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Ethnographic Approaches to the Internet and Computer-Mediated Communication

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In this article we review ethnographic research on the Internet and computer-mediated communication. The technologically mediated environment prevents researchers from directly observing research participants and often makes the interaction anonymous. In addition, in the online environment direct interaction with participants is replaced by computer-screen data that are largely textual, but may include combinations of textual, visual, aural, and kinetic components. We show how the online environment requires adjustments in how ethnographers define the setting of their research, conduct participant observation and interviews, obtain access to settings and research subjects, and deal with the ethical dilemmas posed by the medium.

Keywords: *ethnography; computer-mediated communication; Internet; participant observation; interviewing*

Technologically mediated communication is being incorporated into ever more aspects of daily life (Clegg Smith 2004, 223; Mann and Stewart 2000, 209; Vayreda et al. 2002; Whitty 2002, 2003, and 2004). The distinction between online and offline worlds is therefore becoming less useful as activities in these realms become increasingly merged in our society,

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and as the two spaces interact with and transform each other (Bakardjieva 2005; Haythornthwaite and Kazmer 2002, 441; Suoranta and Lehtimäki 2004; Salaff 2002; Carter 2004).

While there exists a huge body of research on the Internet and computer-mediated communication (CMC), only some of this research is qualitative, and of this, an even smaller portion is ethnographic. With the exception of a relatively small group of ethnographers who focus research efforts on the Internet (for example Cherny 1999; Hampton and Wellman 1999 and 2001; Hine 2000; Kendall 2004; Kozinets 2001; Leung 2005; Lysloff 2003; Walstrom 2000a and 2000b), most ethnographers still conduct studies firmly situated in the "offline" social world. To continue to effectively explore some of the main and enduring concerns of ethnographic research (such as the nature of specific social worlds and subcultures; the construction of identity; the beliefs, values, and world views underlying human action and social life; and the experience of everyday life) ethnographers must incorporate the Internet and CMC into their research to adequately understand social life in contemporary society.

Our analysis of the ethnographic literature on technologically mediated phenomena suggests that ethnographers must alter their research techniques to accommodate these social changes. Specifically, we argue that the current blending of offline and online worlds requires ethnographers to incorporate CMC in their study design and procedures for approaching and interacting with research subjects:

1. Because online ethnographers are not physically co-present with their research subjects, they cannot use their interpersonal skills to access and interpret the social worlds they are studying. Instead, ethnographers must develop skills in the analysis of textual and visual data, and in the interactional organization of text-based CMC.
2. The process of gaining access to the setting and research subjects is different in online ethnography because of the lack of physical presence and the resulting anonymity provided by the medium. Ethnographers must therefore learn how to manage their identity and presentation of self in visual and textual media and to do impression management via CMC modalities such as e-mail, chat, and instant messaging.
3. The blurring of public and private in the online world raises ethical issues around access to data and techniques for the protection of privacy and confidentiality. Ethnographers must learn how to apply standard principles of human subject protection to a research environment which differs in fundamental ways from the face-to-face research contexts for which they were conceived and designed.

In this article we analyze the existing ethnographic literature on the Internet and CMC, as well as writings about conducting research online. We will first discuss methods of data collection and analysis, including participation observation, fieldnotes, and interviewing. The second section will address issues of obtaining access to the research setting and subjects. The final section will address ethical and human subject protection issues which arise from the unique characteristics of the online environment.

Defining the Setting in Online Ethnographic Research

When people are not interacting face-to-face, but only via chat rooms or by creating and reading Web pages, where is the ethnographer to put his or her feet? Some ethnographers argue that "virtual" sites of ethnographic research differ greatly from traditional "real world" settings (Hine 2000; Lysloff 2003). Forte (2004, 226) writes that "both involve the detached study of a "site" that pre-exists the ethnographer and which the ethnographer comes to "visit" as an "outsider." In Lysloff's (2003) study of an online music community she contrasts online "viewing images and listening to sounds and music, of reading and writing texts" (Lysloff 2003, 235) with her previous ethnographic experiences in Java which involved physical and social immersion in the day to day life of that community.

While some argue that the "virtual" world is a different "social space" than the "real world," we concur with those ethnographers who argue that there is one social world which contains both traditional and technologically advanced modes of communication and sites of social activity (e.g., Ruhleder 2000; Lyman and Wakeford 1999, 360). "Virtual reality" is not a reality separate from other aspects of human action and experience, but rather a part of it. Therefore, ethnographers should define the field or setting of their research on the basis of their research topic, rather than arbitrarily or prematurely excluding one arena or the other (see Hampton and Wellman 2001 and 1999; Campbell 2006, 277). The ethnographic research we reviewed reveals a variety of approaches to how the setting of online research is defined.

Social Phenomena which Exist Solely Online

We found very few ethnographic studies of online settings in which members have no offline contact. Members of some online support groups

have only online contact, as in Walstrom's (2000a, 2000b, and 2004a) study of people with eating disorders, Nelson and Otnes' (2005) study of brides planning international weddings, and LeBesco's (2004) study of the experience of being overweight. For some types of listservs all of the interaction between group members is online (e.g., Kleinman's [2004] ethnographic study of an international listserv for people interested in the topic of women in science and engineering). Because in these types of groups participants' only contact with each other is via CMC, ethnographers can study the social life of these support communities solely by examining their online behavior.

Social Phenomena which Exist Primarily Online

More common are those settings in which members may have some offline contact, but the majority of their contacts and their primary experience of that setting are online. For example, Lysloff's (2003) ethnography of composers of computerized music involved a community whose activities and contacts were routinely computer mediated, with only occasional face-to-face encounters. Taylor's (1999, 437) study of "digital embodiment" investigated the online electronic medium used to create avatars for use in virtual worlds; the setting for this aspect of her research was therefore online behaviors, locations and technologies. Cybersex is by definition online behavior; Whitty (2004) defined the CMC through which these online relationships were conducted as the site of her study, while acknowledging that some of these online relationships do develop into offline relationships. In sum, for these types of locations it is feasible to limit the setting of the research to online/CMC phenomena.

Multimodal Social Worlds as Research Settings

When the social phenomena being studied are conducted through both CMC and face-to-face contacts, it is necessary to define the setting to include online and offline components. For example, in Hampton and Wellman's (2001) study of "Netville," an experimental wired community, one of the coauthors lived onsite and conducted both face-to-face and virtual participant observation of community life. Other ethnographic studies in which the phenomena observed had both online and offline components include Miller and Slater's (2000) study of Internet use by Trinidadians,

Green's (1999) study of virtual reality technologies, Kozinets' (2001) study of Star Trek "fandom," Ruhleder's (2000) study of students in an online classroom, Kendall's (2002) study of masculinity in an online "pub," Clark's (2004) study of a Linux user's group, Correll's (1995) study of an "electronic bar," and Jones' (2005) study of gay men using chat rooms to find friends and sexual partners.

The ethnographies we examined varied in terms of how effectively they defined the setting of their research, with some studies erring in the direction of too great a reliance on online aspects of the social world. For example, Silver's (2003) study of a real city's "electronic village" relied primarily on online interactions (e.g. newsgroup postings and Web sites), although a small number of face-to-face interviews with participants were conducted as well. Offline participant observation would have strengthened this study and demonstrated how relationships, networks, and other connections within the community were formed or affected by their online dimensions.

The Offline Social World as a Research Setting

We found very few examples of ethnographic studies which dealt with the effect of CMC or the Internet on "offline" aspects of social life. Bakardjieva's (2005) ethnographic study of how having a computer in the home affected such aspects of everyday life as parental roles and tasks and family togetherness is one study which focuses on the offline impact of computer use.

Defining the Setting in Online Ethnographic Research

While some social phenomena exist solely online, we found that there are very few research topics that justify limiting the field to online phenomena. Therefore, while some researchers may perceive examining Web sites or CMC as a shortcut to data collection, the setting of the study should typically be defined to include relevant offline components of the social world as well as the CMC. Rather than deciding in advance to conduct an ethnography of an online site or community, the ethnographer should first choose their topic of interest, and then define the field in terms of whether and how that topic involves different modes of communication or technological locations.

