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Chapter 23
Ethical Considerations in Online Research Methods

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ABSTRACT

Online research methods are gaining popularity in several disciplines as they offer numerous opportunities that were not feasible before. However, online research methods also present many challenges and complexities that give rise to ethical dilemmas for online researchers and research participants. This chapter discusses key ethical considerations in the four stages of the research process: research design, online data collection methods, data analysis methods, and online communication of research outcomes. Issues of power, voice, identity, representation, and anonymity in online research are discussed. The relationship between information and power and its implications for equity in online research is also examined. Rather than providing prescriptive recommendations, the authors use questioning as a strategic device to foster critical awareness and ethically informed decision-making among online researchers.

INTRODUCTION

Highlighting the potential social and economic impact of new media technologies globally, early advocates (Lerner, 1958; Rogers, 1962; McLuhan, 1962) recommended them as highly desirable for promoting modernity and prosperity between the 1960s and 1980s. Since the advent of the Internet

as a new media technology, online access to information has been regarded as a necessary and fast way to connect global societies (Rogers, 1995). Commonly held beliefs are that new media makes global communication more accessible, supports gender neutrality, has innovative appeal, encourages rapid response rates, provides access to new and old information sources and facilitates collaborative construction of knowledge. However, these beliefs have been challenged over time and

it appears that issues of access, gender neutrality, social justice, equity and intellectual property are among a wide range of contested issues across disciplinary perspectives (Mowlana, 1995; McMichael, 2005; Gurumurthy, 2004; Palomba, 2006).

Online research is relatively young with a life of about twenty years since the Internet became a primary and important source of information generation, retrieval, communication and dissemination. After being part of the ARPANET network that was solely used for military purposes in the United States in the early part of the twentieth century, the Internet was introduced first to the libraries and legal practitioners and later to the higher educational institutions. However, the pace of development of protocols for online usage of information by researchers has been relatively slow when compared with the rapid development, diversification and acceptance of the new media. This has contributed to a series of lose and ambiguous norms of engagement and protocols across different regions of the world (Rogers, 1995).

Online research methods refer to methods of designing research, collecting data, analysing data and communicating research outcomes using one or more online technologies which facilitate synchronous or asynchronous communication, presentation or co-construction of information. These technologies include emails, electronic surveys, online interviews, online discussions, web-pages, blogs, wikis and various gaming and social networking tools. *Ethics* refers to the principles, beliefs and values that espouse fairness, goodness, integrity and honesty. Research ethics and methods are intricately entwined as Markham (2007, p. 7) emphasises "that all methods decisions are in actuality ethics decisions and that all ethics decisions are in actuality methods decisions".

Ethical issues in research have remained the key focal point of validation of research for centuries and the literature is exhaustive with respect to ethical considerations in traditional face-to-face research. Ethical considerations become even more important in online research because of the elusive nature of virtual communication, the unclear boundaries of the virtual reality and the socio-cultural, political and economic factors that drive the everyday reality of research participants. It is therefore necessary to educate and inform online researchers on the pitfalls of online research and to alert them to their ethical obligations as researchers.

While the new media technologies present numerous opportunities and challenges for an online researcher, some challenges have parallels in face-to-face research and others are unique to online research. The online researcher must not only consider ethics in designing, conducting and evaluating online research methods, but also consider how research participants are assigned or denied identities, ascribed or denied their voice, and so on. Within this context, issues considered in this chapter include:

- research questions that are suitable for online research;
- influences from multiple stakeholders on the kinds of research questions to be considered;
- access to online technologies and how access affects participation levels;
- dialectical tensions between offline and online representations and identities of the researcher and the researched;
- confidentiality and anonymity in online data analysis;
- engaging the broad diversity of global communities in an effort to ensure that online research is inclusive; and
- how various stakeholders influence, and are influenced by, online presentation of research outcomes.

