

ETHICAL CONDUCT AND REPORTING OF RESEARCH

Policy and Procedures

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October 21, 2002

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I. Policy and Procedures for the Ethical Conduct and Reporting of Research

A. General Provisions

1. **Definitions.** As used in this Policy and Guidelines –

- a. “Research” means all scholarship, creative activity, program evaluation, and other research, including without limitation, Empirical Research.
- b. “Empirical Research” means Research that is designed to generate knowledge of objectively measurable phenomena.

2. **Applicability.** The goal of this Policy and Guidelines 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:

- a. The “Guidelines” that introduce Sections B and C are recommendations, not binding rules, and
- b. All language that is shaded applies only to Empirical Research, as that term is defined in Section A.1.b.

3. **Unit Documents.** Each academic unit may enact ethical rules for that unit that are stricter than the provisions of this policy. Subject to Section A.4, stricter unit rules shall supercede the provisions of this policy for research that is conducted within that unit.

4. **Joint Research.** 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 supercede the provisions of this policy.

B. 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

1. Basic Standards.

- a. Research projects must be designed and conducted with honesty and integrity.
- b. The design of a Research Project must include appropriate safeguards against subjective bias.
- c. 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.
- d. "Scientific misconduct" or "misconduct in science" means fabrication, falsification, plagiarism, (defined in section C-1.a) or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data.

2. Standards Governing Data Gathering, Storage, and Retention

- a. 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 Guidelines on Ownership of Data, Chapter 7.3, in the U of L Research Handbook. <http://research.louisville.edu/res-handbook/res-hdbk.htm>
- b. In the event that the principal investigator leaves the University of Louisville, the principal investigator may take the primary data with him/her. However, the investigator shall preserve the data. 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.

C. 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 *vita*e 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.

1. General Standards for Publication

a. Definitions for this Subsection 1. As used in this subsection –

1. “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.
2. “Plagiarism” occurs when one purposefully suggests, by either an active representation or a failure to disclose, that another’s work or idea is one’s own. However, plagiarism does not include a simple failure to name the source of a work or idea in which it is clear from the context that one is not claiming the work or idea as one’s own.
3. “Fabrication of data” occurs when one knowingly or recklessly reports data that is forged (whether by the person reporting or another), and
4. “Falsification of data” occurs when one knowingly or recklessly reports data that has been altered from its raw form in a misleading manner (whether the distortion was made by the person reporting or another).

- b. Under no circumstances shall a person publishing material related to Research engage in --
- (i) plagiarism,
 - (ii) fabrication of data, or
 - (iii) falsification of data.

c. 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.

2. Authorship

- a. 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:
 - i. financial and/or material support,
 - ii. routine technical assistance,
 - iii. collection of data, and
 - iv. furnishing research space.

- b. Order of authorship for a publication shall be determined in accordance with the standard prevailing in the academic discipline, if any.

- c. Notwithstanding subsection b, 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.

- d. In the case of multiple authorship, each co-author will share collective responsibility for the entire publication.

D. 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 Statement on Sponsored Programs. These and other University of Louisville policies are described in the Research Handbook accessible at <http://research.louisville.edu/res-handbook/res-hdbk.htm>

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Web Addresses for:

NIH requirements information, <http://www.ori.dhhs.gov/misconduct/>- 8
NSF requirements information, <http://www.nsf.gov/oig/resmisreg.pdf> - 8
U of L Research Handbook, <http://research.louisville.edu/res-handbook/res-hdbk.htm>- 7
Intellectual Property Policy, <http://thinker.louisville.edu/ippolicy.htm>
Conflict of Interest in Research Policy, <http://www.ori.louisville.edu/Policies/Research-policies.htm>
Human Subjects Protection Program Office, <http://research.louisville.edu/UHSC/>
Animal Care, <http://www.louisville.edu/medschool/research/acup/>
Policy on Sponsored Programs, <http://research.louisville.edu/policies/sponsoredprograms.html>