Author Impact Measures in Communication Sciences and Disorders

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ABSTRACT

Author impact metrics were collected from approximately 2000 academic research faculty in 257 accredited universities in the US and Canada. Three databases (Scopus, Google Scholar, and ResearchGate) were utilized. Indices (e.g., publications, citations, and h-index) were examined as a function of gender, rank, area of study, region, and Carnegie Classification.

INTRODUCTION

- Determining research impact is important for numerous reasons including:
  - professional identity management, tenure review, promotion review, grant applications, and employment.
- The impact of scholarly research can be examined on several levels:
  - Journal-level metrics.
  - Article-level metrics.
  - Author-level metrics
- Author-level metrics are essential in assessing an individual's career reputation and impact.[1-2]
  - Numerous author-level indices are available including the h-index and related indices.[3-6]
- Author-level metrics have been examined in a number of medical fields including radiology[7], emergency medicine[8], laboratory medicine[9], urology[10], and neurology[11].
- To date, there has been no report of author-level metrics in the field of communication sciences and disorders.
- The purpose of this study was to undertake a comprehensive analysis of author-level metrics in the field of communication sciences and disorders.
  - Three databases (i.e., Scopus, Google Scholar, and ResearchGate) were utilized.
  - Indices (e.g., publications, citations, and h-index) and faculty demographic information (e.g., gender, rank, area of study, region, and Carnegie Classification) were examined.

METHOD

Participants

- Author impact metrics were collected from 257 accredited universities in the US and Canada.
  - The accredited programs were gathered from the Council on Academic Accreditation in Audiology and Speech-Language Pathology of ASHA and the Council for Accreditation of Canadian University Programs in Audiology and Speech-Language Pathology.
- 2010 academic research faculty were identified.

Databases

- Three databases (i.e., Scopus, Google Scholar, and ResearchGate) were utilized.

Procedures

- Author impact metrics were gathered between February and September, 2015.
- Through program websites, internet and database search, demographic and personal data were collected including location, gender, area of study, terminal degree, year of terminal degree, and academic rank.
- Programs were examined in a random order.
- Scopus indices collected included:
  - Total number of documents.
  - Total number of citations.
  - Highest citations for a single publication.
  - h-index:
    - The number of papers with citation number ≤ h.
- Google Scholar indices collected included:
  - Total number of citations.
  - h-index.
  - i10 index:
    - The number of papers an author has written that have been cited at least 10 times by other scholars.
- ResearchGate indices collected include:
  - Total number of publications.
  - Total number of citations.
  - Impact points.
  - Total number of followers.
  - RG score:
    - A metric that measures scientific reputation based on how research is received by your peers.

RESULTS

- Demographic information is shown in Figures 1-3.
- Scopus, Google Scholar, and ResearchGate indices are displayed in Figures 4-6, respectively.

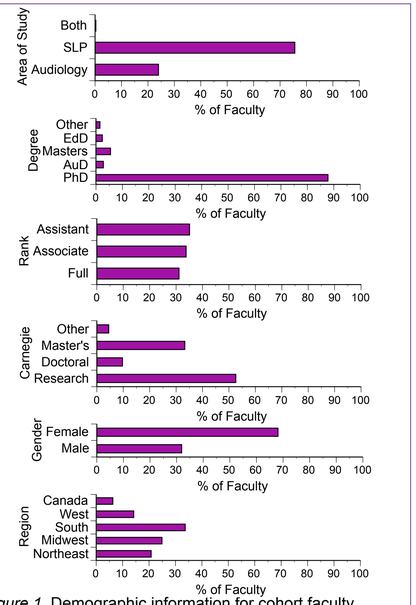

Figure 1. Demographic information for cohort faculty.

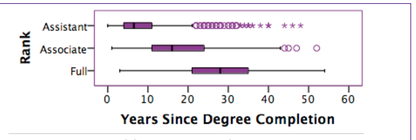

Figure 2. Box plot of faculty years from terminal degree.

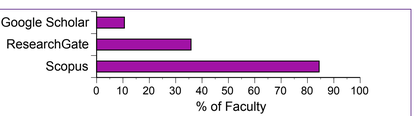

Figure 3. Percentage of faculty identified in each database.

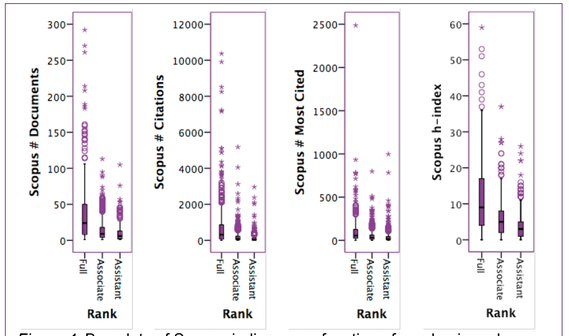

Figure 4. Box plots of Scopus indices as a function of academic rank.

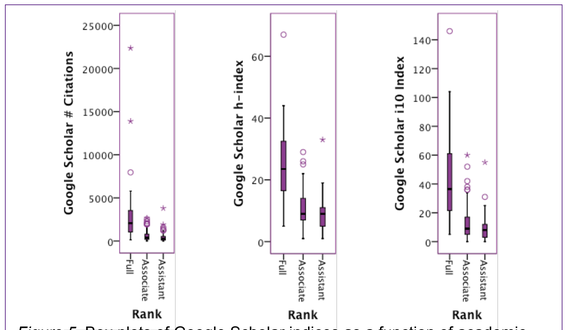

Figure 5. Box plots of Google Scholar indices as a function of academic rank.

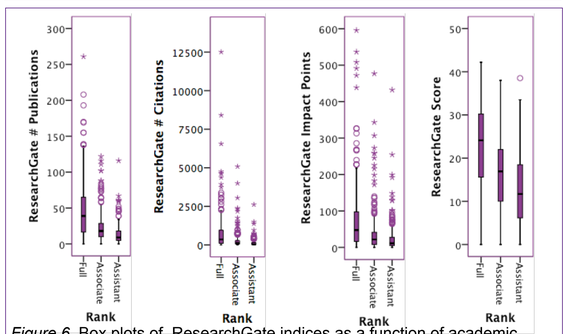

Figure 6. Box plots of ResearchGate indices as a function of academic rank.

- Males scored significantly higher on all indices (Mann-Whitney U $p < .05$) except Google Scholar Total # of citations and h-index.
- The effect of academic rank was significant for all author-level metrics (Kruskal-Wallis $p < .05$).
- The effect of area of study (i.e., audiology vs. SLP) was significant for all Scopus and ResearchGate author-level metrics (Mann-Whitney U $p < .05$) but none of the Google Scholar indices.
- The effect of region was significant for all Scopus and ResearchGate author-level metrics (Kruskal-Wallis $p < .05$) but none of the Google Scholar indices.
- The effect of Carnegie Classification was significant for all author-level metrics (Kruskal-Wallis $p < .05$).
- There were significant correlations between all author-level metrics in Figures 4-6 ($p < .001$).

DISCUSSION

- All author impact indices were positively skewed.
- Gender, rank, area of study, region, and Carnegie Classification had significant effects on most author impact indices.
- These data may be used as a guide for author impact in the field of communication sciences and disorders.

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DISCLOSURE

Sarah P. Faucette is a graduate student at East Carolina University. Andrew Stuart & William J. Thomas are employed by East Carolina University. Amber Jackson and Melissa Work assisted with data collection.