

Using Empirical Data to Reason about Internet Research Ethics

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Abstract. Internet technology holds significant potential to respond to business, educational, and social needs, but this same technology poses fundamentally new challenges for research ethics. To reason about ethical questions, researchers and ethics review boards typically rely on dichotomies like “public” versus “private,” “published” vs. “unpublished,” and “anonymous” vs. “identified.” However, online, these categories are blurred, and the underlying concepts require reinterpretation. How then are we to reason about ethical dilemmas about research on the Internet? To date, most work in this area has been grounded in a combination of theoretical analysis and experience gained by people in the course of conducting Internet research. In these studies, ethical insight was a welcome byproduct of research aimed primarily at exploring other ends. However, little work has used experimental methods for the primary purpose of contributing to our reasoning about the ethics of research online. In this paper, we discuss the role of *empirical data* in helping us answer questions about Internet research ethics. As an example, we review results of one study in which we gauged participant expectations of privacy in public chatrooms (Hudson & Bruckman, 2004b). Using an experimental approach, we demonstrate how participants’ expectations of privacy conflict with the reality of these public chatrooms. Although these empirical data cannot provide concrete answers, we show how they influence our reasoning about the ethical issues of obtaining informed consent.

The Necessity of Empirical Work on Ethics

Starting in the early 1990’s, the Internet grew from a tool used by a small population of specialists to a popular medium. Behavior of Internet users and accompanying changes in culture are of great interest to scholars from a wide variety of disciplines—computer science, management, education, sociology,

anthropology, and more. In CSCW, we seek to understand the social and psychological influences of different media and different interface decisions so that we can better understand how to design environments that support and appropriately influence specific types of interaction (e.g., Bos *et al.*, 2004; Connell *et al.*, 2001; DiMicco *et al.*, 2004; e.g., Nardi *et al.*, 2004; Woodruff & Aoki, 2003). Thoughtful research on this new medium can help us both understand its present and shape its future. However, we must conduct such research ethically, or we risk both harming individuals and disturbing the very phenomena we seek to understand.

Research on the Internet raises a host of novel ethical challenges (e.g., Bassett & O'Riordan, 2002; Boehlefeld, 1996; Bruckman, 2002; Ess, 2002; Eysenbach & Till, 2001; Frankel & Siang, 1999; S. Herring, 1996a; King, 1996; Schrum, 1997; Walther, 2002; Waskul & Douglass, 1996). Traditionally, research ethics relies on distinctions such as “public” versus “private” spaces, “identified” vs. “anonymous” individuals, and “published” vs. “unpublished” information. However, online, these categories become blurred (Bruckman, 2002; Eysenbach & Till, 2001). Consequently, it can be difficult to translate our intuitions to the new domain of Internet research. The varied ethical codes stemming from different academic and professional backgrounds of researchers in CSCW and Internet research more generally further complicate matters. Despite significant efforts from the American Psychological Association (Kraut *et al.*, 2004), the American Association for the Advancement of Science (Frankel & Siang, 1999), and the Association of Internet Research (Ess, 2002), many questions regarding the ethical conduct of online research remain.

For example, a significant amount of CSCW research has focused on synchronous text-based, computer-mediated communication or “chat” (e.g., Bradner *et al.*, 1999; Churchill *et al.*, 2000; Farnham *et al.*, 2000; Halverson *et al.*, 2003; Handel & Herbsleb, 2002; Nardi *et al.*, 2000; O'Neill & Martin, 2003; M. Smith *et al.*, 2002). However, a host of particularly thorny ethical questions remain. Is it ethical to enter a chatroom and record the conversation for research purposes? Under what circumstances? Is it necessary to obtain consent from participants? If so, what kind of consent? Is it sufficient to announce the researcher's presence and offer users a way to opt out of participation? Is it feasible to announce the researcher's presence but only record data if participants type a command to opt in? Is the process of obtaining consent more disruptive than the actual study? How should data collected from chatrooms be protected? Is it necessary to change pseudonyms of participants in written accounts? Is it acceptable to retain chatroom logs for long periods of time, or should they be coded for target behaviors and then destroyed to protect the privacy of participants? These are just a few of the difficult ethical questions this new medium raises.

In this section, we describe two traditional approaches to answering these questions about research ethics: theoretical inquiry and case studies of research

experience. Then, we use an important concept in research ethics—reasonable expectations of privacy—to show how these traditional approaches leave questions unanswered. We suggest that empirical data is needed to support our reasoning about research ethics.

