Everyone is Awesome: Analyzing Letters of Reference in a General Surgery Residency Selection Process

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Je n’ai aucune affiliation (financière ou autre) avec une entreprise pharmaceutique, un fabricant d’appareils médicaux ou un cabinet de communication.
Background

- Role and value in resident selection
- Criticisms
- Value of numeric comparisons [De Zee et al. 2009]
- Few studies analyzing this content in Letters of Reference
Objective

1. Assess the frequency with which Letters of Reference (LOR) use quantitative terms to describe applicants
2. Assess how representative the use of these terms is to describe our pool of applicants
Methods

1. Retrospective analysis of LORs submitted by CMGs applying to Ottawa General Surgery from the 2018 CaRMS cycle (n=343)

2. Data abstraction
   • Mentions of “average”, “best”, percentages, and comparisons to resident level
   • Demographics

3. Data analysis
   • Descriptive statistics
   • One way ANOVA
   • Chi-square
Results

82% of LORs used quantitative descriptors

84% are above average

73% work at a resident level

45% are the best
Results

58% of applicants were described using a global percentage

Mean ± SD: 8.9 ± 6.8 %

Figure 1. Distribution of global percentiles used in LORs
# Results

Table 1. Correlation of the use of quantitative descriptors

<table>
<thead>
<tr>
<th>Term #1</th>
<th>Term #2</th>
<th>$X^2$ (df 2, n=113)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Best”</td>
<td>Above average</td>
<td>0.94</td>
<td>0.33</td>
</tr>
<tr>
<td>“Best”</td>
<td>Resident level</td>
<td>0.18</td>
<td>0.67</td>
</tr>
<tr>
<td>Above average</td>
<td>Resident level</td>
<td>1.4</td>
<td>0.23</td>
</tr>
</tbody>
</table>

No significant correlation between use of these quantitative descriptors
Results

Table 2. File review scores of “best” applicants

<table>
<thead>
<tr>
<th>Candidates</th>
<th>n</th>
<th>File Review Score</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Best”</td>
<td>52</td>
<td>20.4 +/- 4.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Others</td>
<td>71</td>
<td>16.7 +/- 5.8</td>
<td></td>
</tr>
</tbody>
</table>

“Best” candidates scored higher in our file review
Results

"Best" candidates ranked between #2 and #108

Figure 2. File review ranking of “best” applicants
Discussion

- Most LORs use quantitative descriptors that are positive
- Most candidates were described by at least one letter using an overall percentage
- Difficult to apply this data to a file review process
Limitations

- Bias of letters of reference
- Selection bias of applicants
- File review system not validated, specific to our program
Future Directions

- Thematic analysis of content from LORs
- Comparison with LORs of other specialties
Conclusion

- Quantitative descriptors are common and often positive
- Educators must exercise caution in using these terms to inform their resident selection process

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