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Ethical Standards for Scientific Research Using the Internet

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Abstract

Information technology and the internet are evolving rapidly and astonishingly, making it impractical to establish detailed ethical rules for scientific research that cover all dimensions and types of inquiry. Instead, it is sufficient to rely on guiding principles related to the fundamental rules that should be followed when conducting research and presenting its results. This research aims to review the guiding principles that have been agreed upon globally through international conferences and workshops held for this purpose. What are the most important guiding principles, and how should they be addressed.

Keywords: Social Responsibility, Research Integrity, Digital Ethics, Guiding Principles, Online Research Guidelines Data Management, Informed Consent, Plagiarism

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Introduction

The rapid growth of internet research has created significant opportunities for collecting and disseminating research information globally. However, it has also raised several ethical and technical issues that must be addressed if the internet is to be utilized effectively and responsibly for scientific purposes.

The affordability and regulatory challenges of internet usage suggest that online research will remain susceptible to misuse unless ethical guidelines and constraints are established. Any research studies that employ the internet without adhering to ethical principles can severely undermine the legitimacy and credibility of this type of research within society.

This situation could also deprive diligent researchers committed to ethical standards of the benefits of this powerful tool, even when conducted by highly responsible researchers who strictly follow ethical guidelines.

Consequently, many scholars in this field advocate for the development of a comprehensive guide to ethical principles for the use of the internet in all forms and types of scientific research. Such guidelines would ensure the integrity of both the research process and its outcomes while safeguarding the rights and interests of respondents and users of the research findings alike.

Some scholars argue that information technology and the internet are evolving rapidly and astonishingly, making it impractical to establish detailed rules for the ethics of scientific research that cover all dimensions and types of inquiry. Instead, it is sufficient to rely on guiding principles related to the fundamental rules that should be followed in conducting research and presenting its findings.

Moreover, many studies suggest that the call for establishing ethical guidelines for online research should be based on two important principles:

1.A continued commitment to applying ethical standards and guidelines that have been developed, endorsed, and legislated across all fields of research and areas of knowledge.

2.The development of additional or supplementary ethical guidelines to address the emerging issues associated with conducting research via the internet.

This paper will illuminate various dimensions related to the ethics of traditional research as well as modern online research.

Research Objectives

- to define the ethics of scientific research.

- to clarify the importance of establishing ethical guidelines for scientific research.

- to identify the general ethical principles governing scientific research.

- to present specific ethical considerations for online research, including:

• Ethics of online research in the fields of social sciences and humanities.

• Ethical guidelines for survey and marketing research.

• General ethical guidelines for online research.

• to provide specific recommendations.

Definition of Research Ethics Guidelines

Research ethics are viewed as the principles that distinguish between correct and incorrect research behavior, or, in other words, between acceptable and unacceptable conduct. They serve as a framework to assist researchers in coordinating their actions and behaviors while fostering public trust in the integrity of their work. Additionally, research ethics can be understood as methodologies and procedures for addressing and analyzing complex research problems in appropriate ways. They aim to prevent uncontrolled personal biases and subjective inclinations from influencing the direction and outcomes of research.

Importance of Research Ethics Guidelines

There are several reasons that illustrate the importance of adhering to ethical guidelines in scientific research:

- These guidelines enhance the fundamental objectives of scientific research, such as generating knowledge, seeking truth, and avoiding errors.

- Since scientific research often requires collaboration and coordination among multiple researchers across various disciplines and institutions, ethical guidelines promote core values essential for such efforts, including trust, responsibility, mutual respect, and fairness.

- Ethical guidelines hold researchers accountable to the funding community by providing assurances against engaging in unethical practices.

- They help build trust between researchers and the public, thereby enhancing support for scientific research efforts. Communities are more likely to fund research projects in which they have confidence regarding integrity and quality.

- Many of these ethical guidelines promote additional social and moral values, such as social responsibility, human rights, respect for the law, health and safety, and environmental considerations.

- Such guidelines also aim to reduce ethical lapses in research that could harm individuals, animals involved in studies, students, and the public, potentially putting lives at risk.