The examples that we draw on in this paper focus primarily on the legal and ethical standards of research in the United States. In doing so, we do not suggest that this is the only legitimate perspective available. As the European Data Privacy Directive (1995; 2002) illustrates, reasonable expectations of privacy—and the resulting research ethics applied—will vary between cultural settings. Through this paper, we seek to illustrate how empirical research can illuminate new ethical considerations. Further empirical research is needed to understand how these issues vary from culture to culture. We explicitly consider international perspectives toward the end of this paper.

Traditional Approaches to Research Ethics

Due to the complexity of issues in research ethics, we often rely on theoretical inquiry to simplify or highlight different questions. Philosophy, for example, can help us to see specific cases as examples of categories of problems (e.g., Ess, 1996; Thomas, 1996a). Likewise, it can help us make sense of the assumptions underlying different practical approaches to research ethics. Beyond pure philosophic thought, we often use hypothetical case studies (e.g., Keller & Lee, 2003; King, 1996). These case studies help highlight specific troublesome areas in research ethics.

Practical experience in conducting research also informs our understanding of research ethics. It's not uncommon for researchers to run into ethical issues in the course of conducting other research, especially in the social sciences. Case studies of practice, grounded in experience, offer concrete examples about how researchers design and conduct experiments as well as how subjects respond to these experiments. These case studies complement theoretical inquiry by illustrating ways that reality differs from or is more complex than theoretical predictions. For example, Kipling Williams's studies of cyberostracism have highlighted issues of identifying distress while conducting an online experiment (Williams *et al.*, 2000). Brenda Danet's (2001a, 2001b) work has raised questions of ownership in online performance art. Sheana Bull and Mary McFarlane's (2000) work on risky sexual behaviors resulting from online encounters has dealt with issues of data collection and retention. Our own work has run into challenges of obtaining consent in online environments (Hudson & Bruckman, 2002).

Periodically studies come along that raise ethical issues which resonate with broader research communities. For example, Stanley Milgram's (1974) studies on obedience sparked numerous debates on how subjects withdraw consent. Laud Humphreys's (1970) studies of the "tearoom trade" lead to discussion of when

public information should be considered private. Marty Rimm's (1995) studies of pornography on the Internet raised debate about both the misrepresentation of information in research reports and about how this information can be further (mis)represented in media reports about academic research and in social policy decisions (Thomas, 1996b).

Although case studies of research practice can shed light onto complicated ethical issues, they are not designed for that purpose. Instead, they encounter these issues while pursuing other research questions. Below, we use an important concept in research ethics—reasonable expectations of privacy—to illustrate how targeted empirical studies can play a complementary role to both theoretical inquiry and case studies of practice in informing our ethical reasoning.

Reasonable Expectations of Privacy

Questions of privacy—and, therefore, questions about the necessity of consent—often deal explicitly with the concept of “reasonable expectations.” For example, in the United States, the Belmont Report¹ (Department of Health, 1979) sets up a “reasonable volunteer” as the standard by which to judge a consent process. The U.S. regulations on research state:

Private information includes information about behavior that occurs in a context in which an individual can *reasonably expect* that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can *reasonably expect* will not be made public. (45 CFR 46, Section 102(f), emphasis added)

In conducting research on the Internet, both the American Psychological Association (Kraut et al., 2004) and the Association of Internet Researchers (Ess, 2002) caution that we must carefully consider reasonable expectations of privacy in determining the necessity of consent.

Not only is this concept embedded in our codes of research ethics, reasonable expectations are also fundamental to many privacy laws. For example, Charles Katz was convicted on illegal gambling charges based primarily on evidence from a tapped public phone. In the U.S. Supreme Court decision ("Katz v. United States, 389 U.S. 347", 1967), the court argued:

The Fourth Amendment protects people, not places. What a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection. But what he seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected.

In his concurring opinion, Justice John Harlan further elaborated:

My understanding of the rule that has emerged from prior decisions is that there is a twofold requirement, first that a person have exhibited an actual (subjective)

¹ In the United States, federal regulations governing the conduct of research are based largely on the findings of the Belmont Report. Like the Nuremberg Code (1949), the Belmont Report was written in the wake of a number of questionable research experiments in the U.S.

expectation of privacy and, second, that the expectation be one that society is prepared to recognize as “reasonable.”

With this decision, the concept of *reasonable expectations of privacy* became embedded in U.S. law.

European Union Data Privacy Directives ("Directive 95/46/EC of the European Parliament", 1995, "Directive 2002/58/EC of the European Parliament", 2002) illustrates how varied historical experiences may cause expectations of privacy to differ from one culture to another (Habermas, 1962). Given that the Nazis used information collected from government databases to identify Jews during World War II, it's not surprising that the European Union takes a more stringent view of *reasonable* expectations of privacy than the United States. To further complicate matters, however, individual nations of the European Union implement this legislation differently.

