



Internet as a medium for qualitative research

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Paper presented on 6 September 2000 at the Web 2000 Conference, Rand Afrikaans University, Johannesburg, South Africa

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1. Introduction

Current estimations of Internet users hover around 200 million with an anticipated one billion users by 2005. The technology-mediated communication aspects of the Internet are enabling fast global contact with growing numbers of these individuals and groups. This offers unique opportunities for generating and collecting data on social interaction. In addition the Internet is helping to redefine the 'field' in fieldwork and expanding the possibility of conducting qualitative research beyond the bounds of real-time, single location physical settings into the realm of *cyberspace* (Nardi, 1996; Ito, 1996).

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2. Qualitative research

Definitions of qualitative research depend on the philosophical and theoretical approach of the researcher. For the purpose of this article, 'qualitative research' refers to research that

focuses on the meanings of lived experiences, involves observation and data collection in naturalistic settings and where there is an emphasis on the incorporation of the complexity and diversity of the research context. Interactiveness among participants and the researcher is a feature of qualitative research and face-to-face methods of qualitative data collection include in-depth interviews, focus groups, and ethnographic observation using field notes, diaries, transcripts of video/audio-tapes, photographs, archives and other documentation.

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3. Locating the Internet

'I feel it in my fingers

I feel it in my clothes

The Web is all around us

That's how the future goes'.

(Apologies to the Troggs)

The challenge of defining the Internet arises from the speed at which its architecture and services are expanding and merging with other media. As recently as late 1998, the Internet was adequately described in terms of a *global computer network of connected server computers, which facilitated connectivity for millions of client computers worldwide, with access via a modem or cable* (Clarke, 1998a).

Updating this definition at the beginning of 2000 required inclusion of the following:

- Satellite connectivity
- Wireless Application Protocol (WAP)
- I-mode (continuous access to wireless Internet via cell phone)
- A fast growing selection of Internet- and Web-enabled appliances including
 - Hand-held computers and organizers
 - TV sets
 - Motor vehicles
 - Cell phones
 - Wrist watches
 - Spectacles
 - Clothes (BodyNet and Personal Area Network – PAN)
 - Refrigerators, microwave ovens
 - Reclining armchairs (e-cliners).

By 2002, it is predicted, 75% of all Web browsing will be conducted via devices other than the standard computer.

In addition, the World-Wide Web, or Web, is a vast network of interlinked 'pages' displaying text, hypertext, images, sound, video and data. The Web provides on-line presence and information on:

- Individuals and organizations – government, NGO, legal, commercial and educational
- Learning materials and courses
- Health services

- Journals and newspapers
- Virtual libraries, art galleries and museums
- Virtual shopping malls, music and game centres
- Databases and archives
- Advertisements and promotional goods
- Software
- Pornography
- Junk.

There is currently a mushrooming of *portals*, or sites that integrate information from many servers and companies and act as gateways to pre-selected, though user-customizable news, information and on-line services. File transfer protocols and search engines are other useful services accessible via the Internet.

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4. Internet-mediated methods for on-line qualitative research

The amount of information that can be transmitted across a network in a given amount of time is related to the available bandwidth. In South Africa, where available bandwidth is related to cost, services requiring less bandwidth (e.g. asynchronous e-mail, e-mail discussion lists and news groups) are often more available and effective for communication than synchronous services that include band-width hungry features such as the delivery of streaming video and audio. Both types of services can be used for conducting interviews and focus groups as well as to facilitate ethnographic observation

Table 1 summarizes these main asynchronous and synchronous Internet mediated communication technologies together with related qualitative research techniques.

Table 1 Internet-mediated communication technologies usable for on-line qualitative research

Asynchronous	<ul style="list-style-type: none"> • Email: for text message communication and file attachments. Can be text based, 'pushed' to the user's e-mail box or Web-based and 'pulled' from a Web page interface. Suitable for one-on-one on-line interviews. • E-mail list (servs): uses list-processing software and distributes e-mail to all subscribed users on the list. Can be text based or Web-based with threaded topics. Optional screening of messages by moderator. Suitable for on-line focus groups and on-line observation. • UseNet/News groups: for topic-based discussions. This requires a newsgroup server to temporarily store information for access by users. Suitable for on-line focus groups and on-line observation.
Synchronous	<ul style="list-style-type: none"> • Internet Relay Chat (IRC) channels. Usually real-time, interactive, text-based discussion system delivered via a networked computer chat server. Can be used for interviews, focus groups and on-line observation. • Multi-User Dungeons/Domains (MUDs) and MUD Object-Oriented (MOOs). Traditionally used as gaming environments, they have the potential to set up virtual 'places' to facilitate collaboration. (Evard, 1993; Harrison, 1997). Suitable for on-

5. Examples of on-line qualitative research projects

The following examples of on-line research illustrate some of the methods, strengths and limitations of on-line qualitative research in practice.

