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Social capital and social support on the web: the case of an internet mother site

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Abstract Do virtual communities in cyberspace foster social capital and social support? Using participant observation and discourse analysis, we examine a mothering board on a parent's website and investigate whether social capital was present, and if so, how it was developed and used. We find three main types of communication emerge from our analysis: emotional support, instrumental support – both formal and informal, and community building/ protection, all of which contribute to the creation and maintenance of social capital. Additionally, using sampling with replacement, we created a final data set of 180 mothers and report descriptive statistics to identify characteristics of those on the board.

Keywords: social capital, social support, mothers, internet

Introduction

Do virtual communities in cyberspace foster social capital and social support? Social support and social capital have both been linked with better health (House, Landis and Umberson 2001, Pearce and Smith 2003). Using participant observation and discourse analysis, we examine a mothering board on a parent's website and investigate whether social capital was present, and if so, how it was developed and used. The website was related to issues of peri- and post-natal mothers' experience with pregnancy, childbirth and childrearing. Additionally, using sampling with replacement, we created a final data set of 180 mothers, and report descriptive statistics to identify characteristics of those on the board.

Mothers with young children today

Many argue that mothers are increasingly isolated in postmodern society. Current demographic trends have added to the isolation of new mothers. Most women no longer stay at home while childrearing (Arendell 2000). As such, neighbourhoods are not filled with women and young children interacting throughout the day. This loss of geographic networks and time spent with other mothers raising young children signifies a loss in much of the mothering informal support, advice, and interaction women have traditionally shared (Litt 2000). Over the past centuries, fertility has declined significantly in advanced societies, leaving fewer children in neighbourhoods and family networks, thus creating a more adult-centred and less child-friendly environment (Coontz 1997). As such, women are even less familiar with childbearing and rearing than they would have been in previous generations. An additional social movement has been the medicalisation and production of 'scientific mothering' (Litt 2000). While the birth and health of mother and baby were traditionally in the hands of women, including mothers, sisters, midwives and doulas, society has adopted 'scientific mothering' whereby doctors, hospitals, and other 'experts' such as authors, provide medical services and advice to mothers and their children. This medicalisation of what was once 'women's knowledge' takes mothering even further away from women's circles (Litt 2000, Oakley 1992a). Consequently, mothers are more socially isolated (Mauthner 1995, Munch, McPherson and Smith-Lovin 1997), and can no longer depend on traditional circles of wise 'other-mothers' (Hill Collins 2000). Popular books reflect mothers wrestling with isolation, as evidenced by the growing number of advice books about the trials and loneliness of motherhood (see Wolf 2001).

While motherhood can be rewarding, the process of mothering young children is time intensive, repetitive and anxiety producing (Boulton 1983, Oakley 1992a, Ribbens 1994, Taylor 1996). For most, the reality of living with a completely dependent, immature being can be stressful at times (Boulton 1983). Many women find themselves alone at home after having a baby, suddenly in full charge of a dependent being, and quite 'depressed' (Ribbens 1994, Taylor 1996). Little has changed in terms of men's participation in parenting, though they are somewhat more active parents than most men since the mid-20th century (Chodorow 1978, Coontz 1997, Ribbens 1994). What has not changed is that women still have the need to learn about pregnancy, health and mothering (Tardy and Hale 1998).

One method of uniting mothers is on the internet, which allows geographically heterogeneous women, who have no prior acquaintance, to connect and create a community of caring and information-sharing. Additionally, because women have no prior acquaintance, they may be even more open and free to discuss troubles or intimate details in childbearing and rearing that they might not otherwise share in their own circle of family and friends. Virtual birth clubs offer instant contact with those at the exact stage

of pregnancy as themselves (to within a month). Therefore, those who have internet access, the awareness of such mothering boards, and the time to use them have available support and camaraderie with others in a similar stage of life.

Social capital

The notion of social capital can be traced back to Marx's writings about (financial) capital emerging from social relations (Lin 2001) and Durkheim's study of social integration and suicide (Turner 2003). More contemporary theoretical roots on social capital were planted in the works by Jacobs (1960), Bourdieu and Passeron (1977) and Loury (1977). Most recently and explicitly, the concept has been studied by Coleman (1990), Burt (1992), Putnam (2000) and Lin (2001). Because the concept is dynamic and complex (Cattell 2001, Edmondson 2003), and has only recently emerged as a principal theoretical object concerning social phenomena, much remains to be sorted out regarding precisely what it comprises and how it works – especially related to health. For example, some contend that social capital should be conceptually and methodologically analysed at an aggregate level, such as neighbourhoods, states and regions, to understand its effects on health outcomes (*e.g.* see Cattell 2001, Kawachi *et al.* 1997). Others, however, posit that health is affected by characteristics of individual's social networks (*e.g.* see Haines and Hurlbert 1992).

Given that the current study examines individuals on the internet, our research is best served by the latter approach. As such, our point of departure defines social capital as 'resources embedded in a social structure that are accessed and/or mobilized in purposive actions' (Lin 2001: 29). The social structure here is the virtual community. Actors access the website to acquire resources, and then act in response to the resources acquired.

Although Lin (2001) vehemently argues that cybernetworks are forms of social capital, little research has been conducted explicating exactly how this is so. Lin contends that we need more information in four areas:

> (1) how each group and territory is defined or undefined (closure versus openness); (2) how membership is claimed, defined, or acknowledged (*i.e.* residents and citizens); (3) what the membership is composed of (*e.g.* demographics: individuals, households, and clusters; age, gender, ethnicity, linguistics, socioeconomic assets); and (4) how resources are distributed within and across villages: class and inequality among villages (2001: 239).

