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# Ethics in Academic Research and Scholarship: An Elucidation of the Principles and Applications

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## Abstract

Responsible, respectable, and successful engagement in research and scholarship in academia requires adherence to certain basic professional ethical principles to sustain the fidelity of academic work and the integrity of the researcher-scholar. This is more so for works which are intended for dissemination, information, attention, and consumption of audiences beyond the researcher-scholar's proximal academic habitat. Ethical principles in research and scholarship apply whether the intended work, to be made public, is a conceptual scholarly narrative of ideas and thoughts or a narration of actual scientific-process-based research. This paper explores some of the key ethical principles in research and scholarship, their applications, and implications. Emerging ethical requirements, based on the 2018 updates to the Common Rule for Institutional Review Board, are explored. Criteria for meeting international ethical requirements and processes in research and scholarship are outlined with guidelines for authorship. Implications for current and future need for fidelity, integrity and trustworthiness in the academic enterprise are stressed.

**Keywords:** typology, IRB, considerations, implications

## Introduction

In the context of this paper, the author defines ethics as follows: the way and manner people should act in a knowledge context, based on what they know, ought to know, and should know and do. The author also defines ethics as a value-laden judgment about actions, the rules guiding the actions, and the appropriate choices of reasonable steps to take. Ethics in research require the identification and reasonable resolution of these value-laden actions and the judgements to be made before, during, and after the research-scholarship process. Johnson and Christensen (2008) offered a different but consistent definition of ethics as "the principles and guidelines that help us uphold the things we value" (p. 101). Bauman (1992) believes ethics rest solely on the fact certain actions are basically unethical and there is never any basis to justify them.

Research in the context of this papers is defined as "systemic investigation . . . designed to contribute to generalizable knowledge" (Protection of Human Subjects,2009, §46.102d). Developing generalizable knowledge infers potential benefits to others that may not necessarily be of benefit (or even pose potential harm) to the participant (Coleman, 2017). This is one of the rational bases for requiring Institutional Review Board (IRB) ethical process and protocol verifications, especially in research involving human subjects.

Research involving human subjects is one of the most ethically regulated and contentious in the spheres of research and scholarship. This should be no surprise given the horrible historical and contextual experiences of research studies involving human subjects. Research studies conducted on human subjects in Nazi concentration camps during the Second World War (WWII) and the Milgrams' Obedience to Authority Study (McLeod, 2007) highlight the degree of harm researchers can inflict on captive subjects. In the Tuskegee Study on unsuspecting black males, in Tuskegee Alabama (Centers for Disease Control [CDC], 2013), researchers did not reveal all the facts about the experiment to participants for informed consent and the serious health harm caused by the experiment was not adequately treated. These are just few examples of ethical malfeasance in research in the medical and biological sciences.

In the social and behavioral sciences, landmark research studies such as: Humphrey's Tearoom Trade Studies (DuBois, 2008) where he pretended and embedded himself among the *research* participants without disclosing his researcher role. Thus, breaching their privacy and confidentiality. Watson's *Little Albert* experiment (Watson & Rayner, 1920) did not protect Albert since the procedure subjected him to fear. The Zimbardo's Stanford Prison Experiment (Zimbardo, Maslach, & Haney, 2012), also brought out the risks of physical and psychological damage associated unguarded studies involving human subjects who were *prisoners* at the mercy of the guards.

The intensity and fidelity of ethical considerations which go into a research-scholarship process depends on the research typology. In this paper, the author presents ethical principles and considerations, which go into research, based on the typology of the research. The changing and emerging ethical requirements, based on the 2018 updates to the Common Rule for IRB, are highlighted. Issues relating to international research collaborations are introduced and ethical perspectives in research report writing and dissemination are enumerated. This paper is based on the context of research and scholarship under United States' guidance requirements and may not apply to foreign situations.

