

Choosing Reviewers: Predictors of Undergraduate Manuscript Evaluations

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ABSTRACT

There is a substantial amount of research examining bias in the peer-review process and its influence on the quality and content of political science journal articles. However, there is limited research examining how students peer review other undergraduate research for publication. To better understand the predictors of manuscript evaluations and build on prior literature, this study examines seven years of undergraduate peer evaluations submitted to the *Pi Sigma Alpha Undergraduate Journal of Politics* from 2013 to 2020. Empirical analyses reveal that a peer reviewer's prior service on the editorial board (i.e., experience) and race are consistently and significantly associated with manuscript evaluations. By examining how undergraduate peer reviewers assess anonymized manuscripts, this research reveals potential biases in the political science peer-review process. Additionally, the benefits of undergraduate students participating in the peer-review process are explored and discussed.

As the political science discipline expands, there is a steady growth in departments, instructors, students, research, and journals (Walker et al. 2021). With this expansion, many universities increasingly call on undergraduate students to participate in academic research to gain valuable insight into potential career paths, expertise with research methods and theory, and general writing and proofreading skills (Walker et al. 2021). These experiences lend themselves to students participating in research conferences and submitting their work for academic publication. Students also can participate in the peer-review side of a journal—an opportunity that allows them to better understand the research processes.

By participating as a peer reviewer, students also have the opportunity to understand the inherent subjectivity present in the process. Editors of academic journals at all levels strive for the fundamental virtues of inclusivity and diversity during the peer-review process to acquire quality feedback. However, there is discourse about whether these values are achieved (Fox et al. 2019; Sperotto et al. 2021). Therefore, we ask: How do the characteristics (i.e., race, sex, year in school, major, and prior semesters served) of undergraduate peer reviewers influence their manuscript evaluations? Furthermore, we present a dialogue about the positive impact of serving on an editorial board as an undergraduate student. With these two tasks, we contribute to the discourse in the literature about demographic biases in the peer-review process and the benefits of students participating in undergraduate journals.

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AN INCREASE IN UNDERGRADUATE JOURNALS

As acknowledged by political science departments and academic conferences, undergraduate research plays an increasingly critical role in the political science discipline (Cox and Kent 2018; Walker et al. 2021). Along with the increase in undergraduate research is an increase in undergraduate journals that publish this research and are commonly run by undergraduate editorial boards and

leadership. On the American Political Science Association (APSA) website, 15 undergraduate journals in political science are advertised, including *Ilios: Journal of Political Science and Philosophy*, *Compass, Journal of Politics & Society*, and *Politikon: The IAPSS Journal of Political Science* (APSA 2021). However, many other journals have student editorial boards, including area studies journals. Each journal is unique in its scope, broadness of submissions, and how its operation is financed. With this diversity in mind, we recognize that the results described in this article cannot be generalized to the entire population of undergraduate journals. However, this research is an essential step forward for understanding the undergraduate peer-review process in political science journals. Additionally, we hope that this research encourages other journals—beyond under-

graduate journals—to take a more analytical look at the diversity of their editorial board and how they review submissions.

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THE PI SIGMA ALPHA UNDERGRADUATE JOURNAL OF POLITICS

This article focuses on the *Pi Sigma Alpha Undergraduate Journal of Politics* (PSAJ), which is a blind peer-reviewed journal sponsored by Pi Sigma Alpha, the National Political Science Honor Society. Between 2001 and 2020, the PSAJ published 37 issues (biannually in the fall and the spring), including four to six original manuscripts in each issue. During this almost 20-year period, five different institutions hosted PSAJ (currently at Elon University 2020–2023), at which undergraduates peer evaluate hundreds of submitted manuscripts. Because of differing cultures and structures across the five host institutions as well as data limitations, we examine only one host institution. Oakland University hosted the PSAJ for seven years from 2013 to 2020, the longest time that a single institution has done so.