Our review of existing research into the Internet and CMC suggests that "virtually all" ethnographies of contemporary society should include technologically mediated communication, behavior, or artifacts (e.g., Web sites) in their definition of the field or setting for the research. For example, much of the communication that used to take place face-to-face or over the phone is now routinely done electronically in workplaces, organizations, and institutions. In many organizations today, you can not understand how work is done without examining emails, instant messaging, hand held electronic devices, and company Web sites. Another example is ethnographic studies of the social worlds of children and teenagers. What would Adler and Adler's (1996) study of social stratification among school children reveal if the study were redone in the current era of cell phones, e-mail accounts, social networking Web sites, and text messaging? At the very least, the existence of enduring documents of the children's communication (e-mails, recordings of chat room conversations, Web site postings, etc.) would allow for more precise examination of their relationships and friendship networks. Even when participants in a social world do not utilize CMC, they are affected by their failure to use it, because the "traditional" modes of communication (face-to-face, telephone, and writing), are no longer the only, or in some settings, even the primary means of communication. The invisible effects of exclusion from CMC also need to be addressed (e.g., how does a homeless person without access to the Internet find a job, an apartment, or even social services?).

Once the ethnographer has defined the field or setting of his/er research, there are adjustments in data collection and analysis which must be made when CMC/online phenomena are studied. In the next sections we will address these issues.

Online Participant Observation

Our analysis of online ethnographic research suggests that the participation observation approach must be adjusted when working in online settings. First, since the ethnographer can not directly observe the people she or he is studying, the nature of observation changes. Second, the ability to technologically record events, interactions, and locations in online research settings changes the role of field notes and how findings are reported. Third, the nature of online data (e.g., textual and visual material rather than people speaking and acting) requires a different set of skills for understanding and analyzing it. Fourth, existing ethnographies of the Internet/CMC

tend to privilege text-based phenomena at the expense of visual phenomena. And finally, the use of sound and movement in Web sites is under-analyzed in current online ethnographic work.

On "Being There": The Nature of Online Observation

Observation in online research involves watching text and images on a computer screen rather than watching people in offline settings. However, the technologically mediated environment still provides direct contact with the social world the ethnographer is studying, since participants in that setting communicate through online behavior. In her studies of online support groups, Walstrom (2004a and 2004b) uses the term "participant-experiencer" instead of "participant-observer" to characterize the nature of the researcher's role in the setting. The participant experiencer "entails the role of active contributor to the group being studied. This role specifically refers to a researcher who has personal experience with the central problem being discussed by group participants" (Walstrom, 2004a, 175). The use of the term "experiencer" instead of observer is helpful because in the online support group there is no opportunity to directly observe the other members of the group; the researcher can, however, experience what it is like to participate in the group by reading and posting messages to the group. Schaap (2002), writing about his ethnographic work in MUDs (online locations where participants interact via constructed characters) notes that:

> My observations are purely textual and I haven't met any of my informants face to face. While this poses some unorthodox problems, I believe that one learns to speak and listen, or rather write and read in this world just as one would in a particular physical locale. After a while one starts to discern what kind of conversation one is having, which clues to pick up on and when informants are reluctant to speak about a certain subject. (Schaap 2002, 29-30)

While in the offline world observation requires at least the minimal participation of "being there," many online settings provide the opportunity for completely unobtrusive observation: the researcher can observe by "lurking." In some online contexts the presence of the lurking researcher is undetectable, in others, the researcher's presence in the interaction may be detectable, but not his or her identity. We found that online ethnographers have a variety of perspectives on the advisability and ethics of lurking.

Some ethnographers advocate beginning a participant observation study of online phenomena by lurking first. For example, Kozinets and Handelman

(1998) used lurking to gain information about consumer's boycotting behavior. This period of observation gave them information that they then used to create interview questions. In Shoham's (2004) ethnographic study of Israeli chat rooms he first lurked, then introduced himself as a newcomer to the community engaged in participant-observation research.

Other ethnographers advocate active engagement in the field as a superior data collection strategy (Bell 2001; Miller and Slater 2000). Bell (2001) writes "[l]urking is a one-way process, and one of the strengths of ethnography is its emphasis on *dialogue* with respondents—recasting research as collaboration rather than appropriation" (Bell 2001, 198). Heath et al. (1999) also argue that lurking is not the same as participating, and therefore does not produce the same benefits for the research as active participation.

> If we take seriously the imperative to locate ourselves within political, historical, and cultural processes of the practice of research, then we do not believe that lurking online, as a singular mode of ethnographic research, is a satisfactory means to understand and/or relate to our subject matter. (Heath et al. 1999, cited in Lyman and Wakeford 1999, 367)

While acknowledging the advantages of unobtrusive observation which lurking provides, Sveningsson (2004, 47) addresses the ethics of lurking: "What happens to the privacy and integrity of the people we study?" While there may be advantages to announcing one's presence as an online researcher (Clark 2004; Roberts, Smith, and Pollock 2004; Sveningsson 2004), in some cases disclosing one's presence to ask for consent may sacrifice participants' anonymity and disturb naturally occurring behavior (Soukup 1999). While some online participants prefer researchers to lurk first to gain knowledge about the setting before asking questions, LeBesco (2004) found that participants felt spied on when she was lurking, and would have preferred her to actively engage with them (see also Maczewski, Storey, and Hoskins 2004, 72; Kendall 2002). In their survey of listservs and newsgroups, Chen, Hall, and Johns (2004) found that while researchers may be encouraged to lurk first to familiarize themselves with the setting before asking questions, it was not acceptable to collect data from newsgroups and listservs without permission or without identifying oneself as a researcher (see also LeBesco 2004).

Conforming to the Norms of the Online Setting

Online ethnographers can gain access to a field setting and recruit potential research subjects by displaying cultural competence of the norms of the group

they are studying (Walstrom 2004a and 2004b). For example, Clegg Smith (2004) discovered that posting a message announcing her study of an online listserv for doctors would probably have been badly received. In that online community any message off the topic of discussion was subject to negative comments by group members. Cherny (1999) also found her entrance to the field (MUDs—multiplayer online computer games) was facilitated by participating in the activity before beginning her research project. "Being a participant first, and sharing the community's response to much media coverage of MUDs, I no doubt had an easier entree as a researcher" (Cherny 1999, 301). Another technique is to identify oneself as a member, or at least a sympathizer of the group being studied. For example, in LeBesco's study of "fat positive" USENET discussion groups, she presented herself as "one of us:"

> I gained entree, organizational and individual, to these sites as a researcher, partly, I suspect, because I committed early on to a fat-positive perspective. Part of my introduction, aside from my academic credentials, explained my interest in studying online conversations about fat as stemming from my personal experience of corpulence. I positioned myself as someone who had lost weight and would no longer be considered "fat" by what I imagined to be their standards, but as someone who respected and still wished to participate in many of the struggles waged in fat communities. (LeBesco 2004, 66)

Catterall and Maclaran (2002) recommend using electronic resources to have a private conversation with a research participant to learn how best to conform to community norms in that particular online setting:

> Most chat rooms have a one-to-one facility for private conversations which enables one person to "whisper" to another member. This can be used to seek advice on how to comport oneself within the community, the most productive times to visit the room, and so forth. (Catterall and Maclaran (2002, 231)

As the examples above show, online settings present the ethnographic researcher with something of a dilemma as they try to learn the norms of the online research setting. While information about the setting can be learned by silently lurking, some groups will object to this behavior. Lurking first, if allowed by the site and by the IRB, is acceptable if that is how participants in that setting routinely participate. If not, ethnographers will get a more authentic experience of an online setting if they jump straight into participation. In short, the ethnographer should attempt to experience the online site the same way that actual participants routinely experience it.

The Nature of Data for Online Participant Observation

Technologically mediated environments profoundly change the nature of the information obtained through participant observation research. Soukup (2000) writes that most CMC research has a textual bias, focusing on the written word rather than on the full range of modalities available. While textual, visual, aural, and kinetic aspects of CMC are integrated in online environments, we will discuss them separately here.

Interpreting Textual Data

The textual data available for participant observation research include e-mail, chat room interactions, instant messaging, Web sites, and other online environments. There is a large body of research on emoticons in text-based CMC which ethnographers should be familiar with (see, for example, Mann and Stewart 2000 and 2002; see also Huffaker and Calvert 2005; Riva 2002). Campbell (2006) found emoticons and other aspects of online communication in a newsgroup for "skinheads" to be used by members to construct identity and form relationships.