### **Ethical Consideration in Broad Research Contexts**

Generally, research can be quantitative, qualitative, or combination of both (mixed-method). In quantitative research, information and data for the research are collected and analyzed in a pre-planned, prescribed, and formalized manner; sometime without intensively intrusive interaction with the research object or subject during the research process. Therefore, the balance of ethical weight and consideration, in quantitative research, tends to be more front-loaded at the planning stages. This is often in terms of sources, data recording accuracy, integrity, and fidelity. In qualitative research, information and data tend to be collected in a more proximal, intimate and *intrusive* context. The ethical dynamics may oscillate at different levels during the actual interaction phase of the research. Here, the balance of the weight of ethical considerations tend to be more loaded at the interaction stages with the object/subject. Mixed-method research requires the appropriate ethical considerations at the front-loaded planning stages as well as during the actual information gathering phase. In addition to these general considerations, a researcher-scholar may need to consult the appropriate agencies, policies, rules, and regulations to further ensure ethical compliance (Kitchener, 2000).

## **Ethical Considerations in Typology of Research Subjects or Objects**

Ethical considerations also come into play based on the nature of the object, subject, or participants in the research. There are two broad subject types on which research can be conducted: (a) research involving non-human subjects or objects and b) research involving human subjects.

### ***Research Involving Non-Human Subjects***

Research involving non-human subjects or objects generally includes situations where the researcher's interaction is limited to inanimate, pseudo-animate, and certain animate subjects or objects. This group of research can be classified into different categories.

#### *Research Involving Inanimate-Particulate Materials*

Inanimate-particulate research is more common in the physical and biological sciences. In education, it occurs in research situations involving direct assessment and evaluation of curriculum and instructional materials without interacting with users of the materials in the context of the research. The intensity of ethical consideration here is less focused on the subject/object of the research and more focused on the physical and health hazards the research process may pose or present. Understanding and noting the appropriate policies and regulations on hazardous materials, the corresponding safety precautions, and obtaining the necessary permissions from the appropriate agencies, authorities and persons may be all that is required (National Institute of Occupational Safety and Health, 1986).

#### *Research Involving Primitive and Pseudo-Life Forms*

This type of research is common in the biological and allied-health sciences, without human or animate interphase during the research process. They may include, but not be limited to, studies on viruses, bacteria, fungi, plants, etc. Again, the degree of ethical responsibility is less on the subjects and objects of the researcher, but more on the possible potential physical and health hazards the research process may pose to the researcher and the public at large. Understanding and noting the appropriate policies and regulations on the use of research subjects and objects, and the corresponding safety precautions are important. Obtaining the necessary permissions from governmental organizations such as the National Institute of Occupational Safety and Health (NIOSH) and Centers for Disease Control (CDC) may be required.

#### *Research Involving More Advanced Forms of Life—Animals*

The use of animals in research is of benefit in clinical applications both for humans and animals. Research using animal subjects is also useful in furthering the understanding of biological processes (American Association for the Advancement of Science [AAAS], 1990). In research studies which require the use of animals, the intensity of ethical consideration and focus is on the animal subjects. Researchers are obliged to:

- treat animals with care and sensitivity to their pain and discomfort, in a manner that is consistent with the research aim and objective;
- adhere to relevant laws and regulations pertaining to animal research; and
- communicate respect for the animal subjects to all who are connected to the research (AAAS, 1990).

In the United States, the Animal Welfare Act (1966) covers the laws pertaining to the use of animals in research. The law prohibits the use of animals such as dogs, cats, primates, and other warm-blooded animals deemed close to or emotionally intertwined with human life, for research. The law excludes animals such as rats, mice, birds, cold-blooded animals, and farm animals used for agricultural purposes. Researchers are also advised to consult the Public Health Policy on Humane Care and Use of Laboratory Animals (United States Department of Agriculture) and the United States National Institute of Health (NIH).