Key Ethical Issues in Scientific Research

Research ethics are associated with the following issues:

1. Authorship

Authorship pertains to the decision-making process regarding the attribution of names to individuals who have contributed to a research paper or book. Ethical guidelines related to authorship include:

- Every individual listed as an author must have made a significant contribution to the research, including "substantial contributions to the conception and design of the study, data collection, analysis, interpretation, and drafting the final report."

- All individuals designated as authors must take full responsibility for the content of their research.

2. Plagiarism

Plagiarism involves the theft of ideas, concepts, images, theories, words, or narratives from another individual, falsely claiming them as one's own without proper attribution. Plagiarism is an unethical act that warrants punishment and includes the act of reusing one’s

previously published work and submitting it for publication again, whether unchanged or with minor modifications that suggest it is a new piece of research.

Ethical guidelines to protect researchers from committing plagiarism emphasize the necessity of properly citing any quotations and attributing them to their original sources, whether in the form of direct quotes, paraphrasing original ideas, referencing theories or viewpoints, or borrowing facts, statistics, or illustrative materials. Additionally, researchers should refrain from republishing any scholarly work that has already been published.

3. Peer Review

Peer review is the process of subjecting research outputs to evaluation by experts in the same field prior to publication, ensuring that they meet certain procedural and ethical standards. Key ethical guidelines to be followed during the peer review process include:

- Confidentiality: The review should occur without the reviewer knowing the identity of the author and vice versa.

- Respect for Intellectual Rights: Reviewers and publishers must refrain from disclosing any information about the research or using it for personal gain.

- Integrity and Responsibility: No research should be published unless it meets standards of integrity, accuracy, ethics, and scientific responsibility.

4. Conflicts of Interest

A conflict of interest arises when an individual's or an organization's responsibility toward a specific research project conflicts with their personal interests or obligations. Ethical guidelines concerning conflicts of interest include:

- Researchers must disclose any financial conflicts of interest to their institution that could affect their ability to conduct the research objectively. This disclosure should also include any financial conflicts related to their spouse and dependent children.

5. Data Management

Data management involves the collection of data in a manner that adheres to ethical standards, responsibility, credibility, and ownership, while ensuring the preservation of data and avoiding monopolization of access by colleagues and the public. To prevent any issues or shortcomings in data management, researchers should consider the following questions to address potential data-related problems early on:

- Who is responsible for the data?

- How will the data be collected?

- How will the data be stored and kept confidential?

- How will it be ensured that no part of the data is intentionally excluded from the final results, as well as its accuracy and proper interpretation?

- For how long will the data be retained before final disposal?

- What rules govern the publication of research findings and the protection of intellectual rights?

6. Research Misconduct

Research misconduct is defined as any form of fabrication, falsification, or plagiarism in research plans, procedures, literature reviews, or the presentation of final results. Ethical guidelines regarding this issue stipulate that the host institution bears the responsibility for monitoring research misconduct, initiating

investigations when it occurs, and providing specific procedures to ensure that research is free from misconduct.

7. Research with Animals

Animals play a crucial role in scientific experiments, research, and teaching, particularly in fields such as medicine. The use of animals in scientific research must be governed by ethical guidelines, which include the necessity of humane treatment of these animals.

8. Research with Human Subjects

The issue of using human subjects in research revolves around the necessity for participation to be entirely voluntary and based on fair and equitable selection of participants. In many societies, it is both an ethical and legal requirement that individuals consent to participate in research with full awareness and freedom from coercion or exploitation, and that they are given sufficient time to consider their participation.

Researchers must provide participants with clear, adequate, and accurate information regarding the research procedures and objectives, as well as any potential risks or benefits of the findings. Participants should also be informed of their right to ask questions regarding the research and to withdraw from participation at any time. Consent should be formulated in a language that is comprehensible to the participants, taking into account differences in abilities, intelligence, maturity, and language needs.

Respect for participants also includes ensuring their right to privacy and confidentiality, prohibiting the disclosure of any data related to them or collected during the research. Additionally, researchers must avoid exposing participants in medical research to risks and ensure that the sample selection is fair and representative of the diverse characteristics and variations within

the community. This includes preventing the exclusion of certain groups, such as racial minorities, women, children, individuals with disabilities, and prisoners, from benefiting from research outcomes.