In studying online environments, complicated issues of conflicting expectations of privacy arise. Online, national borders are permeable; it is simply impractical to design a study of naturally occurring groups in an online environment that does not risk including subjects from different nations and different cultures. When this happens, we cannot assume that the reasonable expectations of researchers are the reasonable expectations of research subjects.

This emphasis on subjects' *reasonable expectations*, however, begs the question: When and where do individuals expect privacy? When is this expectation *reasonable*? Theoretical inquiry and experiential case studies have provided us with some insight into these questions, but they remain largely unanswered.

Theoretical inquiry into reasonable expectations leads us to contradictory conclusions about whether or not consent is necessary before studying online environments. Some online environments are clearly intended to be public spaces. These environments do not restrict membership, have significant readership that does not participate (Nonnecke & Preece, 2000), and archive contributions in an accessible way. Based on these defining characteristics, it can be argued that individuals in these forums have no *reasonable* expectations of privacy and that consent issues are the same as they are for any public space (Kraut et al., 2004).

When conversations are not publicly archived, however, theoretical inquiry leads to divergent conclusions. For some researchers, unrestricted membership is the key to determining whether or not a space is public, and therefore whether or not it is accessible to researchers without consent (S. Herring, 1996a). Others, however, argue that the ephemerality of some online discussions creates a reasonable expectation that the conversation will not be recorded, even though it is clearly publicly accessible (Bruckman, 2002). Since these ethical stances are based on differing assumptions, theoretical inquiry is not likely to lead to a

resolution. From a theoretical inquiry perspective, “reasonable expectations” remain problematic.

Case studies of research practice have also raised a number of questions about reasonable expectations. For example, Elizabeth Reid’s (1996) study of one particular text-based online environment highlights an often neglected factor in understanding reasonable expectations of privacy. Namely, the disinhibiting effects of online communication (Dery, 1993; Joinson, 1998, 2003; Kiesler *et al.*, 1984; Spears *et al.*, 2001; Wallace, 1999) can reduce awareness that privacy might be at stake. As Reid (1996, p. 172) notes:

In particular I began to doubt the wisdom of taking enthusiasm for my project to indicate both knowledge and acceptance of the risks that participation in it might entail. ... In online environments where consequences to the actual lives of participants can be hidden behind the illusion of a virtual/actual dichotomy, this tendency toward uninhibited behavior can make the social researcher’s job seemingly easier and thereby place an added burden of responsibility on his or her shoulders.

Even though the spaces she studied were public, Reid argued the disinhibiting effects of online environments might lead to *reasonable* expectations of privacy. Likewise, Yatzchak Binik, Kenneth Mah, and Sara Kiesler (1999) describe a number of cases with negative consequences where individuals engaged in public conversations as if they were private. In their study of an online environment for gay and lesbian individuals, Elizabeth Bassett and Kate O’Riordan’s (2002) further complicate matters by highlighting contradictions between management’s view of the website as a public space to promote awareness of gay and lesbian issues and users who interacted on the various forums as if they were private spaces. As these studies illustrate, the tendency toward disinhibition in online environments raises questions about whether or not expectations from traditional public spaces reasonably apply in new online environments.

A Need for Empirical Work

Traditional approaches to ethical questions have involved either philosophic inquiry or case studies of issues that arose in the conduct of other research. Rarely do we see research aimed at gathering empirical data to support ethical reasoning. Though these traditional approaches to research ethics have significantly informed our thinking as a community, more is still needed. For example, although a significant amount of work using these traditional approaches has looked into notions of *reasonable expectations of privacy*, questions remain.

Gathering empirical data on these questions can help us reach some answers. Doing so, however, is not easy; it often requires a willingness to stand on potentially shaky ethical grounds. Where the benefits of doing the research outweigh the harm², though, we should be willing to conduct these studies. We

² The Belmont Report, like the Nuremberg Code (1949), takes an explicitly teleological perspective (Mill, 1998). Here, we follow this approach. In our discussion below, we include further analysis of

must point out, however, that knowing what people do does not tell us what people should do. Knowing about how subjects feel, however, can provide us with evidence to inform our ethical reasoning.

In the next section, we describe one case study that illustrates how empirical data can shed light onto ethical dilemmas, specifically onto questions of reasonable expectations of privacy. In doing so, we explicitly deal with the ethical challenges that arose in conducting this type of research.