5.1 On-line focus groups

Gaiser (1997) used focus group interviews to gather information on emerging social forms in cyberspace. Participants were recruited from existing interest e-mail lists after approaching e-mail list managers or moderators for permission.

Thereafter the focus groups were conducted for one week each via specially created e-mail lists, structured with a topic guide and an introductory exercise to set the tone of the context and what would follow.

Benefits noted by Gaiser in relation to the on-line nature of the focus groups included:

- On-line groups provide a naturalistic setting for studying group dynamics in cyberspace;
- diversity of group membership resulted from recruitment from various locations globally;
- members of e-mail interest groups understood how the communication technology worked; and
- a more substantial time span for interviewing was possible than with face-to-face groups.

Potential limitations noted by Gaiser included:

- Possible biasing influence if recruiting from on-line interest groups with over representation of a particular perspective;
- lack of codification of ethical requirements for on-line research;
- the difficulty of ensuring privacy of information in research conducted on-line;
- participants sometimes view themselves as co-authors of the material, thus there is a need to apply the model of informed consent;
- the difficulty of sampling when the demographics of the Internet are constantly changing or difficult to establish;
- the challenge of moderation when postings can be down at all hours and with groups that quickly develop momentum;
- lack of body language; and
- difficulties of following a discussion thread when e-mail is not always sequenced chronologically.

5.2 Ethnographic study in cyberspace

In his ethnographic research on cybersex, Robin Hamman (1996) conducted fieldwork in America Online (AOL) chat rooms, where he recruited and conducted interviews. Hamman was careful to clarify his role as researcher and interviewer. Each interviewee accepted an e-mailed agreement before the interview.

The strengths listed by Hamman of this method of doing fieldwork in cyberspace included:

- Access to a considerable pool of potential interviewees;
- access to respondents twenty-four hours a day regardless of his/her location; and
- no physical interviewer effects or setting effects on the interview outcomes.

Limitations he identified included:

- Difficulty defining the parameters of the population as AOL would not provide demographic data;
- continuously changing population as chat rooms disappeared without notice and were replaced with new rooms;
- difficulty with following up with interviewees if they went off-line;
- misinterpretations of intentions and gender owing to narrow bandwidth communication medium; and
- the expense of going on-line and AOL membership fees.

The usefulness of the Internet to recruit reluctant or rare groups of people is also confirmed in Coomber's (1997) research on habits of illicit drug dealers with respect to adulteration of street drugs. Internet news groups were used to recruit a broader range of participants than those available from the prison populations. Participants could complete a Web-based interview schedule. To protect anonymity and the researcher who risked subpoena to provide sources of potential evidence, the researcher recommended using Internet cafes or community centres that could not trace identities.

5.3 Naturalistic on-line discourse

Sharf (1999) started collecting material by 'lurking' out of curiosity in a newsgroup created to support those with breast cancer. Only after harvesting interesting messages from the news group did she start to announce her dual role of participant and researcher in each message she posted.

When a draft copy of her research obtained unexpected publicity, Sharf contacted each of the 14 group members from whom she had collected material for permission. She later provided the group with her draft research and obtained considerable and useful feedback in the form of supplementary information as well as perspectives on interpretation, all of which she was able to include in her study.

5.4 Researching across national boundaries and cultures

Stewart, Eckermann and Zhou (1998) conducted on-line focus groups including one with 16 teenage girls located in Australia and China. Based on discussion of scenarios to elicit their knowledge of smoking-related health risks, the research used chat rooms in English and Chinese (with translations). Participants were taken to two computer centres where they worked in pairs.

The researchers considered that the success of the link-up and the active exchange of views provided a successful pilot study for future cost-effective, cross-cultural research.

Difficulties encountered included an under-prediction of the time required for the on-line focus groups. In addition the speed at which topics changed verged on the chaotic and made it difficult for the facilitator to exert control. Furthermore, given the need for translation from Chinese, the discussion tended to be dominated by the Australian group. Variable typing proficiency also contributed to unequal interactivity.

