UKRIO UK Research Integrity Office

Good practice in research:

Internet-mediated research

December 2016

Introduction

This document is part of a series from the UK Research Integrity Office giving guidance on particular aspects of academic, scientific and medical research. It focusses on ethical considerations and other issues applicable to internet-mediated research. The guidance covers issues relevant to all disciplines of research but does not put forward a 'one-size-fits-all' approach.

The aim is not to be prescriptive, but to highlight particular challenges relating to internet-mediated research and foster discussion on what might constitute good practice in this field. As with all of our publications, it is underpinned by 'lessons learned' from UKRIO's confidential Advisory Service on the conduct of research, which has operated since 2006 and covers all disciplines, from the arts and the humanities to health and biomedicine.

Research organisations will be able to use this guidance to raise awareness of the practicalities of internet-mediated research, and also as material for staff and student development and training. This document can also be used as a reference tool by organisations who wish to create specific policies on internet-mediated research or revise existing policies. The document complements existing guidance on internet-mediated research, such as provided by the Association of Internet Researchers, the British Psychological Society and the Economic and Social Research Council, and does not seek to replace them.

Advice and guidance from UKRIO is not mandatory but instead reflects and reinforces best practice. As the internet is an emerging research landscape, and technologies available to researchers are also emerging, it is not recommended to apply the guidance in this document prescriptively.

It is unsurprising that, as our lives have become mediated and digitised, and the internet has become pervasive, an increasing number of researchers are choosing the internet as a tool for data collection, for recruitment and as a research landscape. The ubiquitous nature of the internet and the digitisation of our lives is reflected in the number of disciplines interested in using the internet as a research tool or landscape. In turn, this new landscape requires consideration of the ethics in research practice online.

Research Ethics Committees (REC), whether operating in higher education organisations or at a national level, are currently assessing the ethical issues related to internet-mediated research without much guidance or informed support available (Morris, 2016; McKee and Porter, 2009; British Sociological Association[1]). Research Councils and professional membership bodies in the UK are becoming reactive to these issues and developing guidance. However, this scarcity of literature leads to ethical review occurring without sufficient guidance. This is challenging for higher education organisations and researchers alike, and may limit research that is subject to higher education ethical review processes.

In addition to existing guidance on internet-mediated research, the guidance presented here by UKRIO will assist in RECs developing their knowledge around internet-mediated research, embedding relevant principles and considerations and embedding this guidance into research culture to assist in ethical review, research practice and consideration of ethical issues.

The aim of this document is to assist researchers, research organisations and higher education institutions at a time where guidance and the use of this research landscape is still emerging.

Footnote to the first edition

As noted, the internet is an emerging research landscape. Similarly, the technologies available are also emerging. Consequently, UKRIO feels that giving explicit, 'one-size-fits-all' guidance on internet-mediated research would not be helpful. Instead, we wish to raise awareness of known and emerging issues of good practice in this field.

As internet-mediated research evolves further, good practice will continue to develop. This document will be revised periodically, to reflect such developments and highlight those new challenges which emerge. UKRIO will seek feedback from the research community to inform the revision of this document

Equally, if consensus develops on what *explicit* guidance on good practice in this field should look like, then this document will be revised accordingly.

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[1] British Sociological Association: *"Members should take special take care when carrying out research via the Internet. Ethical standards for internet research are not well developed as yet. Eliciting informed consent, negotiating access agreements, assessing the boundaries between public and the private, and ensuring the security of data transmissions are all problematic in Internet research. Members who carry out research online should ensure that they are familiar with ongoing debates on the ethics of Internet research, and might wish to consider erring on the side of caution in making judgements affecting the wellbeing of online research participants."*

Defining internet-mediated research

The term 'internet-mediated research' is a generalised term for undertaking research on the internet. Examples could be where a researcher is exploring digital lives; using social media to recruit to a study; using the internet as a data collection tool; using online communication methods to undertake focus groups, hold discussions or conduct interviews; to collect data from a social media platform to undertake textual analysis.