Gathering Empirical Data: A Case Study

A number of research studies have illustrated how various psychological properties induced by online environments cause individuals to act as if public spaces were private (Bassett & O'Riordan, 2002; Binik et al., 1999; Hudson & Bruckman, 2004a; Joinson, 2003; Kiesler et al., 1984; Matheson & Zanna, 1988; Postmes & Spears, 1998; Reid, 1996; Wallace, 1999; Walther, 1996). In analyzing the ethical issues in any chatroom study, one key piece of information to understand is this: Do users of public chatrooms act as if studying them violates their privacy? How much do users object to being studied in a *public* online environment when they are aware of the study? Notions of privacy are based on implicit and constantly evolving social contracts (Habermas, 1962). These social contracts are often based on our experiences in the physical world (e.g., how far the sound of a voice will carry), which offer little guidance online. Therefore, we need to understand how participants in online environments interpret these social contracts so that we may consider appropriate strategies for ethically conducting research.

In this section, we describe one study that we conducted to help answer these questions (Hudson & Bruckman, 2004b). Through looking in detail at this study, we demonstrate that experimental research aimed at gathering empirical data plays a complementary role in answering some of these difficult ethical dilemmas. Although this type of research cannot tell us appropriate ethical positions, it can inform our reasoning by providing concrete data about how potential subjects might respond to various situations.

Method

To begin to understand whether participants react to online studies in public spaces as potential invasions of privacy, we experimentally studied how individuals in online chatrooms reacted to a variety of consent conditions. We designed a study where we entered a number of online chatrooms, informed the participants that we were recording them to study language use, and recorded how

this viewpoint, along with a discussion of deontological ethics (Kant, 1981) as an alternative perspective.

Condition	Message Broadcast
No Message	None
Recording Message	We are researchers recording this chatroom for a study on language use in online environments. For questions or comments, email study@mail.chatstudy.cc.gatech.edu . Thank you!
Opt Out Message	We are researchers recording this chatroom for a study on language use in online environments. If you don't want to be recorded, please whisper "Chat_Study opt out" to us. For questions or comments, email study@mail.chatstudy.cc.gatech.edu . Thank you!
Opt In Message	We are researchers and would like to record this conversation for a study on language use in online environments. If we may record you, please whisper "Chat_Study volunteer" to us. For questions or comments, email study@mail.chatstudy.cc.gatech.edu . Thank you!

Note. The "study on language use" was chosen as a specific innocuous study.

Table I. Announce Messages

individuals responded. Specifically, we examined participants in chatrooms on ICQ Chat³. Since ICQ Chat uses IRC servers, we were able to conduct this study without worrying about proprietary software (such as MSN Chat). Also, ICQ Chat's web-based interface offered a population that is generally less technologically aware than standard IRC populations. Because of this web-based interface, we have reason to believe that individuals using ICQ Chat are somewhat more representative of the general population of Internet users than those on most other IRC servers. Note that our experimental setup addresses one particular kind of chatroom environment. In our discussion, we explore the available evidence for generalization of these results.

First, we downloaded a list of the available chatrooms each evening at 9:50 PM⁴. On any given day, the mean size (i.e., number of participants) of available chatrooms on most IRC networks tends to be positively skewed: there are a large number of small chatrooms, but fewer large ones. In order to ensure that we adequately covered the range of potential chatroom sizes, we arbitrarily divided the available chatrooms into four buckets: very small (2 – 4 participants), small (5 – 10 participants), medium (10 – 29 participants), and large (30 or more participants). This means we sampled a much larger percentage of the available large chatrooms than of the available smaller chatrooms.

Using these buckets, we randomly chose 16 chatrooms from each. Each set of 16 chatrooms were further (randomly) subdivided into groups of four. Each group of four was assigned to one of our recording conditions. In each condition, we varied the message we said to the chatroom. In the *No Message* condition, we simply entered using the nickname "Chat_Study" and said nothing. In the *Recording Message* condition, we entered as "Chat_Study" but announced that we were recording the chatroom for a study. The *Opt In Message* and *Opt Out Message* conditions were similar, but allowed individuals to choose to opt in or

³ <http://www.icq.com/ircqnet/>

⁴ Note that all times are Eastern Standard Time. The study lasted for two weeks.

opt out of the study by typing a response. The exact messages used are listed in Table I.

Once chatrooms were randomly assigned to conditions, we entered the chatrooms (in a random order) and conducted the study. Upon joining a room, we waited one minute before posting our message. Then, we waited another five minutes before leaving the chatroom. If we had not been kicked out of the chatroom by this time, we posted the following message before exiting:

This research is actually not about language use. Rather, it is designed to study how individuals in chatrooms react to researchers studying them. Further information is available at <http://www.cc.gatech.edu/elc/chatstudy>. Thanks!

