Ethical Issues for Qualitative Research in the Digital Age

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Abstract *In this digital age, researchers have options other than traditional data collection methods. Data collection through online modalities, which brings advantages such as sample diversity, cost and time reduction, and wide geographical reach, has become an alternative. When the COVID-19 pandemic hit, human interactions became limited; in-person conversations and on-site presence were impossible in some areas. Hence, researchers opted for Internet-mediated research activities. Even after the pandemic, conducting research online will continue to be an attractive modality. Ethical issues, though, have been raised in online data collection methods. Among those ethical issues are ownership of online data, unauthorized usage of online data, and anonymity and confidentiality in virtual and visual research. It is important, therefore, that ethical guidelines be observed in online data collection. In this paper, we propose several strategies to mitigate ethical issues. These strategies include securing informed consent, which is considered the cornerstone of research ethics, from the participants after they have been thoroughly and adequately advised regarding the research processes; determining whether the online space is public or private and implementing corresponding measures and adjustments; ensuring the confidentiality of the data by proper storage, management, and reporting; securing the anonymity of the participants through de-identification; and being honest and transparent by disclosing their identity as researchers to the participants. In addition, researchers will need to be guided by ethics review boards and a reference group with whom they can consult when they encounter ethical moments during their data collection.*

Keywords: *online data collection, ethical issues, ethical guidelines, informed consent, confidentiality*

I. INTRODUCTION

The adverse impact of a pandemic on human interaction has prompted a significant shift from sharing a common physical space to alternative online modalities. As the in-person gatherings were reduced in compliance with safety measures, the use of cyberspace for social and professional networking has remarkably increased. With this new development, internet-mediated research has become a promising ground to explore the web-based data with the use of various digital methods and platforms (Fatanti et al., 2022; Keen, Lomeli-Rodriguez & Joffe, 2022). The new opportunities for the online research unpack "the complexities and possibilities of researching digital environments" which raises new ethical issues and dilemmas related to it (Marlowe & Allen, 2022).

Cases of Ethical Issues

Although the same basic ethical rules of traditional research, such as anonymity and confidentiality; managing risks and reducing harms; protecting, managing, and reporting data, can still be applied to Internet research, there are also unique ethical challenges associated with virtual platforms (Trull, Helle, & Griffin, 2021). Some of them are researchers' identity, data proliferation, or online identity management (Fileborn, 2016; Whiteman, 2012; Aldridge, Medina & Ralph, 2010). It is necessary to reassess and critically evaluate the ethical norms and practices applicable to online research (McInroy, 2016). The exemplars below will touch some ethical issues with the discussion attached.

Case 1. *Accessing Online Course Data*

The study was initiated by an online department of a school on the topic about the practices of an online teacher. With the outbreak of a pandemic, most of educational institutions have shifted to an online modality. However, not all teachers were prepared for a new, more demanding role of delivering web-based instruction. The study focused on exploring the challenges and best practices of an online teacher. The participants were the full-time faculty members with the experience of teaching online courses. For triangulation purposes, the study also included a review of documents related to an online class–Moodle analytics, class-threaded discussions, postings, and course evaluations. In response to the study request, the Ethics Review Board (ERB) raised potential ethical issues such as whether researchers have a right to access class analytics, threaded discussions and postings, as well as course evaluations, without the consent from each student.

The e-learning environment requires greater attention to students' privacy when compared to a traditional face-to-face environment (Miguel, Caballe, & Xhafa, 2017). The exemplar above raises a question of ownership of the online class database. Does the status of being an online course data custodian automatically imply access to archival data for research purposes? The fact that the school or a particular department conducts the study within their area of responsibility, does it mean they own the data (Mumford, Higgs, & Gujar, 2021)? The educational institution needs to develop ethical guidelines for researchers when interested in studying archived online class databases.

