What Do Faculty Think About Researcher Profiles, Metrics, and Fair Research Assessment?

NOTE: This version of this presentation has been modified to add a Notes slide following any slide that had notes - to provide an accessible PDF file.

A Case Study from a Research University in the Southeastern United States

By Rachel A. Miles, Amanda MacDonald, Nathaniel D. Porter, Virginia Pannabecker, Jim A. Kuypers

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Acknowledgement

- Thank you to the members of the Faculty Senate Research Assessment Committee (FSRAC) at Virginia Tech beyond those who are authors on this presentation for their contributions informing the survey development, creating college-level reports, and providing edits for the draft and final reports.
    - Jim Kuypers (Committee Chair), James H. Westwood, Eric A. Wong, Jonas Houptman, Kathleen Meany, Ben Knapp, Dwight D. Viehland, Bob Hicok, Bob Leonard, Quinn Thomas, Joseph Merola, Kerry J. Redican, and Gail McMillan, Rachel Miles, and Virginia (Ginny) Pannabecker
- Finally, the presenters would like to thank Dr. Ivica Ico Bukvic, who provided us with a survey instrument used within the School of Performing Arts (SOPA) at Virginia Tech to determine the types of research and creative works SOPA faculty produce and which indicators they prefer for scholarly evaluation; this project's survey instrument was based in-part on the SOPA survey instrument.

Notes from "Acknowledgement" Slide

In addition to the authors, this case study derives from a report charged to and written with contributions and input from the Faculty Senate Research Assessment Committee members: James H. Westwood, Eric A. Wong, Jonas Houptman, Kathleen Meany, Ben Knapp, Dwight D. Viehland, Bob Hicok, Bob Leonard, Quinn Thomas, Joseph Merola, Kerry J. Redican, and Gail McMillan, and three of this presentation's authors: Jim Kuypers (who was the Committee Chair), Rachel Miles, and me.

The other 2 study authors who were not on the committee, Amanda MacDonald and Nathaniel D. Porter of the University Libraries, joined Jim, Rachel, and me in the small group that (with committee input) designed and distributed the survey, cleaned and analyzed the survey data, and wrote the report.

Context

- January 2019 - The Faculty Senate Research Assessment Committee (FSRAC) was formed to explore concerns regarding the evaluation of faculty research as well as salary concerns at Virginia Tech
  - Representation slots were included for each academic college and the University Libraries
- The committee's baseline goals were to send all faculty a survey on research assessment and salary perspectives, and to provide a report to Faculty Senate by May 2019

Broader Context - Research Assessment Policies

In the international research assessment community and the broader academic community, there are major efforts to develop responsible research assessment and metrics use practices:

- The Leiden Manifesto
- The San Francisco Declaration on Research Assessment (DORA)
- Institution-specific policies or statements are also being developed (see examples on the Bibliomagician blog's Resource Hub)

Survey Goals - To Determine:

- **Types of research outputs faculty produce at Virginia Tech**
- **Types of research assessment tools, research impact metrics, and researcher profiles used and why**
- Awareness of the new Partnership for an Incentive Based Budget (PIBB) and its effect, real or perceived, on faculty research pursuits and research assessment practices
- **Faculty attitudes towards the fairness of research evaluation**
- *Percentage of faculty time assigned and spent on teaching, research, and service*
- Faculty perceptions of their salaries with respect to their peer institutions and university level aspirations
- **Recommendations from the faculty for moving forward with research assessment** and peer salary parity

Notes from "Survey Goals - To Determine" Slide

While all of the committee and survey goals were of interest, for the University Libraries, as a partner in supporting research assessment tools and best practices, we had particular interests in the the bolded survey goals shown in this list, and these will be the focus of this presentation.

Interests in research assessment tools, metrics, and researcher profiles all relate to interconnected needs to increase the visibility and connections between researchers, collaborators, and research products, along with metrics and methods to gauge engagement with and value of such work. These relate to ongoing projects at Virginia Tech as well, such as work towards an institutional Open Access policy, implementation methods for providing open access to research publications and data, and the emerging possibility of discussing a statement, policy, or institutional best practice around research assessment.

Methods and Timeline

January-February 2019

Committee formed
Survey designed with data and recruitment plans
Survey submitted to Institutional Review Board (IRB)

March 2019

"Not Human Subjects Research" determination received from IRB

March 28 - April 8th 2019

Survey distributed via Course Management system, Campus News, Email
and responses received

April - May 2019

Authors cleaned data
Authors wrote report with committee input, edits, and area reports

May 2019

Full Report available via the Board of Visitors Meeting Documents
II. Report: Constituent Reports - Pages 12-118

Survey Participation

- Respondents were able to leave the survey at any time, and were prevented from taking it if they did not provide their consent.
- Since respondents could choose whether or not to answer each question, the total response data for individual questions varies.