By entering chatrooms two at a time and staggering our conditions, we were able to test 64 chatrooms within a one-hour period (10:00 PM – 11:00 PM).

For each chatroom, we noted the number of participants at the time we entered, whether or not a moderator was present, whether or not conversation occurred, and whether or not we were kicked out of the room. If a chatroom did not have a moderator or we did not observe conversation, it was removed from the study prior to data analysis. Running this study each evening from March 1 until March 14, 2003, we sampled 525 chatrooms. Of these, we retained the 137 chatrooms with moderators and active conversation for our data analysis.

Ethical Issues in Conducting this Study

Before delving into the results, there were a number of ethical issues that arose in the design and conduct of this study. In essence, this is a deceptive study conducted on 2260 subjects⁵ without their consent. In conducting this research, we decided to work under the most restrictive of ethical stances—the human subjects model⁶. As such, we sought permission from Georgia Tech’s Institutional Review Board⁷ (IRB) for conducting this research. Our IRB had three primary concerns in reviewing this research: the use of deception, the lack of consent, and the potential for harm.

Responding to concerns over the potential for harm is quite difficult in a study designed to partially evaluate the potential for harm in studies like it. However, most reported case studies of significant harm as a result of this type of research have involved conversations about sensitive topics (Bassett & O’Riordan, 2002; Reid, 1996). Therefore, we agreed to review the names and (official) topics of all potential chatrooms before entering them to ensure that sensitive discussions seemed unlikely. While we never formally defined what we meant by “sensitive

⁵ This represents the number of unique usernames involved in our study. There is not necessarily a one-to-one mapping between individuals and usernames.

⁶ For a discussion of other models for conducting Internet research, see Bassett and O’Riordan (2002).

⁷ In the United States, all research involving human subjects and conducted at or with a federally funded institution (e.g., universities) must be reviewed by an Institutional Review Board (IRB). With the authority to veto any proposed human subjects research, the IRB has a broad mandate to ensure that the research design adequately protects human subjects.

topics,” we used emotional support groups such as “breast cancer survivors” as the prototypical discussions to avoid. In conducting the study, we encountered no such chatrooms. To further minimize harm, we limited the scope of our study to only comments directly pertaining to us. Specifically, after reading through the transcripts once, we removed all comments that were not directed to or about us. All data analysis was performed on these cleaned transcripts.

In addition to removing comments that did not pertain to us, we also replaced any usernames with randomly generated identifiers and removed all other identifying information. As Bruckman (2002) points out, anonymity and pseudonymity in online environments raise difficult ethical challenges. Subjects using pseudonyms in online environments, for example, does not mean that the data is anonymous. In many cases, log file data from online conversations include information such as IP addresses, which has been labeled as identifying information in both the United States (45 CFR 160.514.b.2.i.O) and the European Union (Directive 2002/58/EC Section 28). Even with IP addresses removed, however, pseudonyms often function as individual identities in many online environments. It’s not uncommon to find individuals who use the same pseudonym across a number of communities, making it easier to link a pseudonym with a physical person. Even when it is not possible to trace these pseudonyms to an individual’s physical identity, however, users still can feel deeply invested in online identities. When a pseudonym is revealed in a research study, that user may still perceive harm.

In conducting this study, we did not take questions of harm lightly. This is certainly the most provocative study that either of us has conducted. After all, we hypothesized that subjects would find this type of research upsetting. As the results below show, subjects did feel annoyed and expressed high levels of hostility. Sometimes, however, when the scientific questions are important enough and the potential for harm can be minimized, doing research that aggravates subjects may be acceptable. Based on the steps we took to minimize the potential for harm, we believe that the scientific value of these research questions outweighed the annoyance that subjects expressed.

In social psychological traditions, there is a long history of using deception-based research when topics of concern are otherwise inaccessible (Korn, 1997). Although there are a number of approaches to dealing with consent issues in deception research, generally subjects in laboratory studies consent to participate in a research study, but are deceived about the exact nature of the research (Aronson *et al.*, 1998). However, in field studies, some topics can only be studied when subjects are wholly unaware of the research. Given that people are notoriously poor at being self-reflective about privacy topics (e.g., Ackerman *et al.*, 1999), we felt we could not simply ask potential participants about how they might respond to this type of research. Therefore, it was necessary to conduct this

study using deception, without seeking consent to participate in the study. This was a decision that we did not take lightly.

