

Reviewing Manuscripts for Peer-Review Journals: A Primer for Novice and Seasoned Reviewers

Travis I. Lovejoy, M.S., M.P.H. ·

Tracey A. Revenson, Ph.D. ·

Christopher R. France, Ph.D.

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Abstract

Background The importance of peer review in the furthering of science cannot be overstated. However, most doctoral students and early career professionals receive little formal or informal training in conducting peer reviews.

Purpose In recognition of this deficit in peer reviewer training, the present article was developed to provide an overview of the peer-review process at *Annals of Behavioral Medicine* and describe the general and specific elements that should be included in a high-quality review for the journal.

Conclusion We conclude by offering exemplar reviews of a manuscript that was ultimately accepted for publication in the journal and provide commentary on specific aspects of these reviews.

Keywords Peer review

Introduction

Scientific peer review dates back to the 1700s and has been a cornerstone to the publication of behavioral science research for three quarters of a century [1]. With the increasing number of scientific journals and technological advancements in recent decades—such as electronic manuscript submission and notification, digital proofing, and online publication—the volume and speed of scientific publishing has increased exponentially, resulting in an increased need for expert peer reviewers [1].

Reviewing journal manuscripts is both time-consuming and intellectually stimulating. Reading new work can be exciting and keeps one at the forefront of cutting-edge behavioral science, and the act of reviewing manuscripts can help reviewers improve the quality of their own manuscripts. However, reviewing manuscripts is (almost universally) unpaid, volunteer work, and part of what we think of as a “culture of service” to the profession. As professionals, we want to provide the best reviews for others’ manuscripts because we want the best reviews for our own work. Unfortunately, receiving formal peer reviewer training in one’s graduate degree program is the exception rather than the norm [2]. Some early career

Author Note: Collectively, the authors have many years of experience writing reviews, receiving reviews, and making editorial decisions.

Travis I. Lovejoy is a graduate student at Ohio University and is currently a pre-doctoral clinical psychology intern at the Portland VA Medical Center. He conducted over 15 peer reviews of manuscripts submitted to behavioral medicine journals as a graduate student.

Tracey A. Revenson was the Founding Editor-in-Chief of *Women’s Health: Research on Gender, Behavior, and Policy* and is currently an Associate Editor of *Annals of Behavioral Medicine* and on the editorial board of *Health Psychology*. She also teaches a graduate course on “The Publication Process.” Christopher R. France is the Editor-in-Chief of *Annals of Behavioral Medicine* and the past Editor-in-Chief of *Journal of Behavioral Medicine*, and has served as Associate Editor for *Pain*, *Annals of Behavioral Medicine*, *Psychophysiology*, and *International Journal of Psychophysiology*.

T. I. Lovejoy (✉) · C. R. France
Ohio University,
Athens, OH, USA
e-mail: travis.i.lovejoy.1@ohio.edu

T. A. Revenson
The Graduate Center, City University of New York,
New York, NY, USA

professionals may have received informal training, having conducted one or more ad hoc co-reviews with a graduate school mentor. Others will become “self-taught” reviewers, emulating styles of reviews they found particularly helpful for their own submitted work. However, many remain unfamiliar with the peer review process and may never attempt these activities, despite the desire to do so, because they feel ill-equipped to conduct a review.

In recognition of this deficit in peer reviewer training for graduate students and early career professionals, the present article was developed to: (a) provide an overview of the peer review process at *Annals of Behavioral Medicine* (hereafter referred to as *Annals*), (b) describe the elements that should be included in a high-quality review for *Annals*, and (c) offer exemplar reviews of a manuscript that was ultimately accepted for publication in *Annals*. We also refer interested readers to additional resources that provide commentary on writing reviews for journals in the social and behavioral sciences [2–8].

An Overview of the Peer Review Process

In addition to the authors who submit a manuscript for publication, the Editor-in-Chief, Associate Editors, Editorial Board Members, Ad Hoc Reviewers, and Managing Editor all have important roles in the review process. The Editor-in-Chief is responsible for the entire content of the journal. The Associate Editors, appointed by the Editor-in-Chief, serve as “Action Editors” for the manuscripts they are assigned; they select Ad Hoc Reviewers, make decisions to reject or encourage revisions, and write the decision letters. Associate Editors also recommend articles for publication to the Editor-in-Chief, who then makes the decision regarding publication. Editorial Board Members, who are selected by the Editor-in-Chief to provide expertise across the full range of topics covered by the journal, serve as frequent reviewers; occasionally, they may serve as editors of special sections or issues. The Managing Editor works with the Editor-in-Chief to coordinate the review process (e.g., communications with authors and editors to ensure adherence to journal guidelines and to promote timely feedback on submitted manuscripts) and to manage the publication process once a manuscript is accepted.

Once a manuscript is officially submitted online through the journal’s Website (www.editorialmanager.com/abm), it goes through a series of steps before it is sent to a reviewer. First, each submission is reviewed by the Managing Editor to ensure that it complies with the journal’s instructions to

authors (see www.springer.com/medicine/journal/12160). If it does, a determination must then be made as to whether the paper is consistent with the aims and scope of the journal and whether the findings make a sufficient contribution to the existing literature. This decision is made by the Editor-in-Chief, typically in consultation with an Associate Editor, and is designed to provide rapid feedback for papers that might be best suited for a different publication outlet.