### ***Research Involving Human Subjects***

Research involving human subjects is the most guarded typology of research. The landmark research episodes enumerated earlier were, in whole or in part, responsible for the creation of the National Commission for the Protection of Human Subjects in Biological and Behavioral Research (simply called The National Commission) in the United States. The National Commission produced the Belmont Report which outlines the key ethical principles for conducting research with human subjects namely Respect for Persons, Beneficence, and Justice (RBJ). It was because of the RBJ principles the Code of Federal Regulations on the Protection of Human Subjects, (Protection of Human Subjects, 2009) and the Health & Human Services Policy on the Protection of Human Research Subjects, also called the Common Rule (1991) came into existence.

#### *Respect-for-Persons Principle*

This principle asserts people should be free to make decisions about actions relating to their well-being without undue influence, pressure or coercion when participating in research (Protection of Human Subjects, 2009). Individuals must be provided enough information to make an informed judgement whether to participate, end participation, or not participate in a research. This is one of the bases for obtaining informed consent from human subjects before their participation in any research. The requirement for informed consent also extends to children and minors where such consent must be obtained from the parent(s), guardian, or ward-of-the-state. In the case of children and minors (ages 6-17), obtaining informed consent by itself is often not enough. Assent must also be obtained from the child or minor subject before participation in a research. Absence of assent overrides any informed consent, except in situations where the human subject is an infant (five years or less in age) or a fetus.

#### *Beneficence Principle*

The Beneficence Principle rests on the obligation of researchers to take due diligence to protect human subjects from harm and to maximize the possible benefit of the research to the human subject and the larger society (Protection of Human Subjects, 2009). The appropriate assessment and disclosure of the risks against potential benefits for participants are very important and essential. Assessment and disclosure of risks are not limited to physical and physiological harm, they also extend to possible psychological and social harm. Even in the field of social and behavioral research, where a research study may involve minimal physical harm, there may be potential harm resulting from breach of privacy and confidentiality through improper handling of information and faulty data security protocols. This is why the issue of privacy and confidentiality is very important. Privacy is concerned with the right of an individual to be secure in the control of personal information and data to be divulged or shared. Confidentiality refers to the extent or degree of prudence to be exercised to guard against the leakage of information or data obtained

from human subjects. Both concepts also affirm the need for informed consent from human participants in a research study.

### *The Justice Principle*

Justice occurs when an individual gets what is morally deserved and due. On the other hand, injustice occurs when a person is unduly denied a benefit or an entitlement. Justice in human-subject research requires the burden and benefits of research be proportionately shared between human subject(s) and the rest of society who could potentially benefit from the research (Gostin, 1991; Sieber & Stanley, 1988).

### **Data Typology and Level of Ethical Prudence in Human-Subjects Research**

The degree of ethical prudence required in human subject research also depends on the nature of the data to be collected relative to the level of potential interaction with the human subject. The author divides the typology into six categories.

#### ***Research Involving Non-Identifiable Data in Public Domain Without Direct Contact With Human Subjects***

These are studies with minimal risk. The level of ethical prudence is normally limited to the integrity and fidelity in data collection, analysis, interpretation, and inference from the research. Privacy and confidentiality may not present ethical issues in this context. Informed consent is often not applicable. An example is using ex post-facto public data from the US Department of Education, National Center for Educational Statistics (NCES), National Science Foundation (NSF), and other public records from relevant federal and state departments and agencies.

#### ***Research Involving Identifiable Data in Public Domain without Direct Contact With Human Subjects***

These are minimal-risk studies. When identifiable data appear in public domain, there is an implied ownership and consent for the use of the data given by the owner (Boettcher & Dames, 2018). The limits of the implied consent need to be investigated before the data are used. Taylor and Pagliari (2018) stated the use of identifiable data in public domains, without direct contact with humans, may sometime be problematic. They expressed the need to raise awareness of possible ethical challenges and actionable recommendations. It is the opinion of the authors, care should be taken to authenticate the source of the data for integrity and credence. Additionally, for reasons of empathy, respect for social standing, and the public image of the subject associated with the identifiable public data, the researcher may be ethically compliant if the data are *de-identified* before analysis and dissemination of findings. Informed consent is often not applicable, unless the data identify subjects in ways which have potential to cause harm. Example include studies on published records of sex offenders, public records of persons with felony convictions, and public records of persons involved in *de jure* or *de facto* public service or public engagements. It can also include public data which point to geographical locations.