When deception is justified, subjects should be debriefed to the extent possible about the true nature of the research. To do so, we pointed subjects to a webpage with information about our study before we left the chatroom. When doing field research without consent, however, decisions about debriefing require special sensitivity as they may cause further and unwarranted disruption (Aronson et al., 1998). We decided—with the help of our IRB—that we would not debrief chatrooms where we had been kicked out. This decision involved balancing subjects' right to be debriefed with their right to be left alone. Since we believed that kicking us out of the chatroom would indicate a strong desire to be left alone, we gave this right greater weight. We felt that the additional disruption would cause more harm than the benefit that debriefing provided.

Based on the U.S. federal regulations governing research, informed consent may be waived only when four conditions are met:

- (1) the research involves no more than minimal risk to the subjects;
- (2) the waiver or alteration will not adversely affect the rights and welfare of the subjects;
- (3) the research could not practicably be carried out without the waiver or alteration;
- and
- (4) whenever appropriate, the subjects will be provided with additional pertinent information after participation. (45 CFR 46.116.d)

After much discussion, our IRB felt that we met all four of these conditions and qualified for a waiver of informed consent. More discussion on waivers of consent is provided in the full report of our study (Hudson & Bruckman, 2004b).

Chatroom Consent Study Results

To analyze which factors contributed to whether or not we were kicked out of the chatrooms, we conducted a hierarchical logistic regression analysis. Our dependent variable was whether or not we were kicked out of the chatroom. Results from this analysis indicate that both size ($Wald_{(1)} = 5.407$, $p = 0.020$) and the number of moderators ($Wald_{(1)} = 7.491$, $p = 0.006$) significantly predicted when we were kicked out of chatrooms. Briefly, the likelihood of being kicked out of a chatroom decreased as the number of people present increased. We were twice as likely to be kicked out of a room with 5 people than a room with 18 people, holding other factors constant; for every thirteen additional people in a chatroom, the chances of being kicked out were cut in half. Conversely, increased numbers of moderators lead to increased chances of being kicked out.

In addition, our experimental conditions were significant predictors ($\chi^2_{(3, 137)} = 15.554$, $p = 0.001$) over and above all other variables. The No Message condition was significantly different from the other three conditions ($Wald_{(1)} = 12.286$, $p < 0.001$), but there were no other differences found between conditions. In other

words, it did not matter what we said; any indication of recording the chatroom significantly increased our likelihood of being kicked out. In fact, holding other variables constant, we were nearly four times more likely to be kicked out when we said something.

Based on the results from the Opt In and Opt Out conditions, there is little reason to believe that these are viable ways of conducting research. In the Opt Out condition, we were kicked out of the chatrooms 72% of the time. With Opt In, it was 62% of the time. (There is no significant difference between these two conditions.) Of the 443 individuals who could have responded in the Opt Out condition, only two individuals opted out. A few others, however, did express what might be called a desire to opt out (e.g., “hey chat⁸ fuk off”, “yeah up urs chatstudy!!”). Of the 766 individuals in the Opt In condition, only four chose to do so. Even in this condition, some individuals expressed strong disagreement with the possibility of being recorded (e.g., “please leave Chat_Study u do not have permission ... now all we need is for Chat_Study to fuck Off.”). For the most part, however, the negative comments we received in these two conditions were less frequent and less vehement than those we received in the Recording condition (e.g., “<deleted> kicks Chat_Study’s ass so hard.... Chat_Study will be shitting out of it forhead for a week!”, “Hey Chat_Study dont you ever talk to me like that again you fucking flaccid, nasty, skank ugly, idiotic no brained, small dicked, stinking nasty pimp daddy wannabe, go wave that limp nasty scab encrusted dick somewhere else bitch!”). During the course of running this study and the pilot testing, only one individual asked for more information about the study.

Discussion

Based on this study, we can say that participants in public chatrooms acted as if their privacy had been violated when they were made aware of the fact that we were studying them. Although there were a number of limitations to this study⁹, the reactions of participants was consistent with what we would expect if the chatrooms were private spaces. If we accept that this indicates an expectation of privacy in public chatrooms, we must ask a number of questions. Is this expectation of privacy in a public environment reasonable? If so, what are the implications for conducting research on chatrooms ethically? Reasonable or not, what are the implications of expectations of privacy for designers of CSCW environments? In the next sections, we consider these questions.

⁸ We used “Chat_Study” as our username.

⁹ These limitations are discussed in detail in Hudson and Bruckman (2004b).