5.5 Online case study

In a case study of a virtual classroom (Clarke, 1998a), one-on-one e-mail interviews with classroom participants and the course facilitator were conducted as well as an analysis of the classroom e-mail list discussions – approximately 500 messages. These methods provided quick and convenient access to geographically dispersed participants. In addition the on-line interviews and e-mail messages provided automatic text transcripts of all interviews and communications.

A limiting experience was that a follow-up interview with course participants revealed how quickly many on-line group members had disappeared from the field through change of e-mail addresses.

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6. Summary of benefits of on-line qualitative research

6.1 Communication facilitation

Asynchronous communication systems with persistent textual records allow people separated by time zones, work schedules and other activities to interact with one another (Erickson, 1999).

Herring (1999) suggests that despite asynchronous communication being subjected to disrupted turn-taking and topic maintenance, this availability of the persistent textual record of the conversation helps participants to cognitively manage the interaction in a way that overcomes spoken incoherence. She considers this to be one reason why e-mail has become a popular medium of communication.

On-line interactions often exhibit a high level of responsiveness (Smith, 1997). These activities are perceived as intensely real, interactive and, despite their text-based nature, akin to phone chat and face-to-face dialogue (Wittel, 2000). Murray and Sixsmith (1998) report that, as a result, on-line communications result in more honest responses, particularly from participants who are asked to reveal sensitive, personal information.

Levinson (1990) considers that asynchronous electronic communication's capacity to provide opportunity for reflection and editing of messages before sending contributes to the production of a closer fit between ideas, intentions and their expression in writing. Responding at their convenience instead of waiting for turn-taking, as required in face-to-face interactions, potentially provides more equality of participation to more reserved participants (Hiltz and Wellman, 1997).

6.2 Practical and economic benefits

The cost benefits of on-line research include:

- Recruitment is easily negotiated through e-mail
- Reduced travel, venue and transcribing costs
- Reduced need for synchronous interview times
- Access costs reduced by reading and composing interactions off-line
- Easy communication storage and archiving
- Ease of distribution of discourse interpretations to participants for evaluation
- Ease of publishing and updating results on-line (Stewart et al, 1998; Gaiser, 1997).

6.3 Access to diverse participants

Through the use of e-mail lists and chat it is possible to create virtual groups that enable members to gather across distances to exchange ideas. These virtual groups provide the kind of identification and feeling of membership found in face-to-face interaction and many groups identify themselves as communities (Smith, 1992; Wild, 1999). Participant observation of their group dynamics is easily enabled either through 'lurking' or disclosed participation. Diversity can be obtained by setting up purposeful on-line groups and inviting participants from a range of groups, geographical locations and across national boundaries to participate

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7. Summary of limitations in on-line qualitative research

7.1 Technological limitations

Technology will fail. Non-receipt of messages is a feature of on-line communication (Clarke, 1998b). Receiving of messages in a non-chronological sequence can disrupt the flow of topic discussion. In addition, chat communication can become disjointed through lag caused by signal delays and overcrowded lines.

7.2 Nature of on-line groups

Many on-line groups are of a temporary nature. Furthermore, it is usually difficult to determine the size and composition of on-line groups given the large proportion of invisible 'lurkers'. To add to the complexity, individuals are able to take on multiple identities with pseudonyms and e-mail aliases that disguise their characteristics and facilitate deception.

Despite the theory that being on-line may facilitate equality of interaction, in many groups only a minority of core members generate the majority of contributions (Nielsen, 1997). Furthermore, in many chat groups and MUDs there is a culture of superficial and playful discussion which members may not be willing to adapt for more substantial discussions. Speedy typing is required for keeping up with little time to reflect. This has resulted in conventions of abbreviations used in chat dialog that can be difficult to follow for the uninitiated.

7.3 Missing cues in on-line communication

On-line communication lacks a range of supplementary cues found in the multiple modes of face-to-face communication. These include:

Sound cues to indicate:

- Pausing and reflection
- Emotion
- Speed, loudness and pitch
- Age and gender
- National, ethnic or class accents.

Visual cues to indicate:

- Appearance, height and weight
- Clothes, make-up, jewellery

- Gender, age, ethnic group
- Physical handicaps
- Facial expressions
- Eye contact
- Body language and gestures
- Psychophysical responses, e.g. blushing, yawning, blinking
- Emotions.