### ***Research Involving Identifiable Data in Public Domain with Direct Contact With Human Subjects***

This may or may not be more than a minimum risk study. Ethical precautions should be taken to protect the human subject during the interactive phase of the research to minimize risk, especially those relating to privacy and confidentiality. Also, ethical consideration in the realms of beneficence and justice is imperative. Informed consent of the participant is required. Examples are studies involving interaction with prisoners, ex-convicts, youths in juvenile custody, and public personalities. Meeting the consent requirements for public personalities and celebrities, can be as simple as e-mail communication, authenticated oral consent, or a simple written consent disclosure (Fisher et al., 2013). For more vulnerable human subjects like ex-convicts and youths in juvenile custody, consent may involve a more formal written and signed documentation.

### ***Research Involving Non-Identifiable Data in Private Domain Without Direct Contact With Human Subjects***

This may be more than a minimal risk study because of the privacy context of the data source. There is always the possibility of re-identification of the data with the respective human subject using computer algorithms and other reverse back-channels. Examples are research in the medical field involving patients' data, public health information (PHI) in providers platforms, and non-identifiable academic performance data in educational settings.

In the digital era of boundless data migration, ensuring the privacy of data is becoming increasingly difficult if not sometimes impossible. Data delineation and isolation is also becoming a challenge. Data which may be non-identifiable in one research setting may turn out to be identifiable in another. Reporting on the World Medical Association (WMA) draft declarations regarding health and biobank data bases, Aicard et al. (2016) noted the following:

- Nonidentifiable personal data in private domains are now used by people and entities different from the individual and purpose for which they were originally collected;
- Data are becoming more difficult to keep unidentifiable;
- Migration and linkages can make non-identifiable data become re-identifiable;
- When data are collected and stored, it is impossible to anticipate all future uses of the data;
- Future use may become harmful to the human subjects due to errors in the re-use and the inferences made.

Researchers using data from these sources should make sure appropriate permissions are obtained from the custodians of the data, when possible. Informed consent is implied, depending on the level of risk of re-identification whenever the data are used or re-used.

### ***Research Involving Identifiable Data in Private Domain Without Direct Contact With Human Subjects***

This may be a minimal or more than a minimal risk study. An example is non-invasive research involving a fetus. Although some of the consideration here may be covered under the Health Information Portability & Accountability Act (HIPAA) and the International Infections in Pregnancy (IIP) protocol, additional ethical percussions need to be considered (Borgman, 2018). Clervenack and McCullough (2011) and Strong (2011) also stated considerations should be

balanced from two perspectives: Does the research hold benefit for the fetus while presenting some level of perceived risk to the pregnant woman? Does the research present a level of risk to the fetus with minimal or no risk to the pregnant woman? Full disclosure and written informed consent are required in both situations. The consent should be obtained from both parents, except in an extenuating circumstance where the father cannot be reached, such as situations of rape or where the father is unknown or deceased.

Another example is research involving students' records, without contact with the students. Although access to most students' records are covered under Family Education Rights and Privacy Act (FERPA), there are seemingly innocuous incidental records which may be collected on students. Examples are information from closed circuit monitoring devices, cafeteria lunch records and casual conversations with and between students that may be noted in writing (Borgman, 2018). In all these instances, informed consent is required from parents for use of the information in research, even where there is no contact with the students.

### ***Research Involving Identifiable Data in Private Domain with Direct Contact With Human Subjects***

Most of research dealing with human subjects falls within this category. The risk may be minimal or more than minimal, depending on the level of intrusion or invasiveness into the personal physical, physiological, and psychological space of the human subject. Additional specific regulatory requirements and protocols may also be mandated to ensure compliance with the protection of the human subject. An informed consent is an absolute requirement in this instance. Again, in the case of children and/or minors (ages 6-17), informed consent from parents, by itself, is not enough. Assent of the child or minor is also required before participation in a research. Examples are direct behavioral studies on students and studies on human subjects in the medical field involving direct contact with the subject. This is also extensively covered under the Common Rule (Protection of Human Subjects, 2009) and the 2018 Requirements.