For papers that are deemed appropriate, the Editor-in-Chief assigns the manuscript to an Associate Editor, based on areas of expertise and editor availability, or handles the manuscript personally. At this stage, the assigned editor becomes an Action Editor who enlists reviewers and ultimately evaluates the manuscript based on her/his own reading of the paper and the reviewers’ feedback. Reviewers are selected on the basis of a number of factors such as expertise in the area of research, availability, and prior history of providing timely and quality feedback to authors. Action Editors attempt not to overburden reviewers, particularly experts who frequently review for the journal. As such, when making reviewer selections, Action Editors may consider how recently one has conducted a review for *Annals* and if recent review invitations have been declined.

Like many journals, *Annals* keeps an electronic database of individuals who have previously reviewed for the journal, as well as names of individuals who would be good reviewers along with their areas of expertise. The Action Editor can select from this database using keywords (e.g., cancer+prevention or cancer+coping), search the bibliography of the manuscript for appropriate reviewers, or use a feature in *Annals*’ online system to search for similar articles in PubMed to ensure that the reviewers have the appropriate expertise. Occasionally, authors suggest potential reviewers (providing a rationale for why these individuals are experts on the topic), but it is left to the discretion of the Action Editors whether to recruit these individuals to review the manuscript.

The e-mailed invitation to review identifies the journal and provides the submission title, abstract, and date when the review is requested (e.g., “within 30 days”). Because the journal uses a masked review process, this invitation, like the manuscript itself, does not identify the authors or the authors’ institution(s). Once the Action Editor has identified at least two, but ideally three, reviewers who have agreed to handle the assignment, s/he is responsible for monitoring the progress of the reviews and issuing a decision letter once a sufficient number of reviews have been received. The Action

Editor issues one of four decision letters: “rejection,” a request for “major revisions,” a request for “minor revisions,” or “initial acceptance, pending editor approval.” It is very unusual to receive an “accept” decision on the initial submission.

Authors who receive either a “major revisions” or “minor revisions” letter have 90 days to provide a revised version of their manuscript. Although these latter two decisions provide no guarantee that the paper ultimately will be published, a request for “minor revisions” indicates that the Action Editor is satisfied with major aspects of the study design, method, analysis, and interpretation and is requesting either minor additions or points of clarification to enhance the final product. In contrast, a request for “major revisions” indicates that the Action Editor has significant concerns about some aspect(s) of the study design, method, analysis, and/or interpretation but also believes that the paper is likely to make a significant contribution to the literature if the identified limitations can be addressed adequately.

A manuscript may be circulated for review following initial screening but ultimately receive an editorial decision of “reject,” along with a recommendation that the author(s) consider submitting the paper to a different journal. This may happen when, upon more in-depth readings by the Action Editor and reviewers, the Action Editor believes the material in a particular article would be better suited for publication elsewhere (e.g., the study is very epidemiological, with no psychological mechanisms assessed). Reviewers can provide recommendations for other journals in their confidential comments to the Action Editor when submitting a review.

Revised submissions go through the same initial steps outlined above for new submissions before they can be reassigned to the original Action Editor. The Action Editor has the option of acting on the revised submission without input from reviewers or sending the paper out for review. Typically, papers that require “major revisions” will be sent back to one or more of the original reviewers to get their opinion regarding the quality of the revised manuscript. On rare occasions, such as when an original reviewer is no longer available, a revised submission may be sent to a new reviewer. Papers that were previously issued a “minor revisions” letter may or may not go back to the reviewers based on the Action Editor’s assessment of the revised submission. This decision is left to the discretion of the Action Editor to avoid lengthening the review process and overburdening reviewers.

When an Action Editor issues an “initial acceptance, pending editor approval” letter, the paper is then forwarded to the Editor-in-Chief and the Managing Editor for a final

review. Once they are satisfied that the manuscript is ready to be published, the Editor-in-Chief issues the final acceptance letter. The review phase is then officially over, and the manuscript enters the production phase. The next communication that the corresponding author receives will come from the production team, and it will include a “proof” version of the manuscript, which the author(s) must review and approve for accuracy before the article is added to the table of contents for a future issue. The purpose of the proof is to check for errors and the completeness and accuracy of the text, tables, and figures. Substantial changes in content (e.g., new results, corrected values, title, or authorship modifications) are not allowed without the approval of the Editor-in-Chief. It is extremely important that the author(s) conduct a careful review of the manuscript proof, as changes cannot be made after the proof is approved.

Becoming a Reviewer: Identifying Your Expertise

When added to the reviewer database for a journal, one is asked to select areas of expertise so that manuscripts, based on their content, can be matched to expert peer reviewers. A common flaw of many novice reviewers is to select numerous areas of expertise in order to display their breadth of knowledge or convince an editor they should be a reviewer for the journal, when in fact they may not have true expertise in all the areas. This is potentially problematic because, when invited to review a manuscript outside their expertise, reviewers may have concerns that declining a review invitation will jeopardize their opportunities to conduct reviews in the future and will thus accept the invitation, despite the manuscript being outside their area of expertise. This can result in poor-quality reviews and/or excessive time spent reading literature to become rudimentarily versed on the topic. In general, it is recommended that reviewers initially select no more than two to three areas of expertise, preferably areas in which they have published. This will allow novice reviewers to build a portfolio of quality reviews that will likely lead to future review invitations. Additional areas of expertise can be identified as one’s career progresses.

