Encouraging Research Collaboration Through Ethical and Fair Authorship: A Model Policy

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Realizing a comprehensive approach to evidence-based practice in psychology requires the collaboration of academic researchers and practicing clinicians. Increased collaboration is likely to contribute to the growing trend of multi-investigator projects, multiple-authored publications, and the subsequent conflicts regarding authorship credit and order. Recommendations and guidance on determining authorship credit and order are available in the literature; however, few concrete tools are available to assist in determining authorship credit and order. A model policy on authorship is presented. The model policy was derived from recommendations published in the literature, in ethical standards, and in the editorial policies of both psychological and the biomedical fields. The model policy can be adopted by academic and clinical organizations, and is a useful tool for preventing authorship conflicts and encouraging collaboration in clinical research.

Keywords: authorship, ethics, policy, research collaboration

The American Psychological Association (APA) Council of Representatives adopted a policy statement in August 2005 on evidence-based practice in psychology (EBPP). EBPP is defined as the “integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA Presidential Task Force on Evidence-Based Practice, 2006, p. 273). What constitutes “best available research,” however,
has been a focus of some debate in psychology (Norcross, Beutler, & Levant, 2006). The task force defined research evidence broadly, incorporating not only randomized clinical trials but also methodologies such as individual and systematic case studies, qualitative research, and process-outcome studies (APA Presidential Task Force on Evidence-Based Practice, 2006). A multimethodologic approach to EBPP holds promise for increasing the relevance of research evidence and ultimately the likelihood that psychologists will integrate research findings into their practice (Nelson & Steele, 2006). A broader methodologic approach to EBPP may also stimulate practicing psychologists to integrate systematic assessment and research into their own practice (Kazdin, 2006).

Full realization of EBPP requires increased collaboration between practicing clinicians and academic researchers in developing and implementing clinical research that is relevant to the practicing clinician. Increased collaboration in clinical research is likely to contribute to the growing trend of multi-investigator projects, multiple-authored publications, and the subsequent conflicts regarding authorship credit and order (Holaday & Yost, 1995). Conflicts over authorship credit are not uncommon in psychology. A recent survey of 604 members of the APA found that 27.3% of respondents indicated involvement in unfair or unethical authorship practices among student–faculty collaborations (Sandler & Russell, 2005); research has yet to estimate the number of conflicts among professional collaborations.

It may be possible to avoid problems with authorship credit by explicitly discussing authorship credit and order, preferably at the outset of research collaborations (Fine & Kurdek, 1993). One approach to assuring this practice is to codify it through the creation of an institutional policy on authorship credit and order. Clear definitions of the criteria and processes by which authorship is determined may reduce abuses of authorship (Marusic, Bates, Anic, & Marusic, 2006). Although some universities have policies on authorship credit or discuss authorship credit in their student handbooks, most existing policies, and indeed nearly all of the published discussion of authorship credit in psychology, focus on student–faculty collaboration (e.g., Dingfelder, 2006; Fine & Kurdek, 1993; Nguyen & Nguyen, 2006). What is absent from the psychological literature is a policy on authorship credit and order that can apply to faculty–student and professional collaborations alike and serve as a model for adoption by both academic and clinical organizations.

This article provides an example of a structured authorship credit policy that can be easily adopted by academic and community organizations. Adoption of an authorship policy at an institutional level can promote ethical authorship decisions, avoid conflicts over authorship, and ultimately encourage clinicians to become more involved in building the evidence base for psychological practice.
MODEL POLICY ON AUTHORSHIP CREDIT AND ORDER

The appendix provides an example of a policy on authorship credit adopted by the Center for Evidence-Based Practice at Alexian Brothers Behavioral Health Hospital, a community hospital in the northwestern suburbs of Chicago. This policy was developed after the hospital began an initiative to integrate research into their daily operations and increase collaboration with academic institutions. The policy is based on guidelines for authorship credit designed by the graduate executive committee in the Department of Psychology at the University of Victoria (http://web.uvic.ca/psyc/grad/grad-rules/Appendix_K.htm). The content of the policy both reflects and in some instances repeats verbatim the recommendations on authorship credit published in the literature, provided in ethical standards, and stipulated by the editorial policies of several biomedical journals. The innovation of this policy is that it integrates recommendations from multiple sources within and outside of psychology and provides a template that can easily be adopted by academic and clinical organizations. A discussion of the elements of the policy follows.