This investigation begins to fill in the gap on some of these issues. While Lin clearly supports the notion that cybernetworks represent a form of social capital, researchers disagree on whether the time spent on the internet leads

to social isolation or social capital (DiMaggio *et al.* 2001, Nie *et al.* 2002, Quan-Haase and Wellman 2002, Wellman and Haythornthwaite 2002). One main debate is over the time spent on the internet. Some evidence shows time displacement – that users will displace face-to-face interaction, leading to a decrease in socialising and time spent outside the home. Other evidence, however, shows that there is no displacement of socialising time with internet time (see DiMaggio *et al.* 2001). Moreover, some evidence shows internet socialising is associated with even more offline socialising (Miyata 2002), indicating that usage may be related to proclivities toward sociability (DiMaggio *et al.* 2001).

Putnam (2000), another leading social capital scholar, is undecided whether cybernetworks enhance social capital or endanger it. He ponders, 'Will the internet in practice turn out to be a niftier telephone or a niftier television? In other words, will the internet become predominantly a means of active, social communication or a means of passive, private entertainment' (2000: 179)? Ultimately, he speculates that cybernetworks will complement, rather than replace, face-to-face interaction.

As with virtually any other resource, social capital is unequally distributed among society's members. Some individuals are well-connected to a social network that provides support and information, while others have either few connections in general, or few with such resources. In general, the association between particular people and their quantity and quality of social capital is non-random. Certain social groups, by virtue of their socioeconomic status, race/ethnicity, gender, religion and other characteristics, are usually systematically more or less advantaged regarding access to social capital. This is significant because it can lead to additional inequality across these group's life chances – that is, it serves as a mechanism for stratification (Lin 2000).

Although some predicted that the internet would reduce inequality because the information playing field would be more level, others contended that inequality would merely be reproduced because people of higher socioeconomic status would use it more quickly and efficiently, hence creating a 'digital divide' (Brodie *et al.* 2000, DiMaggio *et al.* 2001, Eng *et al.* 1998). Indeed, Schement (1999) reminds us that the internet requires ongoing expenditures (*i.e.* a monthly fee), and many disadvantaged individuals cannot afford this. Related to our study, we would expect that economically-deprived women participate the least because of financial and time constraints. Evidence suggests that those who seek health information on the internet have higher socioeconomic status than those who seek offline health information (Cotten and Gupta 2004). While the nature of our data does not allow us to test this statistically, we do consider how inequality may affect our findings and their implications. In sum, social capital is an important construct to examine related to health. Social capital theory may be the most promising sociological, as opposed to social psychological, anthropological or cultural, account of health and illness that we have (Turner 2003: 4).

Social support on the web: a manifestation of social capital

Support groups in online communities provide an anonymous place to exchange advice, information and support (Miyata 2002, Sharf 1997, Preece 2001, Wellman and Frank 2001). Users interact, often daily, to help and check up on one another. These areas are promoted as a place to find support and information. Based on Lin's definition of social capital, clearly a support group provides social capital in that it is an embedded community activated for purposeful action. Another useful concept suggested by Wellman and Frank (2001) is network capital. Network capital is a form of social capital in which relations with friends, neighbours, relatives and workmates supply social support. Network capital provides companionship, emotional and material aid, goods and services, information and a sense of belonging (Wellman and Frank 2001: 233). In our study, we identify under which conditions the internet creates social capital (Nie, Hillygus and Erbring 2001).

Women's online communities and mothering today

Previous research has shown that female-dominated websites are much more likely to be supportive (Miyata 2002, Sharf 1997). Women adopt so-called 'feminine' interaction that enhances support and free exchange of advice. Women's online behaviour is, on average, more emotionally-oriented than men's (Boneva and Kraut 2002). For instance, in her study of a breast cancer on-line discussion group, Sharf (1997: 76) writes, 'Hardly any postings go without some form of acknowledgment, and most often encouragement'. Indeed, making rude remarks or ostracising a member (known as 'flaming') is generally not found in women-dominated groups (Herring *et al.* 1996, Sharf 1997). Women provide informational and emotional support such as exchanging information about childhood illness, developmental issues, and providing encouragement, empathy and similar experiences (Mickelson 1997, Miyata 2002).

The online environment of a mother's group creates a female-dominated sphere of support. Women use their own experiences of mothering to help themselves and one another. As such, it brings motherhood away from the male-centred medical environment to a woman-centred environment (Taylor 1996). Women can explore their feminine sides and create their version of motherhood by writing of their experiences and consulting other mothers (Ruddick 1983, Gieve 1987, Hill Collins 2000).

Methods

Background information on the research site

This paper examines a women's online board to explore how social capital is created and maintained. Mothers entered the large parenting website, and then joined specific bulletin boards in cohorts based on the expected month of their child's birth. Additional special topic bulletin boards are available

at this website such as a mother of twin's board, a trying-to-conceive board and a breastfeeding board. This is one of the largest parenting boards available on the web of which we are aware. Each board has a board host (who is also a board member) who is paid a small salary for monitoring the board, negotiating tough situations and providing technical computer assistance.