Receiving an Invitation to Review

After receiving an invitation to review and determining that the manuscript is within their area of expertise, potential reviewers should identify all financial and other conflicts of

interest [3, 5, 7, 8]. For example, if potential reviewers have a bias against a particular methodology, theory, or content area, they should decline the invitation. Similarly, if they recognize the work as being that of a former co-author, mentor, mentee, or close colleague within their own institution, they should decline the invitation if they have significant concerns about being able to review the manuscript objectively. In sum, reviewers are responsible for helping to avoid real or perceived conflicts of interest in the review process.

Reviewers should also determine if they have time to conduct the review within the specified timeframe [7]. Declining an invitation to review as soon as the invitation is received is preferable to accepting then failing to submit the review in a timely manner or waiting several weeks to decline the review invitation. Once a reviewer invitation is declined, the journal's automated system allows the manuscript to "move on" to an alternate reviewer so the review process can proceed in a timely manner. The *Annals* reviewer database maintains reviewer statistics, such as time to complete a review. Failure to submit timely reviews may jeopardize one's chances of being selected for future reviewing opportunities.

Critical Reading of the Manuscript

Some seasoned reviewers can write a review after a single reading of a manuscript, particularly one within their area of expertise. Novice reviewers, however, may find it useful to read through the entire manuscript once without marking it in order to assess the overall "tone" and readability of the manuscript [8]. Notes and comments can be written during a second pass. If the manuscript is based on a previously published dataset, the reviewer may find it helpful to skim salient published articles to assess the overlap between the published work and the manuscript under review, ensuring the submitted manuscript answers novel research questions. In general, however, reading additional literature should not be necessary and is not expected.

For some methods, authors are required to submit a standardized checklist as an appendix, and these may assist reviewers in determining the quality of the manuscript [7]. These include the (a) Consolidated Standards of Reporting Trials (www.consort-statement.org) for randomized controlled trials; (b) Transparent Reporting of Evaluations with Non-randomized Designs (www.cdc.gov/trendstatement/) for non-randomized clinical trials; (c) Strengthening the Reporting of Observational Studies in Epidemiology (www.strobe-statement.org) for cross-

sectional, case-control, and cohort studies; and (d) Preferred Reporting Items for Systematic Reviews and Meta-Analyses (www.prisma-statement.org). It should be noted that such checklists are not considered against the recommended page limits as they will ultimately be removed prior to publication.

Drafting the Review

The Big Picture

Primary roles of the reviewer are twofold: (a) to serve as a "consultant" to the Action Editor [2–4] and (b) to provide feedback to authors about ways to improve the science and the communication of that science [2, 8]. Regarding the first role, reviewers offer an opinion of the strengths and weaknesses of a manuscript, *not* its publishability. The decision of whether to accept or reject a manuscript falls to the Action Editor. We cannot emphasize this more strongly because reviewers of a single manuscript may differ in their opinions about its quality [1, 2, 9]. If all reviewers were to provide their differing opinions about a manuscript's publishability in the comments to the authors, the Action Editor would be left in a very awkward position [5]. This is why reviewers are specifically instructed not to include their publication recommendation in the review itself. Reviewers have the opportunity to comment on the perceived quality of the manuscript by (a) providing a rating (i.e., reject, invite major revisions, invite minor revisions, accept) from a drop-down menu when they submit the review and (b) making confidential comments to the Action Editor that the authors will not see. The Action Editors read these confidential comments and take them to heart.

Comments to the author(s) constitute the lion's share of the review. Reviewers should maintain a professional and respectful tone throughout the review [2] and offer corrective feedback that improves the scientific merit of the manuscript. Pejorative and demeaning language undermines this fundamental purpose of peer review. The precision and detail of the review will depend on the quality of the manuscript [8]. Manuscripts with uncorrectable fatal flaws will typically warrant shorter reviews. For example, the misapplication of theory or an incorrect methodological design to answer the primary research question(s) may preclude a manuscript from being published. To point out the fatal flaws and then follow this with a list of correctable shortcomings may offer false hopes to the author(s). At the

same time, reviews provide an opportunity to educate the author(s) about ways to improve their future research. For example, instead of stating that a particular randomized controlled trial was weakened by the fact that the control and experimental conditions had different numbers of sessions, the critique could point out that there is the plausible explanation that the experimental group did better only because of increased attention and that this should be considered for future trials. It should be noted that reviewers need not comment on all aspects of a manuscript, particularly if they feel aspects of the manuscript (e.g., assessment techniques, methodology, or statistical analyses, to name a few) are beyond their expertise. Be assured that Action Editors will attempt to choose reviewers who, collectively, will provide a strong set of reviews for a particular manuscript.

Opening Paragraph

The opening paragraph describes the reviewer's overall opinion of the manuscript [8]. What contribution is this paper likely to make to the field of behavioral medicine? Does this paper highlight something you did not know before? Does it contradict existing findings? Will this paper, if published, generate additional research that can further the science? The opening paragraph should highlight both the manuscript's strengths and weaknesses [4, 6, 10]. Authors have put in time and effort to draft the manuscript, and even the weakest studies will have some positive attribute. Major concerns, particularly those that may make the manuscript unpublishable, generally conclude the opening paragraph.

Many reviewers begin their review with the manuscript title and a brief synopsis of the article. Providing the title is a common practice that dates back to a style that originated before reviews were submitted online; however, it is no longer required as the submitted review will be automatically associated with the appropriate manuscript. Although an opening summary paragraph is not required, it does provide the Action Editor and author(s) with a "check" to ensure the reviewer understood the main focus of the article [7]. However, the Action Editor will also have read the manuscript and should be able to sufficiently judge reviewers' understanding based on the content of the reviews. If a synopsis is provided, it should not be in lieu of making evaluative comments about the manuscript.