Most researchers are guided by their institutional review boards to ensure ethical conduct of research. For instance, Australian researchers are guided by the *National Statement on Ethical*

Conduct in Human Research developed jointly by the National Health and Medical Research Council, Australian Research Council and Australian Vice-Chancellors' Committee (NHMRC, ARC, & AVCC, 2007). We will draw upon some global themes from this document to illustrate how these themes translate specifically in an online research environment. However, as with many other publications on research ethics, this document discusses online research methods very superficially with limited discussion of Web 2.0 tools (Murthy, 2008). The most concise document on ethics in online research methods has been published by the Association of Internet Researchers (Ess & AoIR, 2002). We will draw upon this document and more recent commentaries on ethics in online research and ethics in general.

Many institutional review boards provide checklists to ensure ethical conduct of research. However, in research ethics, "there is rarely a clear cut, and context-free, set of rules or principles which can be applied without deliberation and judgement" (Pring, 2004, p. 142). We strongly believe that adherence to ethical standards cannot be promoted by adopting a punitive approach alone. Online researchers can benefit by engaging in conversations about ethics from multiple perspectives. This chapter makes no attempt to provide prescriptive recommendations to online researchers as a formulaic approach to ensure ethical standards would be counterproductive in encapsulating the complexity of interactions across cultural and national boundaries and the specific nuanced contexts that are frequently the sites of online research. According to Buchanan and Ess (2008), at most there may be agreement among diverse nations on " a range of basic values and issues, while at the same time preserving local differences in the interpretation and implementation of those values through a strategy of *ethical pluralism*" (p. 286, emphasis in original). However, they also contend that "ethical pluralism will not resolve all cultural differences and conflict in research ethics" (p. 288). We concur

with Buchanan and Ess and our chapter reiterates the conviction that it is necessary to educate and inform global communities on the risks and benefits of online research. Our discussion is geared at sensitising online researchers to a range of considerations with ethical implications in their research and to conscientise them to a point of action so that the delicate boundary between social responsibility and social justice is not overlooked. We have used questioning as a strategic device to foster critical awareness and ethically informed decision-making among online researchers.

In the next four sections, key ethical obligations of online researchers are discussed in the phases of online research design, online data collection methods, online data analysis methods and online communication of research outcomes. We will begin each of these four sections with a general discussion of key issues that all researchers, including online researchers, should be mindful of. In particular, the discussion will highlight issues that present dilemmas and challenges for online researchers. Brief references will be made to issues that arise in the blurred and critical boundaries, where relevant, as an in-depth discussion on each of these issues lies outside the scope of the chapter.

ONLINE RESEARCH DESIGN

All researchers should be mindful of emerging ethical dilemmas, many of which should be anticipated and addressed in research plans, as every piece of research is inevitably influenced by its frame of reference and embedded assumptions (Kuhn, 1970). Researchers must begin by identifying their own interests and identities and how they intersect with the research design (AERA, 2009). They must reflect upon their ontological, epistemological, axiological and political positioning with respect to the research design (Gaskell, 1988; Suri, 2008). They must not only reflect upon how they position themselves in the phenomenon being examined, but also how they

are positioned by others. This is not easy as we tend to be so embedded within our own frame of reference that it is difficult to see how it influences what we see. "Many things are obscure simply because the world is too much with us. Like the fish in water, the boy in love, or the sexist among like-minded friends, we lack the perspective to see things closest to us" (Dabbs, 1982, p. 31). Nonetheless, maintaining a reflexive stance on how the emerging identities of the researcher intersect with the design and implementation of the research is crucial.

In formulating an appropriate research question, all researchers must anticipate how the interests of various stakeholders intersect with the phenomenon being studied. Potential benefits and risks for all stakeholders must be clearly identified. Key questions worth considering include: Who are the key stakeholders in this research project? Whose questions will the study examine? How can the research study influence and get influenced by the interests of various groups of stakeholders? How can potential risks be minimised especially for vulnerable groups of stakeholders?