While their lack may provide a leveling effect to subgroups of people who might not blend so easily in face-to-face situations, the resulting decontextualized, anonymous nature of on-line communication is considered to contribute to the phenomenon of 'flaming', the sending of negative, insulting messages. Thus powerful text-based dominance and offensiveness may occur on-line, requiring text-based management of conflict.

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8. Internet demographics

I searched the whole wide world,

I surfed the World Wide Web

And I found them'

(Apologies to Wreckless Eric)

8.1 Regional skewness

A consideration in Internet-mediated research is the skewed demographics of the on-line population. The exponential growth in numbers is tempered by a vast gulf between 'haves' and 'have-nots' in cyberspace.

Current estimations indicate that over half the estimated 200 million Internet users are in the United States. By 2005 the total is expected to be one billion with 200 million in the US and 300 million in China (Nielsen-Netratings, 2000). South Africa is currently ranked about 25th in the world in terms of Internet connectivity. The 1.8 million total at the end of 1999 is expected to grow to 2.4 million by the end of 2000, including corporate users, academic users and dial-up users. This has been a five-fold increase since 1997 (Media Africa, 1998). These figures place South Africa on a par with a number of countries in Europe, but in strong contrast to the rest of Africa as illustrated in Table 2.

Table 2 Internet hosts in Africa, 1998

Country	No. of hosts
South Africa	95%
Egypt	2%
Namibia	1%
Zimbabwe	
Botswana	
19 other African countries	2%

(Adapted from Hall, 1998)

8.2 South African Internet user

In 1998 survey indicated the profile of a typical South Africa Internet user as:

- Male
- Approx. 30 to 35 years of age
- Urban
- Educated
- Well-off
- With Internet access at work in the commercial sector (Media Africa, 1998).

A survey in early 2000 indicates that only 1% of black South Africans are connected.

On-line participants need Internet access, literacy in computers, in the language of communication and the ability to type. Initial Internet users represented the more technologically astute, but user characteristics are changing as costs of access reduce and the medium becomes more user-friendly. Median incomes and education levels are lowering, occupations are becoming more diverse and gender balance less weighted toward males. Selecting groups of on-line research participants is providing more diversity than previously.

Beyond these generalities any statistics on Internet-connected populations vary depending on who/what did the survey and how the survey was conducted, as well as how much you pay for the survey. Therefore estimates are not always consistent.

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9. Gender and the Internet

Globally and locally the number of on-line women is increasing. The 1996 figure of 18% of Internet users in the US has grown to 50% in May 2000. From early August women have been in the majority with 50.4%. The fastest growing age group in Internet audiences is between 18 and 24, followed by those of 55+.

In South Africa the percentage of women using the Internet in late 1998 was 19%, close to Europe's 18%. In the Middle East, only 4% of Internet users are women.

The prediction – that technology-mediated environments would be great equalizers of race, gender, disabilities, physical appearance and social status – has not yet been realized in terms of gender.

Many women lack the confidence, time and technology resources to use networked computer systems in the way that men do (Stewart, Shields, Monolescu and Taylor, 1999). Increasing access and proficiency will change this but other factors also affect participation. Research has shown that women are discouraged from participating in traditionally male environments and are often made unwelcome (Stewart *et al.*, 1999). This is observed in mixed gender on-line groups where messages from women are not as valued and men are afforded more status.

In addition, certain genderized communication styles have been observed on-line. These are summarized in Table 3.

Table 3 Communication styles of men and women

Women	Men
Shorter and fewer messages	Longer and more messages
Attenuated assertions	Strong assertions
Apologies	Self-promotion or indicates status
More questions	More rhetorical questions
More justifications	More humour and sarcasm
More attenuation and supportiveness, agreement and inclusion	More adversariality and aggressive language
Present more opinions	Less likely to change their opinion
More emoticons (graphic accents)	More coarse /abusive language
Rapport making	Report- iving
Fewer flames, avoid conflict even leaving group	More flames
More focus on maintenance and socio-emotional processes, networking, community and family contact	More emphasis on issues and task orientation
Notice when posters are ignored	Ignore some posters

(Herring, 1994; Stewart *et al.*, 1999; Savicki, Lingenfelter and Kelly, 1996; Turkle, in Brody, 1996).

A range of factors may modify these extreme gender-based styles. These include the following:

- In mixed on-line groups the minority gender adapts its style to that of the majority (Savicki *et al.*, 1996);
- group size and group task; and
- more equality of interaction between sexes in synchronous communication.