The study involves an access to a private communication between the teachers of online course with their students, thus revealing their online identities and infringing on the basic ethical principle of anonymity and confidentiality (Sugiura, Wiles, & Pope, 2017; Salmons, 2015). The main ethical concern is to protect the research subjects (Weller & Kinder-Kurlanda, 2017). Additional measures should be taken to protect the participants from inappropriate linking of data with the unique participant identifiers (Mumford et al., 2021). It is also recommended to contact online class coordinators before commencing the study to check that the research project does not violate their privacy in online forums and class discussions (Sugiura et al., 2017).

Case 2. *Consequences of Sharing Data* (Silverman, 2013)

> Legal and ethical rights and obligations relevant to researchers' own materials can also cause problems. I left some research subjects with some JPEG digital images I had taken from a personal development course I had researched as a memento and 'thank you'. All people in the data were happy for others to share their images in this way. However, some of those photographs were used in a training manual prepared by the course organizers without asking for any further permission, thus becoming part of a text intended to elaborate and teach the practices being researched. I did not anticipate such usage, and the publication in what was in effect a commercial manual prompted me to check the university's position on what was potentially an infringement of its (and possibly my) copyright in the images and a usage which demanded some consideration to its ethicality. Since in any case, ethically and under the Data Protection Act, subjects may expect to be given copies of recordings of themselves (or their works), it can be wise for researchers to give some early thought, before any such request is made and certainly before passing on research recordings, to limiting further reproduction of released materials (by for instance annotating prints or images, or only releasing low-quality or watermarked materials). If subjects are only happy if researchers share recordings fully with them, researchers may need to question whether or not such research is acceptable to them. [Keith Abbott, Social Sciences, Loughborough]

The exemplar above presents a new reality, when electronic data are easily shared and proliferated (Aldridge et al., 2010). The way the researchers store or share digital data may not be secure enough to protect it from an unauthorized usage. According to the Declaration of Helsinki, at every stage of research study, the researcher is under obligation to observe data privacy to ensure the safety and well-being of the participants (Gilmore, Xu, & Adolph, 2021). However, if there is a plan to share data, it needs to be done ethically. This includes obtaining the consent from the participants to share identifiable data, as well as provision on data access and control (Gilmore et al., 2021).

Case 3: *Photography Online: Breaching Ethical, Cultural, and Religious Boundaries*
(Lahman, 2018, pp.188-189)

> I am Mennonite, which is one of the historical peace groups. While I did not personally grow up in a highly conservative group, my father was from a group of Mennonites that did not allow photography. Photography was seen as a graven image, as in the commandment—Thou shall not make any graven images. Ironically, groups such as traditional Mennonites and Amish who do not use photography are highly photographed by outsiders who Other them by romanticizing their culture as quaint and pictorial. . . . Many, including myself, would say photos are their most precious items in a home. People increasingly seem, to me, to be overtly preoccupied with images to the extent their life does not seem to be focused on real-time interactions occurring around them. Also, someone who has your image, in a sense, has power over you or has a part of you. These are all reflections I rarely share since I think my contemporaries would find them to be extreme, but I am sure they are the source of my reluctance to be a member on sites such as Facebook and why I limit Internet interactions to primarily professional.

Sharing and posting photographs is one of the distinctive features of social media in a digital age. Moreover, as the boundaries between virtual and real world become more blurred, it becomes increasingly difficult to safeguard anonymity and confidentiality in visual research (Margolis & Zunjarwad, 2018). Harper (2005) aptly notes, "The practical implications are that one will sometimes find oneself in research situations where photography would violate the norms of the setting or the feelings of the subjects; in such cases, photography should not be done" (p. 760). While photo elicitation is an indispensable source of information for qualitative research, one needs to keep in mind that it should be culturally and socially responsive as it may cause harm to vulnerable communities or individuals (Lahman, 2018).

Ethical Guidelines for Online Data Collection Methods

The conduct of qualitative research has evolved through the years. With the advent of the Internet and digital technologies, data collection, data representation, production, and dissemination have taken different forms. Specifically, data collection methods have changed from paper and pencil modalities and in-person, face-to-face interactions to virtual, digital encounters. Traditional data collection methods such as in-depth interviews, focus group discussions, and observation are still employed, but novel ways to do them have been adapted. In addition, emails; discussions; and posts in blogs, Facebook, Twitter, websites, and other digital platforms (Convery & Cox, 2012) are data that researchers may "harvest" for research purposes.