Internet research is defined by the Norwegian National Committee for Research Ethics in the Social Sciences and the Humanities (NESH, 2014) as:

1. research **on** the Internet as a phenomenon in its own right, its structure and technology (production systems, technical design, programs, codes, etc.);

2. **use of** the Internet as a research tool (collection of data and information using informants, surveys, archives, logs, algorithms, etc.); and

3. research on production, communication and interaction **using** the Internet (e-mail, social media, blogs, Internet forums, discussion pages, comments fields, or the use of computer games, search engines, web pages, etc.).

And it is defined by the Association of Internet Researchers Ethics Working Committee (2012) as inquiry that:

1. utilizes the internet to collect data or information, e.g., through online interviews, surveys, archiving, or automated means of data scraping;

2. studies how people use and access the internet, e.g., through collecting and observing activities or participating on social network sites, listservs, web sites, blogs, games, virtual worlds, or other online environments or contexts;

3. utilizes or engages in data processing, analysis, or storage of datasets, databanks, and/or repositories available via the internet;

4. studies software, code, and internet technologies;

5. examines the design or structures of systems, interfaces, pages, and elements;

6. employs visual and textual analysis, semiotic analysis, content analysis, or other methods of analysis to study the web and/or internet-facilitated images, writings, and media forms; and

7. studies large scale production, use, and regulation of the internet by governments, industries, corporations, and military forces.

In addition to an increasing number of researchers choosing the internet for their research due to the pervasiveness of the internet and the digitisation of lives, there are valuable benefits and new opportunities that the internet provides. Glaser, J (2002, pp.177-193 and 189-90) states that *"the anonymity of the internet permits research into marginal groups for whom self-disclosure may have costs, and where participants may be suspicious of researchers and outsiders."* and Illingworth (2001) suggests that the internet affords an efficient way of recruiting specialist participants. Both Glaser and Illingworth are suggesting that the internet allows

researchers to recruit hard to reach groups where the anonymity or distance provided by the internet allows internet users and research participants to disclose or speak about something sensitive or challenging. With such groups it is important to consider the disruption that research could cause to supportive communities that develop online and to the intent individuals have when going online to seek support or community.

1. The ethical principles applied within ethical review in the UK

The British Psychological Society (2013, p2) suggests a return to the first ethical principles as the landscape of internet-mediated research is and will be rapidly changing. The development of the practice of research ethics committees (in particular at a University level) are informed by ethical principles developed internationally and the guidance from the Association of Research Ethics Committees, GAFREC principles[2] (Governance Arrangements for Research Ethics Committees, 2011), UKRIO and professional membership bodies.

The Association of Research Ethics Committees 'Framework of Policies and Procedures for University Research Ethics Committees' (2013) states that the basic principles of ethical research are[3]:

- **Autonomy:** The participant must normally be as aware as possible of what the research is for and be free to take part in it without coercion or penalty for not taking part, and also free to withdraw at any time without giving a reason and without a threat of any adverse effect.

- **Beneficence:** The research must be worthwhile in itself and have beneficial effects that outweigh any risks; it follows that the methodology must be sound so that best results will be yielded.

- **Non-maleficence:** Any possible harm must be avoided or at least mitigated by robust precautions.

- **Confidentiality:** Personal data must remain unknown to all but the research team (unless the participant agrees otherwise or in cases where there is an overriding public interest, or where participants wish their voices to be heard and identified).

- **Integrity:** The researcher must be open about any actual or potential conflicts of interest, and conduct their research in a way that meets recognised standards of research integrity.

