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.

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
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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, with multiple observations for each reviewer in each semester. 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.

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. 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. 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, 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 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 1

<table>
<thead>
<tr>
<th>Reviewer Evaluations</th>
<th>Frequency</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive Evaluations (index)</td>
<td>—</td>
<td>18.0</td>
<td>5.69</td>
</tr>
<tr>
<td>Original</td>
<td>21</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Maybe</td>
<td>40</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>No</td>
<td>39</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reviewer Characteristics</th>
<th>Frequency</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race&lt;sup&gt;a&lt;/sup&gt;</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>White</td>
<td>92.7</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>7.3</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Year in School</td>
<td>4.00</td>
<td>0.683</td>
<td>—</td>
</tr>
<tr>
<td>Freshman</td>
<td>&lt;1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sophomore</td>
<td>9.4</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Junior</td>
<td>33.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Senior</td>
<td>56.6</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Prior Semesters Served</td>
<td>1.00</td>
<td>1.27</td>
<td>—</td>
</tr>
<tr>
<td>0</td>
<td>49</td>
<td>—</td>
<td>—</td>
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<tr>
<td>1</td>
<td>19</td>
<td>—</td>
<td>—</td>
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<tr>
<td>2</td>
<td>18</td>
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<td>3</td>
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<td>5</td>
<td>1</td>
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<tr>
<td>Sex&lt;sup&gt;b&lt;/sup&gt;</td>
<td>—</td>
<td>—</td>
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</tr>
<tr>
<td>Male</td>
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<td>—</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Political Science Major</td>
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<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Major</td>
<td>81.8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Nonmajor</td>
<td>18.2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>N = 2,218</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

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.
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.

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

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 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.

Despite inconsistencies in the prior literature, this research shows that by having more diverse individuals reviewing papers, errors become known and subjectivity decreases (Diupe 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 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.

**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).

**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.
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).

References


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