

Assessing Research Impact: How Good Is Good Enough?



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BACKGROUND

We developed a comprehensive “gold standard” process for determining the research impact of an author’s career via a 10-year h-index for the Surgery department at Duke Health. While the final data gathered is thorough and clean, the process is time consuming and unrealistic on an institutional level. To assess how much was gained by this cumbersome process, we compared our gold standard method to more automated processes available through Web of Science (WOS), Scopus, and Google for our surgeon-authors.

FINDING H-INDICES

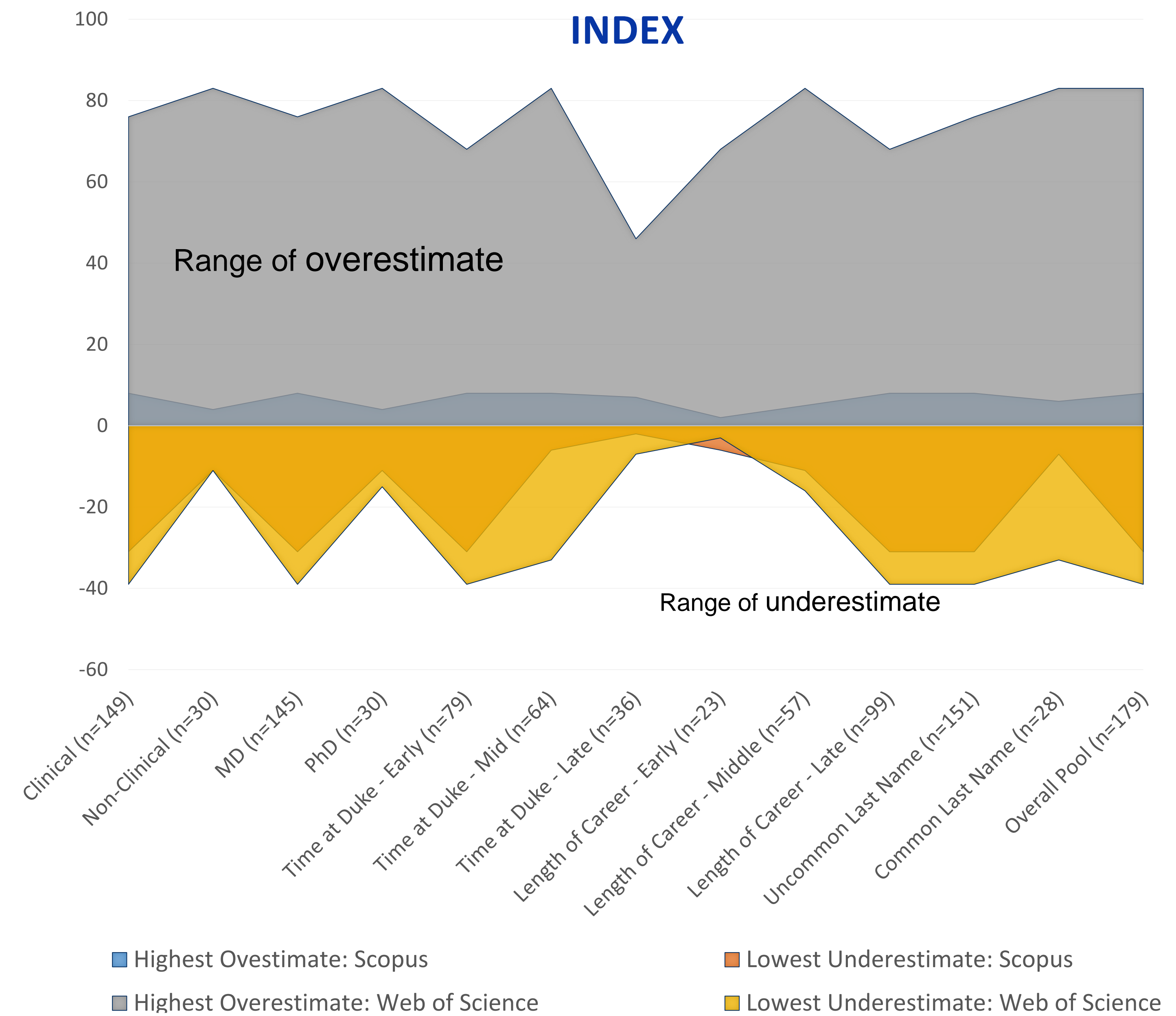
Our gold standard process

1. Request faculty CVs.
2. Search Web of Science for name and affiliation for all training and career locations
3. Limit to article, review and proceeding papers
4. Send to Endnote
5. Create a search string out of the accession numbers to run in Web of Science
6. Create a citation report

