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The Ethics of Scientific Inquiry: Principles and Best Practices

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ABSTRACT

While many people may refer to ethics as “morals” that is; from the perspective of rules for distinguishing between wrong and right, others may think of it as code of professional conduct. In the most common term, ethics can be defined as norms for conduct that distinguishes between acceptable and unacceptable behaviour. Ethical norms as simple as it may appear, one could be tempted to refer to it as commonsense which may seem true but if morality is mere common sense, then the society should be free from much ethical dispute as we have in the present. Just as many people may have differing perspectives/opinions on the same topic which explains why people may recognize the same common ethical norms but interpret, apply and align them differently to their personal values and life experiences. A professional code of ethics serves as a foundational framework guiding the behavior as well as decision making of professionals. It states the standards and requirements to integrity, accountability and fairness thus ensuring that professionals conduct themselves in the best interests of their clients as well as the community. The ethical codes further promote trust, credibility, reputational standing, respect and responsibility. What is consistent is the acceptable standard as seen with two major reference standards The American Psychological Association, (2017) as well as Psychological Society of Ireland, (2019).

Keywords: Research ethics, professional ethics, academic integrity, scientific inquiry, principles, best practices

INTRODUCTION

For every validated research, the result can either guide or mislead a number of people which is why it is of utmost importance that every researcher must take ethical components into consideration and abide by them to ensure highest level of honesty in their result. Ethics is a necessity in every profession of which employees/disciplines or institutions should take into considerations when accommodating the next member of which even existing members are held accountable. Each person works with 3 ethics areas, according Farahani & Farahani, (2014) citing the study by Qaramalaki 1388, to which are considered common; personal ethics, business ethics and organisational ethics.

High standard of research upholds the quality and reliability of research outcomes generated. Researchers are expected at all times to observe the highest standards of integrity, honesty and professionalism and to embed good practice in every aspect of their work. For every researcher, individual actions should always comply with the principles of honesty, openness, transparency and research rigour (adapted from vitae.ac.uk). It will be useful to review a couple of exemplary professional codes of conduct relevant as standards to reference.

What is professional ethics in research?

In simple terms, professional ethics in research are a set of principles that guide how research is conducted and reported. Given the importance of ethics for the conduct of research, it should come as no surprise that many different professional associations, government agencies, and universities have adopted specific codes, rules, and policies relating to research ethics (David & Resnik, 2020).

Ethical Principles

Ethical principles in research could be referred to as a set of guidelines that ensure good research practices. The following is a general summary of some ethical principles that various codes address.

Honesty

Every researcher must strive for honesty in all communications. Honestly report data, results, methods, procedures, and publication status. Do not falsify, fabricate, under report, over report or misrepresent data. Do not in any way try to deceive your team, colleagues, research sponsors, or the public. At every step ensure complete honesty.

Integrity

Keep to your words and agreements; be very sincere at every step; be consistent in your thought and action.

Objectivity

At every point in your research, strive to avoid any form of bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or minimize bias or self-deception. Do not assume any interest is insignificant, disclose any personal or financial interests that may affect your research.

Fair subject selection

When choosing peers or participants, only recruit participants based on the goals of the study, not other factors.

Informed consent

Potential participants should make their own decision about whether they want to participate or continue participating in research. This is done through a process of informed consent in which individuals (1) are accurately informed of the purpose, methods, risks, benefits, and alternatives to the research, (2) understand this information and how it relates to their own clinical situation or interests, and (3) make a voluntary decision about whether to participate.

Openness

Share data, results, ideas, tools, resources. Be open minded, give room for criticism, new ideas and learning.

Carefulness

Avoid careless errors and negligence. Critically and carefully examine every aspect of your work and that of your peers/team. Keep good records of research activities, such as data collection, research design, and all correspondence with agencies or journals.

Transparency

Always be willing to disclose your methodology, assumptions, materials analyses, and other information that may be needed to evaluate your research.