Chat groups and MUDs also provide opportunity for pseudonyms to enhance anonymity and take on opposite gender identities. Turkle (1998) found that women who assumed male names were listened to more while men posing as female characters were occasionally sexually harassed or upbraided for talking too much. However, in other cases some aspect of gender-based communication style has blown the cover of the gender-crossover(s) suggesting that computer-mediated communication does not neutralize distinctions of gender.

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10. Ethical issues

'Every click you make –

They'll be watching you'

(Apologies to Sting)

This interconnectedness and pervasiveness of the Internet and its related services make it difficult to limit access to on-line information once it is part of the vast, diverse information flow. Current ethical on-line issues focus on balancing the need for users to conserve their privacy while enabling commercial companies to collect appropriate information about

(potential) customers and enabling social scientists to conduct research via on-line media.

Specific qualitative research methods and discipline specific conventions make their own demands concerning implementation of ethical codes. In addition, aspects of the technology and Internet-mediated processes of information gathering generate new challenges that impact on the interpretation and implementation of these codes.

Such codes are always subordinate to existing national laws. There is currently no international unanimity as to whether laws of the country of origin or the country of destination apply to research on the Internet. This has implications for research conducted across national boundaries (European Society for Opinion and Marketing Research, 2000.)

10.1 Can privacy, anonymity and confidentiality be assured on the Internet?

United States federal funding agencies say 'no' to this question as encryption and security levels are not yet adequate to guarantee participants' privacy and confidentiality. Many US Institutional Review Boards (IRBs) that review grant proposals disallow electronic data collection in research that they oversee (Adler, 1999).

In face-to-face interviews/focus groups, monitoring and storing physical copies of transcripts in controlled spaces ensure maintenance of confidentiality and privacy (Gaiser, 1997). With electronic information moving in packets (chunks) across millions of computers around the world, access is not easily controlled as it may leave tracks across the server computers.

In the US and elsewhere, employees have little privacy protection from employers who may monitor and record employee Web usage and e-mail (Electronic Frontier Foundation, 1999). Furthermore, there are variable interpretation of privacy across national boundaries. For example, while disclosure of personal financial circumstances is considered sensitive and an invasion of privacy in the UK, this is not so in Sweden (Murray and Sixsmith, 1998).

The growth of e-commerce (commercial/business transactions conducted via the Internet) since the late 1990s has coincided with a growing concern among Internet users that the proliferation of easily accessible databases of information on the Internet is giving rise to serious privacy violations (O'Neil, 2000). In addition debates about trust on the Internet are becoming more widespread with concerns regarding *cookies* and the resulting *clickstreams*.

Cookies are small text files stored on the hard-drive by Web browser software. They store information that tracks your browsing habits as you click between Web pages and sites. They are useful for Internet shopping and need pose no threat to privacy. However the clickstreams may enjoy a digital after life in commercial databases (Eisenberg, 1996).

The biggest threat to on-line privacy has occurred with the increase in mergers of large marketing companies as well as the increasing market value of specially targeted and detailed mailing lists, including demographic data, credit card details, ages, interests and shopping tastes (Petersen and Rose, 2000).

The merger between DoubleClick Inc, the Internet's largest advertising agency, and Abacus, a direct marketing company that maintains a database of names, addresses and retail buying habits of 90% of US households, resulted in blatant abuse of electronically collected information. DoubleClick sold this information to third parties without consent or notification to users until the institution of several civil lawsuits and inquiries by state and federal agencies (Rodger, 2000) prohibited it. In an unrelated lawsuit, a Texas law firm instituted proceedings to have cookies declared illegal under Texas anti-stalking laws (Junkbusters, 1999).

With advertising/market research as the driving force of the Internet, social/academic research practices related to the Internet are likely to follow in its wake. Thus the growing disquiet concerning privacy issues is likely to impact on Internet research practices. Despite this, the current Web-published codes of ethics of local universities in early 2000 do not include references to any media more recent than audio- and videotapes.

10.2 Is the information generated by discussions on e-mail lists and listservs private or public?

In terms of confidentiality requirements, codes that guide research on human subjects focus on non-public information or that which is provided for specific purposes in a context where the individual can reasonably expect not to be observed or recorded or the information not to be made public. Jones (1994) proposes that cyberspace is more public space than private given the conventions of behaviour on Internet-transmitted services, including many netiquette cautionary suggestions that e-mail messages should be written as if confidentiality is not guaranteed.

