting families. The Cybermoms program is an example of such a project. It was developed using an empowerment model designed to assist the participants in overcoming the barriers that teen mothers often encounter in a society that socially constructs them as problematic. Many of the participants came to be proud of their achievements in working together to form a strong group of young women. Some took on an advocacy role by attending public events and speaking out on issues affecting young mothers. The combination of program elements—including computer technology as a foundation for peer and professional support—was helpful in building a connected community and meeting the needs of young mothers and their children. Cybertalk is a core element of the program but the combination of program elements (Internet chat, support worker, social gatherings, and workshops) broaden the scope to extend beyond rhetoric into the realm of social action and the reality of the participants’ daily lives.

Indeed, regular participation in the chat group and workshops enabled the participants to learn how to use computers as well as to practise their writing skills. In this sense, the Cybermoms is a model

that can be used to reduce the magnitude of the *digital divide* separating haves and have-nots (Steyaert, 2002). Moreover, consistent with the findings of prior research on the use of computer-mediated support with teenage mothers (Dunham et al., 1998), the data from Cybermoms showed that, rather than suppressing socio-emotional content, computer chat was often animated and incorporated expressions of a full range of emotions. Many of the Cybermoms participants adopted an expressive writing style in chat messages and used punctuation as symbols for conveying emotions. These findings provide support for the view that computer technologies enable a form of communication that is highly compatible with adolescents' social proclivity and one that enhances literacy skills through the interaction with text (Irvin, 1997). Indeed, some participants commented on the improvements in written communication skills that resulted from their participation in the Internet-based aspects of the program.

Barriers to participation: old computers, contrived cybertalk, fear of cyberspace, and accessibility issues

Some troubling tendencies emerged occasionally within the chat group. With time, it was found that some experienced users of the chat group had little tolerance for poor spelling or writing skills among new participants and posted critical messages that may have created barriers to participation for the latter group. We are also aware that some program participants watched from the sidelines by reading messages but not actively participating because they felt intimidated. The perspective of cyberspace ethnographers such as Hakken (1999) is relevant in drawing attention to the ways in which cyber-rhetoric can be contrived. For the uninitiated teen mother, the unfamiliar style of Internet chat may have made it seem disconnected from her reality.

While the computer-mediated support group afforded many participants access to an online community of young women in similar circumstances, those who were experiencing significant turmoil in their lives had some difficulty participating in this community. Circumstances that prevented young mothers from engaging in the online component of Cybermoms were most often related to multiple changes of residence (e.g., from parental home to cohabitation with a partner, to living alone), the loss of telephone service (most often due to low income), or a lack of time due to the combination of parenting responsibilities, schooling, and work. Hence, even when computers and Internet access were provided free of charge, accessibility issues persisted for the most vulnerable young mothers. As Steyaert (2002) has observed, technologies associated with computer-mediated communication can reinforce forms of social inequality and exclusion stemming from gender, race, and class-based social stratification. Social service and not-for-profit organizations that incorporate

computer-mediated communication into programs and services must consider how they can address this issue.

While refurbishing and recycling used computers is an ecologically sound strategy for taking a step toward social justice by extending the life of computers discarded by the private sector, it also means that the participants of programs will experience the frustrations of using old technology. The computer systems were slow, had limited capacity on the hard drive, and malfunctioned with some regularity. It is possible that the challenges of using refurbished, relatively obsolete equipment may have discouraged some participants from using them more often, or even further, could have increased computer “phobias” as well as other generalized fears of cyberspace (Jordan, 1999).

Conversely, one may ask whether it is not better to offer old equipment rather than to do nothing about the digital divide. Steyaert’s (2002) discussion of inequality and the digital divide is pertinent here. Without efforts to stimulate Internet-based advocacy, many of those who want to come together online in order to “change structures and policies that negatively affect them” (p. 210) would be excluded due to a lack of access to the technology. Therefore, the benefits of enabling low-income people to have access to information and communication technologies, albeit somewhat outdated, appear to outweigh the risks by reducing marginalization and exclusion.

Conclusions

Hakken underscores the importance of examining how “the new life way is being explored/created, especially by youth” within cyberspace (1999, p. 226). Kelly et al. (2006) showed that teenage girls used online communications to rehearse or challenge aspects of gender relations, including strategies for confronting harassment by boys. Young people, it is argued, use cyberspace in novel and creative ways to establish social formations that differ fundamentally from the social contexts they inhabit in “real life”. In this sense, Internet communication offers the potential for transcending the boundaries of gender, race and class and thus may be inherently liberating and empowering. The virtual self can transcend both social divisions and geographical boundaries and thereby increase her or his social power through cybertalk (Jordan, 1999). Jordan also terms this perspective as utopian and advises caution in conceptualizing online communication in such an uncritical manner.

Empirical evidence from the Cybermoms program indicates that most participants gained some benefit from access to computers and the Internet. The principal advantages came in the form of the online peer support group. Through interactions within the program, such as the real time chat sessions with social service providers and decision-

makers, the young women seemed to transcend some of the limitations and boundaries of their lives, for example those related to their status as clients of oppressive service systems. While sensitizing the participants to structural barriers and sources of oppression, online participation clearly could not change their immediate life circumstances.

However, the online component of the program did produce some practical benefits such as the capacity to use computers in a variety of ways to support schooling and the transition to the labour market. Young mothers gained computer skills including word processing, Internet research, web design and web publishing that they would not likely have received otherwise and the Cybermom's computer workshops provided them with formal training sessions that could be listed in their résumés. These skills helped many of the participants to decide to return to school, complete school assignments, continue into post-secondary education, or obtain employment. Exposure to computer learning encouraged a few of the participants to pursue college-level programs in this field.

While much published literature on teen mothers has focussed on the negative aspects of early parenting, the current project indicated that the participants responded positively to a model based on a strengths approach; they demonstrated effective social support dynamics and helped each other learn to use computers and the Internet. A compelling aspect of the program was that the participants used computer technology to fulfil emotional needs and to overcome social isolation. Having a means of accessing the support group 24-hours a day, seven-days a week was perceived to be important for these young women whose peer support networks often disintegrated following the pregnancy and birth. For teenagers coping with the responsibilities of parenting and making ends meet on incomes far below the poverty line, the issues and concerns articulated by their former friends, which largely focussed on peer group dynamics, seemed insignificant and often irrelevant. The Cybermoms program filled a gap in their lives by giving them a sense of belonging, opportunities to meet other young mothers who shared their experiences and concerns, and access to advice, encouragement, and support offered in a non-judgmental way. In Sudbury, a local family resource centre saw the importance of continuing the Cybermoms demonstration project and has adopted it as an ongoing service for young mothers. As a relatively low-cost service, this model could be used to support other populations that experience social isolation.

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