> The participants made use of various techniques to convey physicality, emotion and feeling: colloquial vernacular (an indication of locality), the selection of specific words which expressed subtly in feeling, the use of uppercase letters to denote anger or shouting, and the more explicit use of emoticons. Methods for constructing individual idiosyncrasies included the use of quotes, automatically incorporated at the end of each message, lyrics from skinhead songs, or hypertext links to favorite or self-authored Web sites. These modes constructed and communicated versions of the "self," and they were read and interpreted by others as style and dress might be read offline. (Campbell 2006, 277-78)

Campbell (2006) argues that what participants write conveys important information about their identity, presentation of self, and how they define and perceive their world. However, it is not enough to simply "translate" emoticons or be fluent in their use; these and other aspects of participants' text-based interaction pose interpretive puzzles for the ethnographer in terms of their relationship to participants' presentation of self. Markham (2004) cautions against making assumptions about interviewees based on their use of emoticons, style of communication, or skill at writing, typing, or spelling, and so on. In one case a participant's textual performance led her to make assumptions about the person's gender, race, and level of

education, which may not have been accurate or relevant to their interactions with other members of that online community.

While the use of slang terms, abbreviations, and emoticons in online communities should be of concern to ethnographers, what is not often as readily appreciated is how the medium changes the organization of online interactions. For example, the asynchronous nature of chat room talk changes the sequencing of messages which may make interpretation problematic. Others may post messages which intervene between a post and the message it responds to (Garcia and Jacobs 1998 and 1999; Markham 2004).

> Organizing interactions into retrospective linearity may be a natural way of making sense of what happened, but it does not allow us to view, investigate, and build our knowledge base of how fragmented and disorganized interactions construct identities and relationships. (Markham 2004, 153)

In short, a printout of a chat room conversation is not a substitute for observing the interactional process which produced it. Because of the effect of sequencing issues on the organization of chat room talk ethnographers should consider using a research setting which allows them to obtain screen save data from all participants, to determine how each party interpreted the conversation as it unfolded.

Integration of Visual Data

In offline participant observation, ethnographers routinely experience and analyze participants' verbal messages in conjunction with their facial expressions, tone of voice, and body language, along with the impression given by their appearance, clothing, and setting. Online ethnographers should also take care to integrate visual aspects of the data into their observations and analysis and treat visual data (e.g., the use of pictures, colors, page layout, and graphic design of Web sites) as a key aspect of the online location. This may require developing a new set of skills and data collection methods.[1] Ethnographers of the Internet/CMC have developed useful ways to incorporate visual data into their participant observation research:

Visual aspects of Web sites. Hine's (2000) analysis of Web sites devoted to a famous murder case included both the visual and textual components. She discussed the choice of photos that were used, the backgrounds for the photos, the types of layout or arrangement of objects and text on the page, and other aspects of the visual appearance of the sites in terms of how they conveyed an emotional message about the case.

Use of photos by online participants. Jones (2005) analyzed photos exchanged over the Internet in his study of gay men searching for online friends or sexual partners. He found that participants chose to display photos which conveyed information of interest to their co-interactant (e.g., physical appearance, body type), while at the same time making identification of the person from the photo difficult or impossible.

The use of avatars. Taylor (1999) studied how participants in virtual worlds create visual representations of their characters which they then control in interactions with the avatars of other participants. Participants' interactions are thus mediated by visual representations as well as by the characters that are created.

The use of Webcams by online participants. Keating and Mirus' (2003) study of Webcam Internet connections between deaf speakers of American Sign Language shows how the technology facilitated visual communication between the participants. In a case study by Lyons (2003) of a "wearable computer" expert, the researcher took screen shots from the participant's computer. When the participant was interviewed later, the screen shots were played back to jog his memory so he could better recount his experiences while wearing the mobile computer. The researcher found the screen shots to be an invaluable tool during the interview sessions. Wise (2004) describes the use of Webcams by individuals to broadcast their lives over the Internet (see also Andrejevic 2004; White 2003). Some people have installed video cameras in their houses, hooked them up to the Internet, and displayed their daily life to anyone who cares to watch. While these types of phenomena may make an interesting subject for ethnographic analysis, Wise notes that there are limitations to the amount of understanding they provide:

> [A]s a means of studying everyday life, Webcams can provide only a quite attenuated version of it. Despite what it can deliver (momentariness and longue durée), it cannot come close to presenting the thick description, if you will, the level of detail, density and embodiedness of everyday life usually sought by the myriad projects on everyday life since the turn of the last century (see Gardiner 2000; Highmore 2002). Though some Webcams provide sound, and a few allow for camera movement, many sensory and spatial dimensions are lost. They lack a sense of presence. (Wise 2004, 428)

White (2003) also notes that Webcam data may suffer from poor visibility or uncontrolled loss of the image, either of which may affect its usability for ethnographic research.

Videotaping computer users. In Ruhleder's (2000) study of video teleconferencing in a distributed workplace she used video cameras to record the participants interacting with each other and their geographically dispersed colleagues. Thus the visual and interactive data available to Ruhleder and her colleagues for analysis included much more than just the recording of the videoconference itself.

> The use of video cameras allowed for the creation of multisite video data. The resulting collection of videotapes not only captured various distributed interactions but also enabled us to retrospectively sync up the activities across multiple locations. This allowed us to pinpoint what was seen or heard locally and across the link. We captured reactions to local talk and gestures, to the other side's talk and gestures, and to materials shown on a computer or electronic whiteboard. (Ruhleder 2000, 7)

In sum, the analysis of visual material is likely to be an important component of online ethnographic studies.

Sound and Movement in Online Participant Observation Data

Sound and movement are becoming common aspects of Web site design as well as other types of online settings and communication. For example, while e-mails used to be simply typed text, they may now come on colored "stationery" and include pictures, sound, and moving graphics which provide enhanced resources for the presentation of self (Goffman 1959) in online environments. This evolutionary trend is not yet adequately dealt with by ethnographic research in online settings.

In addition, the increasing use of direct voice communication (e.g., via videoconferencing) provides data which more closely mirrors conversations in face-to-face settings. Thus while previous "generations" of online ethnography have been biased toward textual data, the next generation of online ethnographies must engage not only with textual and visual material, but also with sound and movement.

Recording and Communicating Online Participant Observation Data

The role of field notes. Both textual and visual data can be recorded by "screen save" programs (e.g., Camtasia or Hypercam[2]) providing a digital "videotape" of an online environment. An online ethnographer can digitally record their visit to a Web site and replay it at will, stopping, starting and

moving around in the data as needed. Because of this ability to completely capture the field, the need to take field notes is diminished, or at least altered. However, field notes are still essential to help the researcher catalogue, describe, and develop theories from their observations, and to record their reactions and subjective experiences. Shoham (2004) took field notes in addition to saving printouts of chat windows. Schaap (2002) took field notes on his participant observation in online MUD fantasy role play games, and recorded logs of the interactions that he participated in.

Communicating field notes and recorded data. Researchers in both on and offline settings face tough decisions about how to represent observational data and field notes to their readers. Kendall (2004) notes that there is a cultural belief that online interaction is not "real." Kendall's (2004) audience tended to question her assumption that online interaction is really social interaction, or that the friendships formed online are really friendships; these attitudes betray our culture's ideas about what interaction and friendship mean. The ethnographer is therefore often trying to communicate with an audience which is not as well versed in CMC as is the researcher or the subjects of his or her study.

Because of the multimodal nature of online communication, ethnographers often find themselves trying to describe visual, aural, and kinetic observational data in verbal form. Ethnographers must also make decisions about how to represent participants' text-based actions for their readers. Markham (2004) argues that participants' writings should be conveyed to the reader exactly as they were written, without correcting spelling, grammatical or punctuation errors, or standardizing fonts.

> We literally reconfigure these people when we edit their sentences, because for many of them, these messages are a deliberate presentation of self. Even when they are not deliberate, texts construct the essence and meaning of the participant, as perceived and responded to by others. (Markham 2004, 153)

Schaap (2002) chose to correct typos to make quotes easier to read, but otherwise left the text exactly as written by the participants.

In sum, the online ethnographer must learn to engage in participant observation without a physical presence in the field, and must develop new skills and procedures for collecting and analyzing data, recording field notes and communicating the results of their analysis. Current online ethnographies tend to privilege textual aspects of the data and do not adequately integrate visual, aural, and kinetic phenomena. In particular, technological

improvements are increasing the role of oral communication in online environments. If the Web continues to move in an aural direction ethnography may come full circle—e.g., with synchronous oral communication and visual access to research subjects (e.g., via Webcam), which (ironically) may make future Web-based experiences more similar to offline interaction than it currently is. The differences between textual and oral communication in online environments is also of critical importance for how ethnographers conduct interviews in online research.