### **Institutional Review Board (IRB)**

An Institutional Review Board (IRB) is a research-ethics compliance entity established by institutions to ensure all necessary ethical compliance and permissions are in accordance with the Common Rule under federal regulation (Protection of Human Subjects, 2009) with the 2018 Requirements 80 FR 53931, before a research is commenced.

The rationale for requiring IRB is tied to the definition of research as “systemic investigation . . . designed to contribute to generalizable knowledge” (Protection of Human Subjects, 2009, §46.102d). *Generalizable knowledge* connotes potential benefits to others, which may not necessarily be of benefit (or even pose potential harm) to the participant (Coleman, 2017). This is the basis for the Common Rule and the role of IRB, which is to:

protect research participants by ensuring that risks are reasonable in relation to the potential benefits, that the risks have been minimized to the extent reasonably possible, and the prospective research subject will be in a position to make informed decision about whether to participate. (Coleman 2017, p. 1)

IRB makes determination on the doability of the research within certain ethical boundaries. The board also makes the determination on the extent of the wording and disclosure to be contained in an informed consent. IBR process also helps the researcher to anticipate potential regulatory



violations and ethical issues which may need the attention of the researcher to correct and ensure conformity. Even if a proposed research study seems very harmless on the surface, it is ethically prudent to pass the proposal through an IRB review to make the determination on its exempt or non-exempt status and assure compliance with applicable ethical guidelines, regulatory dictates, and protocols.

### ***Informed Consent***

Informed consent must be obtained from human subjects before participation in any research study (Common Rule as revised the 2018-Requirements, 80 FR 53931). Informed consent should provide information about the topic and focus of the research; name(s) and affiliation(s) of the researcher(s); nature of the research; the sponsor(s) (where applicable); precautions taken to minimize risk; and parameters for assuring and maintaining privacy and confidentiality. It should also outline the benefits and risks to the research subject; any compensation for participating in the research; freedom to participate, withdraw from participation, or not participate; and the institutional contact for any further information about the research. The name and signature of the participant must be obtained, and the signed consent kept as part of the research records.

### ***Views of IRB on the Ethical Considerations in Typologies of Research***

IRB does not impose much oversight on research involving inanimate particulate subjects/objects. Although this type of research is not covered under the Common Rule, IRB may exercise oversight on possible collateral safety issues which may be incidental to the conduct of the research. The approval process may be done through an expedited exempt approval process, depending on the level of perceived risk to the researcher and the larger population. If the research involves extremely hazardous material, evidence of strict regulatory conformity and approval should be required by IRB.

For research involving strictly primitive and pseudo-life forms, like bacteria and viruses, IRB may only demand the necessary permissions and conformity with the appropriate safety regulations and requirements, from oversight agencies, have been obtained. Research under this category should go through the IRB review process to foreshadow and forestall any collateral risks to the researcher and the larger population. Again, if the research involves extremely hazardous bio-forms, evidence of strict regulatory conformity and approval should be required and provided to IRB before approval is given to proceed with the research.

For research involving more advanced life-forms such as, rats, rabbits, birds, agricultural animals, etc., more oversight is needed from IRB beyond regulatory requirements. Particular attention should be paid to stating the condition under which the animals are kept and the way the animals are handled during the research process. This is important to prevent animal-cruelty issues which may damage or taint institutional reputation.

Majority of IRB review work is focused on research involving human subjects, as required under the Common Rule and the 2018 Revisions to the Rule. Most of the rules and directives stated in the Common Rule are intended for research involving human subjects, in the United States.