Ethical guidelines related to this issue include the following:

1. Informed consent must be obtained from participants, allowing them the right to withdraw from the study at any time.

2. Research involving human participants should provide value to society at large and to the participants specifically.

3. Protection and safety measures must be implemented for participants in research studies.

4. Researchers should avoid exposing participants to harm or death.

5. Research involving human participants should be conducted by qualified researchers.

6. No social group should be excluded from participation in research that could benefit them, nor should any group be omitted from the study population without substantial and compelling reasons.

General Ethics of Research

There are a number of ethical principles that govern scientific research, as outlined by Resnik, David B. in the following:

- Honesty

- Objectivity

- Integrity

- Carefulness

- Openness

- Respect for Intellectual Property

- Confidentiality

- Responsible Publication

- Responsible Mentoring

- Respect for colleagues

- Social Responsibility

- Non-Discrimination

- Competence

- Legality

- Human Subjects Protection

- Animal Care

Ethics of Online Research in Specific Knowledge Domains

Ethics of Online Research in Social Sciences and Humanities

In a study conducted by a committee focused on the ethics of online research in the fields of social sciences and humanities, the committee adopted the classification made by Kitchin, which divides online research into two main types:

1. Web-Based Research: This category is further divided into two types:

- Non-Intrusive Research: Research that does not involve direct intervention by the researcher.

- Engaged Research: Research that involves direct interaction or intervention by the researcher.

2. Online Research: This refers specifically to research conducted through online platforms.

The committee noted that research requiring careful ethical scrutiny includes engaged research and research conducted online.

Non-Intrusive Web-Based Research

Non-intrusive web-based research refers to studies that do not require direct intervention from the researcher and rely on data collected from websites or discussion groups observed by the researcher. Examples of such platforms include chat rooms and sites like next generations (NGs), IRC (Internet Relay Chat), and MUDs (Multi-User Domain/Dungeon). Access to these sources is likened to viewing television channels or news articles; therefore, the information is considered public and poses minimal ethical concerns regarding privacy and confidentiality.

Materials available online concerning public figures can be utilized unless access is restricted by specific publication conditions. The same rules apply to visual materials unless they are protected by copyright, in which case permission must be obtained from the source.

Conversely, chat rooms and discussion groups may not be classified as public spaces; rather, they can be considered private settings, and there is no consensus on this classification. According to Bruckman (2002), researchers may analyze any information available online as long as it is classified as official and public, does not require a password for access, and is not governed by any rules prohibiting analysis, provided the topic is not sensitive.

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Engaged Research

Regarding the second type of research that involves some level of researcher intervention—such as communication with participants, online research collecting data through interviews, surveys, and questionnaires, as well as interaction within discussion groups—there are several ethical issues that must be considered. These include obtaining consent, ensuring privacy and confidentiality, and assessing potential risks.

There are two prevailing positions regarding the issue of obtaining consent:

1. The first position emphasizes the well-known constraints in this domain, raising questions and proposing certain strategies.

2. The second position argues that consent issues are minimal and not problematic.

Obtaining consent from participants in chat rooms may be impractical due to the rapid nature of discussions, constant changes, and the presence of thousands of individuals on some platforms. A reasonable solution might involve an agreement with the site administrator to implement a message banner informing participants that a researcher is observing the discussions.
If the participants are minors (under 18 years old), it is necessary to obtain consent from their guardians for their involvement in the research.

Regarding the risks and potential harm that may affect respondents, it is the researcher's responsibility to analyze and assess these risks to prevent them from occurring.

Privacy and Confidentiality

Concerning the respect for privacy and confidentiality of the researcher's data and identity, some argue that research relying on quotations from public sites with archived materials does not present ethical issues. However, for other sites not fitting this description, researchers must adhere to privacy and confidentiality protocols unless the data collected poses no harm to the participants.

Data gathered from chat rooms should be treated based on whether they are public forums discussing general issues or private rooms discussing specific matters. In the former case, issues of privacy and confidentiality are minimal, while in the latter, they must be addressed appropriately. This consideration also applies to online survey research.