Several terms have been used to capture the scope of online data. Among these terms are digital data (Clark et al., 2015), internet-based data (Convery & Cox, 2012), internet research (Felzmann, 2013; Gupta, 2017; Markham & Buchanan, 2012), big data (Hesse, Glenna, Hinrichs, Chiles, & Sachs, 2019), and computer-assisted research (Palys & Atchison, 2012). These authors have suggested ways how to collect data online and what ethical issues need to be considered and addressed.

Dealing with ethical issues is a challenge for most, if not, all researchers. Some ethical issues can be anticipated. These issues fall under procedural ethics, which researchers identify prior to the conduct of the study (Creswell & Poth, 2018) and which ethics boards ensure that they are addressed. There are ethical issues, however, that researchers may not be able to anticipate. Guillemin and Gillam (2004, 2015) and Guillemin and Heggen (2009) wrote about how they encountered ethical moments, which they argue call for ethics in practice or relational ethics (Ellis, 2007).

Tolich and Tumilty (2021) advise researchers to have a reference group, whom they can consult with when they encounter ethical situations. Further, they suggest that the better approach is to attune oneself to their "ethical compass, recognizing, informing, and further developing . . . ethical intuitions, imagination, and reasoning, and building confidence in . . . moral agency, alongside knowledge acquisition" (p. 49). The goal is for researchers to become moral agents who are determined to overcome ethical ignorance and to commit to ethical acts based on the principles of respect, beneficence, and justice (Amdur & Bankert, 2011; Brinkmann & Kvale, 2015).

Several authors have identified ethical issues that researchers must consider in conducting qualitative research through online modalities. Table 1 shows a list of authors and the ethical principles that they consider important to observe and address. From this list in Table 1, we identified common ethical issues such as (a) informed consent, (b) public and private spaces, (c) anonymity and confidentiality; (d) data security; and (e) vulnerability, risks, and benefits.

Table 1

Authors and the Ethical Principles

Authors	**Ethical Principles**
Eysenbach and Till (2001)	Public/private spaces, informed consent, privacy and confidentiality, purpose of the material
Banister (2007)	Honoring informed consent, ability to withdraw any time, identifying risks, articulating benefits, co-constructing the research process
Beddall-Hill, Jabbar, and Al Shehri (2011)	Privacy, data security, confidentiality, informed consent
Convery and Cox (2012)	Intrusiveness (deception/honesty), public/private, vulnerability, potential harm, confidentiality, intellectual property rights, informed consent
Glassmeyer and Dibbs (2012)	Data storage/management, honesty/transparency, confidentiality/privacy
James and Busher (2012)	Informed consent, public/private spaces, language and netiquette, anonymity and confidentiality
Markham and Buchanan (2012)	Vulnerability and harm, potential and risks, informed consent, privacy and confidentiality, public and private, data storage and reporting
Felzmann (2013)	Relationships between researchers, participants, and online material; the blurring of the distinction between public and private information, informed consent, confidentiality, anonymity, and data management; vulnerability, risks, and benefits
Clark et al. (2015)	Consent, privacy, notice and transparency, access and participation, integrity and security, enforcement and accountability
Salmons (2015)	Informed consent, identity and privacy, data protection
Roberts (2015)	Public/private space, authorship /ownership of material, informed consent, anonymity/pseudonymity, honesty/transparency, data sufficiency/quality
Gupta (2017)	Transparency; privacy, anonymity, confidentiality; data protection; informed consent
Sugiura et al. (2017)	Informed consent, public/private, anonymity
Burles and Bally (2018)	Consent, confidentiality
Lahman (2018)	Cultural responsivity; identity; vulnerability, anonymity, and confidentiality; public/private space; data security; data ownership
Hesse et al. (2019)	Privacy, consent, reliability, trust and rapport
Newman, Guta, and Black (2021)	Informed consent; privacy and confidentiality; compensation; accessibility, resources, and justice