The cohort under investigation began posting messages around August 2000 and remains active to this day; participation has however waned since Autumn 2002. These data were collected from September 2000 to May 2002, and this paper only follows this particular cohort**.** Thus, everyone is going through the same stage of pregnancy and childrearing at the same time. During pregnancy, women actively posted issues and problems daily. Some women already had children, but most were first-time mothers and much of the communication (before delivery) revolved around pregnancy symptoms and preparing for the baby. On this board, women identified themselves as mothers since that was the purpose of the board, but their screen names often gave us a glimpse of their life. Women sometimes called one another mommies, and addressed one another with screen names such as 'johns mommy' or 'mommyof3'. Others identified themselves with their jobs, such as 'policemom' and 'mbaschoolmom'. In most screen names, 'mom' was included somewhere in the name. Over time, board members became more familiar with one another and wrote first names at the bottom, due dates, and ultimately their children's names and birth dates.

During the height of board activity, the board host reported 629 members in the birth club (posted 19 August 2001). By this stage, everyone in the cohort had ended their pregnancy and was in the first six months of her child's life (except for those mothers whose babies died). While 629 members existed, some became members but never posted, and some only posted once or twice. Thus, the actual number of community members who actively posted was smaller. On 17 September 2001, we counted 579 babies known to be born by board members of this cohort. At this time, these women were active on the board enough to post their baby's birth date, name and sex. Note also that a certain percentage 'lurk' – that is, read but never post. It is unclear how many threads have been posted since the board changed their thread-numbering system during the project. However, in Autumn 2002, there were over 10,000 threads or topics that had been posted.

Data

Anyone could become a member of the bulletin board by simply signing up and assigning oneself a screen name. As such, no one verified whether members actually were peri- or post-natal parents. One author of this paper (Drentea) was a participant observer in this website and checked her cohort's bulletin board daily for personal involvement and to ascertain information for this investigation. This study has both a qualitative and quantitative dimension: The qualitative section involves participant observation and discourse analysis (Berg 2001, Jorgensen 1989, Silverman 1993). The quantitative

section includes descriptive statistics on four samples of participants treated separately and then combined into one large sample. This paper answers the call in research on mothering that combines qualitative and quantitative research, which bridges the gap between positivist social science and interpretive/feminist social science (Arendell 2000).

Because of the personal nature of these data, Internal Review Board (IRB) approval was sought and granted for data collection and analysis. Confidentiality was maintained by changing any screen names to pseudonames.

Analysis

Qualitative. Members of the site posted topics daily. Within the cohort's bulletin board, threads were created. A thread is when a member's posting is submitted and multiple responses are posted for it, like an ongoing conversation between two or more members. For instance, early on, a post may read 'anyone else with morning sickness at night?' to which members would offer experience, their doctor's advice, and support on this topic.

Each day, the main researcher of this project read the ongoing threads and topics. She maintained notes of themes in the data, and printed out/analysed those threads which exemplified typical communication on the board. There was a fair amount of chit-chat on the board, especially as the first year passed. This type of communication, such as 'anyone watch ER last night?' was not analysed. What were analysed were the interactions indicating support, agreement and disagreement, challenges to the board's norms, and so on. The first author also printed out those threads in which conflicts arose among members to analyse the interaction, as a great deal of evidence comes out from these posts – especially showing community building and maintaining the supportive environment. Threads were posted typically for a two-week time span, so the researcher could check back if additional comments were made to a post. Much more activity was found in the early months of pregnancy and birth for the group, than now, more than three years after the inception of the board.

Quantitative. In addition to examining the exchanges qualitatively, we collected quantitative data on the members. Occasionally, members would respond to one of the website host's 'roll-calls'. This is essentially a check-in in which members are asked to provide some basic demographic information, such as the state or country of their residence, personal age, age(s) of child(ren), the most recent child's birthdate, and sometimes additional information such as working status, marital status and intentions for having additional children. Roll-calls were voluntary, so the actual number of those on the board would be far higher than any particular day when a roll-call was initiated. To reply to the roll-call, one had to be online checking messages and have time, energy and interest in sharing personal information.

We analysed four roll-calls that occurred during our study period. We used the information from these as data to characterise the bulletin board members. Since the same members could respond to multiple roll-calls, we

were sampling with replacement to ascertain members' demographic data. Members could therefore be sampled more than once. We actually report the likelihood of these multiple entries, and found that among the 180 respondents, 81 were sampled once; 40 were sampled twice; five were sampled three times; and one was sampled four times. That is: [(81*1) + (40*2) + (5*3) + (1*4)] = 180. We report descriptive statistics of board members from the main board by listing statistics for each of the four samples, and then again for the total sample.