Respect for persons and beneficence are two fundamental principles underpinning most ethical decisions. Potential benefits and risks for different stakeholders associated with the study must be clearly thought through. One could focus on assessing potential benefits and risks by drawing upon consequentialism or utilitarianism, which upholds that the "rightness or wrongness of an action should be judged in terms of whether its consequences produce more benefits than disadvantages for the greatest number of people" (Stutchbury & Fox, 2009, p. 490). Alternatively, one could adopt a deontological approach which regards "basic human rights (self-determination, privacy, informed consent, etc.) as so foundational that virtually no set of possible benefits" could justify their violation (Ess & AoIR, 2002, p. 8). While some nations, like the United States rely more on utilitarian standpoint, other nations such as the multiple groups that make up the European

Union tend to uphold the deontological standpoint (Ess & AoIR, 2002). Online researchers must carefully think through the potential risks of their research not only from the frame of reference they are subscribing to, but also from competing frames of references.

In general, researchers should opt for overt study design where the participants are made aware of any sponsoring agency and assisted in understanding the purpose of the study. Covert research may be conducted only if the research poses minimal risks to the research participants, the research contributes substantially to the community and the research purpose cannot be attained with an overt design as in some scientific disciplines (NHMRC et al., 2007). Some social scientists, for example Creswell (2009), insist that the purpose of the study must be clearly explained to the participants leaving no room for deception. If the researcher has another purpose in mind from the purpose that was shared with participants, then participants are being deceived. In addition to this the researcher has the responsibility to disclose the identity of the sponsor if the research is being sponsored. Vulnerable groups should not be further marginalized and disempowered through the research process and/or research findings (Creswell, 2009, pp. 88-89).

Online researchers frequently experience a tension between their research integrity and ethical obligations towards research participants. In general, researchers should refrain from securing a perfect research environment at the cost of compromising their participants' rights (Bruckman, 2002). For example, when researchers are faced with an obligation to obtain participant consent in a computer-mediated communication forum, they may feel that seeking explicit consent might change the flow of the conversations. Nonetheless, it is imperative that researchers do not compromise the rights of their research participants in order to secure an uninterrupted flow of conversations.

The issue of overt research, informed consent and participant confidentiality becomes more com-

plex in an online environment. For instance, when studying online discussion forums, whose permission should the researcher, seek? Is it sufficient to seek informed consent from the moderator of the discussion forum? How can one seek informed consent if the membership of certain discussion forums is fluid and is rapidly changing? How does the researcher ensure voluntary participation and the option to opt out of the study at any stage of the project? How ethical is it for the researcher to make permanent archives of chat sessions that are typically not meant to last? Should the researcher contribute to the flow of conversation as a participant observer? Or, should the researcher lurk and observe like a "fly on the wall"? In face-to-face research, often researchers seek parental consent with minor research participants. How can the researcher establish physical age of research participants from their online identities? Online research crosses virtual borders and the signing of a consent form may not be legally binding across the different countries or may not consider the value and belief systems of different societies around the globe (Madge, 2007). Many of these questions have been highlighted by Buchanan and Ess (2008) who argue that the "heightened attention to protecting privacy, anonymity, and so on, has a strongly pragmatic dimension" (p. 285) since participants may drop off the research pool unless a strong, ongoing presence and interactive engagement is included.

Capurro and Pingel (n.d.) suggest that online communication or existence is characterised by an abstraction of personal identity, social context and global direction. The tension between face-to-face and online research is a fundamental dilemma for online researchers. On one hand, the ubiquity of the new media is enabling people to seamlessly integrate their physical identities with their virtual identities where the cyberspace is simply seen as another venue for expressing the beliefs, values and ideologies held by one. On the other hand, cyberspace is seen as an exciting space by many for constructing and co-constructing multiple and/

or fluid identities which may be distinct from ones physical identity. In this digital age, none of these identities can be privileged unquestionably as being more authentic. While some might see the physical identity as being more authentic, others may relate more closely with their online identities.