Purpose and Background of the Policy (Purpose & Policy, Section I)

It may not be clear to collaborators why an organization needs a policy on authorship credit and order. Collaborators may implicitly understand that projects which lead to publication often involve contributions from numerous individuals at multiple levels; however, implicit understandings do not always translate into judicious decisions regarding authorship. A statement of purpose and background to the policy can be an effective tool for identifying the potential for authorship conflict and for motivating collaborators to consider how they will address authorship credit and order.

Existing Standards and Recommendations (Policy, Section II)

The authorship policy is intended to be a brief, action-oriented document rather than a comprehensive review or discussion of the literature. Consequently, the policy references rather than reviews the standards and literature on which the components of the policy are based. The sources are referenced at the beginning of the policy instead of the end of the document for three reasons: (a) They provide a clear context for understanding the basis of the policy, (b) they highlight the general consensus regarding the specifics of the policy, and (c) they encourage compliance with the policy.

As psychologists, it is necessary to reference APA’s ethical standard 8.12 (APA, 2002). Because standard 8.12 provides only general guidance for determining au-
authorship credit, it also important to reference Fine and Kurdek (1993), arguably the standard source on authorship credit in psychology. Organizations may also wish to reference relevant sections from the ethical standards of other professions if the policy will apply to professions other than psychology.

The policy also references policies and recommendations from the biomedical field. For example, the International Committee of Medical Journal Editors (ICMJE; 2007), the Society for Neuroscience (1998), and Biagioli et al. (1999) provide specific criteria, recommendations, or white papers related to the determination of authorship. The question of authorship credit has received greater attention in the biomedical fields than in psychology, partly because of negative authorship practices associated with the “publish or perish” environment of academic biomedicine (Angell, 1986). Conferences devoted specifically to the topic of authorship credit, such as the 1996 conference in Nottingham, England (Godlee, 1996), and the Council of Scientific Editors 1998 conference in Berkeley, California (Council of Science Editors, 2007), led to specific recommendations and criteria for determining authorship credit. An additional result of these conferences is that many biomedical journals now require authors to describe their contribution to a manuscript, and several journals now publish authors’ contributions as a footnote to their bylines (Laflin, Glover, & McDermott, 2005; Rennie, 2001).

The concept of publish or perish is not foreign to academic psychology. Because psychologists are equally prey to the perils associated with the pressure to publish, it seems reasonable to presume that most if not all recommendations on authorship from the biomedical community equally apply to psychologists.

**Ethical Principles (Policy, Section III)**

Section III of the model policy invokes three ethical principles: beneficence, justice, and integrity (APA, 2002). These three ethical principles are critical to the successful and appropriate implementation of the policy. The integration of ethical principles into authorship decisions is especially important for the protection of contributors in vulnerable positions, such as students, junior faculty, or clinicians with limited research experience.

The principle of beneficence, and the corollary principle of nonmaleficence or *primum non nocere* (“first, do no harm”), encourages decisions regarding authorship credit to consider both the prevention of harm as well as the benefit of all contributors. In other words, the principle of beneficence compels contributors with more senior status or research experience to make authorship decisions that avoid taking advantage of junior contributors as well as decisions that benefit junior contributors. Fine and Kurdek (1993) successfully argued that the careers of junior contributors will benefit only from author credit that is truly deserved; inflating authorship credit for junior collaborators, although potentially beneficial in the short term, is ultimately harmful to their long-term careers.
The principle of justice proposes that contributors should receive the appropriate authorship credits that are owed or due to them. Put simply, this principle encourages fairness in authorship decisions. Fine and Kurdek (1993) argued, however, that justice is served when contributors with meaningfully different levels of competence (e.g., senior researcher vs. junior researcher, professor vs. student) receive different treatment. Specifically, they propose that for the same level of authorship credit, a greater contribution should be expected from contributors with greater competence and less of a contribution should be expected from contributors with less competence.

Finally, appropriate implementation of the authorship policy is contingent on all contributors following the principle of integrity. The principle of integrity holds that contributors accurately, honestly, and truthfully report their contribution to a publication. The appropriate and successful application of this policy requires that authorship credit and order is based on contributors’ actual, undistorted contribution.