Interviewing in Online/CMC Research

Ethnographers conducting online/CMC research can use online interviews, offline interviews, or both. For some topics, offline interviews may be more useful than online interviews. Offline interviews enable the researcher to verify information gathered online (Kozinets 1998; Turkle 1995) check the identities of online personas (Turkle 1995; Taylor 1999; see also Catterall and Maclaran 2002), and accommodate respondent preferences or characteristics [e.g., skill at expressing themselves in writing (Taylor 1999) or keyboarding skills (Mann and Stewart 2002)]. The goals of the research project should also be taken into account (Taylor 1999). Offline interviews can also fill gaps in online data collection and resolve ambiguities or queries (Leung 2005).

Online interviews are a useful resource for ethnographers (Fetterman 1998; see also Giesler and Pohlmann 2003; Schaap 2002; Shoham 2004; Taylor 1999). Williams and Copes (2005) used online interviews following participant observation and focused discussions to expand on themes that emerged from earlier analyses. Hampton and Wellman (1999) used online interviews in conjunction with offline interviews, online/offline participant observation, and surveys while studying Netville, an experimental wired community. Schaap (2002) used online interviews in his study of fantasy role play games in MUDs.

Most online interviewing is done via asynchronous text-based modes of CMC such as email or discussion boards. Respondents can choose to respond right away, or to deliberate over their responses (Catterall and Maclaran 2002; see also Kozinets 1998).[3]

For some research topics and participants, synchronous modes of CMC such as instant messaging, or "quasi-synchronous" modes such as chat will be helpful. These modes of CMC more closely replicate oral communication traditionally used by ethnographic researchers (Mann and Stewart

2002). In Williams and Copes' (2005) study of youth "straight edge" culture all their interviews "took place online using either an Instant Messaging (IM) or Internet Relay Chat (IRC) program, both of which are popular among young Internet users" (Williams and Copes 2005, 75). Instant messaging was an appropriate choice for this topic because it was the mode of online communication preferred by their research participants.

Because of the nature of text based interaction, online interviews may be structured differently than interviews conducted face to face (Jones 2005). Pauwels (2005, 605) notes that this "doesn't necessarily make it less valid (it might, conversely, be more thoughtful and denser information)." Kozinets and Handelman (1998) used asynchronous online interviews in their study of consumer boycotting behavior.

If the researcher conducting the interview is not particularly well versed in online communication conventions, he/she may need to hire someone else (such as a member of the community being studied) to conduct the interview (as did Jones 2005), spend time in the field to develop interpretive skill so as not to misrepresent the meanings behind the text (Kozinets 1998 and 2002), and/or use a synchronous mode of communication for the interview to be able to ask interviewees for clarification.

Because of the anonymity of CMC, respondents may be less concerned about the impressions they are making (Riva 2002). Thus, online interview responses may be more candid than those obtained from offline interviews. However, some argue that allowing respondents to put more thought into their responses may limit spontaneity (Catterall and Maclaran 2002). The anonymity factor in online interviews may balance power between interviewer and interviewee; interviewees may feel freer to challenge researchers than they would in a face-to-face interview (Catterall and Maclaran 2002). However this ability to challenge the researcher may damage the results if interviewees respond with false information (Ayers 2004).

Videoconferencing systems or Webcams have been found to be useful technologies for conducting various types of interactions (e.g., Marziali and Donahue [2006] on support groups conducted via videoconferencing; Birkenmaier [2005] on videoconferencing technology in social work education; Keating and Mirus [2003] on the use of Webcams for Internet conversations between deaf speakers of American Sign Language; and Gilham and Moody [2001] on video conferencing for education and career counseling of incarcerated youth). Videoconferencing can also be a useful tool for conducting synchronous interviews online (Fetterman 1998 and 2002), enabling the interviewer and interviewee to observe each other's nonverbal behaviors.

Access and Identity in Online Environments

Gaining access to the research setting, building rapport with research subjects, and obtaining volunteers for interviews are issues for both traditional and online ethnography. In online ethnography, the resources and challenges involved in obtaining access differ because ethnographers can not rely on their physical presence, appearance, interactional style and conversational competence to help them gain access (Mann and Stewart 2002). In addition to the challenges of anonymity, members of some online communities may be more resistant to being studied than are people in analogous face-to-face venues. LeBesco (2004) states that during a single month, eight researchers tried to gain access to the online site she was studying, and all but one were rejected by group members. Bakardjieva (2005) reports that she had minimal success recruiting respondents through posting announcements on online newsgroups. She had to resort to creating a snowball sample from personal connections. Chen, Hall, and Johns (2004, 159) found that "[m]any list owners and newsgroup members deeply resent the presence of researchers and journalists in their groups" (see also Catterall and Maclaran 2002; Paccagnella 1997). In this section we consider some of the challenges, resources, and opportunities for obtaining access to sites and subjects for online ethnographic studies.

Anonymity and the Identity of Online Participants

Verifying authenticity. When interacting over the Internet the question of whether the person you are interacting with is actually who they say they are must be considered (Cherny 1999; Mann and Stewart 2000 and 2002). Ethnographers thus must consider whether and how they will attempt to verify the identity of their research subjects. In some online settings participants are very open about their identity and make no efforts to conceal it or deceive others. Koufaris (2001, 227) found this to be true in an online newsgroup on organ transplant recipients, who "always use their real names and talk about their real personal lives without hesitation." However, Nissenbaum (2003) reminds us that the anonymity of the Internet allows participants to conceal their offline identity. Some Internet spaces even require the use of pseudonyms. Livia (1999) writes that the French "Minitel," a text-based chat room type communication system, requires participants to use pseudonyms and forbids the use of identifiers such as phone numbers or addresses in these pseudonyms. This level of anonymity makes it difficult for researchers to verify information about participants.

Race, class, and gender. Personal characteristics which may be of critical importance in an ethnographic study (e.g., age, race, or gender) may also be concealed or altered in online interactions (Nissenbaum 2003; see also Mann and Stewart 2000, 58-9). For example, consider this excerpt from a detailed interview of "Su'ad," an engineering student in Kuwait (Wheeler 2001):

> I have a friend who is getting married to someone she met on the Internet. They only "chatted" for four months and now they're going to spend the rest of their lives together. I think she's stupid. It's possible to lie on the Internet. How does she know that he is really as good as he says he is on-line. One has to be careful . . . One time I was "chatting" with another engineer from Saudi Arabia. He kept asking are you a man or a woman. Finally I answered, "I'm a woman, is this important." He said, "Yes, I refuse to talk to you." (Wheeler 2001, 197)

This quote indicates that Internet users are well aware of the possibility of deception or misrepresentation over the Internet (see also Mann and Stewart 2000). The anonymity of online settings may enable research subjects to lie, either to each other or to researchers (Jones 2005; Kozinets 1998).

However, the mere possibility (or presence) of deception does not necessarily mean that the data are not useful for ethnographic analysis.

> In my own research, using face-to-face interviews, I have found that while chatrooms do provide opportunities for people to lie about themselves, this does not necessarily lead to the formation of shallow relationships. Paradoxically, it can open a space for a deeper level of engagement with others (Whitty and Gavin 2001). (Whitty 2004, 205)

Whitty, describing her research on the study of Internet relationships and sexuality, discusses how research participants may lie to each other:

> While Turkle (1996) (*sic*—1995) suggested that it is fairly common for people to lie on the Internet, more recent empirical data suggests that experimentation with one's physical appearance online does not occur as frequently as one might expect (e.g., Cooper, Delmonico, & Burg, 2000; Roberts & Parks, 2001; Whitty, 2002a). Moreover, I have found that men tend to lie online more than women, typically exaggerating aspects of themselves, such as education, occupation and income, which are aspects men often tend to exaggerate offline in order to attract women (Whitty, 2002a). (Whitty 2004, 206)

Dealing with online identity issues. Ethnographic researchers have various ways of handling the possibility of deception online. Turkle (1995)

decided "not to report on my own findings [from online interviews] unless I have met the Internet user in person rather than simply in persona" (Turkle 1995, 324). Researchers must also consider the possibility that some of their "online research participants" may actually be multiple personas or characters performed by the same offline individual. Taylor (1999) discusses the issue of "multiple embodiments" in her research on participant's use of avatars in virtual world play.