2. Specific items to consider

Offline, online or neither

"Often organisations simply cannot keep up, providing internet researchers with too little guidance and inappropriate guidance that applies overboard generalisations or make false comparisons between offline

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[2] http://www.hra.nhs.uk/resources/research-legislation-and-governance/governance-arrangements-for-research-ethics-committees/
[3] The Association of Research Ethics Committees 'Framework of Policies and Procedures for University Research Ethics Committees' 2013

and online research." McKee, Heidi A. & Porter, James E. (2009) *The ethics of Internet research: a rhetorical, case-based process* p.31

It is important to consider proportionately when considering the ethics of a study and when undertaking ethical review of any project but this focus may be even more pertinent for online studies. This is reinforced by the concern expressed above by McKee and Porter (2009); to facilitate ethically sound research, while also allowing researchers professional discretion.

Communities, individuals and data

The complexities of researching online with 'people', be that themselves or their data or both, depends on participants being identified to the researcher, the researcher being identified to participants and if so (on both sides) the verification of that identity. Much of this is dependent on the scale of the research, whether the scope is at a micro or macro level, the sensitivity of the topic and whether identifiable data are collected or not.

Communities

The British Psychological Society's guidance on internet-mediated research (2013) suggests that consideration must be given to working within communities online and asks the researcher to consider the principle of 'do no harm' with the potential of disruption of a community and the potential harm of disclosing as a researcher. BPS (2013) suggest seeking gatekeeper permission from a forum moderator if a researcher is navigating how to approach a group and negotiating the benefits or risks of disclosing as a researcher to a group. Particular consideration should be given to data or people where the interaction or data collection are undertaken in a password protected environment or environment that may be perceived by the user as private.

Deception

The British Psychological Society are a useful resource when considering using deception within a study. The use of deception is sometimes accompanied by a debriefing process following the research activity. The use of deception must be justifiable and balanced with the research objective and the anticipated risks or harms.

Valid consent

As with deception of identity it could also be said that the anonymity permitted by the internet may allow for deception and the challenge of ensuring that a participant has fully understood the study and therefore giving fully informed and valid consent. The chosen approach of informing potential participants and going consent needs to be appropriate and proportionate to the sensitivity of the topic; the potential group(s); and the nature of the study.

Age

The verification of identity, age and of valid consent is challenging. Age is perhaps the most challenging when considering either researching or not researching with children and young people. If a research project intends to not include minors, there are ways attempting to mitigate against that risk but as with many risks in research there may not be method of eliminating all risk. Uncertainty is a characteristic of

much research online during the research activity and beyond the activity with regard to the data which is touched on further in the data management section of this document. To use social media as an example, on some social media platforms there are minimum age limits - e.g. Facebook asks users to be 13 and older; however, age is not verified in what may be seen in the 'off line' world as a valid method of verifying age and therefore researching on that social media platform may involve minors unknowingly. This must be considered on a case by case basis within ethical review dependant on the sensitivity of the topic and the approach of the researcher.

Researchers are often using a social media platform without having any capacity to control the age of users, the other uses of data and the fate of those data. Elgesum (2002, 197) acknowledges that the media often have an agenda that is different than of a research project and this puts researchers into a precarious position between using a platform which is out of their control and making attempts to protect research participants and their data to avoid causing harm.

The NESH (2014) guidelines state that "Researchers must not assume that all Internet users have a conscious view of or knowledge of which information will actually be made public and which information will not be made public." It was indicated from the backlash of the Facebook emotional contagion study[4] (Kramer et al. 2013) that researchers cannot assume how informed social media users are about how their data are being used potentially without their knowing.

Research involving security-sensitive material

Internet-mediated research, as with other forms of research, can involve security-sensitive material. UKRIO published a position statement on this issue in February 2016, included as Annex 1 of this document.

3. Social media

Social media research requires just as broad a definition as internet-mediated research. Social media research could entail any of the following:

1. Collecting data generated by the web (e.g. this could include data generated by purchases, interests, movement online demonstrating what people do as opposed to what people say, as well as data generated by the individual)

2. Data mining

3. Collecting and visualising data

4. Lurking or observation

5. Collecting textual led data

6. Interacting with groups, communities or individuals via interview, discussion, survey etc.

7. Surveillance

8. Researching key influencers or individuals with a public profile e.g. politicians, celebrities

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[4] http://www.pnas.org/content/111/24/8788.full

What are the specific considerations raised by social media research?