Separating Major from Minor Concerns

There are different approaches to organizing the review [5]. Some reviewers use a "major–minor" approach, first

listing major concerns then moving to more minor, changeable concerns. Other reviews move section by section through the manuscript, chronologically interspersing major and minor concerns. Both approaches can work, and the stylistic choice will depend on the comfort of the reviewer, the type of manuscript under review, and the type and number of concerns the reviewer has. Regardless of the approach used, reviewers must clearly distinguish major concerns (i.e., those that threaten the validity of the study, expose a theoretical confusion, or reveal a mistaken use of a particular statistical technique) from minor concerns that can be corrected (e.g., an additional analysis, an addition of a study to the literature review; 5, 10]. An editor must be able to easily identify the major concerns that, in the reviewers' opinions, would preclude publication of the manuscript. It is also very helpful when reviewers number their concerns so that, if a revision is encouraged, the author(s) can refer to specific points raised by each reviewer in the resubmission letter.

Specific Considerations for Individual Sections of a Manuscript

Title and Abstract

Although not a major concern, reviewers should consider future electronic archiving of the manuscript, if it were to be published. Do the title and abstract accurately reflect the manuscript as a whole, in particular, the findings? Have the authors included the most salient key words? For example, sometimes titles suggest a relationship among constructs that was not found in the data. Clever titles are wonderful but should not be substituted for clarity; a subtitle (after the colon) can indicate the actual subject matter of the manuscript in such instances.

The Introduction

The introduction presents an argument that favors the conduct of the current study, and the literature review leads the reader through this study justification. Literature reviews should thus reflect the accumulation of the science but need not cite every study on a topic to date. However, classical and/or highly relevant empirical studies should be included, and reviewers can comment if references to these studies are absent. Citing systematic reviews and meta-analyses, when available, can often help keep the introduction concise. If a study replicates or is based on a previous study, that study might get "extra" attention in the literature review. It is helpful to Action Editors

when reviewers comment on the cogency, or lack thereof, for the study justification.

Many introductions will also reference one or more theories. We have seen many articles that were rejected because they were a-theoretical. To paraphrase the great social psychologist Kurt Lewin, “there is nothing so practical as a good theory” (see p. 169 in 11). Reviewers should determine if competing theories or alternative literature exist that were not presented in the introduction but could weaken the authors’ argument [8]. Knowledge of such literature is another reason why it is important to review articles within one’s area of expertise. Finally, a priori research hypotheses, if stated, should (a) follow logically from the literature review [6, 8], (b) be clearly stated, and (c) be testable [6].

Method

Many novice reviewers, particularly students who have recently taken a graduate research methods course, will spend the bulk of a review critiquing the methodological design and authors’ choice of statistical analyses. Some will even redesign the study in their review! Reviewers should recognize, however, that a single research question can often be answered in many different ways. Reviewers should thus determine if the authors’ choice of methodological and data analytic techniques are appropriate for the research question, even if the question could be answered with other methods. At the same time, methodological and analytic techniques that do *not* answer the authors’ research question(s) or that are inappropriate for the type of data in the study may make the manuscript unpublishable or, at a minimum, require re-analysis of the data using more appropriate techniques. Reviewers should also evaluate the measurement of constructs [8]. How are constructs operationalized? Are reliability and validity data provided for predictor and criterion variables when appropriate [6]? Is sufficient detail provided in the method section to allow other researchers to replicate the study [8]?

Very often in behavioral medicine (and in part because of the “publish or perish” ethos), manuscripts will present either cross-sectional baseline analyses from a randomized controlled trial (often because the study is not yet complete) or secondary analyses for trials in which the intervention did not produce the hypothesized effect. In this latter case, it is important that authors indicate the fact that the data are part of a trial and either cite the primary intervention effect findings if they are published elsewhere or indicate clearly that there were no longitudinal group or group-by-time effects if they were not published. This is important because if the data are

to be included in meta-analyses, papers from a single dataset can be linked to prevent redundancy, and potentially important treatment-by-construct interactions can be included.

Results

Results should be presented in a clear and concise manner. Some information may be more accessible to readers as a table or figure and would thus warrant exclusion from the text (see the section on [Tables and Figures](#) below). All variables included in analyses should have been described in the method section and should be easily identifiable to readers. Findings from all analyses that were conducted should be presented in the text or tables, not only the significant findings. If the manuscript presents secondary data analyses from an existing dataset, do the findings stand on their own, or have the same data merely been presented in a different light?

For both novice and seasoned reviewers, the statistical analyses reported may be unfamiliar. *Annals* has a statistical consultant “on call” for such manuscripts. As mentioned previously, you can still review a manuscript that uses statistical techniques in which you are not well versed, as long as you can understand the manuscript. Manuscripts need to be comprehensible to the journal’s general readership. Alternatively, you may question the particular way a statistical technique was used. When submitting your review, statistical questions or comments can be communicated to the Action Editor in the confidential comments to the editor. If needed, the Action Editor can then consult *Annals*’ statistical consulting editor. Because such consultation can delay editorial feedback to authors, it is helpful for reviewers who have statistical concerns that may warrant further consultation to submit their reviews well before the submission deadline or to notify the Action Editor as soon as possible of their limitations. In this way, the Action Editor can ensure that at least one reviewer has the necessary statistical expertise.