Informed Consent

"Informed consent is one of the cornerstones of research ethics" (Felzmann, 2013, p. 19). It means the participants have been thoroughly and adequately informed (Banister, 2007) and provided with "a comprehensive process of information about the research project" (Felzmann, 2013, p. 18) before their consent to participate is obtained and that assurances that they can withdraw anytime are given (James & Busher, 2012). Further, Felzmann (2013) provides the following guidelines: (a) The participants "have the ability to reflect on the information." (b) They "make their decision voluntarily without being put under any pressure to participate or make decisions quickly." (c) They "have been given all relevant information on the research and its potential implications." (d) They "have understood that information." (e) They "made a conscious decision to participate and expressed it unambiguously to the researcher" (p. 18).

How can researchers obtain informed consent for data that is readily available online such as posts on Facebook and other social media apps? Felzmann (2013) suggests the following strategies. First, researchers can inform the group that they are conducting a research on a certain topic and that the information contributed by the group members are relevant to their research purposes. Second, they just use the data without informing or seeking permission from those concerned. Third, they contact group members whose posts they will use and ask permission. The first approach may result in unfavorable reactions from group members. Some members may feel unsafe that what they have posted will be used for purposes which were not initially intended. The second approach is obviously unethical because it violates the principle of informed consent. The third approach is ethical although tedious. Clark et al. (2015) and Sugiura et al., (2017) recognize the challenges involved in securing permission for online data. Firstly, researchers must seek the consent of both moderators and group members. Secondly, online identities are not always clear; hence, prospective participants are difficult to trace due to anonymized and/or multiple identities.

What types of data should researchers ask permission to use? In addition to written and oral data, Salmons (2015) include "found photographs, artwork, graphics, or media . . . . video and still photography . . . . participant-generated drawings, [and] photographs" (p. 125). Researchers must secure permission to use all types of data that they intend to include in their research reports and publications (Salmons, 2015).

Burles and Bally (2018) underscore that "the nature of the research topic and online setting should be considered in ethical decisionmaking about consent" (p. 5). Sensitivity of the topic is one of the factors that determine the need for consent (Eysenbach & Till, 2001; Markham & Buchanan, 2012). The more sensitive the topic, the greater the vulnerability of the participants, the higher the need to secure consent. The online setting should also be considered, specifically along the public-private spectrum (James & Busher, 2012; Sugiura et al., 2017)).

Public or Private Space

In physical settings, the human society has developed the means to define the boundaries between the public and private space. It is difficult, however, to determine whether an online space is public or private "because the boundaries . . . are frequently blurred in the minds of users, especially in relation to social interactions and personal communications" (Felzmann, 2013, p. 16). Anonymous presence in cyberspace allows a researcher to lurk and generate data while remaining invisible to potential participants (Whiteman, 2012). Moreover, the issue of the distinction between public and private is closely connected to anonymity and confidentiality of the participants (Whiteman, 2012). Depending on the status of space, corresponding measures and adjustments will be implemented.

The guidelines introduced by Eysenbach and Till (2001) may provide us some help in making the distinction: (a) Is registration required to be part of the group? If it is, then most likely the group considers themselves as private. (b) How many group members are there? This criterion, though, may be a tricky indicator as there may be groups whose members may reach a thousand or more, yet they consider themselves private. This is the case of some associations, which may choose to remain private in spite of their growing number. (c) What statements has the group made about their identity and their purpose? Is the group exclusive (e.g., only those who are sexually abused or only those undergoing chemotherapy)? In addition to these questions, Eysenbach and Till (2001) asserted that when members do not seek public visibility, then the group is private.