The PSAJ included an undergraduate editorial board of approximately 15 undergraduate students who were divided into groups to serve as reviewers, according to their interests. At the beginning of each semester, the content editor (i.e., the student leader of the editorial board) gave a brief training on how to review manuscripts. This training included a short discussion about how the PSAJ publishes mixed methodologies and topic areas ranging from American politics, international relations, and comparative politics but does not publish advocacy pieces. Moreover, all research must be clear in its theoretical approach and reasoning. Each week, students reviewed an average of two manuscripts according to an evaluation form (see online appendix table A) that included Likert-scale questions as well as “yes” or “no” questions about originality and methods. The student editorial team at Purdue University created the evaluation form, which has been used at all host institutions. Manuscripts were received, anonymized, and assigned to peer-review groups by the content editor, according to their area of interest. The anonymization of manuscripts and training were implemented to

BENEFITS OF THE UNDERGRADUATE PEER-REVIEW PROCESS

Prior research discusses the benefits that undergraduate students gain from participating in the peer-review process, including as a learning opportunity for quantitative and qualitative methods, leadership, academia, and research (Bolsen et al. 2019; Garbati and Brockett 2018; Mariani et al. 2013; Walker et al. 2021). Cox and Kent (2018) described the student peer-review process as a way for student researchers to engage with the academic community,

including fellow student researchers, and to understand the steps of the process as a peer reviewer and author. As illustrated in Walker et al. (2021, 349), previous PSAJ student editorial board members all noted that it gave them the ability “to create an opening and welcoming environment” and that being a peer reviewer provided “an opportunity to hone the essential skills that they have used throughout their career.”

PEER-REVIEW SUBJECTIVITY

Prior literature critiques the current peer-review process in political science research (Jefferson et al. 2002; Lee et al. 2013), discussing biases from institutional ties and suggesting the solution of a double-blind peer-review process. Other scholars examined author demographics, such as gender and race (Erosheva 2020; Grandizio et al. 2020; Hero 2015; Lee et al. 2013). This research found a lack of minority authors and an uneven distribution of the regional location of editors and reviewers (Erosheva 2020; Grandizio et al. 2020); however, it focused on manuscripts that were not anonymized. Therefore, the current biases are correlated to the effect of author–editor relationships rather than inherent biases from peer-review demographics or qualities.

Other studies questioned the demographic biases of peer reviewers, some of which found that women are more critical (Borsuk et al. 2009); others found that gender did not have a significant influence on the assessment of whether a manuscript was of publishable quality (Borsuk et al. 2009; Nylenna, Riis, and Karlsson 1994). However, multiple studies have shown that the peer-review assessments of junior scholars are more critical of manuscripts, which indicates that less-experienced peer reviewers—particularly first-time editors—are more likely to give negative or more constructive comments (Borsuk et al. 2009; Nylenna, Riis, and Karlsson 1994).

These variances in findings of how demographics influence editorial practices highlight the subjectivity of the peer-review process. Kassirer and Campion (1994) highlighted how fundamental flaws are published due to reviewers glossing over inaccuracies because of a lack of time. Djupe (2015) found that subjectivity stems from a lack of a universal method or standard to decipher what is publishable. Taylor (2011) suggested using a quality-level indicator

to which all manuscripts must be held to eliminate the subjectivity stemming from a lack of equal comparison.

Our analysis expands peer-review research by examining an undergraduate journal that used a double-blind process and a quantifiable scale for each reviewed manuscript. Therefore, we could test whether a quantifiable scale reduces the subjectivity in the editorial process or demographic biases remain. Furthermore, we expanded previously understudied demographics (e.g., a reviewer's race) to enhance the conversation on how race can impact manuscript reviews while also noting the limitations of racial classifications (James 2008).

METHODOLOGY

We analyzed 12 consecutive semesters of manuscript reviews (i.e., Fall 2014 to Spring 2020). An average of 185 peer reviews were completed each semester. All manuscript reviews were collected and entered into a digital database by the faculty advisor. The total sample includes 2,218 independent peer reviews,¹ with multiple observations for each reviewer in each semester.² For example, in one semester, a reviewer may have completed 15 to 20 independent manuscript reviews, which eliminated the ability to treat these data as panel data. Instead, we estimated an ordinary least squares (OLS) regression.³

From 2013 to 2020, 97 reviewers served on the editorial board with some serving multiple semesters. The dataset included the demographic and academic characteristics for each reviewer, along with their review. Specifically, we examined a reviewer's major (1 = political science major, 0 = nonpolitical major); sex (1 = male, 0 = female); race (1 = white; 0 = nonwhite); year in school (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior); and prior semesters served on the board (0 to 5 semesters). These data were collected by the faculty editor using official university records.⁴ Table 1 lists descriptive statistics for reviewers' characteristics.

When reading a manuscript, each reviewer completed an evaluation form with seven main criteria: (1) originality of contribution, (2) importance of main conclusions, (3) interest in main conclusions, (4) strength of evidence provided for main conclusions, (5) appropriateness of methodology, (6) writing quality, and (7) organization.⁵ Each criterion (except originality) was evaluated on a five-point scale; higher scores indicated higher manuscript quality. Criteria 2–7 were combined into an additive index,⁶ creating an evaluation index ranging from 6 to 24. Criteria 1, "originality," was examined separately because it was coded as 1 = yes, 2 = maybe, 3 = no (see table 1).