Discussion

The discussion section offers the “how” and “why” explanations for study findings. It is also a place for authors to consider “glaring” elements of their data and findings. Reviewers should determine if authors have presented *plausible* alternative explanations for their findings [8]. Some authors will go beyond the data in making claims, such as hypothesizing the contribution of mediating factors that were neither measured nor tested in the study. Reviewers should encourage authors to

provide caveats to such claims. Study limitations should also be identified and thoroughly discussed. The discussion section should also extend study findings to other domains, clinical applications, or policy and focus on the meaning of the findings rather than focusing solely on the objective outcomes. Reviewers should encourage authors to include these implications if they are missing [8].

Tables and Figures

Tables and figures should be more than a visual representation of information already found in the text. They should improve the readability of the manuscript and accessibility of complex constructs and data presentation to readers. In addition, they should be clear, concise, and accurately reflect the findings presented in the text. Because journal space is limited, reviewers should consider how tables and figures could be simplified and made more concise or excluded altogether.

Miscellaneous Considerations

Review Length

As noted previously, the length of a review will depend on one's opinion of the manuscript's quality, as well as the type of manuscript under review [8]. Some have suggested that 1½ to 2 single-spaced pages is sufficient to voice both major and minor concerns [5]. However, high-quality manuscripts that require few changes, as well as low-quality manuscripts with fundamental unchangeable flaws that would preclude publication, would result in shorter reviews. A multi-study manuscript may require more than two pages to review. We want to emphasize that there are no recommended page limits for reviews, but again, keep in mind the "major–minor" distinction and be sure to emphasize the major concerns.

Sensitivity When Reviewing for International Journals

Although *Annals* is written in the English language, it reaches an international audience, and some of its contributing authors' first language may not be English. Reviewers should be sensitive to this fact and maintain a respectful tone throughout their review [7]. If major spelling and grammatical errors significantly decrease the readability of the manuscript, confidential comments about this should be made directly to the Action Editor, not the authors.

Copy Editing a Manuscript

Although minor spelling and grammatical errors can be a distraction to readers of a manuscript, they do not preclude a manuscript from publication and should not be the reviewers' primary concern. Minor errors will be handled by the Managing Editor prior to publication. Reviewers should always focus the review on the big picture [6]. Comments on minor spelling, grammar, and publication style errors can be made in the following way: "The manuscript contains numerous spelling and grammatical errors" or "References do not follow journal style guidelines."

Signing the Review

Some reviewers wonder if they should reveal their identity to the authors, particularly if they provide an enthusiastic and positive review or work in the same area as the authors. It is *Annals'* policy to strongly discourage reviewers from revealing their identities as they may find it more difficult to be objective if they are asked to comment on further revisions of the manuscript. Consistent with this policy, the journal itself will neither confirm nor deny any speculation about reviewers' identities, and we strongly encourage reviewers to adopt a similar position.

Sending in the Review

The review has been written and revised and is ready to be submitted online. In submitting a review, reviewers will be asked to make a publication recommendation to the Action Editor, paste the review into a text box (or upload it as an attachment), and, if they choose, provide confidential comments to the Action Editor. Be assured that these comments are truly for the Action Editor's eyes only and will not get transmitted to the author(s) or to other reviewers. This is a place for reviewers to explain their recommendations to the Action Editor in "plainer" terms and to communicate what they feel would be inappropriate to say directly to the author(s). In general, the exchange of pleasantries with the Action Editor or statements of how honored one is to have been asked to review are discouraged.

As mentioned previously, confidential comments to the Action Editor may concern manuscript readability, statistical questions and concerns, or alternative publication outlets for which reviewers feel the manuscript may be better suited. Reviewers may also use this opportunity

to inform the Action Editor that the manuscript has limitations but addresses a new and exciting area that may be worth publishing if the manuscript can be revised as a brief report. *Annals* accepts brief reports, published as “Rapid Communications,” of soundly designed studies of specialized interest if they can be effectively communicated in less space than standard-length articles. Another possibility is that reviewers may wish to notify the Action Editor that the study is a small piece of a larger study that has been published elsewhere and in their opinion contributes little to the literature on its own. Finally, reviewers may be on the fence between recommending “Major Revisions” versus “Reject” and could explain to the Action Editor why they are conflicted. These confidential comments may be helpful to the Action Editor if there are disparate reviews.

Post-submission

Once all the reviews have been submitted, the Action Editor reads the reviews and the manuscript itself and makes a decision to accept or reject the manuscript. The corresponding author then receives an action letter that includes a cover letter from the Action Editor followed by the reviewers’ comments. At *Annals*, this action letter is also sent to all of the reviewers unless the Action Editor has a reason to do otherwise. We believe this is a great learning experience for reviewers. From a purely scholarly viewpoint, reviewers get to see others’ opinions of the material and how differently three individuals can evaluate the same manuscript [9]. As a result of these differing opinions, the Action Editor’s decision may not match all reviewers’ recommendations. This does not mean a particular reviewer did a bad job! It is the Action Editor’s dilemma to reconcile disparate reviews, and in most cases, all reviewers’ comments helped the Action Editor make and justify a publication decision.