Ethical Research Given Expectations of Privacy

If we accept that the data gathered in this study indicates that participants in public online chatrooms have an expectation of privacy, we must ask whether or not this expectation is reasonable. On one hand, we can argue that public chatrooms are (usually) unambiguously public. Given that fact, we have no ethical obligation to consider participants' expectations of privacy. Following this reasoning, we may study subjects in a public online chatroom as we would in any other public environment.

On the other hand, the nature of this new media and its (not-completely-defined) implicit social contracts surrounding privacy (i.e., Habermas, 1962) suggests that these expectations of privacy may, in fact, be quite reasonable. As in this study (Hudson & Bruckman, 2004b), research has shown over and over again that people in public, online environments often act as if these environments were private (Bassett & O'Riordan, 2002; Greist *et al.*, 1973; Hudson & Bruckman, 2002, 2004a; Nardi *et al.*, 2004; Sproull & Kiesler, 1991; Weisband & Kiesler, 1996). In other words, there is a mismatch between people's (often unspoken) expectations of privacy in computer-mediated environments and the reality of privacy. Research on disinhibition in online environments suggests that aspects of the online environment (e.g., the feelings of anonymity online or the ephemerality of text in chat or the (in)visibility of audience in blogs) may lead to this mismatch in expectations of privacy (Hudson & Bruckman, 2004a; Joinson, 2003; Kiesler *et al.*, 1984; Matheson & Zanna, 1988). Thus, empirical data suggests that the expectation exists, and the medium may encourage it. Following this reasoning, it seems appropriate to accept people's feelings as valid, i.e. reasonable.

Assuming that expectations of privacy in public chatrooms are reasonable, we must ask questions about how to ethically conduct research on these chatrooms. Do we have a moral imperative to seek and obtain informed consent? What if the process of obtaining consent is potentially disruptive and harmful? This leads us to a central ethical question: If subjects are not aware that a researcher is recording the conversation in a chatroom, is there harm in violating their privacy? A teleological perspective such as utilitarianism holds that no harm has been done (Mill, 1998). A subject unaware of research cannot feel disrupted or harmed. Therefore, the benefits of the situation (to scientific understanding) outweigh the potential for harm. It is important to note that this line of ethical reasoning hinges on the (arguably tenuous) assumption that subjects will never become aware of the research. If subjects become aware of the research, a teleological perspective holds that we must now weigh the amount of harm against the potential benefits.

A more deontological perspective holds that there are certain rights that are fundamental (Kant, 1981). As the Belmont Report states:

Respect for persons requires that subjects, to the degree that they are capable, be given the opportunity to choose what shall or shall not happen to them. ... An agreement to participate in research constitutes a valid consent only if voluntarily given. (Part C.1)

A violation of these rights, whether or not the subject is aware of the violation, constitutes harm. Therefore, violating a subject's right to consent to participate in a study is harm even if the subject is unaware of the violation.

Tied in with this question, we must ask about the ethics of harming potential subjects through the consent process. Our data indicates that chatroom participants kicked us out roughly two-thirds of the time when we attempted to obtain informed consent. Which is the greater harm – annoying two-thirds of potential subjects or not obtaining consent? This is a difficult question where reasonable people can disagree.

Although deontological reasoning may reasonably lead us to the conclusion that conducting this type of research is unethical, a teleological stance holds that this type of research is perfectly valid as long as the potential for benefits outweighs the (anticipated) potential for harm. Individual researchers, in partnership with ethics review boards, must decide for themselves whether or not it is ethically right to do so.

When doing this type of research, we believe that research in pre-existing chatrooms¹⁰ can be conducted most productively when subjects are unaware of the study. There are three ways under the United States regulations governing academic research that we can go about doing research without the consent of potential subjects: (a) determine that the research is not human subjects research, (b) determine that the research is exempt from IRB oversight, or (c) convince an IRB to issue a formal waiver of consent. The first two of these approaches are problematic. Assuming that a researcher has decided it is ethically appropriate to conduct a given study without obtaining subjects' consent, we conclude that obtaining a waiver of consent from an IRB is the most appropriate way to conduct chatroom research under U.S. regulatory law. We discuss these conclusions in detail in (Hudson & Bruckman, 2004b).