We also included control variables to represent each semester in which the editorial board reviewed manuscripts. These variables are represented by dummy variables for 12 semesters using Spring 2020 for comparison (e.g., 1 = Fall 2014, 0 = all other semesters, 1 = Spring 2015, 0 = all other semesters). The empirical results for these dummy variables are reported in online appendix table B.

RESULTS

Table 2, column 1, lists the regression results for the additive index, estimated using OLS regression. The most significant demographic factor was race, which was positively associated with the additive evaluation index. Thus, these results indicate that white undergraduate reviewers gave higher manuscript ratings. Race is an understudied demographic in this line of research; therefore, it is interesting to find evidence that race is more

Table 1

Descriptive Statistics: Reviewer Evaluations and Characteristics 2014–2020

	Frequency %	Median	Standard Deviation
Reviewer Evaluations			
Additive Evaluations (Index)	—	18.0	5.69
Original		2.00	0.76
Yes	21		
Maybe	40		
No	39		
Reviewer Characteristics			
Race ^a			
White	92.7	—	—
Nonwhite	7.3		
Year in School		4.00	0.683
Freshman	<1		
Sophomore	9.4		
Junior	33.5		
Senior	56.6		
Prior Semesters Served		1.00	1.27
0	49		
1	19		
2	18		
3	9		
4	4		
5	1		
Sex ^b			
Male	40	—	—
Female	60		
Political Science Major		—	—
Major	81.8		
Nonmajor	18.2		
N = 2,218			

Notes: ^aN = 97, Nonwhites = 9, Whites = 88.

^bWomen = 56, Men = 41. These numbers give context to the composition of the editorial board and meaning to the frequency column.

impactful than a reviewer's sex. Among professional journals, a reviewer's sex often is considered a more influential indicator of manuscript assessments. It is interesting that our findings reveal no significant link between reviewers' sex and their manuscript evaluation. The latter finding is notable because it is inconsistent with the prior literature (Borsuk et al. 2009).

In terms of experience, the number of prior semesters served as a reviewer has a negative relationship, suggesting that the more experience undergraduates have as reviewers, the more negative their manuscript review. Perhaps this association means that peer reviewers become more critical after more time and experience on the editorial board, which contradicts prior literature on faculty peer reviews (Borsuk et al. 2009; Nylenna, Riis, and Karlsson 1994). This provides evidence for the learning opportunity of undergraduates participating in the peer-review process. As undergraduate students serve more semesters on an editorial board, their reviews

Table 2

Peer Reviewers' Manuscript Evaluations by Reviewer Characteristics^a

	Additive Evaluations ^b	Original ^c
Reviewer Characteristics		
White	1.30** (0.474)	-0.288** 0.063
Year in School (4=Senior)	0.152 (0.182)	0.007 0.024
Prior Semesters Served	-0.458** (0.098)	0.034** (0.013)
Male	-0.090 (0.255)	-0.060 (0.034)
Political Science Major	0.366 (0.327)	0.129** 0.043
Constant	18.4** (0.934)	2.13** (0.123)
Adj. R-Square	0.06	0.06
N	2,122	2,164

Notes: All estimates are unstandardized OLS coefficients, with standard errors in parentheses.

^aThis dependent variable (i.e., additive evaluations) used an additive index of six measures.

^bThis dependent variable (i.e., original) was coded as 1=yes, 2=maybe, 3=no.

^cThese results are truncated because the dummy variables representing each of the 12 semesters have been removed for parsimony. The dummy variable results are reported in online appendix table B. * $p < 0.05$, ** $p < 0.01$ (two-tailed).

Table 2, column 2, shows a positive linkage between political science majors and originality—perhaps because these reviewers are more familiar with the political science literature and the gaps in the scholarship. There is no empirical linkage between reviewers' year in school and major and their assessment of originality.

DISCUSSION AND CONCLUSION

When creating editorial-board groups for the *PSAJ*, the advisors and content editors sought a peer-review board that would be diverse in race, sex, major, and experience to account for any demographic biases. This research finds that creating a diverse editorial board is necessary because there are significant differences in undergraduate reviewers' comments that are dependent on demographics and experience—which is in line with prior research (Tennant and Ross-Hellauer 2020). Our results show that the most significant factors for evaluations are a reviewer's race and prior experience serving as a reviewer.