1. In social media research it is challenging, perhaps impossible, to only research an individual in isolation but to also include in the data collected the secondary and tertiary links of that individual but also of their networked relations, Ess (2007) and NESH (2014) indicate that ethical responsibilities in research are shared and distributed, from the researcher, not just to the research participant but also to their networked relations.

2. It is not feasible for data to be a discrete dataset and owned or controlled by the researcher- In the conference proceedings of the Academy of Social Sciences conference on Social Media (21 March 2016) Professor Susan Halford in her keynote stated that ethical review in research organisations makes the following assumptions that datasets are discrete; are of a micro scale and therefore managed and owned by the researcher; and that researchers are looking at individuals rather than tracing of social networks, social groups or connections.

3. Knowing that dataset can be altered or removed, how does a researcher navigate this; how does this affect the research record; how does that allow replicability/reproducibility of a dataset?

4. How does a researcher navigate the legal framework within which they're working – especially in areas where there is clear conflict, as an example the Twitter terms and conditions state that any quotes (verbatim or paraphrased) must include the full twitter handle and should not be altered however if a researcher is attempting to paraphrase, use pseudonym, protect the identity by anonymising or using pseudonym is a researcher excepted to breach the terms and conditions of the platform they are collecting data from? How is a researcher expected to balance the interests of the participant, the researcher's institution and the platform they are collecting data from?

5. There is a turn to maximise the value of research data by encouraging data sharing, re-use and open-access publication – this can be problematic if those data are subject to potential change if sourced from its originator or if sharing from e.g. a data repository how can this be stored and retained and are the data valid if they cannot be replicated if those data have been subject to alterations

6. Special considerations, for the participant and for the researcher are required for 'insider research' (for example researching a group or network the researcher is already within or one which they will become integrated into) as the researcher needs to prepare for the blurring boundaries, the need to create boundaries and if they are disclosing as a researcher how are they best to do this. Researchers are opting to set up separate social media accounts for their professional profile or for a specific research project to make boundaries clear from the offset.

7. Are researchers obligated to anonymise data as a default action? If so how are researchers to navigate if a participant wish to be attributed to those data

4. Private or public spaces and data

"While much internet communication is often effectively public through greater visibility, traceability and permanence, it is not always apparent whether this makes it ethically acceptable to use such data freely for research purposes." (BPS 2013, 7)

The difficulty with privacy is that expressed concerns about privacy are often not expressed in internet user's behaviour (Spiekermann et al. 2001, Morris 2016). The MRS Delphi Report[5] evidenced the view that users accept that there is political economy or marketable value in their data without always understanding that trade and what it means to them. Elgesum (2002, 202) It is important that researchers consider this in a potential project and that ethical review takes into consideration that the public may not have informed expectations about the processing of their information and the political and fiscal value in their data. It is pertinent at this point to acknowledge that data are used by market researchers and advertisers as well as researchers and that the intent of the corporations leading social media platforms, as an example, is not to develop a platform where researcher's lives are made easy or for research to be ethically facilitated.

"As a researcher, you don't get an ethical free pass because a user checked a box next to a link to a website's terms of use. The researcher is responsible for making sure all participants are properly consented. In many cases, study staff will verbally go through lengthy consent forms with potential participants, point by point. Researchers will even quiz participants after presenting the informed consent information to make sure they really understand[6]."

Researchers are using research specific platforms like surveymonkey, Prolific Academic[7] and callforparticipants where it is easier to unpick the legal and data management workings of a platform. This may alleviate the concerns for a researcher who is navigating the need for balance between the interests of the research, the participant and their data (identifiable or not) and the online platform.

It is important to acknowledge again the uncertainty or lack of power researchers have o the state of data they may have collected but do not own. The technology available and change in legislation which may change the permanence of data. The European right to be forgotten (the right to request the removal of data) is potentially problematic for research replicability or reproducibility. A researcher can access tools which can uncover removed data, which may or may not be considered hacking, or can potentially be using research data which has since been removed. (Morris 2016).

