Information
Ethical Conduct and Reporting of Research

Effective
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Number
RES 5 02

Applicability
This policy applies to the University Community administrators faculty staff and students

Administrative Authority
Executive Vice President for Research and Innovation

Responsible Unit
Research Integrity Program
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History
Revision Date(s): March 21, 1995; December 21, 2002; January 3, 2006; June 17, 2016; May 27, 2022 (minor revisions)
Reviewed Date(s): 2016

Categories

Statement:

Standards for Designing and Conducting Research
Guidelines. Research should be undertaken only when it offers the opportunity to advance knowledge. The undertaking of "trivial" studies primarily for the purpose of yielding numerous and rapid scholarly results should be discouraged in favor of

more substantial studies that yield fewer, but more important, scholarly results. Deciding when to terminate the collection of information for a Research project should be explicitly decided as part of the Research plan. This decision may help to avoid the appearance that information was collected only up to the point that preconceived expectations were met. For large Research projects, it is crucial that supervisors ensure that every member of the project adhere to ethical standards. Research directors (and even department and unit heads) often share responsibilities with the investigators of record for the ethical conduct to Research. For Empirical Research projects, the retention of primary data, data analyses, and information leading to the results of the Empirical Research presents an additional set of issues. In many cases of alleged academic and scientific misconduct, a common concern is the absence of a complete set of verifiable data. The retention of accurate records easily retrieved is of utmost importance for the progress of scholarly and scientific inquiry. Errors within records and missing records may be mistaken for misconduct.
Statistics used in the conduct of Research should be appropriate to the study.

Basic Standards

1. Research projects must be designed and conducted with honesty and integrity.
2. The design of a Research Project must include appropriate safeguards against subjective bias.
3. When one or more faculty directs a Research project that involves other investigators, the director or directors must take steps to ensure that everyone involved complies with the provisions of this policy. In most cases, the director(s) should provide detailed written procedures for data gathering, storage, and analysis.

Standards Governing Data Gathering, Storage, and Retention

1. Original data must be recorded, preserved, and made accessible to the University. Data is defined as information that is generated in or, as a result of empirical research activities and recorded in any tangible or electronic medium, including without limitation laboratory notebooks and worksheets, memoranda, notes, clinical protocols, computer databases, computer images, and all other records. Please review RES-1.01 - Ownership of Data.
2. Any applicable granting agency requirements governing the preservation of data must be followed; however, it may be necessary to preserve data for a longer period. For joint Research involving two or more laboratories, the

principal investigators involved in the project shall meet and agree which of them is to maintain the data. The Investigator shall make the data available for a reasonable period of time.

Standards for Publication of Research

Guidelines. Although there is some disagreement about the particulars, certain publication practices are widely regarded as unethical. One of the leading antecedents for unethical behavior is the pressure to publish. Early career investigators in particular, but not exclusively, may yield to this pressure as a result of the tendency for promotion, tenure, and grant committees to count numbers of publications rather than to assess their quality. Some assume that publication in these peer-reviewed journals perceived as "prestigious" automatically satisfies the requirement for quality. Journal editors and referees, on the other hand, are admittedly often not in the best position to detect deceptive and careless research and reporting practices that could adversely affect the perceived quality of a paper. Some of the most celebrated cases of scientific fraud have involved hundreds of publications in "prestigious" journals many of which were subsequently proved to be fraudulent. Practically all of this fraudulent activity was ultimately detected, however, not by the journals, but either by the institutions of origin or by other scientists interested in the research.

The tendency toward counting publications rather than attempting to judge their quality sends messages to investigators that encourage haste and shortcuts, which are obviously counterproductive to the emergence of good science or good scholarship. Certain practices that make it difficult for reviewer and reader to follow a complete experimental sequence are: the rapid publication of data without adequate tests of reproducibility or assessment of significance, the publication of fragments of a study, and the submission of multiple manuscripts differing only slightly in content. The practice of submitting multiple similar abstracts should also be considered although it should be noted that abstracts are not given the same consideration as peer-reviewed manuscripts. In such circumstances, if any of the work is questioned, it is difficult to determine whether the research was done inaccurately, the methods were described imperfectly, the statistical analyses were flawed, or inappropriate conclusions were drawn. Investigators should review each proposed manuscript with these principles in mind.

The decision as to how many papers are warranted by a study should be based not upon how many papers can be added to a bibliography, but upon an objective evaluation of how science or scholarship is best served. Infractions of this principle, often considered to result from pressure to publish, are examples of "Wasteful

Publication". Perpetrators of the above practices have often succeeded without detection by submitting papers to different journals at about the same time. The investigator should not decide to spread the results out over multiple publications merely, or even primarily, to "pad" his or her vitae or bibliography. The issue of authorship involves certain unique ethical considerations, and this Policy has accordingly dealt with that issue in a separate subsection. In general, authorship and order of authorship should be tentatively decided before the paper is written, and reconsidered as necessary. Authorship should reflect only substantive contributions to the work. Each author should have participated sufficiently in the research to be able to take public responsibility for, and to defend, the content of the paper that falls within his or her specialty area.