Intellectual Property

Honor all forms of intellectual property, patent, copyright etc. **Do not** use unpublished data, methods, or results without permission. Give proper credit or acknowledgement for all contributions to research. Do not plagiarise.

Accountability

Take full responsibility for your part in the research and be ready to give an account that justifies or explains the actions you took on your research project and why you chose such action or methodology.

Confidentiality

Strive to protect confidential information. Whether it is personnel records, classified documents, trade or military secrets, papers or grants submitted for publications or patient records, always keep it confidential.

Mentor Responsibly

When you choose to mentor or educate others, do it with utmost integrity. Only educate, mentor, and advise. Allow them to make their own decisions and justly promote their growth.

Responsible Publication

Do not be selfish in your publication. Publish in order to advance research and scholarship, not to advance just your own career. Save time and resources, avoid wasteful and duplicate publications.

Competency

For any researcher that wants to advance and stay relevant, continuous learning is a necessity. Strive to improve your own professional competence and expertise through continuous learning and education.

Human subjects' protection

When research is about human subjects, ensure risks and harms are within the barest minimum while maximising the benefits. Respect every human involved, their dignity, autonomy and privacy. Be conscious of vulnerable populations and take special precautions to protect them. Be sincere to distribute the benefits and burdens of research fairly.

Legal

Investigate, learn and obey relevant laws, institutional and governmental policies relating to your research.

Research misconduct

Research Misconduct can be characterised as actions or questionable research practices that fall short of the standards of ethics, research and scholarship required to ensure that the integrity of research is upheld. It can cause harm to people and the environment, wastes resources, undermines the research record and damages the credibility of research (Imperial College London, n.d.). Research misconduct can be defined as an intentional deviation from research practices.

Types of research misconduct

Every institution has different norms of ethics that guide their operating principles and goals. There are different types of research misconduct and unethical practices in research. The most serious ethical infractions are falsification, fabrication and plagiarism in research. Other forms of common research misconduct may include:

Falsification

This refers to wilful and unlawful manipulation of data, materials, equipment or methodology to arrive at a predefined conclusion. Example: selectively changing data or omitting data, which may cause erroneous representation of research results.

Fabrication

This could be making up data without having carried out proper research. This misconduct does not only cover the act of fabrication, it also includes the sharing, discussing, or publishing of this fabricated data or results.

Plagiarism

This involves using other people's ideas, content, writing, processes, or results without giving due credit. There is self-plagiarism, which occurs when a researcher replicates own writings or ideas from previously published research without providing proper credit.

Authorship

This involves attempts to assign false authorships without adequate contribution to research, mentioning authors without their permission, or failing to include authors who are original contributors. Naming authors incorrectly or in the wrong order can also be considered unethical. Conflicts of interest: These could be personal, financial or professional and need to be reported appropriately to avoid any ethical issues. It could also be a form of lapses in declaring any existing conflict of interest in the research work.

Approvals

Adhering to all the ethical approvals and legal guidelines is one of the most important aspects of research. Non-compliance with this ethical mandate is serious research misconduct (George, 2023).

Common reasons for research misconduct

There are various reasons for research, but the 5 common reasons include:

Lack of appropriate training and skills: Not having appropriate training or entire lack of training on the best practices and ethical guidelines to be followed as researchers could be one of the reasons for research misconduct. Poor awareness and understanding on this issue often lead to unethical conduct in research.

Career pressures

A factor of often relatable research misconduct is the undue pressure researchers' face. Researchers feel the need to conduct original research in a fast-paced environment within the shortest possible time. The need to publish frequently in peer reviewed journals and procure funding for research projects to advance their research career. Also, the need to juggle multiple responsibilities against tight deadlines creates undue stress to succeed at any cost, leading to a lack of care or even deliberate research misconduct.