All researchers must attend to "ecological" factors such as "cultural sensitivity" and "responsive communication" (Flinders, 1992, p. 113). Online researchers must be particularly sensitive and responsive to the values, norms and language of the environment they are studying. They must adapt their online identities and activities to build mutually respectful and trusting relationships with their research participants. They must use appropriate language, be respectful of the common values and beliefs held in the group and follow the group conventions in communicating. Often skimming through the *Frequently Asked Questions* and archives of discussion forums can help researchers in understanding the subtle and nuanced norms of the group (Hall, Frederick, & Johns, 2004).

Online researchers are faced with multiple dilemmas when conducting research online, particularly because they cannot see or identify with the physical identities of their participants. At the same time, they have an access to online identities of their participants which are not necessarily congruent with their face-to-face identities. Each of these identities is an important aspect of one's being in this digital age. The relationship between online and face-to-face identities can be complex. These identities may be congruent, similar or even conflicting. Also, the relationship between these identities for the same individual may change in different situations. All of these issues must be taken into account when considering the suitability of online research design and methods.

ONLINE DATA COLLECTION METHODS

Online data collection methods are becoming popular as they allow researchers to efficiently collect information from a large number of respondents at different geographic locations. Online communications make it easy to send reminders and negotiate meeting times. Further, online data can be easily imported into statistical packages like SPSS or qualitative coding software like NVivo or ATLAS.ti to improve efficiency in data-analysis. However, unless online researchers are adequately trained and supported, online surveys can violate ethics on multiple grounds. For instance, the default option in many online survey tools requires mandatory responses which violate the option of voluntary participation.

Furthermore, tracking IP addresses, third party access, auto-fill ins, public Internet terminals, and ownership of the data contribute to a situation where research subject/participants can be easily identified - contra the fundamental promise in research ethics to protect the identity, confidentiality, and anonymity of the persons involved as subjects. A further complication here is that in traditional research settings, the researcher assumes responsibility for protecting the participants' identities, but in online research, he or she may not be solely responsible. Finally, the risks increase when certain types of [sensitive] data are being collected (Buchanan & Ess, 2009, p. 47).

Online data-collection methods are substantially affected by the digital divide. On one hand, these methods exclude a large population which does not have access to these technologies or does not feel comfortable with the new media. On the other hand, they enable participation of individuals who may have found it difficult to participate due to limited physical or social mobility or acceptance. Online reporting can also be particularly powerful in helping newer generation

of participants construct their own narratives in the form of journal entries or multimedia recordings using webcams. For example, in her study, Dillon (2010) encouraged a group of gifted adolescents to email their digital journal entries to the researcher. In face-to-face interviews, it is possible that younger participants, especially the gifted ones, may construct narratives that they believe the researcher wants to hear. They are more aware of the researcher's presence. However, the younger generation who are digital natives feel more at home in the digital space and are more likely to construct more authentic narratives in the digital space where the presence of the researcher is less invasive. It is critical to reflect on how differential levels of access and participation among different groups might skew the research findings towards the views shared by the digital haves (Murthy, 2008).

Closely related to consent is the issue of trust and confidentiality among research participants and their interpretations of trust and confidentiality as well as their right and expectation to have the outcomes of the research shared in an open forum. In an online medium, the public/private boundaries get blurred and magnified at the same time. For instance, an online discussion forum is seen by some as a platform for establishing ones credibility within that community. Hence, it becomes imperative that all contributions are adequately respected as the contributors' intellectual property. At the same time, some others regard discussion forums as platforms for sharing ones private views, feelings and beliefs and hence any references to these conversations should be adequately anonymised in published research (Ess & AoIR, 2002).

Public versus private space is increasingly complicated on the Internet because a user can transition from seemingly public spaces, to spaces that appear private, to commercial spaces without realizing that a change has taken place. Unlike more standard spaces (you notice when you leave

the mall to enter your car), cyberspace flows practically seamlessly between different types of spaces and often gives the illusion of more privacy than is actually there. The environment, the intimacy of the conversations, and the medium itself contribute to a feeling of privacy and localized community rather than public space even though the spaces are open to public eye and scrutiny (Whiteman, 2007, p. 98).