Reviewing a Revised and Resubmitted Manuscript

When an action requests either “major” or “minor” revisions, the standard text that goes along with this decision instructs the author to carefully consider all the reviewers’ comments and to write a response letter that details how each reviewer’s concerns were addressed (and where) in a revised manuscript. Once a revised manuscript is resubmitted, the Action Editor may decide to send the revised manuscript and the authors’ response to one or more of the original reviewers. Reviewers are

still charged with making a publication recommendation, but some believe that reading a revised manuscript is different from reading a new one. Some feel the reviewer’s task is to determine if the author has addressed all of one’s own concerns. Others feel the revised manuscript should be read “as new” when determining its publication quality. Most blend a bit of both approaches. It is left to the discretion of the reviewer whether or not to comment on the adequacy with which the author(s) addressed other reviewers’ comments. Clearly, reviewers had particular concerns that prevented publication, so whether they were addressed adequately is important. However, the revised manuscript must also be clear and complete. A request for additional revisions is not a “foot in the door,” and reviewers of an initial manuscript should be careful about the way they word suggestions to the author(s) so as not to provide false hopes for eventual publication. Indeed, quite a few revised manuscripts are not published. If you feel the authors have made many of the requested changes in their revised manuscript, but it is still not up to par, it is acceptable to reject the revised manuscript.

Getting the Credit You Deserve

Many senior researchers are flooded with invitations to review manuscripts but do not have time to complete all the reviews and thus decline the invitations. Sometimes, however, these researchers accept a review invitation and hand the reviewing responsibilities over to a post-doctoral fellow or advanced graduate student and then send in the completed review asking the editors to credit the fellow or student. Because of the way *Annals*’ online journal review system is designed, the junior reviewer can only get credit post hoc if the Managing Editor is made aware of this situation and makes a separate note. While we fully encourage the mentoring of young scholars to further the development of their peer-reviewing skills, we recommend that one of two actions be taken when invited to review a manuscript: (a) at the time the invitation to review is accepted, the invited reviewer notifies the Managing Editor that the review will be conducted in collaboration with another person who should also get reviewer credit, or (b) the invited reviewer declines the invitation and recommends a post-doctoral fellow or graduate student. The Action Editor can then make a decision on whether to invite the fellow or student, and that person’s information can be entered into the system so they can receive appropriate credit.

Do's and Don'ts of the Review Process

To summarize the major points delineated above, when conducting a review for *Annals*, one should keep the following in mind.

1. **Do** make your overall enthusiasm for the paper clear to the authors in your written review. **Don't** state in the comments to the authors your recommendation to the Action Editor (i.e., reject, major revisions, minor revisions, or accept).
2. **Do** be consistent with the comments you make to the authors and Action Editor. **Don't** laud a manuscript in the comments to the authors while disparaging it in confidential comments to the Action Editor. *Your recommendation should match your comments.* For example, it is particularly challenging for an Action Editor if a reviewer lauds a manuscript in the written review but then chooses “major revisions” or “reject” as the recommendation regarding publication.
3. **Do** provide detailed commentary if a manuscript has shortcomings that, if corrected, would make it suitable for publication. **Don't** provide such detail if you recommend that it be rejected, unless using the review as a teachable moment for the author(s). A description of the fundamental flaws and uncorrectable shortcomings is sufficient.
4. **Do** recommend a revision if the manuscript will make a significant contribution to science. **Don't** recommend a revision if, even with changes, the manuscript will not make a significant contribution.
5. **Do** provide *specific* references to text within the manuscript or references to the literature to support your comments/critiques. Some reviewers copy and paste text from the manuscript into their review, and this can be extremely helpful to authors. **Don't** make vague or ambiguous text references or blanket opinionated statements that are not supported by data.
6. **Do** be clear about what changes you want to see in a revised manuscript if recommending a revised submission. **Don't** leave the authors guessing.
7. **Do** read a manuscript more than once. **Don't** form an opinion of a manuscript after a first reading and then generate a list of criticisms without rereading the manuscript and identifying specific items that corroborate your criticisms.
8. **Do** reread your review to make sure you have not included any overly harsh or inappropriate comments. **Don't** send the review off without looking it over at least once.

9. **Do** treat authors of a manuscript as your equal, regardless of the quality of the manuscript. **Don't** talk down to authors. Science is a collaborative process, and reviewer comments should be made with a collaborative tone and spirit.

An Example of the Review Process

We hope the advice provided in this article can stand alone as a primer for novice reviewers. However, for illustrative purposes, we have provided an example of an *Annals* submission that received a “minor revisions” decision and, following the authors’ revisions and resubmission, was ultimately accepted for publication [12]. We received permission from the article’s authors, reviewers, and Action Editor to make this material public. Although the manuscript was strong to begin with, the Action Editor and reviewers’ feedback to the authors is well-constructed and well-presented, is emblematic of what a review for *Annals* should look like, and helped lead to a higher-quality published manuscript. We have included the decision letters and reviews, along with commentary on specific qualities of the reviews that were addressed in this article (see Appendices A and B).

Conclusion

The importance of peer review in the furthering of science cannot be overstated. However, most doctoral students and early career professionals receive little formal or informal training in conducting peer reviews. It is our hope that the current article provides transparency to the review process at *Annals* and offers strategies that novice reviewers can employ when conducting scientific peer reviews. Just as one learns how to construct a theory or conduct statistical analyses only after considerable amounts of practice, reviewing manuscripts is a learned skill—even an art—and improves over time. To further cultivate one’s peer-reviewing skills, we encourage advanced graduate students, post-doctoral fellows, and early career professionals to ask their mentors if they can work with them on journal reviews. We believe this is a necessary practice that will foster the next generation of reviewers and enhance the science of behavioral medicine.

Conflict of interest statement The authors have no conflicts of interest to disclose.