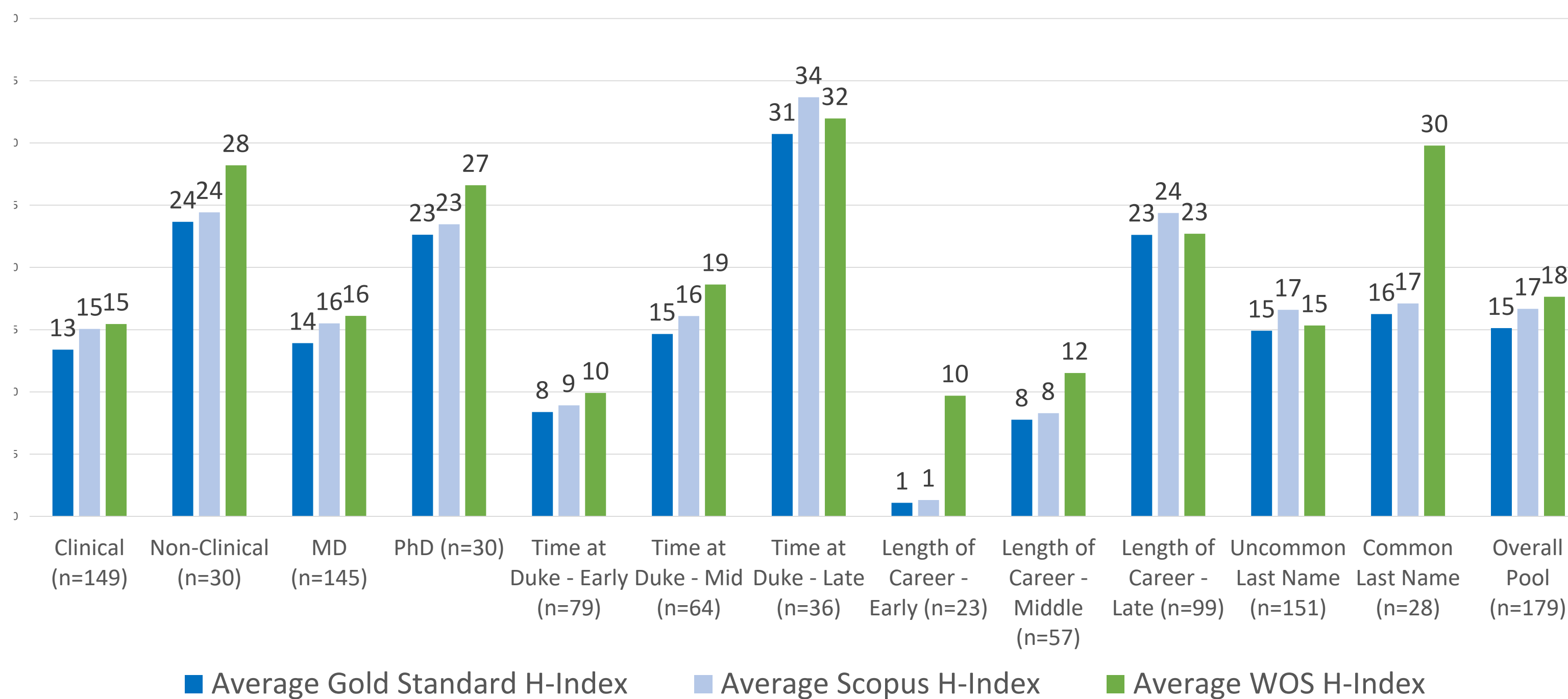
Our quick & dirty process, using Scopus or WOS

1. Conduct author search for last name, first initial and Duke as institution. Select author profile and capture h-index or create citation report.
2. If not found, conduct author search for last name and first initial without institution. Select closest match and capture h-index or create citation report.