At the outset of their research, online researchers must decide the extent to which the research participants' physical and online identities would be disguised. Online identities would include various online personas, which can be related to pseudonyms or avatars. Bruckman (2002) identifies the following four levels of disguise: no disguise, light disguise, moderate disguise and complete disguise. No disguise is warranted where the research participants would like public acknowledgement/recognition of their viewpoints. Light disguise would allow naming of a group and use of "verbatim quotes". Complete disguise would require special care to ensure that neither the group, nor any member of the group being studied can be identified. Here, the researcher would refrain from using verbatim quotes "if a search mechanism could link those quotes" to the online or offline identity of that person. Moderate disguise would incorporate "some features of light disguise and some of complete disguise, as appropriate to the situation" (Bruckman, 2002, p. 2).

Online researchers must respect their participants by respecting the tacit rules governing the online conversations, seeking voluntary participation through informed consent and striving for authentic representations of their participants' views. If participants wish to remain anonymous, their confidentiality must be protected in a way that cannot be intercepted by search engines. Further, the participants must be informed of the potential risks if the data can be accessed by certain agencies, under special provisions such as the USA patriot act.

Blogs are another example of a space which is perceived as public by some while private by others. The advent of Web 2.0 technologies challenges the modern notion of authorship by blurring the boundaries between individual/collaborative and personal/collective. It is sometimes assumed that everyone has the right of access to share and use information that is the intellectual property of someone else because it appears on cyberspace. However, the Internet poses a complex set of issues associated with intellectual property rights and copyright. For example, the Intellectual Property Rights (IPR) report, commissioned by the British government, found a range of different protocols of intellectual property and copyright in some of the developed and least developed countries (LDCs) where " the biases and interests of developed countries are monopolising the international copyright agenda" (Story, p. 4). Intellectual property is a growing site of conflicts and controversies as well as a new source of power and wealth due, in part, to its re-conceptualisation as a commodity of world trade and the enhanced profitability and access possibilities that digital technology has opened up (Story, p. 6).

The power of information and who has access to it, or not, should not be overlooked as access to information, or lack of it, places a person or group at an advantage or disadvantage over others. Access to the same information and the same information rights of use are important in ensuring equity. When an online research study extends across geographical and cultural boundaries, the human rights, historical representations and cultural identities of vulnerable populations must be appropriately protected. It is important to be mindful of the power attributes of the Internet and its potential to abuse the intellectual property rights and copyright of less privileged individuals and groups, especially when conducting online research. Of particular note in the IRP report are the recommendations to uphold the intellectual property rights of populations from least developed countries (LDCs) and to ensure that

indigenous knowledge is respectfully acknowledged. The study found that "developed countries are regularly misappropriating, without consent, indigenous traditional knowledge from LDCs" (Story, 2002, p. 6).

It is important that online researchers consider some of the critical issues in researching sensitive topics with vulnerable populations. Online researchers must ensure that the gathering of research data is not disrespectful and intrusive to indigenous communities and their knowledge. The indigenous perspectives on the negative impact and consequences of Western research on indigenous knowledge and quality of life cannot remain underrepresented or ignored in current and future discussion on online research ethics. Indigenous perspectives must be respected and acknowledged must play a central role in research design, data collection and analysis of outcomes so that Western research models do not continue to exploit cultural values and knowledge. Contributions in the book edited by Hongladarom and Ess (2007) on cultural perspectives in information technology ethics caution us to be mindful of transgressing cultural boundaries and call to our attention the pitfalls of making assumptions about privacy, for example, and the need to respect cultural traditions. For example, Smith (1999) observes that among indigenous communities and from indigenous perspectives, the word 'research' is perceived as unfavourable. On the other hand, the values and customs of indigenous communities are sometimes regarded as barriers to successful research from Western perspectives. However, there is an indication that participatory research approaches are more favourable alternatives in indigenous research (Castellano, 2004). It is important to consider the rights of both researchers and participants. Ethical considerations in online research must embrace the principles of social justice to ensure that the rights of researchers and participants are upheld, their privileges are not withheld and that they are protected from harm.