Researcher's personal psychology

Some researchers may be overly driven by a desire to quickly attain a strong professional reputation or even financial gains, which could push them to research misconduct (George, 2023) Lack of proper

supervision or mentoring: In situations where researchers, especially early career researchers, lack or struggle with insufficient and inappropriate support from immediate supervisors or their affiliated institution. A lack of insight and guidance may knowingly or unknowingly result in research misconduct.

Poor knowledge

When a researcher does not have sufficient knowledge of the topic/subject of research or best practices.

Carelessness

When research is carelessly under reported or over reported it is also considered research misconduct.

Confidentiality integrity and availability (CIA)

This type of misconduct is relatable to tech research. This involves mis use of data for fraud or transfer of data without proper consent.

Researchers and institutions should adopt various measures to prevent the occurrence of scientific misconduct. The most significant aspect is the provision of adequate training that builds researcher knowledge as to what constitutes research misconduct and how best to avoid this. It is vital for institutions to have guidelines and procedures related to good research practices and ethical conduct and ensure it is disseminated effectively among their research community (George, 2023).

Examples of Professional Ethical Codes

American Psychological Association (APA). Ethical Principles & Code of Conduct

The APA serves as a clear framework for ethical practice in psychology and this has become a renowned reference standard. It is organized into five general principles and specific ethical standards that guide psychologists in their professional activities.

According to the American Psychological Association. (2017), the five general principles include beneficence and nonmaleficence, fidelity and responsibility, integrity, justice, and respect for people's rights and dignity. The APA also spell out ethical standards which are specific guidelines. These include competence, informed consent, confidentiality, assessment, research and publications. These principles as well as ethical standards have the objective to drive ethical behaviour as well as ensuring high level of integrity and responsibility.

Psychological Society of Ireland (PSI) Code of Professional Ethics

According to the Psychological Society of Ireland (2019) the code of professional ethics as it relates to professional organisations; spell out guidelines for ethical conduct among professionals. The key elements include core principles such as respect for individuals, integrity, competence, professional responsibility, confidentiality and professional relationships. Also, it state ethical standards such as informed consent, public responsibility and cultural competence. Again, like the APA these ethical principles and standards are geared towards giving guidance to practitioners in the professional spheres to conduct themselves professionally whilst upholding integrity, respect and accountability in the discharge of their duties to clients as well as the community.

CONCLUSION

A typical example is where two individuals could agree that murder is wrong but disagree on the morality of abortion simply because they have different perceptions of what it means to be a human being. This is where society tries to use law to enforce widely accepted moral standards for peaceful coexistence. However, ethics and laws are not the same.

Different professions, disciplines and institutions have standards of behaviour that guide their goals and objectives. These standards help members of each discipline to coordinate their actions or activities in order to establish public trust in that discipline. While ethical standards govern various professions, disciplines and institutions, it also applies to research as people who conduct various research whether scientific, creative, religious or scholarly are expected to abide by ethical norms in research.

A professional code of ethics serves as a foundational framework guiding the behavior as well as decision making of professionals. It states the standards and requirements to integrity, accountability and fairness thus ensuring that professionals conduct themselves in the best interests of their clients as well as the

community. The ethical codes further promote trust, credibility, reputational standing, respect and responsibility.

The professional codes of ethics protect the interests of all stakeholders and the sustainability of professions thereby advancing integrity and profession itself. Simply put, professional ethics in research are a set of principles that ensure that research is conducted in an ethical and professional manner.

RECOMMENDATION

Drawing guidance from APA and PSI, the implementation of good professional ethics requires a comprehensive approach. It is therefore needful to develop a clear code of ethics, provide a forum for communicating same through regular training and workshops, promote open communications and discussions on ethical principles and standards. Ethical codes are not limited or exclusive to any group of persons hence everyone needs to demonstrate exemplary conduct from senior to junior professionals. As with most things, organizations should include this as a metric for evaluation and this should be monitored. The above recommendations can support building of an ethical culture that strengthens professional development.

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