The *American Journal of Political Science* Replication and Verification Policy

William G. Jacoby
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For many years, authors of manuscripts accepted for publication in the *American Journal of Political Science* (*AJPS*) were asked to make their data available to interested researchers for replication purposes. Authors were strongly encouraged to comply with this policy, but doing so was voluntary on their part. As a result, the availability and quality of replication materials varied enormously across articles.

In 2012, former *AJPS* Editor Rick Wilson established a new policy by requiring authors to upload replication files to the American Journal of Political Science Dataverse on the Harvard Dataverse Network. This important innovation guaranteed that materials would be available for all *AJPS* articles (or at least those using empirical data) in a single, easily accessible location. To our knowledge, the *American Journal of Political Science* was the first publication outlet in the political science discipline to implement such a requirement for authors.

While the creation of the *AJPS* Dataverse was a critical first step, some problems remained that limited its effectiveness. Specifically, authors were given very little guidance regarding exactly what information and materials they needed to provide.   As a consequence, the unfortunate variance in the content of replication files across articles persisted.

The current *AJPS* Editor, William G. Jacoby, addressed the previous issue through two important and related new innovations. First, a new document "The *American Journal of Political Science* Guidelines for Preparing Replication Files" informs authors about exactly what information they are expected to provide and upload to the *AJPS* Dataverse. Separate sets of instructions are provided for quantitative and qualitative analyses. The Guidelines also describe the circumstances under which an author can request an exemption from the replication requirements (e.g., human subjects protection, proprietary datasets, etc.).

The second major innovation is that submitted replication materials will be verified to guarantee that they do, in fact, properly reproduce the analysis results. For quantitative analyses, verifications are conducted by the staff at the University of North Carolina's Odum Institute for Research in Social Science. For qualitative analyses, verifications are handled by the Qualitative Data Repository (QDR) at Syracuse University. When the *AJPS* Editor tentatively accepts a manuscript for publication, the author is informed that final acceptance is contingent upon successful replication of the results. The author is instructed to upload replication files to the *AJPS* Dataverse at the same time that the final draft of the manuscript is submitted.

When the author provides the final draft, the *AJPS* Editor notifies the Odum Institute staff or the QDR staff about the new study. They verify that the full set of replication files has been provided, and that the files can be used to reproduce all data analyses and results from the article. If problems occur, then the Odum/QDR staff inform the *AJPS* Editor, who gives the manuscript author the opportunity to resolve the issue and upload corrected materials to the Dataverse. This process continues until the replication is carried out successfully. At that time, the *AJPS* Editorial Staff sends the final version of the article to the publisher for copy editing and eventual publication, first online and then in a print issue of the *AJPS*. Articles that have their materials verified successfully

receive "Open Practices" badges from the Center for Open Science; the badges are displayed in the Dataverse Dataset and in the published article.

The *AJPS* Replication and Verification Policy has been working very well. The AJPS Dataverse was first announced in July 2012. The AJPS Dataverse currently (February 27, 2018) contains 302 Datasets (i.e., sets of replication files for *AJPS* articles). The current AJPS Replication and Verification Policy was announced on March 26, 2015. As of February 1, 2018, the Odum Institute staff have processed 149 manuscripts (no manuscripts with qualitative analyses have been accepted for publication since adoption of the policy). Of these 127 have been verified, and the datasets have been released for public access. Fifteen more sets of replication materials currently are in process, and seven more are awaiting resubmission of materials from the authors.

The initial replication files usually need additional work. Most are sent back to the authors one or more times after an initial submission for correction and resubmission. The maximum number of resubmissions (across the 127 manuscripts that have completed the verification process) is five and the mean number of resubmissions is about 1.8. There are only eight cases out 127 (about 6%) in which the replication files successfully reproduced all analyses on the first try. Most of the resubmissions involve minor issues, such as requests for more information, incomplete replication materials, or minor inconsistencies in the results. In most cases, authors have been able to make the necessary corrections and adjustments very easily. So far, there is only one case in which failure to replicate results may lead to rescinding the acceptance of a manuscript.

The verification process does add some time to the publication workflow. The number of days from the arrival of replication files at the Odum Institute to the release of the Dataverse Dataset ranges from 8 to 401. The mean length of the verification process is about 75 days, and the median length is 53 days. Part of the time in the verification process is due to the author responses. The number of days from arrival at Odum until the initial Verification Report (which is sent back to the author) ranges from one to 63 days, with a mean of about 25 days and a median of 20 days.

The *American Journal of Political Science* Replication and Verification Policy makes an important contribution to the infrastructure of social scientific research. The benefits of the replication and verification process far outweigh any costs to authors, the Editor, or the publisher. The procedures guarantee that complete replication materials are available and operate satisfactorily for all articles that appear within the *Journal*'s pages. This ensures the quality of the analyses reported in the *AJPS*, contributes to the fairness of the review process, and provides an invaluable resource for teaching and facilitating further research.

For additional information, including the full policy statement, the complete "*American Journal of Political Science* Guidelines for Preparing Replication Files," and related materials, please visit www.ajps.org. Questions about the replication policy may be directed to the *AJPS* Editorial Staff at ajps@msu.edu.