Criteria for Determination of Authorship (Policy, Section IV)

Section IV of the model policy provides both general and specific criteria for determining authorship credit. Fine and Kurdek’s (1993) general recommendation for determining authorship is provided as an aspiration on which to base judgments of authorship credit (Section IV-A). Specific criteria are also included to provide a clear structure for determining authorship (Section IV-B). The criteria are consistent with the ICMJE criteria (2007); however, the specific examples referenced in the policy may need to be modified to fit the unique qualities and characteristics of the organization adopting the policy.

One concern with identifying specific criteria is that they may be used to either inappropriately justify authorship based on completion of a specific task or to create an exclusive “club” of senior contributors that precludes deserving junior contributors from receiving authorship (Kwok, 2005; Pinching, 1992). To address these concerns, the policy does not specify an exact number of contributions, nor does it specify which types of contributions will qualify for authorship credit. Instead, the policy incorporates Fine and Kurdek’s (1993) general caution against rigid interpretation of authorship criteria, and the policy reiterates that authorship is based on both substantive activities as well as the overall contribution. Consistent with ICMJE (2007) recommendations, the policy also requires that all authors be involved in either drafting or critically revising the manuscript and that all authors provide approval of the manuscript before submission. These requirements avoid coauthors experiencing “surprise” by the content of publications while also limiting the potential for coauthors to abdicate responsibility for the content of publications.
Examples of contributions that do not independently meet criteria for authorship are provided in section IV-C. These examples are included so that contributors avoid misinterpretation of the criteria listed in section IV-B. The policy is clear that individuals who contribute to a project but do not meet criteria for authorship should be acknowledged, but not as authors. This section also includes recommendations from Fine and Kurdek (1993) that authorship not be determined by time or effort alone (section IV-D) and that payment for the contribution does not influence authorship decisions (section IV-E).

Finally, section IV of the policy incorporates ICMJE recommendations regarding the prohibition against gift authorship and ghost authorship. Gift authorship (honorary or guest authorship) refers to authorship provided to an individual even though that individual has not contributed sufficiently to a project to deserve authorship (Rennie & Flanagin, 1994). Ghost authorship (vanishing authorship) refers to authors who make substantial contributions to a project or the writing of a publication but are not acknowledged as an author (Rennie & Flanagin, 1994). Ghost authorship may be a particular problem if the sponsor of the research, such as a company with vested financial interest in the outcomes of the research, has input into the research or final paper or presentation. Ghost authorship also may manifest in situations in which junior collaborators fail to receive the authorship credit they deserve. Estimates of the prevalence of these forms of authorship remain uncomfortably high, at least in biomedical journals (Bates, Anic, Marusic, & Marusic, 2004; Hwang et al., 2003; Mowatt et al., 2002). To my knowledge, the prevalence of these forms of authorship in psychology journals has yet to be examined.

Determination of Authorship Order

Available recommendations remain opaque with regard to the best mechanisms for determining authorship order. The ICMJE (2007) requirements only state that the corresponding author be able to provide an explanation of authorship order. Although the Journal of the American Medical Association now requires that authors indicate the specific contributions made to a project, they continue to only “suggest” that authorship order be determined by the actual contribution made to the project (Rennie, Flanagin, & Yank, 2000). Within psychology, Winston (1985) proposed a point system for determining authorship order. Fine and Kurdek (1993) cautioned that although a point system may be advantageous for certain situations, a point system may not apply to all situations because of differences in ability and competence of contributors and variations in tasks across projects.

The model policy conceptualizes the determination of authorship credit as a separate process from the determination of authorship order. Beyond this, how-
ever, the policy reflects the lack of available guidance in the literature regarding determination of authorship order. Specifically, the policy stipulates that authorship order should be determined by degree of intellectual contribution and suggests, but does not require, the use of a point system in determining authorship order (section V-A). Consistent with Fine and Kurdek (1993) and the principle of justice, the policy proposes that contributions be weighted such that contributors with greater competence must make greater contributions for the same authorship position than those with less competence (section V-B). Finally, the policy requires that at least one author is able to justify the authorship order (section V-C) and stipulates that changes in authorship order must involve agreement among all authors (section IV-D).