A Washington judge in a case that used evidence collected by e-mail and Internet chat ruled that the law against recording phone messages without consent does not apply to e-mail and chat records (Kaplan, 2000). The judge held that there was implicit consent to recording of e-mail and chat messages as the communication via e-mail and chat is undertaken with the knowledge that a computer is both a transmission and a recording device; thus e-mail communication implies automatic recording. There are counter views that chat is more like the spontaneous unguarded private conversation of the type that the privacy law is meant to protect.

In South Africa the 1992 Interception and Prohibition of Monitoring Act (S14) includes electronic transmission but also indicates that the right to privacy is not absolute but includes exceptions (Section 36). However, only state organs such as the police are permitted to implement the monitoring in the case of these exceptions. Companies are advised to introduce clear contractual policies with respect to expected employer and employee behaviours regarding acceptable e-mail behaviour and monitoring rights. Similarly, researchers should ensure that mutually acceptable practices are agreed to by participants.

These legal debates are waged against the backdrop of the opposing views of the upholders of free speech, who consider even self-regulation counterproductive to the free flow of information (Singleton, 1997), and the privacy advocates who propose the creation of a formal regulatory body. Gaiser (1997) cautions academic researchers against assuming that if a practice is not illegal it is ethical and suggests that the lack of formal, definitive guidelines concerning research in cyberspace puts a heavy burden on researchers to weigh up the extent to which they can protect participants adequately. This may limit the use of personal data collected via the Internet.

10.3 Informed consent and Internet-conducted research

Informed consent refers to the requirement that research subjects participate voluntarily and base their consent to participate on full disclosure of the objectives, procedures, risks and benefits of the research, with the right to withdraw at any stage.

According to Jones (1994), these rights may not transfer easily to research in cyberspace. Social scientists, who may wish to research interest groups that come together through e-mail lists or on-line chat, are faced with groupings that are not located in a physical space, or even exist for predictable periods of time with any stability. As with naturalistic discourse in many face-to-face situations, there is the risk that the nature of on-line communication might be

altered if people know that their mail is being monitored for research purposes (Garton, Haythornwaite and Wellman, 1997). For this reason many ethics guidelines lay down conditions where incomplete disclosure may be justified until later in the research process.

10.4 Withdrawal of consent and participation in Internet-mediated studies

The non-verbal communication in face-to-face communication that may signal intention to discontinue or evidence of discomfort/hostility is currently not available via text-based communication. The onus is on the researcher to continue to check for consent at intervals during a study (Murray and Sixsmith, 1998). Another method to overcome this deficit is to monitor participant mood and intention by developing sensitivity to factors such as communication style, frequency and regularity of response. A further consideration of withdrawal is that the researcher may be uncertain if participants have withdrawn from the study or if they are temporarily absent from their computer site or Internet link.

Assuming that participants do choose to withdraw from a study and if the target group is a pre-existing e-mail list, it may be impossible for the researcher to 'remove' those who decide to withdraw from the study, including traces of their existence and influence on the group and its dynamics.

10.5 Interpretation and ownership of on-line discourse

On-line e-mail delivered communication is available to researcher and participant(s) alike. In addition researcher interpretations of e-mail discourse can easily be made available to participants for evaluation. As e-mail is text based and easily stored it is more permanent than spoken interaction and is often considered published material with ownership and copyright residing with the author/interviewee (Murray and Sixsmith, 1998). For this reason many ethics guidelines recommend that permission be obtained to publish extracts from interviews.

Although off-line research involving letters, diaries and newspapers has not resulted in demands for co-authorship, cases have occurred where on-line interviewees have considered themselves to be co-authors. Therefore the on-line researcher needs to be open and prepared to deal with a variety of new methodical and ethical issues as they arise. Jones (1994) recommends keeping a careful record for reference in case a dispute should arise over any factor related to the research process. Fortunately e-mail facilitates ease of collection and storage of such records.

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11. Conclusions

It is important to use the on-line medium for what it is good at rather than slavishly adapting face-to-face methods. The approach and medium chosen should suit the research goals and be sensitive to the target group and context as well as exploit the functionality of the chosen medium, while minimizing its limitations.

With respect to sampling, it is not possible to formalize sampling schemes. Given the presence of a large number of easily accessible pre-existing groups on-line and the ease with which transcripts of communication can be gleaned, it is particularly important to obtain appropriate permission before recruiting participants for studies. Lack of synchronicity and visual cues poses particular challenges for the moderation of on-line focus groups as there needs to be a fine balance between non-intrusive facilitation and enough structure to limit uncertainty and confusion.