Anonymity and Confidentiality

Some authors use these two terms interchangeably. But Felzmann (2013) points out a distinction. According to Felzmann, when we assure our participants of confidentiality, we mean that only those whom they have authorized can have access to the data. As researchers, we seek permission to have that access. There are times, as in the case of those who are writing their thesis or dissertation, when it is necessary to extend that request for access to Thesis/Dissertation Committee members. At the outset, we should specify who are those who will handle the data, not only during data collection, but also during data analysis. Once that access is given to us, which is based on trust, we guard that privilege with utmost diligence and care. How do we do that? First, during our data collection, we ensure that only the participant/s and the researcher/s are present. Glassmeyer and Dibbs (2012) relate their experience that while they were conducting an online interview, an office tenant unlocked the door, walked in, and was caught on camera. What they did after the office tenant left was to put a sign at the door: "Interview in Progress." Second, if we are a team, we should never discuss about our data when non-team members are present. Our debriefing sessions should be held in a private space. Third, we should not, in any way, share our data to any person, even to those who are closest to us. Or how about if legal authorities demand that we share to them the data? This dilemma is exemplified by the experience of Russell Ogden (Tolich & Tumilty, 2021), whose study was on assisted suicide. The court subpoenaed him to appear in court about a death, which he was thought to have knowledge of. Ogden did not appear in court, and he faced charges for contempt. Additionally, Felzmann (2013) underscores that confidentiality is linked to data security, specifically how it is stored and managed. Tolich and Tumilty (2021) give an example of Alice Goffman, an ethnographer who conducted her study for 6 years. She burned her data of thousands of pages after she published her book to protect her participants (p. 77). In this digital age, the question is, When will researchers delete their data from their storage space? One hint from Alice Goffman is after publication.

Anonymity, on one hand, refers to guarding the identity of research participants (Felzmann, 2013). Unless agreed by the participants and the researchers at the start of the study, participants' identity should be kept hidden. Anonymity is highly required especially for sensitive topics, specifically those that may bring harm and shame to the participants if they are identified (Burles & Bally, 2018). In data reporting, researchers should not disclose any piece of information that can be linked to any of the participants (see Beddall-Hill et al., 2011). In online research, however, it is difficult to ensure anonymity of the participants because the sources of direct quotes can be easily traced with the use of search engines (Goodyear, 2017;

Roberts, 2015). To address this concern, one option is to use fabrication (Markham, 2012), that is, to present composite data (Burles & Bally, 2018) or general findings (Warrell & Jacobsen, 2014). An example of fabrication is the found poetry of Rosario and Obo (2019), which they composed from selected words and phrases from the interview transcripts and aesthetic portrayal descriptions of all their participants.

Tolich and Tumilty (2021), on the other hand, argue that "qualitative research cannot be made anonymous" (p. 75). Indeed, the identity of the participants can be hidden from the external audience (Burles & Bally, 2018; Roberts, 2015). "The data can be de-identified," . . . "everything [e.g., name, date of birth, place of residence, occupation, etc.] that identifies the person can be redacted or changed" (Tolich & Tumilty, 2021, p. 75). But still, Tolich and Tumilty reason that "the researcher always knows who said the quote" (p. 75). Hence, the claim for anonymity, that nobody except one knows, cannot be satisfied. Following the argument of Tolich and Tumilty, I propose that while internal anonymity is not possible, we can strive for external anonymity, which means that no one, aside from the researcher or the research team, will be able to identify the participants.

Honesty and Transparency

Firstly, honesty and transparency involves revealing to the participants what online data the researchers are harvesting and for what (Clark et al., 2015). These pieces of information should be disclosed prior to data collection. Secondly, the researchers should reveal their identity as researchers, especially when they are part of a group or when they join the group for research purposes (Clark et al., 2015; Felzman, 2013). Roberts (2015) gives examples of researchers who created deceptive identities to gain access to data, which is a breach to the principles of honesty and transparency. Thirdly, after the data is collected, the participants should be able to see the data and check it for accuracy (Clark et al., 2015). During the member check (Shenton, 2004), the participants may delete and/or add some data.

How can researchers be honest and transparent when collecting data online? Glassmeyer and Dibbs (2012) share that even though only one of them was seen by the participants in the camera, at the start of the interview, they informed the participants that there was another researcher who was taking down notes about the interview. On another note, participants must also exercise honesty and transparency. In online focus group discussions, in spite of its public nature (Sim & Waterfield, 2019; Tolich & Anito, in press), the researchers and the participants must be assured that they are in a "private" space, free from the presence of other people (Salmons, 2015). Researchers and participants may find a suitable place outside of their homes (Deakin & Wakefield, 2014) or offices.