Procedure

The Procedure section provides explicit steps for determining authorship credit and order. By including a section on procedures, the policy avoids one of the most common problems associated with authorship: neglecting to discuss authorship explicitly and prior to the start of a project (Fine & Kurdek, 1993). The Procedure section also requires that all potential authors receive information about how authorship credit and order is determined so that all authors begin a project with similar assumptions and understandings about authorship. Finally, the Procedure section acknowledges that authorship order may need to be renegotiated, stipulates that rearrangement of authorship order must involve agreement among all coauthors, and provides general guidance for resolving disputes via a neutral third party.

The model policy places the responsibility of coordinating the process of determining authorship credit and order with the project leader. It is important to acknowledge that the degree of power provided to the project leader by this policy opens up the potential for abuse. A project leader who ignores ethical principles in favor of self-promotion may unfairly negotiate authorship credit and order. Unfortunately, the process of determining authorship credit and order would be cumbersome without a “point person” to coordinate the process. A project leader is often in the best position to coordinate the authorship credit and order process because he or she typically has the greatest depth of knowledge about both the project and the skills and abilities of the contributors.

Because of the potential for abuse by the project leader, protections against abuse are also built into the policy. The policy’s focus on authorship decisions as a process provides numerous opportunities for abuses or unfair practices to be challenged and corrected. Further, by discussing authorship credit and order in the early stages of a project, contributors obtain the requisite information necessary to determine if their credit on a project is worth their contribution. Finally, the policy
also provides clear criteria and the ethical imperative for contributors to challenge a project leader who has not agreed to provide deserved authorship credit.

Guarantor

The policy does not include a section requiring a guarantor for research projects. A guarantor is an author who assumes “responsibility for the integrity of the work as a whole, from inception to published article” (ICMJE, 2007, para. 17). Although some biomedical journals require a guarantor, a guarantor may not be feasible for projects that require individuals with different talents and skills (Rennie, 2001). For example, it is unlikely that all coauthors on a project have the competency to assume responsibility for advanced statistical techniques.

Case Examples

The following hypothetical case examples illustrate situations in which the use of the model policy would have prevented or reduced conflicts or difficulties.

Case 1. A researcher from an academic institution and a senior clinician at a community mental health center collaborate on a treatment outcome study. The senior clinician develops the intervention, trains several junior clinicians to conduct the intervention, and supervises the implementation of the intervention. The academic researcher develops the research design, manages the data, and conducts the analyses. Both work together on writing the manuscript. After acceptance of the manuscript, one of the junior clinicians who implemented the intervention argues for inclusion as an author on the manuscript.

Response 1. The model policy clearly stipulates that solely assisting with the implementation of an intervention does not meet criteria for authorship. If the model policy was provided to the junior clinician prior to the start of the project, the junior clinician could have decided if he or she was interested in contributing to the project as a nonauthor. Alternatively, the junior clinician could have negotiated for greater involvement in the project so as to obtain authorship.

Case 2. A junior researcher approaches a senior researcher with an idea for a manuscript using a data set available in the public domain. The junior researcher prepes the data set, the senior researcher outlines the analytic approach and supervises the junior researcher in conducting the analyses, and both contribute to writing the manuscript. Before submitting the manuscript for publication, the senior researcher claims the first author position because she provided the expertise necessary for the analyses to be completed. The junior researcher disagrees, arguing that he initiated the idea for the manuscript and did most of the work in preparing
and analyzing the data. Because of the disagreement in authorship, they are delayed in submitting the manuscript.

Response 2. The use of an authorship policy would have encouraged the collaborators to discuss authorship order at the outset of collaboration, thereby avoiding conflict and delay in the submission of the manuscript. Further, the principle of justice outlined in the policy would have discouraged the senior contributor from arguing for the first author position merely because of her expertise.

Case 3. Two clinicians from separate agencies collaborate on a study of mechanisms of change in a behavioral intervention. The first clinician is friends with a well-known researcher at a large university and suggests that they include the researcher as an author on the manuscript. The first clinician argues that having this researcher as a third author will improve their chances of being taken seriously by the journal’s editor. Although the second clinician is not comfortable with this situation, he does not say anything out of fear of disturbing what was, at least up to this point, an enjoyable collaboration.