Overall, **501 faculty responded with 10.33% of all full-time faculty (471) completing the survey**. Approximately 20% of tenured and tenure-track faculty (302) responded. University data on number of faculty was retrieved from the Office of Institutional Research (OIR).

Survey Participant Characteristics - Faculty Type

Faculty type	University Data		Survey Data	
	Count	Percentage	Count	Percentage
Tenure-track or Tenured	1504	32.99%	302	64.12%
Continued Appointment-track or Continued Appointment	34	0.75%	41*	8.70%
Research	705	15.46%	39	8.28%
Collegiate	45	0.99%	11	2.34%
Administrative and Professional Faculty	1854	40.65%	47	9.98%
Other (instructors, professors of practice, clinical faculty, etc.)	418	9.16%	31	6.58%
Subtotals	4560	100%	471	100%

Table 1. Survey participants' faculty types compared to university data

Notes from "Survey Participant Characteristics - Faculty Type" Slide

This survey focused on faculty who produce research outputs at Virginia Tech, either as part of their official responsibilities in their faculty role or as their unofficial (not assigned or required) duties. Therefore, those who responded that they do not produce research outputs at Virginia Tech were prevented from completing the survey. As a result of this exclusion, the majority of participants were tenure-track or tenured faculty (Table 1).

*Faculty were allowed to self-describe their faculty type, and since many faculty are currently transitioning to Continued Appointment-track (CA-track) within University Libraries, there seem to be more self-reported CA-track or CA faculty than indicated by OIR data.

Survey Participant Characteristics - Faculty Rank

Faculty Rank	University Data		Survey Data	
	Count	Percentage	Count	Percentage
Assistant Professor	420	8.46%	105	31.07%
Associate Professor	501	10.09%	125	36.98%
Professor	583	11.74%	81	23.96%
Distinguished Professor	Unavailable	N/A	5	1.48%
Professor Emeritus/Emerita	Unavailable	N/A	4	1.18%
Administrative/Professional Faculty (tenured, tenure-track, non-tenure-track)	1854	37.35%	N/A	N/A
Other (instructor, lecturer, postdoc, adjunct, visiting, clinical, collegiate, unspecified)	1606	32.36%	18*	5.33%
Subtotals	4964	100%	338	100%

Table 2. Survey participants' faculty ranks compared to university data

Survey Participant Characteristics - Top-Level Unit or College Affliation

- **Top-Level Unit or College Affiliation**:
  - Liberal Arts and Human Sciences (30.58%)
  - Agriculture and Life Sciences (19.80%)
  - Engineering (10.53%)
  - University Libraries (8.27%)
  - Science (6.27%)
  - Architecture and Urban Studies (5.51%)
  - Business (5.26%)
  - Natural Resources & Environment (3.01%)
  - Medicine and Biomedical Research (1.25%)
  - Other (3.26%)
  - Prefer not to answer (6.27%)
  - Corps of Cadets, Honors College, Student Affairs (0%)*

Table 3. Survey participants' top-level or college affiliation compared to university data
*Data only available for Honors College

Notes from "Survey Participant Characteristics - Top-Level Unit or College Affliation" Slide

Based on Virginia Tech College / Unit Names of areas that include Faculty positions. Several institutes and centers also include Research Faculty, but their percentages are so small that they are included along with some other units, such as the Office of the Provost, in the Other categories

Survey Participant Characteristics - Race or Ethnicity

Race or Ethnicity	University Data		Survey Data	
	Count	Percentage	Count	Percentage
African American or Black	210	4.70%	10	2.49%
White or Caucasian	3412	76.70%	294	73.32%
Hispanic or Latino/a/x	131	2.90%	14	3.49%
Asian or Asian American	356	8.00%	17	4.24%
American Indian or Alaskan Native; Native Hawaiian or other Pacific Islander; Middle Eastern or North African (MENA); Multiple races; other*	342	7.70%	11	2.74%
Prefer not to answer	N/A	N/A	55	13.72%
Subtotals		100%	401	100%

Table 4. Survey participants' race or ethnicity compared to university data
*For the purposes of protecting participants' identity, some race categories were combined.

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Survey Participant Characteristics - Gender

Gender	University Data		Survey Data	
	Count	Percentage	Count	Percentage
Male	2583	58.00%	195	50.39%
Female	1868	42.00%	150	38.76%
Prefer to self describe	N/A	N/A	3	0.78%
Prefer not to answer	N/A	N/A	39	10.08%
Subtotals	4451	100%	387	100%

Table 5. Survey participants' gender description compared to university data

Survey Participant Characteristics - Age

Age*	Survey Data	
	Count	Percentage
18-24	2	0.52%
25-34	54	13.95%
35-44	120	31.01%
45-54	81	20.93%
55-64	62	16.02%
65-74	22	5.68%
Above 75	5	1.29%
Prefer not to answer	41	10.59%
Subtotals	387	100%

Table 6. Survey participants' age
*Please note that university-wide data is not available on age.