Data Security

The breach in data security is another emerging issue in data collection in a digital age. Among popular threats are various tracking technologies, contiguity and traceability, a loss or a proliferation of data (Mumford et al., 2021; Beaulieu & Estalella, 2012). In their article, *The Problem of Proliferation*, Aldridge et al. (2010) describe the 'lifetime' of one interview (p. 4), which was copied and multiplied many times even within a relatively small team of researchers. Such a tendency posits additional risks of an unauthorized access to a confidential information. One of the outcomes of growing threat to data security may be the participants' greater reluctance to consent in taking part in research (Aldridge et al., 2010). The following guidelines may be used to improve data security in mediated settings (Aldridge et al., 2010; Gupta, 2017; Trull et al., 2021):

1. All tracking information and web-signed consent forms will be stored in a secure server separate from study data.
2. Electronic data, including all forms and storages of data, will be password-protected.
3. Data is stored separately from participants' identifying information and linked only to a unique subject identification number.
4. Data is anonymized at the early stage of the study.
5. All non-anonymized data should deleted as soon as possible.
6. The encryption software is used to create 'encrypted space' on computers and storage media.
7. Data is stored centrally rather than locally; the number of data copies is minimized.

Vulnerability, Risks, and Benefits

Concern about participants' vulnerability is a particularly significant research ethical concern; prevention of harm to participants is generally considered to be the main rationale for the requirement of research ethics review. Internet research raises a number of concerns regarding vulnerability and harm, but also regarding potential benefit that other forms of research might not be able to achieve (Banister, 2007). Some of the concerns regarding risk of harm have already been addressed in the section on anonymity and confidentiality. Apart from physical harm, there may also be wider harms such as psychological, social, or a reputational damage (Hennell, Limmer, & Piacentini, 2019).

In addition, particular concerns regarding vulnerable participant groups arise. The Internet is frequently used as a medium of support for persons who may be subject to mental or physical vulnerabilities, impairments, or disabilities (Felzmann, 2013, p. 21). Due to a complexity of anonymizing data from social media platforms, there is a high probability to expose the identity of group members while they are even unaware of their status as participants. Moreover, the study may involve potential embarrassment or distress to vulnerable online groups due to the problem of identification such as the under-aged, political activists, or people with disabilities (Trull et al., 2021; Weller & Kinder-Kurlanda, 2017).

If the study involves illegal activities, additional ethical measures need to be taken. The researcher may need to include in the informed consent form the possible outcomes of the study including an inquiry about illegal activities, the probability of the confidentiality breach, and the subpoena of data if requested by the legal entity (Trull et al., 2021). At any point, a call for ethical decision should be made on a case-by-case basis (Hennell et al., 2019).

Limitations of Online Data Collection Methods

Collecting data online has brought about many advantages. Among these advantages are sample diversity, cost and time reduction, wide geographical reach (Fritz & Vandermause, 2018; Latkovikj & Popovska, 2020). But researchers have acknowledged several limitations, which whenever possible, should be addressed. These disadvantages include lack of access to technology, inadequate knowledge of technology use, developing trust and building rapport, and lack of contextual and verbal cues.

Lack of Access to Technology and Inadequate Knowledge of Technology Use

Research should be democratic and inclusive. Online data collection, however, may not make the participation of some groups, especially the socio-economically disadvantaged ones, possible. The digital divide between the haves and the have nots, the educated and the not-so-educated is presently keenly felt. There are places that are not yet reached by the Internet. There are people who do not have access to mobile phones or laptops, and even if they have, they do not have the technical skills or they will encounter technological issues which they may find difficult to resolve (Deakin & Wakefield, 2014; Fritz & Vandermause, 2018; Morrison, Lichtenwald, & Tang, 2019; Rosario, Wa-Mbaleka, & Zubkov, in press). To close this divide, researchers can provide their potential participants the necessary devices (see Wang & Burris, 1994), support for Internet connection, and train them on the use of such devices (Rosario et al., in press).