Researchers need to be supported in the acknowledgement that some of the complexities that researchers are being asked to navigate while researching online, particularly in social media for a, which is a landscape led by conflicts between the central interests of research and the interests of those external to the research process (Elgesum 2002, 197).

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[5] Acknowledgement: Panel: Privacy, ethics and publicness in digital media environments Dr Ansgar Koene "Participant consent and withdrawal when using publicly archived data" HORIZON Digital Economy Research, University of Nottingham BAAL SIG workshop on the Ethics of Online Research Methods 17 April 2015

[6] Arthur, Charles quoting Masnick, Max June 2014 http://www.theguardian.com/technology/2014/jun/30/facebook-emotion-study-breached-ethical-guidelines-researchers-say Accessed 22/06/15

[7] Prolific Academic site http://www.prolific.ac/, it is acknowledged that this site is purely for recruitment but acts as an example of academics taking the online world into their own hands.

The complexities, lack of control and uncertainty could be considered as similar to ethnographic methods which have learned to use a situational ethics where professional discretion and self-reflexivity are crucial. It could be proposed that undertaking research online, particularly using social media platforms, could share a similar approach. Situational ethics is used in the Association of Internet Researchers guidance (2012) where the focus is on situation ethics and contextual reflection, asking questions of values, discussion and negotiation.

5. Data management

Robust research data management are an indicator of academic rigour and therefore important regardless of research being undertaken on or off-line. This being said, research online can present specific data management difficulties predominantly because the researcher is invariably not in complete control of the original dataset and can therefore only be in control of the dataset collected by the researcher.

Unless a researcher is using a tool where the country of users or participants can be limited, online studies have no geographic boundaries. The researcher must meet the data protection standards and legislation of their home institution and of the countries in which they are undertaking research, however if the country of a user is not disclosed to the researcher this places the researcher in a predicament to meet all data protection expectations – in this situation the researcher should be encouraged to meet the standards and legislation applicable to their home institution.

Considerations are required for

1. Data protection considerations

2. Data security and sharing

3. Copyright law and any other relevant legislation

4. Presenting findings

5. Anonymity

6. the legal and/or moral duty to disclose or break confidentiality and the limitations of that if participants are not known to the researcher.

The consideration of data management is growing, particularly for European funded research and therefore the guidance available to researchers is growing. Some institutions, particularly in the UK, are expanding their capacity for research data management which is predominantly being led by libraries.

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Annex 1: UKRIO position statement on research involving security-sensitive material (February 2016)

Internet-mediated research, as with other forms of research, can involve security-sensitive material. UKRIO published the following position statement on this issue in February 2016, available at www.ukrio.org/publications/ .

Research involving security-sensitive research material raises a number of issues for researchers and research organisations. These include legal matters, questions about IT specifications related to the storage of such material, and issues of research ethics and research integrity.

UKRIO has no remit or ability to give any advice or opinion on legal matters. Similarly, questions concerning IT fall clearly outside of UKRIO's remit[8].

An important ethics issue for any research is the need to ensure the safety of researchers and others involved in the research, including any legal risks. Another issue is to address risks accruing to institutions under whose auspices the research is carried out. We note that guidance from Universities UK[9] on the oversight of security-sensitive research material was published a number of years ago, while legislation on security issues is an on-going and changing process.

We would therefore strongly recommend that the ethical review process of any research involving security-sensitive research material should check for evidence of independent legal assurance that the research carried out is within the provisions of the current law and that the research would not put researchers, other employees, students, participants or the institution itself in legal jeopardy.

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[8] Those needing advice on IT specifications may wish to consult their organisation's IT department; universities may wish to seek external advice from JISC (https://www.jisc.ac.uk/).

[9] Universities UK (2012). *Oversight of security-sensitive research material in UK universities.*

Annex 2: acknowledgements and further reading

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