> Although some users maintain a consistency within a single avatar or character, many do not (by either having multiple bodies within a single space or through their use of multiple worlds). It is also worth noting that although some spaces provide information that lets you know, for example, that the characters Iona and Taylor have the same person at the other end of the keyboard, it is not always the case. Thus, it is quite possible to run into one of your informants in a form (literally a body) you do not recognize. (Taylor 1999, 439)

But Taylor (1999) reaches a different conclusion about the impact of anonymity on the research project than do some other researchers. She argues that even in the offline world, we create ourselves through action and display different selves in different social contexts. Therefore, the fact that participants' online personas are not the same as their offline personas, or that they may even conceal or misrepresent their offline identities, is not necessarily problematic for the researcher because these possibilities are part of social life, not just part of online life (see also Carter 2005). Kozinets (1998, 369) writes "[T]he same freedom which inspires people to mischievously construct deliberate falsehoods about themselves and their opinions also allows them and others the freedom to express aspects of themselves, their ambitions and inner conflicts, that they would otherwise keep deeply hidden." Thus online data may have value for ethnographers, even if participants' self representations are not, strictly speaking, "authentic." Just as the online environment allows the possibility of fluidity in how research participants present themselves, researchers also have choices about how to present themselves in the online context to facilitate access to settings, subjects, and data.

Anonymity and the Identity of the Researcher

The identity of the researcher (e.g., sex, race, or age) and how the researcher presents him or herself in the ethnographic field have long been a concern of offline ethnographers (e.g., Liebow 1967 [see also Mann and

Stewart 2000]; Weissman 1970; Eder and Fingerson 2003; Schwalbe and Wolkomir 2003; Reinharz and Chase 2003; Dunbar, Rodriguez, and Parker 2003). The researcher's identity can affect how conspicuous they are in the setting and the likelihood that potential informants will be willing to talk to them.

In spite of the anonymity provided by the online environment, we found that the identity of the researcher may affect the data collection process in an ethnographic study. We will use the approaches taken by Kendall (2002), Hine (2000), and Ayers (2004) to illustrate some of the issues ethnographers face as they decide how to represent themselves in the online research environment. Both Kendall and Hine are female academics doing ethnographic research in an online setting. However, they made different decisions about how to present themselves to their research subjects, because the settings they were studying were different.

Lori Kendall's (2002) book is an ethnographic study of a "virtual pub" called "BlueSky." She first approached this online space as an anonymous guest, but quickly learned that anonymous guests were "not appreciated" on this MUD (p. 18). She describes her decision to choose the character name "Copperhead, whose aggressive and poisonous connotations might allow me both to fit in and to feel somewhat protected" (Kendall 2002, 18). She made this decision because she anticipated that BlueSky would be an "aggressive, male-oriented space."

Christine Hine (2000), in her ethnographic study of the Internet as used by supporters, producers, and consumers of news about a famous murder case, makes a very different decision about how to present herself to her research subjects. She decides to use the name "Christine" instead of Chris (what she is usually called), to present a less threatening image to potential research subjects and thus enable her to collect more data. The name Christine is clearly female, while "Chris" is gender neutral.[4]

Ayers (2004, 263) describes a research project on feminist activists comparing "two social movement groups: one that exists in cyberspace and one that exists in the physical world." Ayers conducted interviews in both settings, representing himself (accurately) as a male researcher. Ayers concluded that some subjects in the online study were not being authentic in their responses; some of the responses he received were fictitious or condescending. He concludes that these types of responses occurred because he had identified himself as a male researcher. He suggests that a male researcher working in this type of politicized female setting must take extra pains to create rapport with his research subjects before engaging in the study.

These three examples show that in an online research setting, the researcher's identity still has an impact even though the research participants can not see

or hear the researcher. However, the resources for dealing with these identity issues are different, because the online research subjects will probably not be encountering the researcher in person. In the next section we discuss researcher's online resources for managing the impressions they give to potential research subjects.

The Researcher's Presentation of Self via Textual and Visual Material

In online research impressions about the researcher are communicated by the visual and textual material presented to potential subjects rather than the voice, mannerisms and physical presence of the researcher him or her self. Because of this, a different set of skills are required of the ethnographer to obtain access to the setting and to successfully recruit research subjects. Hine (2000) not only carefully considered how to construct the e-mail letter she sent to potential research subjects, she also referred potential research subjects to her university Web page to document her identity, to increase her response rates. Other researchers also use Web pages to establish researcher authenticity and recruit subjects (Bakardjieva 2005; Maczewski 1999; see also Catterall and Maclaran 2002; Mann and Stewart 2002). Mann and Stewart (2000, 82) suggest placing "strategic advertisements in appropriate newsgroups, mailing lists or BBSs" to recruit research participants. Taylor (1999) attached

> a URL (Universal Resource Locator, a pointer to my Web page) to my avatar as a way of directing potential participants to information about my research. Users could then simply click on my avatar, see the phrase "Avatar Research" and be automatically taken to my site . . . this proved a crucial method of soliciting participation, especially in spaces where researchers were looked on warily. (Taylor 1999, 446)

Similarly, Cherny (1999) attached a message about her research to her character description in the MUD she was studying.

Maczewski, Storey, and Hoskins (2004) explain why any Web site that is used to recruit subjects must be carefully designed:

> Instead of a voice on the phone, the web site now provided the first impression of the project and the researcher for the participants. Information design through text and images now conveyed the research project without personal contact and raised questions of inclusion and exclusion . . . if the researcher only chose clip art that represented males, it would be possible that females

> felt excluded. The web-site color choices may appeal to specific groups of people. The text style may attract or exclude certain groups of young people. (Maczewski Storey, and Hoskins 2004, 68)

Sometimes the impression made by the researcher, as in the case of Hine's (2000) research, is first formed by a recruitment letter sent to potential subjects. In online settings a formal letter on institutional e-letterhead may be more effective than a more casual approach, because of online participants' anxiety about interacting with strangers online, or concerns about the authenticity of the researcher.[5]

Lindlif and Shatzer (1998) found that mistakes made in how online research participants are approached may be difficult to repair:

> For example, Fisher, Margolis, and Resnick (1996) discuss several errors they made in distributing a survey to Usenet groups and Listserv lists, such as inadvertently cross-posting the instrument to all of the news groups, resulting in a flood of copies to each group and "considerable consternation and controversy on the Internet" for several days (p. 18). (Lindlif and Shatzer 1998, 189, fn 4)

Ethnographers of the Web would be well advised, therefore, to consider carefully their initial presentations of self to their research subjects.

In this section we have shown how the online environment creates new dilemmas and opportunities for ethnographic researchers as they seek access to research subjects, sites, and documents. Our review of the literature shows that there are no simple recipes for success; the choices ethnographers make must be tailored as closely as possible to the specific issues, participants, and technological modalities they are studying.

Ethical Dilemmas in Online Ethnographic Research

Public and Private Spheres in Online Ethnography

The boundaries between public and private "spaces" are drawn differently in online locations than they would be in comparable offline spaces. For example in Koufaris' (2001) ethnographic study of a newsgroup for organ transplant recipients she describes a Web site set up by a friend of a woman ("Susan") who was in need of a heart transplant.

> Her battle to live was followed by hundreds of people on the Internet . . . where one could find constant updates of Susan's health as well as pictures

> of her, anecdotes, poetry and prose related to their battle, and other links to sites with information on organ transplantation. The details of the last months of her life were shared with people from all over the world. At her funeral, friends from as far away as New Zealand were sending their regrets for a woman they only knew through their computers. And her story is available for anyone with a computer and a modem to see on the World Wide Web. (Koufaris 2001, 225)

In contrast, members of some online communities may define their "public" postings as private material (see Kozinets 1998).

> Waskul and Douglass (1996) described the private/public distinction in virtual environments in terms of "publicly private" and "privately public," noting that public and private are metaphorical labels based on the assumption that cyberspaces are like physical places (p. 131). In cyberspace, the defining of public versus private "space" may be reduced to a matter of accessibility. A cyberspace may be viewed as a public space as it is publicly accessible, yet interactions that occur within that space may be deemed by the participants to be private. Waskul and Douglass (1996) argued that researchers do not have the right to define spaces as public or private to meet their own research needs. Rather, account should be taken of the size and nature of the online forum and the intrusiveness of the study. (Roberts, Smith, and Pollock 2004, 161)

In online research contexts, the lines between public and private may become blurred (see Catterall and Maclaran 2002; Chen, Hall, and Johns 2004; Barnes 2004; Bruckman 2004).