Survey Participant Characteristics - Number of Years Holding Professional Faculty Appointment(s)

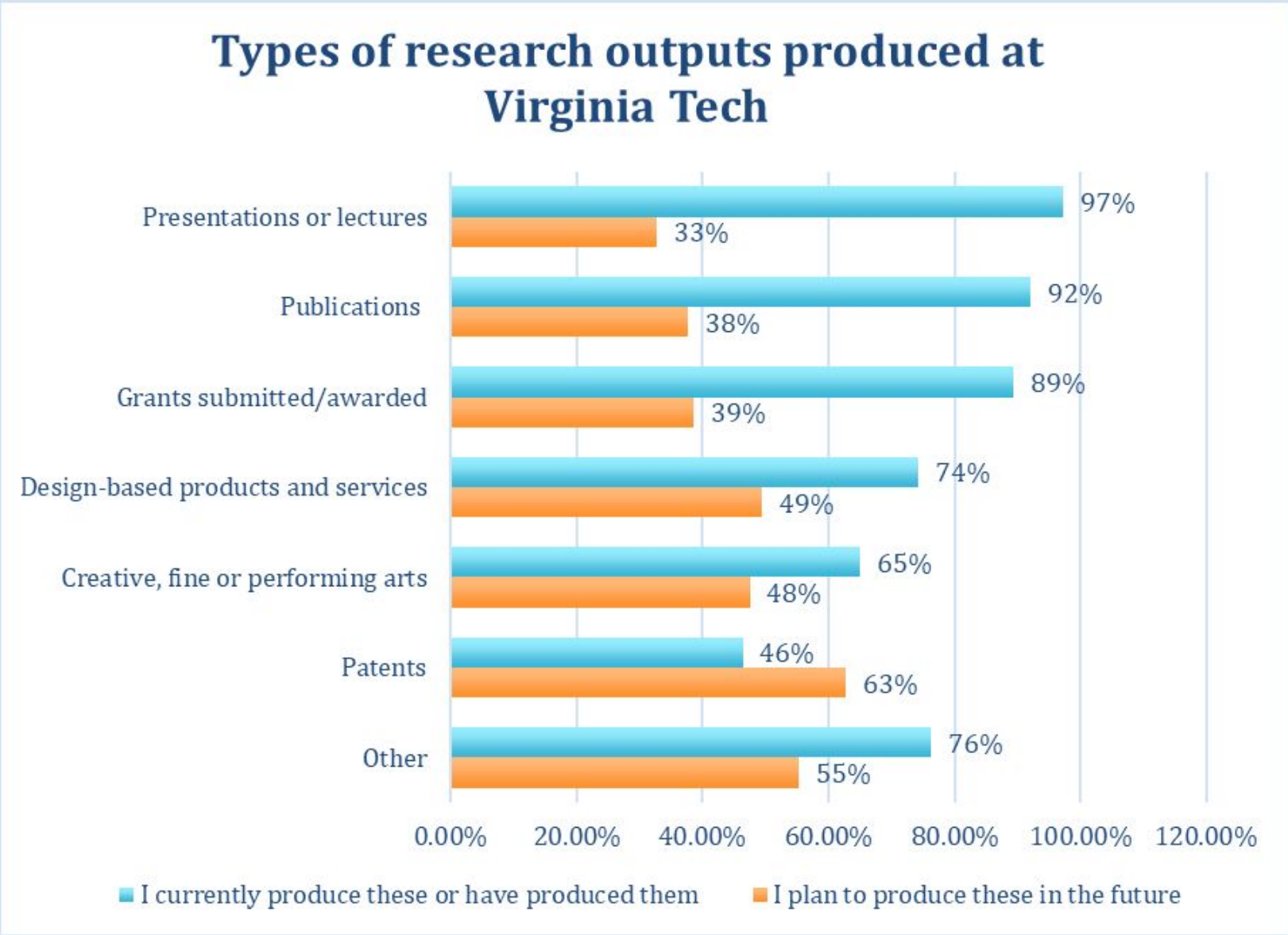
Number of Years Holding Professional Faculty Appointment(s) (PFA)	
Number of Years Holding PFA(s)	**PFA(s) held at Virginia Tech**
Less than 1 year	6.20%
1 to 5 years	29.46%
6 to 10 years	16.80%
11 to 20 years	26.10%
21 to 30 years	6.20%
More than 30 years	8.01%
Prefer not to answer	7.24%

Table 7. Survey participants' number of years of professional faculty appointment(s) held

Results: Types of Research Outputs

See sub-categories of types of works from further survey question responses.