Response 3. An authorship policy would have provided the second clinician with a reference and clear justification to stimulate a discussion with the first clinician about the problems of honorary authorship. Presentation of the authorship policy at the outset of the collaboration may have prevented the first clinician from proposing the idea for honorary authorship altogether. Instead, the first author may have suggested at the beginning of the project that they include the well-known researcher as a collaborator who contributes to the project at the authorship level.

Case 4. A researcher hopes to translate his basic science data into a new treatment approach; however, he is not a clinician. He approaches a group of community clinicians to obtain a one-time consultation on his idea; however, he realizes he needs their longer term assistance to develop the treatment and continues to consult with them. The researcher pays the clinicians for their time and thanks them for their substantive contributions to the new treatment. After their assistance with developing the treatment, the researcher independently publishes a manual outlining the treatment and obtains funding to conduct a clinical trial. He again approaches the clinicians to consult with them on clinical trial. He is surprised and confused to find they are upset and that they refuse to work with him. The clinicians state that they felt “used” by the researcher, stating that they assumed they would be coauthors on the treatment manual.
Response 4. An authorship policy would have provided needed information for both the researcher and clinicians in this case. The policy would have informed the researcher that because the clinicians provided a substantive and intellectual contribution to the development of the intervention, they may meet criteria for authorship. He also would have been informed that payment does not take the place of authorship. Further, the clinicians would have been informed that their contribution, in isolation, does not necessarily qualify them for authorship. By following the processes outlined in the policy, all parties involved could have avoided the surprises and negative emotions associated with this case.

CONCLUSION

The model policy presented in this article integrates the most recent recommendations for determining authorship from multiple sources in psychology and biomedicine. It provides a template that can be easily adopted and modified for use by existing organizations, both in psychology and biomedicine. For example, a biomedical organization could modify the section V in the policy to designate the last author position as reserved for the senior author, principal investigator, or director of the laboratory in which the work was conducted, a common practice in biomedical publications.

The model authorship policy is designed to protect the contributions of all parties involved in a research collaboration. If used correctly and enforced when needed, the policy will prevent many authorship problems from developing. Although this model policy can be applied to multiple forms of collaborations (e.g., student–faculty, junior–senior faculty), the ultimate goal of the policy is to encourage greater collaboration between practicing clinicians and researchers.

REFERENCES


APPENDIX

Model Policy on Authorship Credit and Order

PURPOSE:
To standardize procedures for determining authorship credit on publications and presentations and encourage participation in research.

POLICY:

I. Background: Research inherently involves contributions from multiple individuals. Publications and presentations that result from research need to accurately reflect these contributions. All contributions to a project should be acknowledged; however, not all contributions to a project will meet criteria for authorship on a paper or presentation. This policy provides explicit and uniform processes and criteria for determining authorship on publications and presentations within ORGANIZATION-NAME.

II. Existing Standards and Recommendations: This policy was developed with the guidance, and to some extent the exact wording of existing recommendations published in the literature, in ethical standards, and in editorial policies, including the following:¹


¹The structure and wording of this policy was based on guidelines for authorship credit designed by the graduate executive committee in the Department of Psychology at the University of Victoria.
III. Ethical Principles: The following ethical principles are critical to the implementation of this policy:

A) Beneficence and Nonmaleficence: Authorship decisions must not cause harm to contributors and should benefit all contributors.

B) Justice: A contributor must receive the authorship credit that he or she is owed or due. Justice is served when contributors with meaningfully different levels of competence receive different credit based on their competence (i.e., more is expected from those with more competence).

C) Integrity: Contributors must accurately, honestly, and truthfully report their contribution to a publication.

IV. Criteria for Determination of Authorship:

A) To be considered for authorship, a contribution must be creative and intellectual, be necessary for the project to be completed, and require a comprehensive understanding of the overall project.

B) Contributions that may meet criteria for authorship include:
   1) Conception and Design: Generating the idea for the study, generating study goals and hypotheses, developing the research design, reviewing the literature, integrating diverse theoretical perspectives, developing the intervention process, developing new conceptual models
   2) Data Acquisition: Developing methods and protocols for collection of data, designing assessments, conducting experiments or collecting data, processing, organizing, and reporting data, managing patients
   3) Analysis: Selecting, preparing, directing, running, and interpreting statistical analyses
   4) Writing: Providing a substantive contribution to the writing of a manuscript.