Experience also seems to be a factor that influences how peer reviewers review manuscripts. This result could be explained by undergraduate students gaining more experience with research and mainly quantitative methodology (Cox and Kent 2018; Garbati and Brockett 2018). Previous studies have shown that experience produces more critical peer reviewers (Nylenna, Riis, and Karlsson 1994). This is consistent with responses from former editorial board members who, when asked to describe their experience, stated that their tenure aided in their discussion and analytical skills and motivated some to create their own research and to enter academia (Walker et al. 2021).

Race is an understudied demographic in this line of research; therefore, it is interesting to find evidence that race is more impactful than a reviewer's sex.

are more critical because they become more analytical and understanding of the niche of political science research. As shown in table 2, column 1, there is no evidence that a reviewer's year in school, sex, and major are linked to manuscript evaluations.

Table 2, column 2, lists the regression results for the second dependent variable, "originality of the contribution," which was

Despite inconsistencies in the prior literature, this research shows that by having more diverse individuals reviewing papers, errors become known and subjectivity decreases (Djupe 2015; Kassirer and Campion 1994). Indeed, this study provides preliminary evidence that a reviewer's race is associated with manuscript assessments. This is an interesting finding because professional

Despite measures to make the blind peer-review process fair and balanced, this research highlights the importance of a diverse pool of peer reviewers.

estimated using OLS regression. In contrast to additive evaluations (column 1), we found that reviewers' demographics have differing effects on "originality" scores. Regarding race, the results show that nonwhite reviewers gave significantly higher originality ratings than white reviewers, with a reviewer's race being the most robust indicator. Table 2, column 2, shows a positive relationship between originality and a reviewer's prior semesters served. This link suggests that experienced peer reviewers likely have gained a better understanding of prior research by previous peer reviewing. They are aware of how essential it is for new research to fill gaps and overcome limitations. Unlike the predictors of additive evaluations, a reviewer's major is associated with originality scores.

journals have only recently begun to collect data on reviewers' racial identity. Therefore, scholars and editors must continue to analyze demographic variances in the peer-review process. Overall, this research highlights the importance of diversity in reviewers' backgrounds and characteristics to ensure breadth and a standardized reviewing practice.

FUTURE RESEARCH AND A CALL TO ACTION

Despite measures to make the blind peer-review process fair and balanced, this research highlights the importance of a diverse pool of peer reviewers. We call on undergraduate students and professional-journal editors to collect demographic information

(i.e., race and sex) of submitting reviewers and authors to improve equity in the field. Additionally, we encourage manuscript authors to submit their papers to the Gender Balance Assessment Tool (Sumner 2018), which estimates cited authors' gender composition. Furthermore, finding evidence that demographics impact the undergraduate peer-review evaluations, we encourage traditionally white universities to recruit reviewers from partner institutions. This will diversify the reviewer pool and pave the way for historically black colleges and universities to host undergraduate journals in the future.

LIMITATIONS

The control variable (i.e., semester year of the journal) or the number of semesters that the journal was at the same institution indicate that each editorial board was unique, at times significantly influencing manuscript evaluations. We also acknowledge that the manuscripts submitted to the editorial board differed each semester. Also, our study was limited to reviews of undergraduate manuscripts submitted to only one undergraduate journal. We recognize that reviewers at other universities may review and act differently. Moreover, other journals may abide by a different set of criteria. Therefore, we cannot generalize our results to other undergraduate or professional journals. Despite these limitations, we provide evidence to show editors and other decision makers that experience and diversity matter.

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DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the Harvard Dataverse at <https://doi.org/10.7910/DVN/HLWNGC>.

SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1049096521001888>.

CONFLICTS OF INTEREST

The authors declare no ethical issues or conflicts of interest in this research. ■

NOTES

1. The sample is based on reviews instead of reviewers because each review was dependent on each individual paper.
2. The observations in this study are not independent because each reviewer had multiple observations in each period due to each student reviewing multiple manuscripts per semester. Therefore, fixed-effect panel data cannot account for the multiple observations per time frame unless the timeframe parameter is removed. When the data were estimated with clustered standard errors on the reviewer's name, the results from the OLS regression were essentially the same, with the same values being significant.
3. We estimated a model with standard errors clustered on the reviewer and found essentially the same results.
4. This project underwent Institutional Review Board approval and was deemed "exempt research" (Project Number 1551821-1).

5. See online appendix table A for an example of the evaluation form.
6. Cronbach's Alpha = 0.89.

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