It is recommended that the codes of ethics on the discipline(s) in which the research is conducted be rigorously applied but, in addition, to give special consideration to the ethical questions specific to the Internet. As the Internet is a moving target, researchers need to keep up to date with new developments and related technologies and the challenges they pose for conducting sound research, with due regard to the perceived risks of participation.

The Internet is not only a rich source of research information and facilitator of collaborative research contacts, it also provides a rich, complex setting and medium for qualitative research. Researchers need to take care not to surrender this medium to the invasive, commercial interests of e-commerce.

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12. Acknowledgements

The work on which this article is based was made possible by funding from the National Research Foundation.

Thanks are also due to members of e-mail discussion groups and individual researchers and colleagues who shared their views and pointed to on-line resources to inform this paper.

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13. References

Adler, D. (Deboraa@mail.uca.edu), 21 September 1999. Re: Research via the Internet. Email to P. Clarke (clarke@nu.ac.za).

Brody, H. 1996. Session with the cybershrink: an interview with Sherry Turkle. *Technical Review Online*, February – March. [Online]
<http://www.techreview.com/articles/Fm96/Turkle.html> [2000, May 4].

Clarke, P.A. 1998a. Telematic teaching of adults via the World Wide Web: a university case study. Unpublished M.Ed. thesis. University of Pretoria. [Online]
<http://www.und.ac.za/users/clarke/thesis/index.html> [2000, August 23].

Clarke, R. 1998b. Message transmission security risks. [Online]
<http://www.anu.edu.au/people/Roger.Clarke/II/CryptoSecyRisks.html> [2000, May 16]

Coomber, R. 1997. Using the Internet for survey research. *Sociological Research Online*, 2 (2). [Online] <http://www.socreson-line.org.uk/socreson-line/2/2/2> [2000, June 5].

Eisenberg, A. 1996. Privacy and data collection on the Net. *Scientific American*, 274:120.

Electronic Frontier Foundation. 1999. EFF's Top 12 ways to protect your on-line privacy. Version 1.2, Dec. 6 1999. [Online] http://www.eff.org/pub/Privacy/eff_privacy_top_12.html [1999, December 14].

Erickson, T. 1999. Persistent conversation: an introduction. *Journal of Computer Mediated Communication*, 4(4). [Online] <http://www.ascusc.org/jcmc/vol4/issue4/ericksonintro.html> [2000, May 15].

European Society for Opinion and Marketing Research. 2000. Conducting marketing and opinion research using the Internet. [Online]

http://www.ESOMAR.nl/guidleines/internet_guidelines.htm [2000, May 4].

Evard, R. 1993. Collaborative networked communication: MUDs as systems tools. Proceedings of the Seventh Systems Administration Conference (LISA VII), pp 1–8. Monterey, CA.

Gaiser, T.J. 1997. Conducting online focus groups: a methodological discussion. *Social Science Computer Review*, 15(2).

Garton, L., Haythornthwaite, C. and Wellman, B. 1997. Studying online social networks. *Journal of Computer Mediated Communication*, 3(1). [Online] <http://www.ascusc.org/jcmc/vol3/issue1/garton.html> [2000, 4 January].

Hall, M. 1998. Africa connected. [On-line] http://www.firstmonday.dk/issues/issue3_11/hall/ [1999, December 14].

Hamman, R.B. 1996. Cybersex amongst multiple-selves and cyborgs in the narrow-bandwidth space of America Online chat rooms. Unpublished dissertation. [Online] <http://www.cybersoc.com/> [2000, May 8].

Harrison, B. 1997. Hardware/software to support distance learning classes. Proceedings of the 1997 Mid-South Instructional Technology Conference. [Online] <http://www.mtsu.edu/~itconf/proceed97/harrison.html> [1997, July 20].

Herring, S. 1994. Gender differences in computer-mediated communication: Bringing familiar baggage to the new frontier. [Online] http://www.eff.org/pub/Net_culture/Gender_issues/cmc_and_gender.article (27 January 2000).

Herring, S. 1999.. Interactional coherence in CMC. *Journal of Computer Mediated Communication*, 4(4). [Online] <http://www.ascusc.org/jcmc/vol4/issue4/herring.html> [2000, May 15].

Ito, M. 1996. Theory, method, and design in anthropologies of the Internet. *Social Science Computer Review*, 14(1):24–26.

Jones, R.A. 1994. The ethics of research in cyberspace. *Internet Research*, 4(3):30–35. [On-line] <http://www.mcb.co.uk/services/articles/liblink/intr/ethics.html> [1999, November 15].