Results

Quantitative

We will first report the quantitative findings, so that the reader has a sense of who the members of the board are. Table 1 reports the findings from the four roll-calls of the study. When an item is left blank, it is because it was

Table 1 *Descriptive statistics on the website participants who responded to roll-calls*

	Roll-call				
	1	*2*	*3*	*4*	*All 4*
Sample size	55	51	34	40	180[a]
Average age (s.d.)	30 (4.5)	28 (4.8)	n/a[d]	31 (4.6)	30 (4.8)
Residential region (%)					
Northeast	11	18	27	14	16
Midwest	24	10	23	22	20
South	29	36	27	39	33
West	27	26	0	18	18
Other country	9	10	23	13	13
Employment status (%)[e]					
SAHM[b]	49	55	n/a[d]	n/a[d]	52
WAH/WOH[c]	45	29			38
Other	6	4			5
Mean # total children (s.d.)	1.8 (1.0)	1.8 (1.0)	1.4 (.66)	1.6 (.81)	1.7 (.91)
Marital status (%)					
Married	91	98	97	97	95
Not married/single	9	2	3	3	5

[a]The sampling technique used was sampling with replacement. As such, the sample size of 180 from all 4 roll-call samples includes instances where particular respondents were sampled multiple times. More specifically, 81 respondents were sampled only once; 40 were sampled twice; 5 sampled three times; and 1 was sampled 4 times. [(81*1) + (40*2) + (5*3) + (1*4)] = 180.
[b]SAHM = Stay at Home Mom
[c]WAH/WOH = Work at Home/ Work outside Home
[d]n/a means this information was not collected in this particular roll-call
[e]Percentages do not add up to 100 due to missing values

not included in that roll-call. Since no one was required to answer a roll-call, there is potential unknown bias of who responds. Clearly, those who do not respond to roll-calls but read and interact on the board will not be represented in these descriptive tables. The nonresponders may be less outgoing, more private about sharing family information that includes first names, geographic locations and so on. In addition, the bias may be in the characteristics measured as well. For instance, perhaps those with more than one child were busier and thus had less time to answer the roll-call. Thus, while the sample is not generalisable, it does give some indication of who is on the board. However, as we can see across the four samples, the averages stayed quite constant, indicating a high degree of reliability at least within those who answered the roll-calls (an exception is in sample four where few stay-at-home moms answered, for reasons unknown).

Overall, based on the descriptive statistics, we found that the average age was 30. In addition, participants were fairly equally dispersed across the USA, and about 13 per cent coming from other countries – namely Canada, New Zealand, Great Britain, and a few from Asian Countries such as Hong Kong and Singapore. The average poster had 1.7 children, planned to have more, and the overwhelming majority were married. Finally, based on the total average, more stay-at-home-mothers (SAHMs in board lingo) were in the sample (53%) vs. only 41 per cent for work out of the home (or work at home) mothers (WOH/WAH in board lingo).

What is clear however, is the picture of affluence these results suggest. The relatively high percentage of stay-at-home mothers is far higher than the national average with infant children. Currently in the US, about 25 per cent of children under 15 living with their married parents (as most of this sample was) lived with a mother who stayed at home to care for her family (US Bureau of the Census 2003). Of course, mothers with children under two are more likely to stay at home, but even so, in 1999, an estimated 38 per cent of these mothers were not in the labour force. Certainly, however, some of these women were unable to work or were looking for work, and many were not married (US Bureau of the Census 1999). Additionally, a total of 95 per cent of all responders were married, which is much higher than the national average of 69 per cent for women with children (US Bureau of the Census 2003). Finally, these mothers were older on average (30 years old). This provides support for the claim that those in this sample, and who interact on parenting message boards, are more privileged, or possibly that those who were willing to answer roll-calls were those who were more socially normative – *i.e.* being married with children.

Furthermore, though we are uncertain, there is some evidence that stay-at-home mothers were the most likely to post on the board. This provides support for those who are most isolated, *i.e.* mothers with small children in the home may be seeking an alternative means of pursuing support (Munch, McPherson and Smith-Lovin 1997). It could however also represent those most comfortable to post. It is plausible that work-out-of-home mothers are

reading the board daily, but do not feel comfortable posting, as they are using their employer's computer.

Qualitative

Content of the posts primarily consisted of questions trying to establish if symptoms, behaviours or circumstances were normal or not. Often, after a description of the problem, the last sentence would be 'Is this normal?', and so on. Other typical themes were that they had a problem with family members and bosses, and eventually that they had a problem with the children. The women would often write a subject line that would state a problem and then follow it with 'HELP!' Another theme was 'I'm new here', which would quickly be followed by welcomes. Another familiar subject heading was 'need to vent'.

We categorised substantive information within and across threads. Three broad categories emerged as representative of the types of the social capital present in the posts. These categories include emotional support, instrumental support – both informal and more formal, and community building/protection.

Emotional support. The most prevalent type of post was emotional support. Women wrote about frustration and stress with pregnancy, children, and family – to which others would provide emotional support. When complaining, mothers maintained their normative place as 'good mother' in society by referring to family members as 'DH' (dear husband), 'DD' (dear daughter), and so on. This softened whatever the subsequent complaint would be. The use of dear before naming a family member was also sarcastic at times.

As women began having their babies, a month or so was taken up with announcements and congratulations. A post would typically read 'so and so arrived', and then the women shared the work of congratulating one another. With over 500 births occuring in about a month-and-a-half time-span, it was not uncommon to have up to five births a day – the births came fast and furiously between late March and late April – a time when everyone was in their last weeks of pregnancy. During these days, it was accepted that so many women were giving birth that anyone who had not yet given birth and was available should write the congratulations. In the event of a baby death (there were five in this group), up to 50 people would write messages of sympathy, indicating that during these busy times, women were still reading frequently. From this we see an active community, organising itself in sharing the emotional work of congratulating. As noted by Miyata (2002: 541) in her study of online social support in Japanese mothers, in a supportive online community, norms of generalised reciprocity are easily established. In this group, turn-taking was the norm.