Basic Standards

Under no circumstances shall a person publishing material related to Research engage in:

1. Plagiarism;
2. Fabrication of data; or
3. Falsification of data.

All claims and conclusions made in connection with publishing Empirical Research shall be supportable by the data.

1. An investigator shall not publish the same results, or results that represent only an insignificant modification of an original publication, in more than one written publication without acknowledging the earlier publication or publications. The prior sentence will not apply to abstracts and grant applications, unless an acknowledgment is required by the granting party.
2. An investigator must often determine whether the results of a given Research project should be published in one publication or divided into multiple publications. In making that choice, the investigator shall make an honest evaluation, from the point of view of others in the discipline, of how the results can be presented most effectively.

Standards Governing Authorship

1. Only people who have made a significant, substantive contribution to a publication shall be named as author. Without limiting the foregoing, the following relationships do not, in themselves, warrant authorship:
    - Financial and/or material support;

    - Routine technical assistance;
    - Collection of data; and
    - Furnishing research space.
2. Order of authorship for a publication shall be determined in accordance with the standard prevailing in the academic discipline, if any.
3. Notwithstanding subsection 2, with respect to a student dissertation that fulfills the degree requirements, the degree candidate shall always receive first authorship. If the candidate completes all obligations except for preparing a manuscript, decisions regarding authorship of any ensuing publication shall be made after consultation with co-authors, the candidate's committee, and the Department Chair.
4. In the case of multiple authorship, each co-author will share collective responsibility for the entire publication.

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    - Routine technical assistance;
    - Collection of data; and
    - Furnishing research space.

University and Other Policies
All research shall be designed, conducted, and reported in full accordance with all other policies of the University of Louisville and granting agencies that may apply, including the Conflict of Interest Policy, Intellectual Property Policy, polices dealing with the protection and welfare of human and animal subjects, and the Policy Statements on Sponsored Programs. These and other University of Louisville policies are accessible at: https://louisville.edu/research/researchers/policies.

Related Information:

Each academic unit may enact ethical rules for that unit that are stricter than the provisions of this policy. In relation to Joint Research, stricter unit rules shall supersede the provisions of this policy for research that is conducted within that unit.
If faculty from two or more units engage in a joint research project, the provisions of this Policy will ordinarily govern in lieu of individual unit rules. However, if all of the involved units have adopted effectively the same stricter rules regarding a particular type of conduct, these stricter rules will supersede the provisions of this policy.

Reasoning:

The purpose of this document is to establish a basic standard of honesty for all Research conducted, and all grant proposals submitted, by or under the supervision of faculty of the University of Louisville, except as follows:

1. The *Guidelines* included in the policy statement are recommendations, not binding rules; and
2. All language that is shaded applies only to Empirical Research, as that term is defined in this document.

Definitions:

Research means all scholarship, creative activity, program evaluation, and other research, including without limitation, Empirical Research.

Empirical Research means Research that is designed to generate knowledge of objectively measurable phenomena.

Publication (and ***publishing*** when used as a verb) includes any presentation of information to a person not involved in the Research, regardless of whether such presentation occurs in writing, orally, or in electronic format. Without limiting the foregoing, publishing includes published books and articles, speeches, interviews, and grant applications.

Research Misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Research misconduct does not include honest error or differences of opinion.

Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. Plagiarism also means the substantial unattributed copying of another's ideas, processes, results, or words. Substantial unattributed copying of another's ideas, processes, results, or words means the unattributed verbatim or nearly verbatim copying of sentences and paragraphs, style or structure which materially mislead the audience regarding the contributions of the author. Plagiarism does not include authorship or credit disputes, including those among former collaborators who have gone their separate ways but may make use of commonly developed concepts, methods, descriptive language, or other products of the former joint effort.

Fabrication is making up data or results and recording or reporting them.

Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

Research record means the record of data or results that embody the facts resulting from scientific inquiry, including but not limited to, research proposals;

grant or contract applications, whether funded or not; grant or contract progress and other reports; laboratory notebooks; notes; correspondence; videos; photographs; X-ray film; slides; biological materials; computer files and printouts; manuscripts and publications; equipment use logs; laboratory records both physical and electronic; laboratory procurement records; animal facility records; human and animal subject protocols; consent forms; medical charts; patient research files; abstracts, theses, oral presentations, internal reports, and journal articles, and any documents and materials provided to HHS or an institutional official by a respondent in the course of the research misconduct proceeding. The record of data or results may be any data, document, computer file, computer diskette, or any other written or non-written account or object that reasonably may be expected to provide evidence or information regarding the proposed, conducted, or reported research that constitutes the subject of an allegation of scientific misconduct.