Developing Trust and Building Rapport

The connection that is built during face-to-face encounters may not happen as desired in online spaces. Researchers using the online modalities may experience challenges in building rapport and establishing a positive relationship with their participants (Deakin & Wakefield, 2014). Particularly, in text-based online interviews, trust and rapport may be challenging to establish as interaction between researchers and participants may not be spontaneous (James & Busher, 2006). Responses may be delayed and the thread of the conversation, especially when multiple participants are involved, may be difficult to follow.

Lack of Contextual and Non-Verbal Communication Cues

Online data collection, whether it is text-based or audio or video, has its limitations. The lack of visual evidence may limit researchers to understand the context (James & Busher, 2006). Text-based data is the most problematic because voice, facial expressions, gestures, and other contextual cues which may be conveyed through audio and video are missing. Further, Fritz and Vandermause (2018) point out researchers' "inability to observe, interpret, and act upon real-time visual cues" (p. 1642) in online data collection methods. Without the context, which is usually available to researchers on face-to-face, in-person encounters, researchers may miss to fully capture their participants' realities.

RESULTS & DISCUSSION

The swelling internet accessibility coupled with the growing digital literacy presents unprecedented research opportunities by providing new forms and sources of online empirical data. Researchers can access online posts, discussions, group/personal chats, videos, photos, and symbols or initiate a video chat or discussion forum. Accordingly, new ethical challenges emerge, which was mentioned early. In this part, we will summarize the strategies for enhancing ethical behavior online while dealing with informed consent, public and private spaces, anonymity and confidentiality; data security, and vulnerability, risks, and benefits.

In order to make an ethical decision, one should consider the ethical principles overlap each other. For instance, while deciding on an informed consent form, the researcher must identify whether the data is public or private. In the case of dealing with private data, it is essential to find out who is the "owner" of the data - a person or a group administrator. The privacy or publicity of the group or an individual takes effect on the issue of anonymity and confidentiality. Meanwhile, the nature of the study may be related to sensitivity and vulnerability, which should also be reflected in the informed consent form and in the degree of safety measures attached to the study.

The informed consent form may be procured by various means, such as via electronic mail or, if signing is not an option, at least verbally via voice recorder. Since the anonymity of data in qualitative research is questionable per se, the researcher needs to de-identify data before presenting it. The principle of honesty and transparency calls for an ongoing reflexive dialogue between the researcher(s) and participants about privacy, anonymity, and other ethical issues. This also includes communicating the results of the study to the participants.

One of the emerging ethical challenges in online research is data security. This may require a certain level of computer literacy. The researcher needs to ensure storage security, protect data from illegal access, and anonymize data files and documents. It is prudent to prioritize central data storage over local ones.

Finally, the vulnerability of the participant group or an individual goes beyond age and mental or physical conditions; it also includes psychological, social, or reputational risks. The researcher should, by all means, avoid the potential embarrassment of vulnerable online groups who may not be aware of their status as participants of the study. Again, no one-size-fits-all ethical formula will be applied to any case; instead, conducting research in an online environment requires personalized ethical guidance designed on a case-by-case basis.

CONCLUSION

Ethics in qualitative research during the digital age is an emerging practice. Researchers' understanding of what is ethical and what is not ethical is evolving. As digital capabilities in terms of devices, software, and application upgrade in a blink-of-the-eye speed, so do ethical considerations evolve in unprecedented fashion. Considering the many forms that digital data takes and the diverse ways by which it is collected, ethical challenges vary in scope and degree. Ethical decisions are not easy to make; the lines between and among the choices are blurred (e.g., private/public space, data ownership, data quality). Hence, we suggest that instead of formulating fixed ethical rules and demanding strict adherence to them, as researchers, we instead attune ourselves to our ethical compass (Tolich & Tumilty, 2021) and become responsible moral agents, who are committed to behaving ethically (Convery & Cox, 2012; Markham & Buchanan, 2012). More so, we continue the conversation among ourselves as we explore what is ethical in small and big moments of our research journey in this digital age.

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