In addition to supporting others for positive experiences, emotional support was also offered for those wrestling with their problems. For instance, Anna's_mom describes a litany of stressful problems. Her subject line was 'bad week . . . need to vent', and then she proceeds to tell us of her car accident, moving to a new house, DH working extra hours (she might have

had an early miscarriage, as she was bleeding lightly 10 days after her period ended), and finally, that her mother-in-law came and made a point to tell her she should only have one child – one's enough for her. She signs off, 'thanks for listening'. Others respond kindly with 'you poor thing, hang in there', and so on. All address the possibility of a miscarriage, and Erica adds, 'vent as much as you want here . . . we're listening and sympathising because we know what you're going through'. Wendy addresses another important issue, that light bleeding in that time frame could be implantation bleeding, when the egg implants itself in the uterus. She adds she does not want to add false hope, it could be a miscarriage, but also shares her story that she had this implantation bleeding. She ends the letter stating, 'write again if you need to blow off more steam. We Care'. Thus, Wendy has been supportive, encouraging Anna's mom to write if needed. Both Wendy and Erica speak for the group, by saying 'We Care', and 'We're listening'. However, an important exchange of information has been addressed (that it is common to bleed slightly in the first month of a pregnancy). We will address this again in the instrumental support section below.

In a third example, Dianne writes in her subject line 'HELP!' She is pregnant again, but her husband may be going to prison for having a fling with a 14-year-old student which is, understandably, causing her considerable stress. She explains that she believes there was no intercourse, and that he is a terrific father. She loves him more than anything in the world and has forgiven him. Her main problem is not the affair, but rather that she already has a 14-month-old (which is why she is in the birth cohort), and that now she will have to live on one salary with two children.

The first response advises her to look into mother/child groups and adds that,

> I hope nobody writes judging your dh. You need support in raising your child at this moment. That's what we are here for.

Only three women responded to this post, and all were supportive, offering the woman suggestions. In this example, while a few women wrote supportive suggestions, a large majority displayed a 'passive' support in which they did not say anything negative, but also did not respond. Unlike other tense posts, this remained untouched with negative comments of any kind.

The common thread among these three examples is that these mothers were under stress and were seeking out the support of others, particularly other moms with infants who might understand part of the nature of their stress. Just as evidenced here, previous research has shown that social support involves the use of social relations to vent frustration, share sentiments, seek empathy and bolster self-esteem (Lai 1995). Such support during pregnancy has been shown not only to enhance women's first year of motherhood (Oakley 1992b), but also to be associated with their children reporting better general health seven years later (Oakley *et al*. 1996). While we cannot

infer so much the status of the children of the women we studied, we are highly confident that the social support received by the women themselves was important for mitigating stress and improving their well-being based on our observations of their statements.

Instrumental support: informal. Informal information-sharing was ubiquitous on this website, and some of the more common issues discussed were pregnancy symptoms, breastfeeding, sleeping and colic. In the Anna's_mom example above, among her litany of problems that week, she shared a potential miscarriage. Another mother, Wendy, quickly pointed out that the time frame sounded as if it could be implantation bleeding, which sometimes occurred. Thus, Anna's_mom, who might be only two weeks pregnant, already had received the news that she might not have miscarried, and that she might be pregnant. As a result, she might act as if she were still pregnant, rather than becoming more depressed and potentially behaving in ways that might be harmful to a fetus.

In another example, regarding breastfeeding, Nadia shared the following information:

> My ds still nurses 6–8 times a day including night feeds. He usually gets up @ 1AM to nurse and then 5AM. Since he is underweight I feel that he needs the night feeds and haven't tried to discourage them.

Such informal information-sharing is a resource for these women. A single thread can contain a couple of dozen of mothers' responses regarding their breastfeeding practices similar to the one above. This is especially important to new mothers who have almost no frame of reference for what is normal. In addition, since these postings are global and asynchronous, the mothers can access them and the inherent information virtually any time.

Another mother compiled the results of a post that was a survey of how long babies slept through the night, based on whether they were breast or bottle fed, and their sex. She averaged the number of hours that each baby slept (of 47 posts), dividing the sample by sex and feeding method to report hours slept, thus providing a benchmark for members to ascertain whether their child's sleeping pattern was in the realm of normalcy.

Another issue the mothers discussed was if and how to let their babies 'cry it out' (CIO), *i.e.* cry themselves to sleep. Momof2boys wrote:

> Here's my situation, hope it helps. My first is now 2 – we didn't do CIO until he turned 1. The first year we were up every 2 hours with him most nights. We bit the bullet and were up rocking and rolling to his every whimper. UGH!! . . . With our April baby, he's always been a better sleeper and I was determined to learn from MY mistakes. We started CIO at 4 months. One night was all it took. He's awesome!

Similarly, reggaegirl shared,

> i had to do it with my dd 2 years ago and can still remember it! try to do some laundry . . . the dryer really blocks the noise . . .

Again, this information, at minimum, begins to give these mothers a range of what is normal for a cohort of infants roughly the same age and whether their child fits into that range. It also includes tips or techniques that the mother may not have heard of before, nor possibly have access to, if it were not for participating on this website.

Instrumental support: formal. While informal information was the most prevalent type of information exchanged, frequently more formal information was passed along as well. By formal, we are referring to information derived from professional experts or organisations. Following the breastfeeding example above, some mothers passed along formal information on the appropriate amount of time a child should be nursed. For example, MomX shares:

> The AAP [American Academy of Pediatrics] recommends bfing for a minimum of a year, not stopping at a year. The WHO [World Health Organization] recommends bfing for at least 2 years.