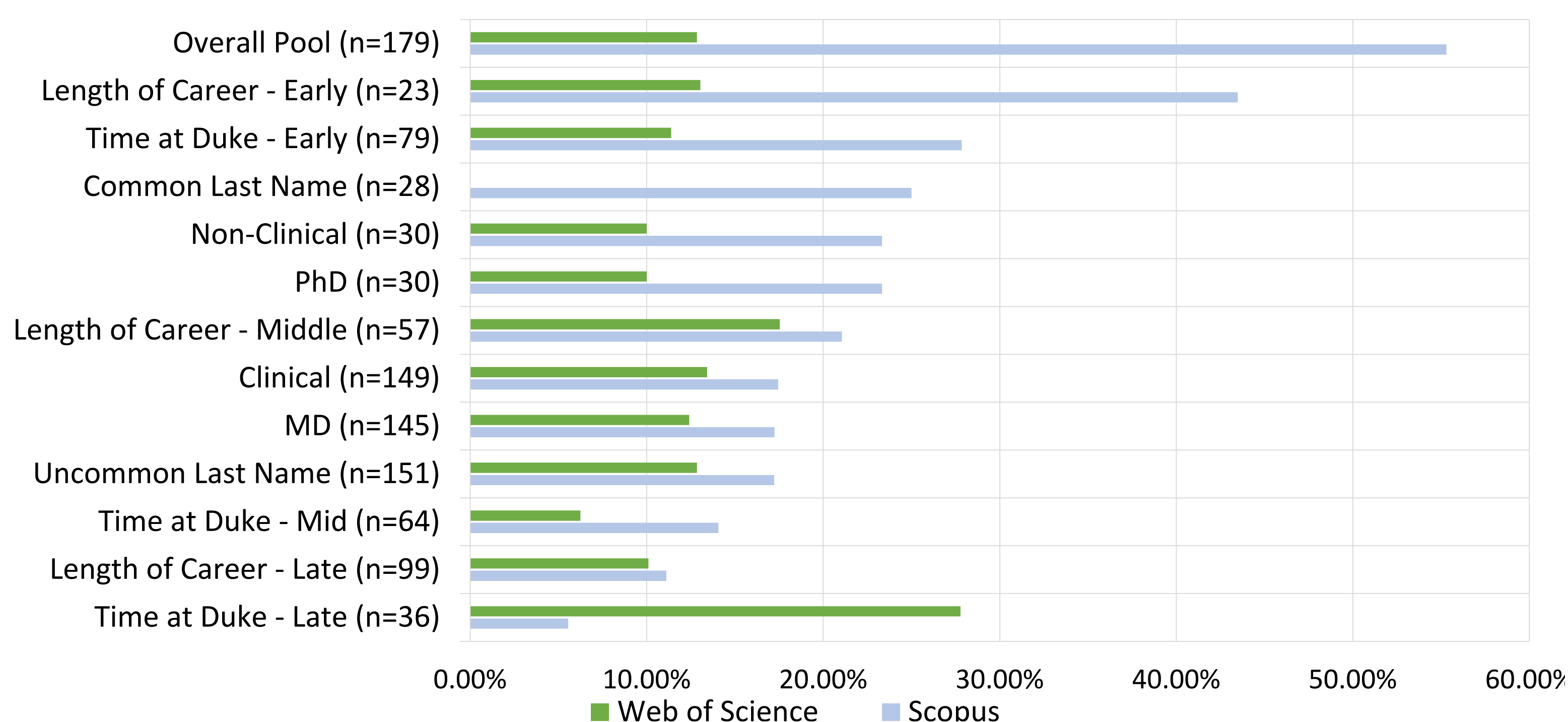
RANGE OF DIFFERENCE FROM GOLD STANDARD H-INDEX



AVERAGE H-INDICES BY CATEGORY



ACCURACY OF METRICS AGAINST GOLD STANDARD



RESULTS

- Overall accuracy of h-indices against our gold standard were 55% for Scopus and 13% for Web of Science.
- In Web of Science, the highest overestimate was 83 points above our h-index and the lowest underestimate was 39 points below our h-index.
- In Scopus, the highest overestimate was 8 points above our gold standard h-index and the lowest underestimate was 31 points below our h-index.
- Only 9% of Surgery faculty had Google Scholar profiles; the highest overestimate was 30 and the lowest underestimate was 2.

CONCLUSIONS

When should you use a gold standard process?

When your author is new to institution, has a common last name, or shares a last name & first initial with another author at the same institution.

Scopus

As Scopus has more journals (e.g., Excerpta Medica), when Scopus overestimates the h-index, it may actually be true!

Web of Science

Yields higher accuracy for researchers who have been at the institution for a long time.

What about Google Scholar profiles?

Differences could be related to authors including materials other than articles, such as editorials, book chapters, presentations, and books.

Our Practice

- To refine our process, we will consider the best combination of search features, h-index accuracy, ability to compare with existing our data, and time required.
- While librarians can pull the most comprehensive and accurate h-indices, if patrons want to do a quick and dirty search themselves, we recommend they use Scopus.