The new media is regarded as an important venue for constructing individual and collective identities. This poses complex issues around issues of voice, identity and representation. All researchers have the ethical imperative to ensure that individual voices, identities and representations are not lost in the collective representations in ways that further marginalise vulnerable individuals (Baker, 1999). As the distinction between individual and collaborative space becomes more blurred and more magnified in the cyberspace, authentic reporting of individual identities becomes challenging for online researchers.

Stern (2003, p. 249) introduces another ethical dimension to the online researcher's portfolio, that of *encountering distressing disclosure.* She raises issues of legal responsibility and ethical and moral obligation to intervene in cases where self-disclosure to harm themselves or others is revealed in the online research. Stern argues that the online environment provides a higher risk of encountering such distressing disclosures as intent to rape, murder and commit suicide mainly because it "allows for anonymity, private authorship and public reach" (p. 250) and it also allows for "more [direct and frequent] access to the expression and communication of individuals" (p. 251). However, Stern also alerts us to the complexities and ambiguities of conducting online research that leads to such drastic outcomes. Among the complexities is the question of professional integrity among clinical researchers, their commitment to confidentiality and impartiality and to a code of professional ethics, and so on. The range of ambiguities, on the other hand, suggests that it is difficult for the online researcher to be sure that his/her interpretation of the distressing encounter, threat and risk to life is real. In a health related research project, for example, online researchers may have little access to research participants' medical records and other relevant information to verify their suspicions. It is possible that this may lead to a misinterpretation of the situation wrongly suggesting distress. Stern (2003) cites the

US case that is governed by the Belmont report that endorses the principles of respect for persons and beneficence (p. 259). In the case of America, beneficence poses a dual dilemma: should the online research protect from harm or should he/she allow the research participant to exercise free speech in line with the constitution and which value should be upheld first?

When collecting online data, research must critically reflect on a range of questions including the following: Which groups are more likely to participate in online data collection methods? How does this influence the interests of those whose perspectives may not be captured through online data collection methods? How does access to online communication technologies affect the participation level of respondents? How will the sample be identified? How representative is the sample of the entire population? How representative are the respondents of the entire population? What response rate is acceptable? Typically, response rates in online data collection methods are low. How will this be accounted for? How will the broad diversity (gender, race, ethnicity, age, disability, and so on) of participants affect their access to online participation, responses and the outcomes of the research? How will variations within different stakeholder groups be captured? Will publicly available Web 2.0 data be included in the study? How might identities of the participants revealed through the publicly available data intersect with their more private identities? When appropriate, how will the participants' ideas be acknowledged appropriately in the study? What measures will be taken to maintain the anonymity of the participants when collecting private information? How will informed consent be obtained from the participants of discussion forums? Buchanan and Ess (2008, p. 279) have discussed these "as discrete issues" while acknowledging them as intrinsically related and note that they contribute to the complexity of online research. These critical questions must be reiterated in all discussions so that online researchers can acknowledge them as fundamental issues that are deeply embedded in online research ethics rather than "as discrete issues".

ONLINE DATA ANALYSIS METHODS

All researchers must maintain a reflexive stance on how might their emerging identities influence their analysis of data. Key questions worth considering include: Why am I interested in this phenomenon? What are the ontological, epistemological, methodological, axiological and political underpinnings of my analysis? How might these assumptions influence the research outcomes? Researchers must be sensitive to the power relationships between individuals and various groups they are studying. Not only should they attend to the dominant themes emerging from their data, but also the disconfirming themes and the variations within the collective representations (AERA, 2006).