## **International Research and the IRB Process**

Conducting research in a foreign country or location requires a two-tier ethics compliance and approval process. First, any research ethics compliance process applicable in the foreign country or location must be completed. Even in situations where there is no formal IRB process in place in the foreign location, a written statement or agreement, confirming that the alternative research ethics compliance process in place has been completed, must be obtained. One example of ethical protocols used internationally is the World Medical Assembly Declaration—Declaration of Helsinki, amended 1989, and as directed in Protection of Human Subjects §46.101(2)h, 2009 Revision. Second, the relevant institutional review processes and protocols in the home country and/or foreign location of the research must be completed. If the foreign review protocol is of lower quality than obtained in the United States (US), the IRB protocol in the US is imperative and deemed required. For example, a US researcher, intending to conduct research in a foreign country or location, must abide by the applicable research ethics guidelines and go through the necessary IRB permission process in the US before commencing the research in the foreign location. This is to guard against international legal issues later. In this instance, the IRB submission in the US must be accompanied by the foreign IRB permission, or a written official alternative ethical compliance permission statement/agreement with the foreign institution (Harrison & Sloan, 2011).

Having a permission statement/agreement with the foreign research-partner intuition is important. The agreement should, at the minimum, contain the:

- Identities and institutional affiliations of the partners/collaborators;
- Funding and shared resource contributions and allocation;
- Statement of mutual interests and benefits from the collaboration;
- Statement of mutual understanding of cultural and institutional practices relative to the research;
- Extent and limits of government interference in research processes and protocols; and
- Reference to institution review approvals and supporting documents for the conduct of research from the respective institutions involved in the partnership collaboration.

## **The 2018 Requirements—Updates to the Common Rule**

The Department of Health and Human Services (DHHS) updated certain sections of the Common Rule effective January 19, 2018. The beginning implementation date is July 2018 (Federal Register, 2018) except for the cooperative research provision, which will be fully implemented July 2020. Up until July 19, 2018, the old Common Rule still applies.

### ***Informed Consent***

New requirements are now in place for Informed Consent under the Common Rule. The following are the new requirements for Informed Consent:

- *Broad Consent* option which allows researcher to obtain consent for future use from a subject for research on non-identified information and non-modified specimens;

- affirmative statement the project is a research study;
- summary of the research outlining the purpose, duration, and procedures;
- approximate number of subjects involved in the research;
- statement of foreseeable risk and discomfort;
- expected benefits;
- procedures or course of treatment which may be advantageous to the subject, as needed;
- who to contact for questions pertinent to the research;
- statement that participation is voluntary with no penalty for non-participation or for withdrawal;
- consequences of subject's decision to withdraw; and
- circumstances under which subject's participation may be terminated.

### ***Exemptions and Waiver Criteria***

The 2018 Requirements acknowledge some research may qualify for Limited Review, similar to the Expedited Review process. Limited Review is useful in situations that qualify as *exempt research* involving sensitive identifiable data like public health information (PHI) or educational records kept by a third party. There are other research that may qualify for Self-Determination. The Self-Determination option allows for a principal investigator to respond to key criteria questions developed by an IRB, based on qualifying human subjects research exemption category provisions as contained under the Common Rule section 46 (Protection of Human Subjects, 2009). Depending on the response to the questions, IRB can issue an exempt letter based on the self-determination response. Continuous review is necessary in Self-Determination exempt research to determine if there have been any changes relating to the exempt criteria used for the self-determination.

### ***New Exempt Categories***

The 2018 Requirement establishes new exempt categories of research based on risk profile. Within some of the new categories, an exempt research may be subject to Limited Review to ensure adequate privacy safeguards are in place for identifiable private information and specimens.

### ***Single IRB for Cooperative Research***

The 2018-Requirement also directs that US institutions engaged in cooperative research to use a Single IRB for the portion of the research that takes place in the US. This is to reduce paperwork and improve scalable efficiency and time management. This will come into effect in July 2020.