Ethical Guidelines for Opinion and Marketing Research

Under the title (Use of the Internet for Conducting Opinion and Marketing Research), the Marketing Research Association has established several ethical guidelines for online research, acknowledging the necessity for this type of research to adhere to general ethical principles in the field. These guidelines include:

1. Participation in the research must be voluntary, not mandatory.

2. The identities of the researchers should be known to respondents.

3. The confidentiality and privacy rights of respondents regarding their identities must be assured.

4. A privacy policy must be clearly stated on the online survey site.

5. Research data must be secured.

6. The validity and reliability of the results should be communicated to the public.

7. Interviews with minors must comply with the Children's Online Privacy Protection Act.

8. No emails regarding research results should be sent to individuals who do not wish to receive them, and communication must cease permanently if requested.

General Ethical Guidelines for Online Research

Amy Bruckman, in her study titled "Ethical Guidelines for Internet Research," argues that there are no strict laws addressing all ethical considerations of online research that cover every emerging situation. Instead, there are guidelines directed toward this topic, including the following:

1. Freedom to Quote and Analyze: You may freely quote and analyze information available online without obtaining permission from the author in the following cases:

- If the information is official and public, directed at the general audience.

- If it is not protected by a password.

- If the site's policies do not prohibit its use.

- If the subject matter is not classified as sensitive.

2. Permission Requirement: Anything not included in the above section requires obtaining written permission or consent.

3. Do Not Request Permission During Live Communication: Do not seek permission while the group is engaged in live communication.

4. Recording Prohibited: Recording group discussions without permission is not allowed.

5. Electronic Permission: Permission can be obtained electronically under the following circumstances:

- If the individual subject of the study is 18 years old or older.

- If there is an electronic consent form that captures consent in a series of steps.

- If the risk to the individual subject is very low.

6. Written Consent Required: If the previous conditions are not met, written and signed consent must be obtained via postal mail or fax.

7. Research Involving Minors:

- Written and signed consent from a parent or guardian can be obtained via postal mail or fax if the research is low-risk.

- For high-risk research, consent must be obtained in writing from a parent or guardian through a face-to-face interview.

8. Disguising Participants' Identities: Before beginning the research, researchers must decide whether it is possible to disguise the identities of the participating respondents and, if so, to what degree. Note that pseudonyms are treated as real names in this context.

Levels of Respondent Disguise

1. No Disguise: This occurs when the respondent wishes to use their participation in the research as an opportunity to showcase their work or creative achievements. The researcher must mention the respondent's real or pseudonymous name with their consent,

and intellectual rights to their work must be acknowledged when referenced in the research. Any details that could harm the individual or their work should be removed.

2. Light Disguise: This applies when the group has a recognizable name, and the pseudonym or name of the organization or location is changed. This is also relevant when direct quotations from the source are required, or when the participant can be easily identified with minimal research. Again, any details that could harm the participating group should be omitted.

3. Moderate Disguise: This is applicable when a middle-ground approach is needed between complete and light disguise.

4. Complete Disguise: This is necessary in the following situations:

- When the group does not have a recognizable name.

- When changes are made to the pseudonym or identifying details of the group.

- When direct quotations are not used to prevent revealing the identities of the participants.

- When it is necessary to provide intentionally inaccurate details as a requirement for publication.

- When it is difficult to identify the participants in the research.

Recommendations

1- Commitment to continuing to apply traditional and approved research ethical standards and rules in various fields of research and knowledge fields, and adding any additional or complementary ethical rules to address the developments that have accompanied the use of research through the Internet.

2- There are general ethical rules that apply to all types of research and knowledge fields and special rules for some types of research and knowledge fields, and therefore researchers from various branches of knowledge and research methodological trends must contribute to formulating these rules.

3- The existence of cooperation and coordination between scientific societies, universities and organizations sponsoring research at the national level to build ethical rules.

4- Information technology and the Internet are characterized by rapid development and change, which requires continuous updating of the ethical rules for research through the Internet to keep pace with this rapid development.

5- These standards or rules must be binding in application by adopting them and converting them into laws.

6- Universities must have an administrative system for developing ethical rules for research and ensuring their implementation, investigating any violations thereof, and imposing penalties on those who violate them.

7- Ensuring commitment to implementing ethical rules for scientific research after converting them into laws requires executive regulations for the penalties resulting from violating or breaching these laws, as well as guides for the procedures followed in completing the tasks of development, supervision, investigation, imposing penalties, and grievance and appeal procedures.

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