Similarly, one mother participant identified herself to be a speech language pathologist and addressed an issue raised regarding the normal age range for developing motor and language skills:

> . . . if he doesn't say his first word by 15 months, I'll start to worry, and if he hasn't by 18 months, I know he may need an evaluation. I also know of kids who did not speak until after 18 months, who did catch up to their peers by kindergarten . . . I guess my point is, there's a lot of leeway as to what is 'average'.

Finally, in an exchange regarding crying it out to teach a baby to fall asleep on his/her own MommytoPam writes:

> My dr has told me several times that under 12 months old you should never let them cio for longer than 15 minutes.

To which Meridethsmom says:

> Most of the sleep experts (even the book by the AAP) say that if you go and get a child at a set time, like 15 minutes, then they learn to cry for 15 minutes every night. If you let them cry without a limit, then they figure out how to soothe themselves to sleep. Also they all say that babies are old enough to cio at 4 months. If you wait until they're a year old, it's much harder.

These formal guidelines and informal information-sharing serve as resources to mothers, who can subsequently decide whether they think their infant is

doing something normal or abnormal. Furthermore, if the mother decides the infant is acting abnormally, she can act on this information by seeing a physician. These examples illustrate that social capital can operate through the diffusion of information. In many ways, these resources are more advantageous than being a novice mother with few, if any, ties to ask questions of.

Community building and community protection

One common outcome of women discussing child rearing was disagreement and anger. Clearly, new mothers enter a hotbed of emotional issues when they struggle with how to feed their baby, put them to sleep (let them cry it out for instance), and even how to deliver (*e.g.* use medication or not). As such, this board was not without its share of conflict. Though most of the exchanges were supportive, even when the issue was controversial, occasionally one would write in with a problem on a delicate issue, and a battle of sorts would ensue. One of the roles board members took on was generally to try to make peace and accept all opinions, ideas and advice, and agree to disagree – because the broader goal was to maintain an atmosphere of support for the mother. Much anguish resulted from these types of threads, which could quickly (within hours) list 20 to 50 posts, (as compared with the usual 3 to 4 per topic). We analyse these occurrences to show the level at which board members fought to maintain and protect their supportive network.

Initiating a new thread, for instance, a proud mother writes a post with the topic heading, '13 months old and a whiz kid'. She then describes the advanced language her son is using, and so on. She asks all in caps, 'TELL ME IF THIS IS AVERAGE OR ABOVE AVERAGE'. Another mother, Sally, writes tersely and condescendingly that this *is* average behaviour, and that 'if your child isn't doing these things you're in trouble'. She then lectures the original poster about letting her children watch TV. Sally has violated the message board's norms about being kind to one another. Within hours, many women write to offer support to the first poster, try to make peace 'every child develops at his/her own rate', and criticise Sally for violating the norms of the board.

MBAmom posts that she did not like the tone of Sally's post. Not everyone's child is speaking at 13 months, and it is not yet time to declare these children in trouble. Sally responds with the following:

> If you are taking away information from these boards and thinking it to be truthful and accurate, you need a good talking to. These boards are not a place to gather information, they're nothing more than a place for idle chit chat . . .

Others quickly disagree. Jackiesmom replies,

> Sally, I disagree with you. I think a lot of people do come to these boards for advice and information. I've been coming to my March 99 board for almost 4 years and have found a wealth of great information and friendship as well. A lot more than 'idle chit chat' that's for sure.

Others respond with similar comments, calling the women on these boards their friends, saying they have received more advice from the board than from their doctors. Sally continues to protect her stance and alienate members, writing in a defensive and aggressive manner. At this point, it seems as if the women on the board, trying to protect their community, have still not created a truce. During the work day, about three posts an hour come in trying to reach a mutually-agreeable truce. As this does not occur, the board host brings it to the level of the website's community manager. She writes:

> It saddens me this thread got out of hand. Sally your posts are uncalled for so I've taken steps to inform the community manager. We don't need negative comments here!!!!!

The community manager then posts the following:

> I'd like to . . . share with you what support boards are for, especially in light of what has recently shaken the regular, happy nature of this board. Support boards, like this one, are created . . . for SUPPORT. . . . We should all be supportive of one another, and try to steer away from unsupportive or negative posts.

In this exchange, the women on the board worked to restore their supportive community. When the exchange could not be resolved, they called upon those with authority to help them. Bringing in the community manager of the website offered an objective voice encouraging women to support one another. It also suggested that Sally could be officially removed. Someone had been removed from the board before by the community manager, and stating that 'we don't need your negative comments here!!!' suggested that Sally could be blocked from posting.

In a second case where a hot topic was CIO a woman, Lonnie, writes to the board that she is attempting CIO at the moment with her five-month-old. Lonnie writes:

> oh god, i am just dying. My dd has been crying non-stop for 24 minutes. this is awful. is there a time when it has gone on too long. i don't know when to call it quits. oh this is sooo painful.

About four women write quickly to offer support: 'hang in there!', 'Wow! I think you really did great' and so on. Several offer the advice of their

paediatricians (see above in section on instrumental support) for guidelines of when enough is enough. But then the eighth poster, Katy, writes:

> Just my opinion, but I have to say this: I am absolutely heart sick to think of babies crying and crying and their moms not going to help them . . . why do we want them to be independent so soon . . . (I know this will be very controversial, and don't bother trying to defend your point of view because my mind is made up) letting your baby cry it out is cruel, unfeeling, inhuman. It desensitizes you to them . . . (this is proven in numerous studies I have read).