Appendix A

Action letter for initial submission

Ref.: Ms. No. ABM-D-10-00082

Longitudinal Relationships between Antiretroviral Treatment Adherence and Discrimination Due to HIV Serostatus, Race, and Sexual Orientation among African-American Men with HIV
Annals of Behavioral Medicine

Dear Dr. Bogart,

I am pleased to inform you that I am prepared to accept your manuscript for publication if you are able to adequately address a few issues. Overall, there is strong agreement that your paper deals with an interesting and important topic that is likely to be of considerable interest to our readership; however, the reviewers raise a number of important points (see below) and I believe that an effort to address these constructive suggestions will significantly enhance the final manuscript.

Based on my own reading of your paper, I share the reviewers' concerns about two issues in particular. First, I thought that it would be very helpful to the reader if there was some representation of the adherence data as a function of stigma levels. For example, a figure depicting how electronically-monitored adherence varied as a function of racial discrimination might provide a more intuitive sense of the size of the observed effect. Second, given the proportion of participants who report a heterosexual orientation, it might be worthwhile to address the relationship between perceived discrimination and self-identification of sexual orientation in your sample. I also have two minor editorial suggestions regarding the Tables: 1) in order to conserve journal space, please integrate the data from Table 1 into the text, and 2) in Table 2, please reserve the asterisks for significant effects, and consider using a different symbol (e.g., +) to highlight the marginal difference.

If you believe that you can satisfactorily address these concerns I would invite you to revise the manuscript and to resubmit for further review by Aug 08, 2010.

If you choose to revise your submission:

1. Complete your revised manuscript, highlight any changes in the revised text using red font to allow for easy recognition of modifications, and write a cover letter that provides a detailed list of responses to each of the comments.
2. Ensure that the paper is in the format specified in the Publication Manual of the American Psychological Association (6th ed.) and that the references conform to AMA style (please access the Instructions for Authors link at www.editorialmanager.com/abm for more details).
3. Go to <http://abm.edmgr.com/> and log in as an Author. When you reach the main menu, you will find your submission record by clicking on "Submissions Needing Revision."

The Action Editor provides the corresponding author with the publication decision, without referencing specific publication recommendations made by the reviewers.

The Action Editor summarizes, based on his own reading as well as the reviewers' feedback, two major concerns. As can be seen in the reviews that follow, the first is an issue raised by Reviewer 1, and the second is an issue raised by Reviewer 2. This is followed by two minor concerns noted by the Action Editor.

A suggestion is provided to incorporate data from a table into the text.

In the reviews that follow, note that neither Reviewer 1 nor Reviewer 2 focuses on these minor concerns. Instead, they emphasize more substantive issues with the manuscript.

4. Click "Submit Revision" and begin following the same steps you did in your original submission.

5. In submitting your revised files, please delete the previous files and then attach your revised manuscript, new cover letter and any revised figures or tables.

If you choose not to revise your submission:

1. Please go to <http://abm.edmgr.com/>, log in and click on "Submissions Needing Revision.", and select "Decline to Revise" on the left side of the page.

I look forward to receiving your revised manuscript and response to reviewer comments. Please note that your revision must be submitted within 90 days or else it will be assumed to be withdrawn from further consideration.

Sincerely,
Christopher R France, Ph.D.
Editor-in-Chief
Annals of Behavioral Medicine

Comments from the Reviewers:

Reviewer #1: This is a well constructed paper that reports the findings from a sound and interesting study. There is new information here and it is generated by state of the science measures and methods. Some specific areas to attend to are noted below.

1. What has become a canned statement about 90 to 95% adherence should be edited. What we know about HIV medications tells us the adherence - response relationship is more complex than we had thought. Some regimens are far more forgiving than others etc. I would edit the sentence to say that HIV treatments demand high adherence without getting bogged down in exact percentages.

2. The self-report measure and its use are a bit confusing. I know the measure, but I am not sure why it is used for a baseline adherence value? There was no intervention, so why the need for a baseline? Why can't the first period of MEMs data be the initial adherence period. I am not sure why the baseline is statistically controlled in this analysis. The self-report measure is very different than MEMs data and it seems odd to adjust for one variable using a totally different variable. Perhaps the use of the self-report measure and its use can be better justified.

3. I found the results in need of more detail, especially regarding the adherence observed over time. I thought a figure showing adherence over time, perhaps among those who experienced racial discrimination compared to those who did not, would serve this paper well.

Note that both reviews are less than one single-spaced page in length. This is appropriate given the high quality of the initially submitted manuscript. They also focus primarily on substantive, as opposed to stylistic, concerns.

Reviewer 1 opens by praising the manuscript's strengths then details areas that could be improved.

Reviewer 1 numbers concerns. This is helpful as it allows the authors to more easily structure their responses in the resubmission cover letter.

Reviewer 1's knowledge of the literature provides the basis for this comment. Reviewer 1 also identifies the issue then provides specific suggestions for the authors to correct it.

Reviewer 1 questions a specific analytic decision but recognizes the appropriateness of the general analytic strategy for answering the study's research question and, as a result, does not suggest an entirely new data analytic plan.

A picture can speak a thousand words, and Reviewer 1 requests a figure to improve readability.

Reviewer #2: ABM-D-10-00082 "Longitudinal relationships between antiretroviral treatment adherence and discrimination due to HIV-serostatus, race, and sexual orientation among African American men with HIV"

Reviewer 2 chooses a different approach than Reviewer 1 and opens with the title and a short description of the manuscript. Note, however, that Reviewer 2 does not let this synopsis serve in place of more substantive comments.