### ***Changes to Continuous Review Requirement***

Continuous review is no longer required for:

- some ongoing minimal risk research which undergoes expedited review;
- studies which have completed the intervention phase and are only left with data analysis; and
- studies which only require observational or treatment follow-up.

While research communities praise aspects of the revised Common Rule, parts of the revised rule are also criticized for not addressing some of the constraints imposed by the previous rule. Coleman (2017) identified some of these constraints to include: (a) not easing the burden of the process of making exempt determinations and (b) not resolving the definitional ambiguities of what constitute *research*.

### **Ethics in Research Report Writing**

After research is completed, the research process and findings must be communicated to a wider audience beyond the researcher(s) for purpose of peer review, knowledge addition, or public information. There are ethical issues to be considered at this stage as well. Here are some of the more important ethical considerations at the reporting stage.

#### ***Never Falsify or Fabricate Information or Data***

A researcher should report the details of the methods used in the data collection and analysis, as accurately as possible. This is important for the purposes of replicating the study, establishing its fidelity and validity. Any assumptions made in the data collection and analysis processes must be clearly stated and explained. The basis and suitability of any statistical analysis methods used must be clearly and reasonably justified and should align with the intent of the research. This is important because it goes to the heart of the fidelity and integrity of the data analysis, interpretations, findings, inferences, and conclusions.

#### ***Due Diligence in the Review of Relevant Literature and Plagiarism***

In justifying and articulating the rationale for a study, the researcher should cite the work of others in the field, as appropriate. This is important throughout all the sections of the report even when relating work to existing body of knowledge in the field. Plagiarism occurs when the writer uses the contributions of others without giving credit to them (Johnson & Christensen, 2008). This may constitute falsification, because the plagiarized work is not the writer's. This is ethically unacceptable. Whenever reference is made to another person's work, the source and author should be cited.

#### ***Authorship***

Authorship presents a record of those who did the research or scholarship work. Authorship in academia goes into the core of job security, promotion, tenure, productivity, accountability, salary, etc. Therefore, "authorship should be restricted to those who made substantial contribution to the conceptualization, design, execution, analysis, interpretation, and publication process of the study" (Johnson & Christensen, 2008, p. 127). The order of authorship should be based on the substantiality of relative contribution to the work by the authors. Other persons, who only offer technical support, should not be considered for authorship. They can be acknowledged in an ending acknowledgement footnote.

## Discussions and Conclusions

### *Discussions*

This paper defined ethics in the context of research and scholarship and the ethical considerations required under different typologies of research and scholarship. Every research and scholarship work intended for dissemination, have inherent and situational ethical tenets which must be followed. The circumstances peculiar to a research or scholarship should be considered in the context of their ethical requirements to ensure prudence and credibility. The respect accorded an academic work and the author depends on the perceived ethical integrity and the extent to which professional ethical judgement and fidelity have been applied in the planning, conducting, and reporting of the work.

### *Theoretical Implications*

This paper has outlined the ethical requirements and boundaries relating to different typologies of research studies; the collection of data; and the precautions a researcher needs to be mindful of when planning, conducting, analyzing, and reporting research work. The paper further impresses and expands the scope of existing knowledge in research and scholarship ethics. The different spheres of ethical considerations for different typologies of research provides theoretical bases for the ethical directions to take when planning, conducting, and disseminating research and scholarship works.

### *Practical Implications*

The paper stresses ethical processes and prudence in research is not just another unnecessary gatekeeper, it is a required integral part of a research process and its integrity. As long as the necessary ethical due diligence in the production of a research and scholarship work is in place, there should not be any hesitation to make the outcome of the work public—no matter how insignificant it may seem. Someone somewhere might learn something from it.

### *Limitations and Future Research*

This paper is based on the context of research and scholarship under United States guidance requirements and may not apply to foreign situations. The ethical parameters and considerations reported are mostly based on what operates in the United States with some limited nexus to other countries. The author hopes this paper has expanded the scope of existing knowledge and understanding of the ethical responsibilities in research on which further improvements can be built. This is even more important for the people who are new to the research process and the research enterprise.

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