Katy has just violated the norms of the board of being accepting of others and supportive. She tries to bolster her opinion with scientific knowledge of mothering in order to gain more credence (see Litt 2000 for an examination of scientific mothering). She is a regular participator in the board, and feels justified to violate norms because she feels so strongly about the issue and wants to protect the babies.

Baseballmom then responds:

> Let's please, please, please not start a debate here! This is such a friendly and supportive board . . . I just hate to see anyone get 'beat up' on this board. Everyone has a right to their own opinion, but let's not put each other down.

A few others agree with baseballmom, another one called Katy mean for what she wrote, and then Katy returns to try to soften her original post. She is the 12th poster to this thread. She writes:

> I'm not trying to make anyone feel bad . . . what you read was my very spontaneous reaction to a method that obviously everyone has strong opinions about . . . maybe I should have waited until I cooled off – but my answer is posted now, and I guess those are my honest feelings . . . Sorry if my reaction was too strong, or strongly worded, and I don't want a debate . . . but we just can't be *blindly supportive* – or I can't anyway [our emphasis].

To which Judi, new to the debate, replies:

> No one is asking for anyone to give blind support to anyone on this board. [But] this is not a debate board and not a 'trashing' someone's parenting skills board . . . Just please do not go around criticizing her for making a parenting choice different from you own unique style . . . i would be tempted to say something about being the child of someone who could not control what she said to others even in an environment where one is given all the time in the world to 'cool off' before responding [her quotes].

Judi then addresses the original poster to 'take heart hon'.

In this post, Judi clarifies that blind support is not what the board is about, but it is also not about criticism. She makes a good point about the nature of a heated debate in a cyber conversation, and that is, one can choose how and when to respond. In this case she says we can cool off, and yet, this post came in within hours of Katy's previous response. Judi appears to have cooled off enough to use the word 'please' and go back to more normative, polite conversation.

The women of the board do not want Katy's criticising remarks posted. While Katy feels she is in the right for protecting the wellbeing of the baby, not one of the 15 posts in this thread supported Katy's actions. Indeed, once Katy had written her response, (post #8), the subsequent posts were more about violating the norms of the group. Unlike men in similar situations who are likely to flame a violator of the norms, these women still chose a conversational way of sanctioning Katy. They did so by expressing that the board was for support and by expressing their feelings.

The community of support continued, but at times was challenged and grew stronger as a result. Controversial topics were especially thorny/difficult, and caused rifts in the group. However, a process of debate, introspection and support always occurred that would result in the community pulling closer together.

In a thread regarding if anyone planned to breastfeed after one year – always a controversial and emotionally-laden topic—the first poster wrote:

> There's a lot of talk from BFing [breastfeeding] moms here about weaning. I'm just wondering if there's anyone here in the same boat as me. I'm planning on letting [my baby] BF between 2 and 3 years. Am I all alone?

Women on this board constantly asked if *they are alone* in their beliefs, their actions, or their child's behaviour and so on. Much of the function of the board is to put other mothers' minds at ease. For instance, in this exchange, the second poster replied:

> [I haven't cut back yet, but] I doubt I'll go for two or three years, but kudos to you for the effort!

The third poster writes she thinks she will do the same, and signs her response with, 'I'm here with ya!!!'.

Next a fourth poster, Stephanie, writes that while she knows this 'won't go down well with some of you' she does not think a walking baby should be breastfed. This began a battle, where women wrote to put down Stephanie's ideas. One particularly adamant mother said:

> I think the reason we are so put off with BFing an older child is because we have breast shoved [sic] in our face as sexual objects, not as the mothering tool they really are . . . so I say . . . Rock on! And nurse that baby . . .

Any time a thread was contested in this manner, where feelings may be hurt, or certain posters were singled out, the community quickly worked to make peace. The original poster writes to all and said:

> I make it a point to never judge other mom's feeding methods . . . And, yes, I was looking for SUPPORT [her emphasis].

Such contentious opinions among strangers begs the question as to how these women develop trust among each other – how do they (or don't they) trust the information provided by strangers on such sensitive topics? Trust is a central issue related to social capital with dynamic causal relationships between the two (Lindstrom 2004). On the website we studied, however, many network ties were providing information (*i.e.* capital), but they were the ones that had to be trusted. The women generally grew to 'know' one another and formed emotional bonds, thus increasing trust. Also, based on roll-call statistics, the women were somewhat homogenous (older mothers and reasonably financially secure), which also increases trust.

Regarding these women *expressing* issues, there is probably a higher level of trust than usual because they are posting anonymously. However, as far as trusting others on the board, especially the information they *receive*, we believe the issue is a little more complex. It was obvious to us that the women often followed the advice of others and were grateful for the information. But, there were also a couple of mentions on the board about taking information 'with a grain of salt'. As such, we think the participants' trust lies somewhere in between. It appeared that women followed the advice on things that they perceived to be relatively safe (*e.g.* let the child cry a couple of more minutes or breastfeed a little longer), but would not if it was perceived to be less safe or violated their personal belief system (*e.g.* believing it was morally wrong to let a child cry longer – that this was like a form of torture to the child). Certainly, more research is needed to examine the underlying process as to how trust is developed on such internet sites.