Ethnographers may also have to decide how to deal with explicitly private online sites to which the public does not have access. For example, in Jones' (2005) study of a chat room for gay men he found that participants rarely used the public chat rooms, almost always engaging in private one-on-one chats. Jones (2005) dealt with this data collection problem by soliciting participants to share their chat logs anonymously.

The practical and ethical issues around the boundaries between public and private online spaces are also relevant when collecting archived data. As Ruhleder (2000) and Taylor (1999) note, the use of archived materials enables ethnographic research on cultural artifacts (e.g., Web pages and listservs), and interactions (e.g., online discussions) which are examined after the fact rather than experienced by the researcher as they are unfolding (Maczewski et al. 2004, 65). Ruhleder (2000) used online archives to study interactional patterns in an online classroom. She found that the classroom archives were a useful source of data because they allowed

deeper access to what it was like to participate in an online class. Students routinely used class archives to catch up with missed sessions and material (Ruhleder 2000, 10, 11).

The ethical landscape for the use of archival data are not yet clear. While some argue that Web sites are analogous to magazines or television shows, and hence are intentionally and inherently "public," others argue that some Internet locations are inherently private. For example, Döring (2002) argues that:

> Net forums are not addressed at a dispersed, broad audience, and instead fulfill an internal exchange aimed at only those people who are currently enlisted. Incognito logging of group interactions in the Net would thus be equivalent to the secret recording of a table conversation in a restaurant or a multiperson chat at a party, and would represent an unethical infringement of privacy laws. (Döring 2002, 343)

Ethnographers can increase their chances of making the right choice about how to gain access to archival and other online data by learning the norms of behavior in the specific environment they are studying.

Revealing or Concealing the Identity of the Online Ethnographer

Norms and practices about how participants portray their identity vary with the type of online setting. There is thus no single answer to the question of whether, when, or how the researcher should reveal his or her identity to research participants. In some online settings, members disapprove of identity deception. In a survey of online mailing lists and newsgroups, Chen, Hall, and Johns (2004, 166) found that "[w]hen respondents were asked if the information gatherers should disclose their identity and research intent in the groups, there is an unanimous 'yes.'" Roberts et al. (2004) had been participating in MOO activities for a period of time and needed to decide how to introduce their research roles to the MOO members (MOOs are types of MUDS). From their participation, they learned that MOO participants found deception to be strongly objectionable. For this reason, Roberts et al. (2004) decided to list their research identities on their MOO characters: "The open approach and linking of identities demonstrated respect for individuals, increasing the information they had in terms of giving informed consent to participate in the research" (Roberts, Smith, and Pollock 2004, 165). The measures Roberts, Smith, and Pollock (2004) took ensured the participants in the MOO always knew when they were interacting with researchers.

Livia's (1999, 430) field research on the French Minitel discusses "the ethical problems posed by the anonymizing effect of the new medium." Because the Minitel requires the use of pseudonyms, participants could not tell that Livia was a researcher until they had begun interacting with her. Livia found that when she revealed her researcher status at the beginning of the conversation co-interactants "hung up" (p. 430). The dilemma Livia experienced highlights the ethical and practical concerns connected to how to represent one self to participants in online studies.

Protecting the Privacy and Anonymity of Research Subjects Online

There is some concern among Internet researchers that the wiliness of the technology makes it difficult to guarantee anonymity for people studied online. Porr and Ployhart (2004, 142) state that "it is impossible to gain complete anonymity over the Internet because of technologies such as cookies, IP addresses and Internet server log files (Weckert, 2000)." One solution they suggest is to have online interviewees complete the research from a computer other than their own as a way of minimizing the chance that their interview could be matched with their identity (Porr and Ployhart 2004; see also Roberts, Smith, and Pollock 2004). Johns, Hall, and Crowell (2004) suggest keeping data in separate, locked computer files to protect the privacy of research subjects in online studies.

The publication of participants' online pseudonyms may also put the anonymity of research subjects at risk. A pseudonym may be (without the researcher knowing it) the subject's real name (Roberts, Smith, and Pollock 2004; Whitty 2004). Even if the pseudonym is not the participant's real name, it may be possible for members of the online community to identify the person from it. For example, Bruckman (2004) argues:

> [Users] may use the same pseudonym over an extended period of time and ultimately care about the reputation of that pseudonym. They may use that pseudonym on multiple sites. The pseudonym may in fact contain part or all of their real name. Furthermore, people engaging in serious conversation with one another online tend to continually reveal little bits of information. If the forum is archived, these accumulated small pieces of information often eventually begin to identify the individual. (Bruckman 2004, 102-3)

Because of these potential problems, Carter (2004 and 2005) changed the "nicknames" of her informants in her ethnographic study of "Cybertown" to protect their privacy. Mann and Stewart also raise the issue of anonymity and

suggest that "with email (and asynchronous conferencing), real names, user names, domain names, signatures and even ISPs may all need to be adjusted" (Mann and Stewart 2000, 57; see also Turkle 1995; Paccagnella 1997). Cherny (1999) decided to change her research subjects' character names in her public reports to provide more privacy for her research participants.

Researchers can also decide to let participants edit or delete portions of the online messages/material to protect privacy. For example, in Lyons' (2003) study of a "wearable computer" expert, the research participant was able to voluntarily black out the screen to prevent sensitive information from being recorded for the study. These examples show that the ethnographer must have an understanding of how the technology operates to be aware of all of the potential threats to privacy and anonymity.

One can not assume that a subject that is considered sensitive or private in the offline world will necessarily be considered so online. As in offline ethnography, learning the norms and communicative practices of the people being studied will be helpful to the researcher, but because of the different boundaries between public and private, and the opportunities for unobtrusive observation provided online, it may be difficult to learn these norms and practices without taking the plunge into the online world. And finally, the ever-changing nature of the technology will continue to provide new challenges in terms of protecting the privacy and anonymity of research participants.

Conclusion

The increasing prevalent use of the Internet and CMC require ethnographers to adjust their traditional modes of research to the unique conditions in the online environment. The technologically mediated nature of online activities and artifacts provide researchers with choices about how to define the setting. How the research setting is defined will depend on the phenomena of interest, whether it is a Web site, chat room interaction, discussion group posting, MUD, MOO, virtual game, or other type of online activity. For some studies the research setting will be defined to provide access to the activities of producing and engaging in such online phenomena, or the relationship between the online activities and the individual's "real world" experiences and activities, or sense of self. Thus the research setting may be defined as an entirely online/technologically mediated phenomena, a combination of online and offline phenomena, or solely offline aspects of the problem.

The traditional methods for data collection in ethnographic studies (primarily participant observation and interviewing) are used differently in online research. We found that researchers are faced with the same problems as those of their research participants: how to communicate, present oneself, and interpret others' presentation of self in a technologically mediated interactional environment. While online ethnographers still must gain access to subjects and protect their privacy, the interactional resources available to do these things are different from face-to-face research settings. Thus ethnographers must learn how to translate observational, interviewing, ethical, and rapport-building skills to a largely text-based and visual virtual research environment. Furthermore, the nature of this online environment is in a continual state of transformation and development. As Kozinets (2005 and forthcoming) and others point out, Internet technologies (such as instant messaging) and cultural artifacts (such as blogs) have recently become more popular and important modes of communication; ethnographers will need to be alert to such shifts as they search for topics for research, define their research setting, choose and adjust methods of data collection, and use appropriate strategies for gaining access to research settings and subjects.

Notes

1. See Pink (2004) for a discussion of online resources for doing visual ethnography.

2. Camtasia (produced by TechSmith Corporation) produces digital copies of computer screens. Hypercam is produced by Hyperionics Technology, LLC.

3. See Mann and Stewart (2000, 126-129) for a discussion of the advantages and disadvantages of using various modalities of CMC for interviewing.

4. Livia (1999) also discusses her strategic choice of pseudonyms—one obviously female, the other gender neutral. See also Mann and Stewart (2000) on this topic.

5. See Mann and Stewart (2000) for a related discussion about formality in e-mail exchanges with research participants.

References

Adler, P., and P. Adler. 1996. Preadolescent clique stratification and the hierarchy of identity. *Sociological Inquiry* 66:111-42.

Andrejevic, M. 2004. The Webcam subculture and the digital enclosure. In *Mediaspace: Place, scale and culture in a media age,* edited by N. Couldry and A. McCarthy, 193-208. London and New York: Routledge.