Junkbusters. 2000. News and opinion on marketing and privacy. [Online] <http://www.junkbusters.com/ht/en/new.html> [2000, May 4]

Kaplan, C.S. 2000. Judge says recording of electronic chats is legal. *New York Times*, Jan 14, 2000. [Online] <http://www.worldprivacy.com/members/news/2000/January/news4.html> [2000, May 4]

Levinson, P. 1990. Computer conferencing in the context of the evolution of media. In Harasim, L.M. (ed.), *Online education: perspectives on a new environment*. NY: Praeger.

Media Africa 1998. The 1998 South African Web user survey executive summary. [Online] <http://www.mediafrica.co.za> [2000, January 31].

Murray, C.D. and Sixsmith, J. 1998. E-mail: a qualitative research medium for interviewing? *International Journal of Social Research Methodology*, 1(2):102–121.

- Nardi, B.A. 1996. Cyberspace, anthropological theory, and the training of anthropologists. *Social Science Computer Review*, 14(1):34–35.
- Nielsen-netratings. 2000. [Online] <http://www.nielsen-netratings.com/> [2000, July 4].
- Nielsen, J. 1997. Community is dead; long live mega-collaboration. *Alertbox* for August 15, 1997 [Online] <http://www.useit.com/alertbox/9708b.html> [2000, July 4].
- O'Neill, D. 2000. An analysis of Internet users' level of on-line privacy concern: relationship to demographics and Internet experience. Conference presentation at CSS 2000 – Association for Computing in the Social Sciences April 15 to May 15 2000. [Online] <http://www2.chass.ncsu.edu/CSS2000> [2000, May 4].
- Petersen, A. and Rose, M. 2000. Database of merged AOL brings cheers and chills. [Online] <http://www.worldprivacy.com/members/news/2000/January/news5.html> [2000, May 4].
- Rodger, W. 2000. Activists charge DoubleClick double cross. [Online] <http://www.usatoday.com/life/cyber/tech/ctf11.htm> [2000, May 4].
- Savicki, V., Lingenfelter, D., and Kelley, M. 1996. Gender language style in group composition in Internet discussion groups. *Journal of Computer Mediated Communication*, 2 (3). [On-line] <http://www.ascusc.org/jcmc/vol2/issue3/savicki.html> (27 January 2000).
- Sharf, B.F. 1999. Beyond netiquette: the ethics of doing naturalistic discourse research on the Internet. In Jones, S.G. (ed). *Doing Internet research*. Sage.
- Singleton, S. 1997. Data collection as free speech. *CMC Magazine*, September 1997. [Online] <http://www.december.com/cmc/mag/1997/sep/single.html> [2000, January 13].
- Smith, M.A. 1992. Voices from the WELL: the logic of the virtual commons. [Online] <http://www.sscnet.ucla.edu/soc/csoc/papers/voices/> [2000, January 4].
- Smith, M.C. 1997. Casting the Net: surveying an Internet population. *Journal of Computer Mediated Communication*, 3(1). [Online] <http://www.ascusc.org/jcmc/vol3/issue1/smith.html> [2000, January 4].
- Stewart, C.M., Shields, S.F., Monolescu, D. and Taylor, J.C. 1999. Gender and participation in synchronous CMC: an IRC case study. *Interpersonal Computing and Technology*, 7(1–2). [On-line] <http://www.emoderators.com/ipct-j/1999/n1-2/stewart.html> [2000, January 27].
- Stewart, F., Eckermann, E. and Zhou, K. 1998. Using the Internet in qualitative public health research: a comparison of Chinese and Australian young women's perceptions of tobacco use. *Internet Journal of Health Promotion*, 1998. [Online] <http://www.monash.edu.au/health/IJHP/1998/12> [2000, June 5].
- Turkle, S. 1998. An ethnologist in cyberspace. *Scientific American*, April 1998. [Online] <http://www.sciam.com/1998/0498issue/0498profile.html> [2000, May 8].
- Wild, M. 1999. The anatomy of practice in the use of mailing lists: a case study. *Australian Journal of Educational Technology*, 15(2):117–135. [Online] <http://cleo.murdoch.edu.au/ajet/ajet15/wild.html>
- Wittel, A. 2000. Ethnography on the move: from field to net to Internet. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 1(1). [Online] <http://qualitative->

research.net/fqs [2000, May, 19].

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ISSN 1560-683X

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