   One or two of the contributions listed above does not automatically guarantee authorship. Authorship is obtained by a combination of substantive activities and the overall contribution to the project. The specific combination of activities required for authorship will vary across differing research projects.

   All authors must be involved in drafting the manuscript or revising it critically for important intellectual content. Authors also must have final approval of the version to be published.

C) Examples (not exhaustive) of contributions that do not independently meet criteria for authorship include:
   1) Holding a position within ORGANIZATION-NAME or any other institution
   2) Implementation of an intervention
   3) Acquisition of funding
4) General supervision of the research project
5) Entering data
6) Carrying out data analyses specified by the supervisor
7) Editing, typing, or other administrative assistance
8) Primarily technical contributions

Individuals that have contributed to the production of a specific manuscript or presentation, but do not meet criteria for authorship, will be acknowledged in a format appropriate to the publication or presentation (e.g., Acknowledgments section of a manuscript).

D) The amount of time and effort contributed to a project does not, in and of itself, determine authorship. Instead, authorship is based on the scholarly importance of the contribution, as defined in section III-B.

E) Authorship decisions are not affected by payment for contributions or employment status. It is the nature of the contribution to the paper or presentation that determines whether authorship credit is warranted and not whether participants received compensation for their efforts.

F) Honorary authorship (gift or guest authorship), in which authorship is provided without contribution sufficient for authorship, as previously defined, is prohibited. Ghost authorship, in which authorship is withheld when a contribution sufficient for authorship is provided, is also prohibited.

V. Determination of Authorship Order:

A) The author who contributes the most intellectual product (based on the criteria just specified), will be first author; the author who contributes the least will be the last author. Authors may wish to use a point system, as develop by Winston (1985), to determine authorship order.

B) A relative standard is applied for determining the level of the contribution in situations in which contributors are not of similar competence or are in positions of vulnerability (e.g., students, supervisees, junior status). Specifically, when contributions are otherwise equal, less of a contribution is expected from those with less competence, and more of a contribution is expected from those with more competence for a similar level of authorship credit.

C) At least one author, preferably the lead author, must be able to describe the coauthors contributions and justify for author order.

D) Author order should not be modified after it is established without the agreement of all of the coauthors.

PROCEDURE:

The following procedures will be used to determine authorship and authorship order on publications and presentations derived from data from ORGANIZATION-NAME:
I. The project leader(s) will provide potential research collaborators with information related to (a) how authorship decisions are made, (b) the nature of contributions that meet or do not meet criteria for authorship, (c) the meaning of authorship credit and order, and (d) the importance of both parties agreeing on what contributions will be expected of each collaborator for a given level of authorship credit. This information will provide the prospective collaborator with the knowledge necessary to determine the extent to which they wish to collaborate, as an author or as a nonauthor contributor, on the research project.

II. The project leader(s) will assess the specific abilities of each potential collaborator, the tasks required to complete the project, and the appropriate expectations for what each collaborator can reasonably contribute to the project.

III. On the basis of this assessment, the project leader(s) will come to an agreement with potential collaborators regarding what tasks, contributions, and efforts are required of both parties to warrant joint authorship and to determine the order of authorship. These agreements must be obtained prior to the beginning of substantive work on the publication or presentation. The project leader(s) will be responsible for documenting, in writing, the specific roles of authors on each publication or presentation.

IV. Agreements regarding authorship credit and order may need to be renegotiated. Research projects often take unexpected turns that necessitate changes in initial agreements made in good faith. Further, many manuscripts need to be revised substantially before they are accepted for publication or presentation. These revisions may require additional professional contributions beyond those necessary for the completion of the initial draft of the manuscript. When such revisions are required, the project leader(s) will re-examine the original agreement with coauthors and determine if it needs to be modified. All existing coauthors must be in agreement with any modifications to authorship credit or order.

V. Disputes related to authorship credit or order should be handled by the research team. If disputes cannot be resolved by the research team, it may be necessary for a neutral third party within ORGANIZATION-NAME to mediate a resolution.

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2 Provision and explanation of this document will satisfy this step in the procedure.