Ayers, M. D. 2004. Fact or fiction: Notes of a man interviewing women online. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 262-72. Hershey, PA: Information Science Publishing.

Bakardjieva, M. 2005. Internet society: The Internet in everyday life. London: Sage.

Barnes, Susan B. 2004. Issues of attribution and identification in online social research. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S. S. Chen, and G. J. Hall, 203-22. New York: Peter Lang.

Bell, D. 2001. *An introduction to cyberculture.* New York: Routledge.

Birkenmaier, J. 2005. Weaving a web: The use of Internet technology in field education. *Journal of Teaching in Social Work* 25 (1/2): 3-20.

Bruckman, A. 2004. Introduction: Opportunities and challenges in methodology and ethics. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 101-4. New York: Peter Lang.

Campbell, A. 2006. The search for authenticity: An exploration of an online skinhead newsgroup. *New Media & Society* 8 (2): 269-94.

Carter, D. M. 2004. Living in virtual communities: Making friends online. *Journal of Urban Technology* 11 (3): 109-25.

———. 2005. Living in virtual communities: An ethnography of human relationships in cyberspace. *Information, Communication & Society* 8 (2): 148-67.

Catterall, M., and Pauline M. 2002. Researching consumers in virtual worlds: A cyberspace odyssey. *Journal of Consumer Behavior* 1 (3): 228-38.

Chen, S.-L. S., G. J. Hall, and M. D. Johns. 2004. Research paparazzi in cyberspace: The voices of the researched. In *Online social research: Methods, issues, and ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 157-75. New York: Peter Lang.

Cherny, L. 1999. Conversation and community: Chat in a virtual world. Stanford, CA: CSLI Publications.

Clark, D. 2004. What if you meet face to face?: A case study in virtual/material research ethics. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 246-61. Hershey, PA: Information Science Publishing.

Clegg Smith, K. M. 2004. Electronic eavesdropping: The ethical issues involved in con-ducting a virtual ethnography. In *Online social research: Methods, issues, and ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 223-38. New York: Peter Lang.

Cooper, A., D. L. Delmonico, and R. Burg. 2000. Cybersex users, abusers, and compulsives: New findings and implications. *Sexual Addiction & Compulsivity* 7 (2): 5-29.

Correll, S. 1995. The ethnography of an electronic bar: The lesbian cafe. *Journal of Contemporary Ethnography* 24 (3): 270-98.

Döring, N. 2002. Studying online love and cyber romance. In *Online social sciences,* edited by B. Batinic, U.-D. Reips, and M. Bosnjak, 233-356. Kirkland, WA: Hogrefe & Huber Publishers.

Dunbar, C. Jr., D. Rodriguez, and L. Parker. 2003. Race, subjectivity, and the interview process. In *Inside interviewing: New lenses, new concerns,* edited by J. A. Holstein and J. F. Gubrium, 33-53. Thousand Oaks, CA, London, New Delhi: Sage.

Eder, D. and L. Fingerson. 2003. Interviewing children and adolescents. In *Inside interviewing: New lenses, new concerns,* edited by J. A. Holstein and J. F. Gubrium, 33-53. Thousand Oaks, CA, London, New Delhi: Sage.

Fetterman, D. M. 1998. *Ethnography,* 2nd ed. Applied Social Research Methods Series, Volume 17. Thousand Oaks, CA: Sage.

———. 2002. Web surveys to digital movies: Technological tools of the trade. *Educational Researcher* 31 (6): 29-37.

Fisher, B., M. Margolis, and D. Resnick. 1996. Breaking ground on the virtual frontier: Surveying civic life on the Internet. *American Sociologist* 27 (1): 11-29.

Forte, M. 2004. Co-Construction and field creation: Web site development as both an instrument and relationship in action research. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 219-45. Hershey, PA: Information Science Publishing.

Garcia, A. C., and J. B. Jacobs. 1998. The interactional organization of computer-mediated communication in the college classroom. *Qualitative Sociology* 21 (3): 299-317.

———. 1999. Eyes of the beholder: Understanding the turn-taking system in quasi-synchronous computer-mediated communication. *Research on Language and Social Interaction* 32 (4): 337-369.

Gardiner, M. 2000. *Critiques of everyday life.* London and New York: Routledge.

Giesler, M., and M. Pohlmann. 2003. The anthropology of file sharing: Consuming Napster as a gift. *Advances in Consumer Research* 30:273-79.

Gilham, C., and B. A. Moody. 2001. Face to-face: Video conferencing creates opportunities for incarcerated youth. *Journal of Correctional Education* 52 (1): 29-31.

Goffman, E. 1959. *The presentation of self in everyday life.* Garden City, New York: Doubleday.

Green, N. 1999. Disrupting the field: Virtual reality technologies and "multisited" ethnographic methods. *American Behavioral Scientist* 43 (3):409-21.

Hampton, K. N., and B. Wellman. 1999. Netville online and offline: Observing and surveying a wired suburb. *American Behavioral Scientist* 43 (3): 475-492.

———. 2001. Long distance community in the network society: Contact and support beyond Netville. *The American Behavioral Scientist 45* (3): 476-495.

Haythornthwaite, C. and M. M. Kazmer. 2002. Bringing the Internet home: Adult distance learners and their Internet, home and work worlds. In *The Internet in everyday life,* edited by B. Wellman and C. Haythornthwaite, 431-63. Oxford: Blackwell.

Heath, D., Koch, E., Ley B., and M. Montoya. 1999. Nodes and queries: Linking locations in networked fields of inquiry. *The American Behavioral Scientist* 43:450-63.

Highmore, B. 2002. Everyday life and cultural theory: An introduction. New York: Routledge.

Hine, C. 2000. *Virtual ethnography.* London/Thousand Oaks/New Delhi: Sage.

Huffaker, D. A., and S. L. Calvert. 2005. Gender, identity, and language use in teenage blogs. *Journal of Computer-Mediated Communication* 10 (2) article 1.

Johns, M. D., G. J. Hall, and T. L. Crowell. 2004. Surviving the IRB review: Institutional guidelines and research strategies. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 105-24. New York: Peter Lang.

Jones, R. H. 2005. "You show me yours, I'll show you mine": The negotiation of shifts from textual to visual modes in computer-mediated interaction among gay men. *Visual Communication* 4 (1): 69-92.

Keating, E., and G. Mirus. 2003. American Sign Language in virtual space: Interactions between deaf users of computer-mediated video communication and the impact of technology on language practices. *Language in Society* 32:693-714.

Kendall, L. 2002. *Hanging out in the virtual pub: Masculinities and relationships online*. Berkeley, CA: University of California Press.

———. 2004. Participants and observers in online ethnography: Five stories about identity. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 125-40. New York: Peter Lang.

Kleinman, S. S. 2004. Researching OURNET: A case study of a multiple methods approach. In *Online social research: Methods, issues, and ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 48-62. New York: Peter Lang.

Koufaris, M. 2001. The search for a new identity: Post-organ transplant recipients and the Internet. In *Our virtual world: The transformation of work, play and life via technology,*

edited by L. Chidambaram and Z. Ilze, 291-33. Hershey, PA and London: Idea Group Publishing.

Kozinets, R. V. 1998. On netnography: Initial reflection on consumer research investigations of cyberculture. *Advances in Consumer Research* 25:366-71.

———. 2001. Utopian enterprise: articulating the meanings of Star Trek's culture of consumption. *Journal of Consumer Research 28:* 67-88.

———. 2002. The field behind the screen: Using netnography for marketing research in online communities. *Journal of Marketing Research 39* (1): 61-72.

———. 2005. Communal big bangs and the ever-expanding netnographic universe. *Thexis* 3:38-41.

———. Forthcoming. Netnography 2.0. *Handbook of qualitative research methods in marketing,* edited by Russell W. Belk. Edward Elgar Publishing.

Kozinets, R. V., and J. Handelman. 1998. Ensouling consumption: A netnographic exploration of the meaning of boycotting behavior. *Advances in Consumer Research* 25:475-80.

LeBesco, K. 2004. Managing visibility, intimacy, and focus in online critical ethnography. In *Online social research: Methods, issues, and ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 63-79. New York: Peter Lang.

Leung, Linda. 2005. *Virtual ethnicity: Race, resistance and the World Wide Web.* Burlington, VT: Ashgate Publishing Company.

Liebow, E. 1967. *Tally's corner: A study of Negro street corner men.* Boston, Toronto, London: Little, Brown and Company.