Designing CSCW Systems for Expectations of Privacy

These findings have implications for CSCW beyond ethical issues in conducting research. Over and over again, research findings indicate that computer-mediated communication technologies lead users to expect a certain degree of privacy, even when they consciously know better (Joinson, 2003; Wallace, 1999). Individuals filling out surveys on a computer reveal much more personal information than they do on paper-based forms (Greist et al., 1973; Weisband & Kiesler, 1996). Power hierarchies in face-to-face and audio environments (France *et al.*, 2001)

¹⁰ For a discussion of emic versus etic styles of research, see Hudson and Bruckman (2004b). In Hudson and Bruckman (2002), we discuss an alternative approach involving creating new chat servers and inviting participation in this specifically-designated research environment.

seem to disappear in online discussions (Sproull & Kiesler, 1991). Shy students who would never say anything in a classroom have no problems interacting with the same teachers and classmates in chat environments (Bruce *et al.*, 1993; Hudson & Bruckman, 2002, 2004a). Normally polite people get into vicious flame wars when they go online (Dery, 1993). Novice bloggers remain unconcerned about privacy (Nardi *et al.*, 2004), despite the growing number of reported problems with unintended audiences reading blogs (e.g., Hart, 2005)

In short, there is often a mismatch between user expectations of privacy and the reality of privacy in Internet-based tools. As designers of communication tools, we have a special obligation to be aware of this. In designing new environments, we need to explicitly consider how design decisions may influence the expectations of privacy in users. Where appropriate, we should strive to make these privacy expectations match reality.

Beyond the U.S. Perspective

Although the proceeding discussion took a U.S.-centric view on privacy, this is far from the only legitimate perspective. Notions of privacy develop in and through specific historical situations within specific cultural norms (Habermas, 1962). For example, Genevieve Bell (Bell, 2004, p. 92) illustrates just how different norms about privacy can be through her experiences conducting research in a number of Asian countries:

In China, a male tea-server in a restaurant asked me whether I was menstruating—because it impacted the tea selection. Try to imagine the same question in a Starbucks in Cincinnati! In other places I have spent time, men consume pornography in public cybercafes because to do so at home would violate their homes and insult their families (and wives).

Privacy is a complex notion arising from various implicit social contracts between individuals based on specific historical perspectives. Attitudes vary about types of information that should be kept private and about whom the information should be kept private from (e.g., government, corporations, researchers, or other individuals and institutions).

Unfortunately, this seems to lead us to an impossible dilemma. With the breakdown of national and cultural barriers that is the hallmark of online interaction, any study runs a significant risk of including populations from many cultural backgrounds. Both formal (e.g., S. C. Herring, 1996b; M. A. Smith & Kollock, 1999) and anecdotal evidence (e.g., Cherny, 1999; Horn, 1998; Rheingold, 1993), however, suggests that online communities—like co-located communities—tend to develop their own unique norms over time. Through studying and understanding these norms, we can make more informed ethical decisions.

Conclusions

Traditionally, theoretical inquiry and case studies of research practice have constituted the majority of thinking in research ethics. Although both of these approaches are useful and provide valuable insight, they cannot completely capture all possible legitimate perspectives that our subjects might have (Habermas, 1990, 1993). When it is reasonable, ethical, and useful to do so, we need to consider using experimental techniques to gather empirical data that can help us to better understand our subjects' perspectives.

In this paper, we have examined how this approach helped to strengthen our understanding of reasonable expectations of privacy. Those wrestling with questions of privacy have often struggled with the vagueness of *reasonable expectations* (Bruckman, 2002; S. Herring, 1996a; Kraut et al., 2004; Reid, 1996). In our empirical work on the subject (Hudson & Bruckman, 2004b), we temporarily set aside questions of *reasonable* expectations in order to explore more thoroughly chatroom participants' *expectations*. With an empirical understanding of general expectations of privacy in one setting, we were able to have a more nuanced debate about what is reasonable. Of course, many questions remain, but an empirical understanding of expectations does inform the debate.

Other debates in research ethics—for example, the nature of *harm*—also need empirical data. In our own experiences¹¹, research ethics boards, such as IRBs, constantly struggle with predicting both the magnitude and probability of potential harm when evaluating research studies. Theoretical approaches can reasonably identify areas of potential harm, and case studies of research practice can describe actual harm, but these boards rarely have empirical data to inform their decisions.

As new media allow us to study increasing numbers of subjects in increasing varieties of cultural settings, it is becoming more and more important that we have solid empirical data contributing to our understanding of research ethics. This type of research can complement philosophical analyses and case studies, and can give us greater insight into balancing the need to protect human subjects with the need to further academic inquiry into the world around us. Gathering empirical data about issues in research ethics can help us (1) to identify particularly problematic areas and (2) to alleviate concerns of researchers and ethics review boards in innocuous areas. A greater emphasis on this type of research will help us relieve the tension between protecting our human subjects and conducting scientifically necessary research.

¹¹ Hudson served on Georgia Tech's Institutional Review Board from late 2001 until mid-2005.

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