Asserting that a tension exists between face-to-face and virtual communication, Capurro and Pingel (n.d.) identify several key ethical issues. For example, a key consideration for online researchers should be the differences between the digital identities and the bodily identities and the individual and social harm resulting from the way in which the research is reported and how the outcome may impact their online or human existence in direct and indirect ways. Using the creation and use of metaphors as an example, Capurro and Pingel (n.d.) claim that since researchers may examine and manipulate online user identities in different ways, this begs the ethical question of which metaphors are emphasized at the expense of others. Another ethical consideration is about online language and it questions whether online research takes into consideration a neutral or human oriented perspective. Depending on which of these perspectives are considered then it becomes necessary for online researchers to acknowledge that the role of prior and hidden knowledge may interfere with the interpretation of the online

language thereby creating further doubt about the accuracy of the analysis.

Synchronous and asynchronous sharing of online documents, cyberspace, databases and software applications opens up opportunities of collaborative research that were unconceivable before. Online technologies offer a range of opportunities for engaging various groups of people in the research process. These technologies provide numerous venues for "member-checking" (Guba & Lincoln, 1999, p. 147) or validation of research outcomes by research participants. They can be particularly useful for establishing trust and building constructive, collaborative, reciprocally beneficial relationships with key stakeholders in interpreting the research findings. Impact of the research study can be enhanced by engaging the key agents for change in formulating the key recommendations. However, the ease of data sharing also raises ethical concerns about data protection and establishing mutually agreeable boundaries with key stakeholders effectively to ensure that views of all groups, especially more vulnerable groups, such as children, indigenous groups and those with disabilities, are respected.

Key questions worth considering when using online data analysis methods include the following: What criteria will be used to select representative data? What forms of sensitivity analyses are performed? What are the different lenses which will be employed to make sense of the evidence? What steps will be taken to make sense of the evidence from the perspectives of different stakeholders? Will different stakeholders be involved in drafting recommendations stemming from the research? How did the gender difference, for example, affect online participation and in what ways were gender differences noted in participation and responses? How does the gender variable affect the outcome?

ONLINE COMMUNICATION OF RESEARCH OUTCOMES

All researchers have an obligation to "communicate their findings and the practical significance of their research in clear, straightforward, and appropriate language to relevant research populations, institutional representatives, and other stakeholders" (AERA, 2000, p. 5). Online technologies can be strategically utilised to disseminate research outcomes through multiple accessible channels, such as web-pages, YouTube, Twitter and blogs. However, online technologies have blurred the boundaries of published/unpublished, leading to multiple interpretations of the term "unpublished". For instance, putting up interim findings on publicly accessible cyberspace can sometimes interfere with copyright requirements of scholarly journals, thus limiting the options for publishing in reputed journals. Clear agreements must be established about potential venues for disseminating research outcomes at the outset of research.

Online open-access journals play an important role in providing access to scholarly information to groups which do not have access to well-resourced libraries. Several key organisations have started providing open-access to their online journals. For instance, journals on online research methods, such as *International Journal of Internet Research Ethics* and *International Journal of Internet Science*, provide open-access. However, a large proportion of top-tier journals provide restricted access. Often, academics are under pressure to publish in top-tier. This poses a difficult ethical dilemma to them: should they publish in top-tier journals which will build credibility of their work among their peers and increase the impact-factor or should they opt for open-access journals where their work is accessible to a larger population.

Online researchers can strategically utilise online technologies for disseminating their research outcomes to a wider audience in an engaging fashion. In comparison with paper-based printing, cyberspace offers multiple, less expensive, more

interactive options for disseminating research outcomes. Online researchers can capitalise on this to disseminate their findings in multiple formats suitable for different groups of audience. Before commencing the research, all relevant parties, sponsoring agencies, research participants and the researcher, must agree on the dissemination strategy for research in a way that respects interests of all. The transient nature of cyberspace necessitates that a clear understanding is established as to who would be responsible for maintaining the virtual space where the findings have been published.

Key questions worth considering when using online data analysis methods include the following: What online channels will be used to communicate research outcomes? How will the research outcomes be fed back to the research participants? Who will be advantaged and who will be disadvantaged by the research outcomes? What measures are taken to appropriately communicate the caveats of the study?