Lindlif, T. R., and M. J. Shatzer. 1998. Media ethnography in virtual space: Strategies, limits, and possibilities. *Journal of Broadcasting & Electronic Media* 42 (2): 170-90.

Livia, A. 1999. Doing sociolinguistic research on the French Minitel. *American Behavioral Scientist* 43 (3): 422-35.

Lyman, P., and N. Wakeford. 1999. Introduction: Going into the (virtual) field. *American Behavioral Scientist* 43 (3): 359-76.

Lyons, K. 2003. Everyday wearable computer use: A case study of an expert user. *Mobile HCI*: 61-75.

Lysloff, R. T. A. 2003. Musical community on the Internet: An on-line ethnography. *Cultural Anthropology* 18 (2): 233-63.

Maczewski, M. 1999. Interplay of online and onground realities: Internet research on youth experiences online. Master's thesis, University of Victoria, Victoria, British Columbia, Canada.

Maczewski, M., M. A. Storey, and M. Hoskins. 2004. Conducting congruent, ethical, qualitative research in Internet-mediated research environments. In *Virtual research ethics,* edited by E. Buchanan, 62-78. Information Science.

Mann, C., and F. Stewart. 2000. *Internet communication and qualitative research: A handbook for researching online*. London: Sage.

———. 2002. Internet interviewing. In *Handbook of interview research: Context and method,* edited by J. A. Holstein and J. F. Gubrium, 603-28. London: Sage.

Markham, A. N. 2004. Representation in online ethnographies: A matter of context sensitivity. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 141-55. New York: Peter Lang.

Marziali, E., and P. Donahue. 2006. Caring for others: Internet video-conferencing group intervention for family caregivers of older adults with neurodegenerative disease. *The Gerontologist* 46 (3): 398-403.

Miller, D., and D. Slater. 2000. *The Internet: An ethnographic approach.* Oxford & New York: Berg.

Nelson, M. R., and C. C. Otnes. 2005. Exploring cross-cultural ambivalence: A netnography of intercultural wedding message boards. *Journal of Business Research* 58:89-95.

Nissenbaum, H. 2003. Securing trust online: Wisdom or oxymoron? In *Virtual publics: Policy and community in an electronic age,* edited by B. E. Kolko, 134-71. New York: Columbia University Press.

Paccagnella, L. 1997. Getting the seat of your pants dirty: Strategies for ethnographic research in virtual communities. *Journal of Computer-Mediated Communication* 3 (1) June.

Pauwels, L. 2005. Web sites as visual and multimodal cultural expressions: Opportunities and issues of online hybrid media research. *Media, Culture, and Society* 27 (4): 604-13.

Pink, S. 2004. Making links: On situating a new Web site. *Cambridge Journal of Education* 34 (2): 211-22.

Porr, B. W., and R. E. Ployhart. 2004. Organizational research over the Internet: Ethical challenges and opportunities. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 130-55. Hershey, PA: Information Science Publishing.

Reinharz, S., and S. E. Chase. 2003. Interviewing women. In *Inside interviewing: New lenses, new concerns,* edited by J. A. Holstein and J. F. Gubrium, 73-90. Thousand Oaks, CA, London, New Delhi: Sage.

Riva, G. 2002. The sociocognitive psychology of computer-mediated communication: The present and future of technology-based interactions. *CyberPsychology and Behavior* 5 (6): 581-98.

Roberts, L. D. and M. R. Parks. 2001. The social geography of gender-switching in virtual environments on the Internet. In *Virtual gender: Technology, consumption and identity,* edited by E. Green and A. Adam, 265-85. London: Routledge.

Roberts, L., L. Smith, and C. Pollock. 2004. Conducting ethical research online: Respect for individuals, identities and the ownership of words. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 156-73. Hershey, PA: Information Science Publishing.

Ruhleder, K. 2000. The virtual ethnographer: Fieldwork in distributed electronic environments. *Field Methods* 12 (1): 3-17.

Salaff, J. W. 2002. Where home is the office. In *The Internet in everyday life,* edited by B. Wellman and C. Haythornthwaite, 464-95. Malden, MA: Blackwell.

Schaap, Frank. 2002. *The words that took us there: Ethnography in virtual reality.* Amsterdam: Askant Academic Publishers.

Schwalbe, M. L. and M. Wolkomir. 2003. Interviewing men. In *Inside interviewing: New lenses, new concerns,* edited by J. A. Holstein and J. F. Gubrium, 33-53. Thousand Oaks, CA, London, New Delhi: Sage.

Shoham, Aviv. 2004. Flow experiences and image making: An online chat-room ethnography. *Psychology and Marketing* 21 (10): 855-82.

Silver, D. 2003. Communication, community, consumption: An ethnographic exploration of an online city. In *Virtual publics: Policy and community in an electronic age,* edited by B. E. Kolko, 327-54. New York: Columbia University Press.

Soukup, Charles. 1999. The gendered interactional patterns of computer-mediated chatrooms: A critical ethnographic study. *Information Society* 15 (3): 161-176.

———. 2000. Building a theory of multimedia CMC: An analysis, critique and integration of computer-mediated communication theory and research. *New Media & Society* 2 (4): 407-25.

Suoranta, J., and H. Lehtimäki. 2004. *Children in the information society.* New York: Peter Lang.

Sveningsson, M. 2004. Ethics in Internet ethnography. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 45-61. Hershey, PA: Information Science Publishing.

Taylor, T. L. 1999. Life in virtual worlds: Plural existence, multimodalities, and other online research challenges. *American Behavioral Scientist* 43 (3): 436-49.

Turkle, S. 1995. Life on the screen: Identity in the Age of the Internet. New York: Simon & Schuster.

Vayreda, A., A. Galvez, F. Nunez, and B. Callen. 2002. *Participating in an electronic forum: The difference gender makes.* Internet Research 3.0: Net/Work/Theory. Maastricht, The Netherlands.

Waskul, D., and M. Douglass. 1996. Considering the electronic participant: Some polemical observations on the ethics of on-line research. *The Information Society* 12: 129-39.

Walstrom, M. K. 2000a. The eating disorder is not YOU: Applying Bakhtin's theories in analyzing narrative co-construction in an Internet support group. In *Studies in Symbolic Interaction,* edited by N. Denzin, 241-60. Greenwich, CT: JAI Press.

———. 2000b. "You know, who's the thinnest?": Combating surveillance and creating safety in coping with eating disorders online. *CyberPsychology* 3 (5): 761-83.

———. 2004a. Ethics and engagement in communication scholarship: Analyzing public, online support groups as researcher/participant-experiencer. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 174-202. Hershey, PA: Information Science Publishing.

————. 2004b. "Seeing and sensing" online interaction: An interpretive interactionist approach to USENET support group research. In *Online social research: Methods, issues, & ethics,* edited by M. D. Johns, S.-L. S. Chen, and G. J. Hall, 81-97. New York: Peter Lang.

Weckert, J. 2000. What is new or unique about Internet activities? In *Internet Ethics,* edited by D. Langford, 47-64. New York: St. Martin's Press.

Weissman, Jacqueline P. 1970. *Stations of the lost: The treatment of skid row alcoholics.* Chicago and London: Chicago.

Wheeler, D. 2001. New technologies, old culture: A look at women, gender, and the Internet in Kuwait. In *Culture, technology, communication: Toward an intercultural global village,* edited by C. Ess, 187-212. Albany: SUNY.

White, M. 2003. Too close to see: Men, women, and Webcams. *New Media & Society* 5 (1): 7-28.

Whitty, M. 2002. Liar, liar! An examination of how open, supportive and honest people are in chat rooms. *Computers in Human Behavior* 18:343-52.

———. 2003. Cyber-flirting: Playing at love. *Theory and Psychology* 13 (3): 339-57.

———. 2004. Peering into online bedroom windows: Considering the ethical implications of investigating Internet relationships and sexuality. In *Virtual research ethics: Issues and controversies,* edited by E. A. Buchanan, 203-18. Hershey, PA: Information Science Publishing.

Whitty, M., and J. Gavin. 2001. Age/sex/location: Uncovering the social cues in the development of online relationships. *CyberPsychology and Behavior* 4 (5): 623-30.

Williams, J. P., and H. Copes. 2005. How edge are you?: Constructing authentic identities and subcultural boundaries in a straightedge Internet forum. *Symbolic Interaction* 28 (1): 67-89.

Wise, J. M. 2004. An immense and unexpected field of action. *Cultural Studies* 18 (2/3): 424-42.

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