The manuscript describes a longitudinal study of HIV-positive African American men who have sex with men. Participants completed assessments of perceived discrimination related to being gay, being HIV-positive, and being African American (assessed separately). Adherence was assessed via MEMS caps. Discrimination experiences were relatively common and discrimination in each domain was associated with worse adherence in univariate analyses. Multivariate analysis indicated that racial discrimination was most robustly related to nonadherence.

Strengths of the study include the investigation of an important question, longitudinal design, assessment of adherence with behavioral data, and novel findings with implications for both researchers and clinicians. The manuscript is also well-written. The results presented would be of interest to readers of *Annals of Behavioral Medicine*.

Like Reviewer 1. Reviewer 2 lauds specific manuscript strengths before identifying concerns.

Comments:

Although Reviewer 2 does not number the comments, they are separated and thus easily identifiable as separate concerns.

Thirteen percent of the participants identified as heterosexual (but reported male partners). What percent identified as gay and what percent identified as bisexual? Was self-identified sexual orientation related to discrimination experiences?

This may be a key confound, and Reviewer 2 brings this to the authors' attention.

Given the 6 monthly follow-up assessments, and the significant number of participants in unstable or marginal housing, some missing data is to be expected. It would be helpful to indicate the percent of missing assessments in some fashion (overall or by wave).

Reviewer 2 requests additional data transparency

The manuscript notes that the stigma measure has good reliability and construct validity. Internal consistencies of the subscales are presented and seem fine. Given that the measure is unpublished, it would be helpful to also briefly present evidence of validity.

Data for both reliability and validity of measures should be provided when appropriate.

The three types of discrimination experiences were highly correlated (r s range from .76 to .84), approaching the reliabilities of the subscales. It would be useful if this could be commented on in the discussion. What might account for this? (i.e., is it an assessment artifact, or an indication that some people are likely to be discriminated against in several different domains, or something else?).

The authors mention these intercorrelations in their initial submission but do not discuss the potential implications (both statistical and theoretical) of this finding. Reviewer 2 astutely identifies this issue.

Appendix B

Action letter for revised submission

Ref.: Ms. No. ABM-D-10-00082R1
 Longitudinal Relationships between Antiretroviral Treatment Adherence and
 Discrimination Due to HIV Serostatus, Race, and Sexual Orientation among
 African-American Men with HIV

Dear Dr. Bogart,

I believe that the changes you made enhanced an already fine paper, and I am pleased to inform you that I am ready to accept your manuscript for publication in the *Annals of Behavioral Medicine*. Before I issue final acceptance, however, I would like to request one small edit. Specifically, on page 10, line 46-54, I would appreciate it if you would reorder your presentation of the covariates to follow the ordering in Table 1 (i.e., time, number of assessments completed, and education).

The Action Editor chose not to circulate the revised manuscript to the peer reviewers who provided feedback on the initial submission.

Once you've made the necessary adjustments to your manuscript, please complete the following steps:

1. Go to <http://abm.edmgr.com/> and log in as an Author. When you reach the main menu, you will find your submission record by clicking on "Submissions Needing Revision."
2. Click "Submit Revision" and begin following the same steps you did in your original submission.
3. In submitting your revised files, please attach your revised manuscript, new cover letter, and any revised figures or tables. Please ensure that you have removed earlier versions of your files so that this submission contains only the most recent version of your documents.

Thank you for submitting this interesting paper to the journal. I am looking forward to seeing it in print!

Sincerely,
 Christopher R France, Ph.D.
 Editor-in-Chief
 Annals of Behavioral Medicine

References

1. Suls J, Martin R. The air we breathe: A critical look at practices and alternatives in the peer-review process. *Perspect Psychol Sci.* 2009; 4:40–50.
2. Cooper ML. Problems, pitfalls, and promise of the peer-review process: Commentary on Trafimow & Rice (2009). *Perspect Psychol Sci.* 2009; 4: 84–90.
3. Benos DJ, Kirk KL, Hall JE. How to review a paper. *Adv Physiol Educ.* 2003; 27: 47–52.
4. Diener E. Being a good reviewer. *Dialogue.* 2006; 21: 23.
5. Drotar D. Editorial: How to write effective reviews for the *Journal of Pediatric Psychology.* *J Pediatr Psychol.* 2009; 34: 113–117.
6. Frieze IH. Doing an excellent review of a Sex Roles paper. *Sex Roles.* 2010; 62: 293.
7. Moher D, Jadad AR. How to peer review a manuscript. In: Godlee F, Jefferson T, eds. *Peer review in the health sciences.* London: BMJ Books; 2003: 183–190.
8. Tesser A, Martin L. Reviewing empirical submissions to journals. In: Sternberg RJ, ed. *Reviewing scientific works in psychology.* Washington, DC: American Psychological Association; 2005: 3–29.
9. Fiske DW, Fogg L. But the reviewers are making different criticisms of my paper! Diversity and uniqueness in reviewer comments. *Am Psychol.* 1990; 45: 591–598.
10. Epstein S. What can be done to improve the journal review process? *Am Psychol.* 1995; 50: 883–885.
11. Lewin K. *Field theory in social science: Selected theoretical papers.* New York, NY: Harper & Row; 1951.
12. Bogart LM, Wagner GJ, Galvan FH, Klein DJ. Longitudinal relationships between antiretroviral treatment adherence and discrimination due to HIV-serostatus, race, and sexual orientation among African-American men with HIV. *Ann Behav Med.* 2010; 40: 184–190.