The preceding discussion alerts us to a range of ethical considerations in online research which requires careful review and deep reflection from multiple perspectives. Online research remains a complex space with multiple layers of ethical considerations as Kate Oriordan (2010) reminds us: one cannot assume the space of ethics which lies between the practical need to respect ethical protocols and the pursuit of improving life conditions.

SOLUTIONS AND RECOMMENDATIONS

The chapter presents questions that online researchers must critically reflect upon to conduct their research ethically. Critical self-reflection will lead to conscientisation, which in turn, will encourage the ethical pursuit of online research. We agree with Markham's (2007, p. 10) view that "if a researcher is reflexive, he or she will see politics at work throughout the entire research enterprise".

The following solutions and recommendations are offered as broad guidelines for engaging online researchers more consciously in online research so that they will act as socially responsible global citizens who advocate social justice through the medium of their research:

1. *Critical self-reflection should become the norm in all discussions of online research and alternate research methodologies:* Historical and cultural perspectives must be interrogated as an essential part of the dialogue on online research ethics.
2. *Conscientisation and awareness of early career researchers and of learners must occur at the early stages of academic life and must be reinforced through their academic careers:* Undergraduate programs and early career researchers must embed ethical considerations in online research into their learning across disciplines.
3. *Online data gathering should be respectful of cultural norms and should value historical perspectives:* Data gathering must account for what is considered sacred to the research populations and must respond in appropriate ways so that the data gathering process does not violate human rights and does not impact negatively on the environment of the research populations.
4. *Online research analysis should include the cultural and historical perspectives of the communities who were an integral part of the research:* Interpretations of the gathered data, for example, should not be solely biased towards a Western perspective, especially when the research findings are likely to impact upon non-Western populations.
5. *Online research outcomes should be communicated through multiple channels in ways that would benefit the researched populations without bringing harm upon them:* Dissemination of research outcomes must be meaningfully and respectfully negotiated

with the communities where possible so that it can bring about beneficial changes to their quality of life.

These solutions and recommendations emphasize the imperative that is required of online researchers to ensure that the ethical pursuit of online research protects the rights, representations, identities and voices of vulnerable populations and refrains from marginalizing them further.

FUTURE RESEARCH DIRECTIONS

Future research directions in online research require more in-depth studies into the issues emerging in the foregoing discussion. Among a range of suggested topics for further research and investigation are the following:

- Respecting and recognising the overlaps and conflicts between multiple and fluid identities of research participants, such as their virtual, physical, cultural and gendered identities
- Ensuring that cultural boundaries are transgressed with sensitivity
- Acknowledging the rights to privacy of indigenous knowledge
- Creating an equitable virtual environment for all participants
- Identifying strategies in designing a socially just online research environment

CONCLUSION

The preceding discussion defies any prescriptive solutions or recommendations for ethical conduct of online research. It is premised on our belief that an ongoing critical awareness must be sought by all researchers, Once awareness and conscientisation is reached, action must be taken by researchers to ensure that they do not transgress ethical boundaries. Online research can be conducted ethically only by a genuine engagement and honest communication with the research participants. Online researchers must consider not only the groups who are able to participate in their study but must also consider those who do not have access to participate in online research. Principles of respect, trust, honesty and equity are fundamental requirements in online research if researchers want to uphold their professional and personal integrity. The foregoing discussion highlighted a number of critical aspects of online communication that online researchers must carefully think through. Researchers must carefully consider the ethical implications of their research design, implementation, analysis and dissemination from multiple perspectives in order that they subscribe to a high standard of equity. Online research will continue to present new challenges over the coming decade which requires online researchers to critically engage with a range of ethical considerations that are discussed in this chapter.

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KEY TERMS AND DEFINITIONS

Ethics: Refers to the principles, beliefs and values that espouse fairness, goodness, integrity and honesty.

Intellectual Property: Refers to the original creative ideas and knowledge of an individual emanating from the mind.

Online Research Methods: Refer to methods of designing research, collecting data, analysing data and communicating research outcomes using one or more online technologies which facilitate synchronous or asynchronous communication, presentation or co-construction of information.