Discussion

We argue that in the case of pregnancy and mothering, the website created an online community which provided the means for instrumental and emotional support. In other words, we believe the site became a place for enhancing mothers' social capital. Lin (2001: 29) states 'social capital is resources embedded in a social structure that are accessed and/or mobilized in purposive actions'. In this case, these mothers received information from an online community creating information resources and social support (Fox and Roberts 1999, Miyata 2002, Sharf 1997).

The information mothers received comes from a more heterogenous group of women than could ever be realised in one's personal network ties. In

contrast, information coming from strong ties such as family and friends, will be homogenous in nature (Granovetter 1983). As Litt (2001) shows in her study on African American women and Jewish women, women belonging to a group in which they are ethnically, culturally and often geographically bound receive the same types of information, which decreases diverse information and social capital. While this board greatly increases heterogenous ties, it produces social capital for more affluent mothers (a more homogenous group). Thus, those with financial and cultural capital, who have regular access to computers, are the ones who create and receive more social capital, furthering global inequality.

The website also plays a role in the deprofessionalisation of medicine and the strength of self-help social movements. This website moved the information from science and professionals to women themselves (Hardey 1999). This online community is a self-help group that is common in post-modern society, where we want to turn to anonymous others, rather than family and religion (Taylor 1996: 122), and want to choose and create our own sources of expertise (Hardey 1999).

It could be argued that the website created a source of feminine thinking, thus creating a circle of women who were empowered by taking some of the power away from the masculine medical establishment and back into the realm of women. Here, women discussed mothering with other women, creating their own feminine space (Richardson 1993). Alternatively though, the board also recreated the circle of motherhood as a female-dominated sphere, thus reinforcing male and female inequality (Chodorow 1978). Thus, the website might simply open up another separate sphere for women who mother (Ribbens 1994), isolating mothers even further from contemporary society. What we see then is that women continue to do the main work of parenting. Thus, the online community of women is another mechanism of inequality where women talk to other women; spending a significant portion of their time and energy on mothering. We believe the website is both: (1) a feminine circle of support, where women empower themselves against the medical establishment (Oakley 1992a); (2) but also a mechanism of inequality, where women spend countless hours reading/writing about mothering, and dealing with all the worries of pregnancy, childbirth and childrearing. Thus, one future research question this leads to is what would it take to create a similar social space where men were equally active and concerned with parenting issues? We now move on to examine the pros and cons of the website.

Online communities – pros and cons

Here we address some of the pros and cons of this online community, as well as comparisons between verbal and online communication. An advantage of this group is that it is asynchronous – one can participate when and how one prefers. This is different from verbal communication where a response is usually immediately required. In addition, it can be accessed from anywhere on the globe as long as one has internet access. Finally, to attend a virtual

group, one does not have to load oneself and baby into a car – an obstacle related to social isolation among mothers (Mauthner 1995). Additionally, because of anonymity and the intimate nature of many problems and concerns associated with pregnancy and childbirth, women were even more free and open and received more support.

There are, however, negative aspects to an online community as well. Most importantly, because it is anonymous, it could never substitute face-to-face concern and caring interactions among family and friends. A large degree of communication is not verbal among humans, but rather is expressive (Preece 2001). To replace some of the missing visual human emotion and personality related to communication, it is common for online users, including the ones on this board, to use emoticons (*i.e.* the text and symbols to suggest emotions). For example, smiling, winking and sad faces can be illustrated with a few simple keystrokes. While these tools certainly do not approach the complexity of face-to-face human interaction, they do help with interpreting text. However, misunderstandings and confusion may still arise. For example, someone may be offended or have their feelings hurt unintentionally because communication was not clear.

Another issue delineating online and face-to-face interaction is that trouble-shooting problems with babies often requires *seeing* the baby. A feeding problem may be detected when a doctor or experienced mother sees the beginning of transparent-looking skin on a newborn, or detects dehydration when an older baby does not cry tears. Additionally, participating in an online community is time consuming. During active times, one could easily spend an hour a day reading/participating in the board. For mothers at work, this may result in a loss of work time, as was found with hours spent in online banking and finance transactions (Bailey 2003). However, in one study on mothers in an online mothering site in Japan, mothers involved in an online-support group were even *more* likely to get support offline from family and friends (Miyata 2002).

Conclusion

The debate over whether cyber communities increase or decrease social capital and human interaction has been ongoing for years now, finding support for each side (see DiMaggio *et al.* 2001 for a review). We agree with those who argue we must increasingly identify the conditions under which cyber communities enhance or decrease social capital (see Nie, Hillygus and Ebring 2002, Quan-Haase *et al.* 2002). In this case, we find that a virtual community of mothers with young children increases social capital during a time when women are isolated as new mothers.

More specifically, we find that social capital operates through emotional support, information-giving, and community protection to aid mothers of infants. Such social capital mitigated the stress of these mothers and provided

valuable information regarding the care of their children. We also believe that the board is an empowering source of feminine space, where knowledge is reclaimed from the medical establishment. It is also, however, a place where gender inequality is reified, and women continue to do the bulk of childrearing. One question future research will have to address is whether access to and participation in mothering boards perpetuates race, class and gender inequalities. Do non-participating mothers find other means of support and information, or are they disadvantaged? Given that Oakley and colleagues (1992b, 1996) find that supported mothers have higher wellbeing and their children are healthier years later, this is an important area for future inquiry.

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