See the Notes for this slide for examples of additional sub-categories self-described by those who selected 'Other' in response to the survey questions.



Notes from "Results: Types of Research Outputs" Slide

A diverse selection of research outputs are produced at Virginia Tech, and faculty have ambitions to create more in the future.

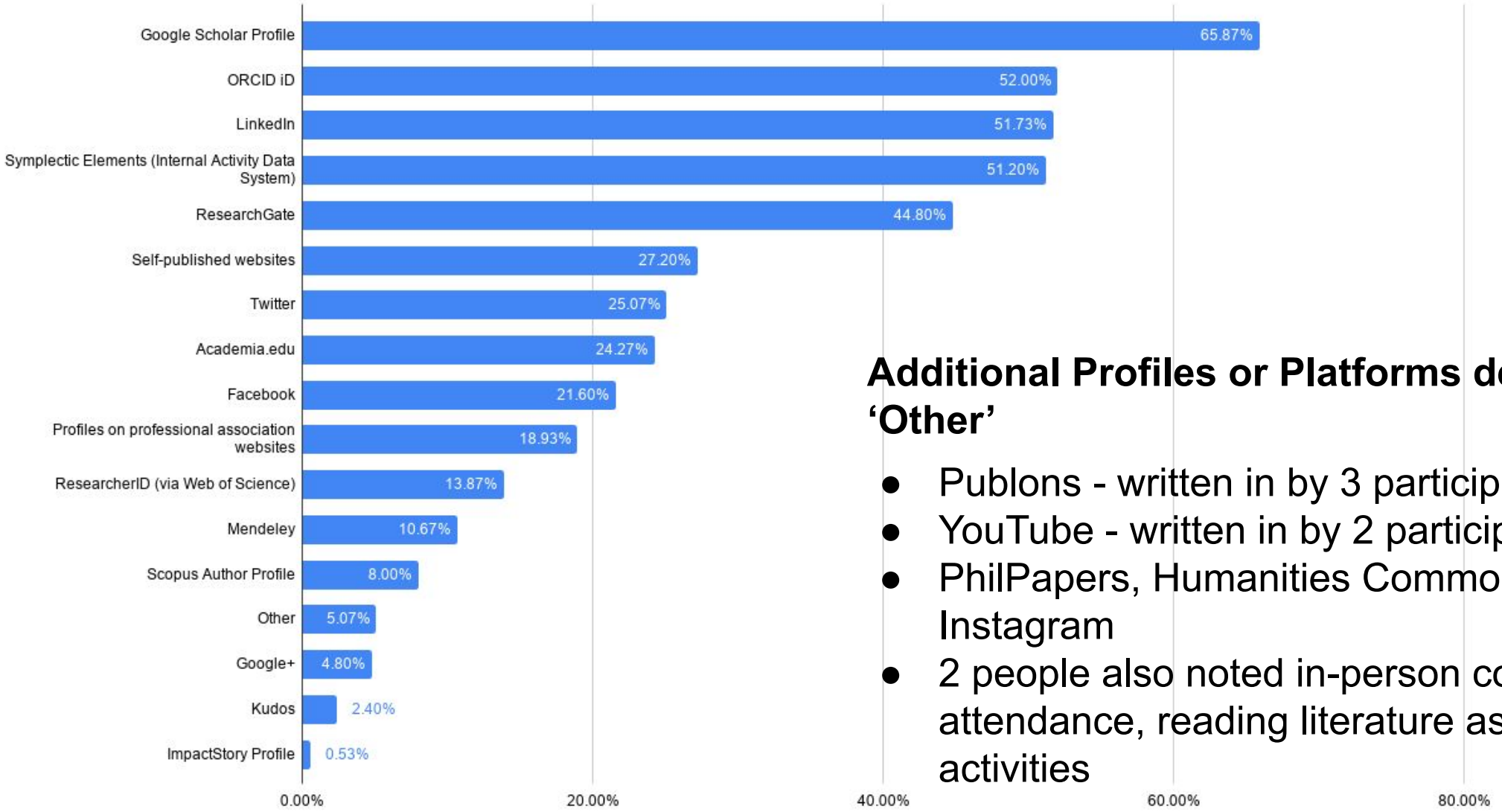
This figure, Figure 1 from the report, shows the percentage of respondents that produce (the top or blue lines) or works respondents plan to produce (the bottom or orange lines): publications, presentations or lectures, creative works, grants, patents, and other works.

Examples of works self-described in the 'Other' category include:

- Submissions and testimony to / before government entities
- Media interviews
- Blog posts
- Musical recordings
- Reports for sponsors (and other reports considered by participant as 'unpublished')
- Designs
- Public art projects
- Speculative and built architecture
- Cartographic products

Table 8 breaks down the types of publications, presentations, and creative or artistic works currently produced into additional types with counts and percentages.

Results: Profile Systems Used Overall

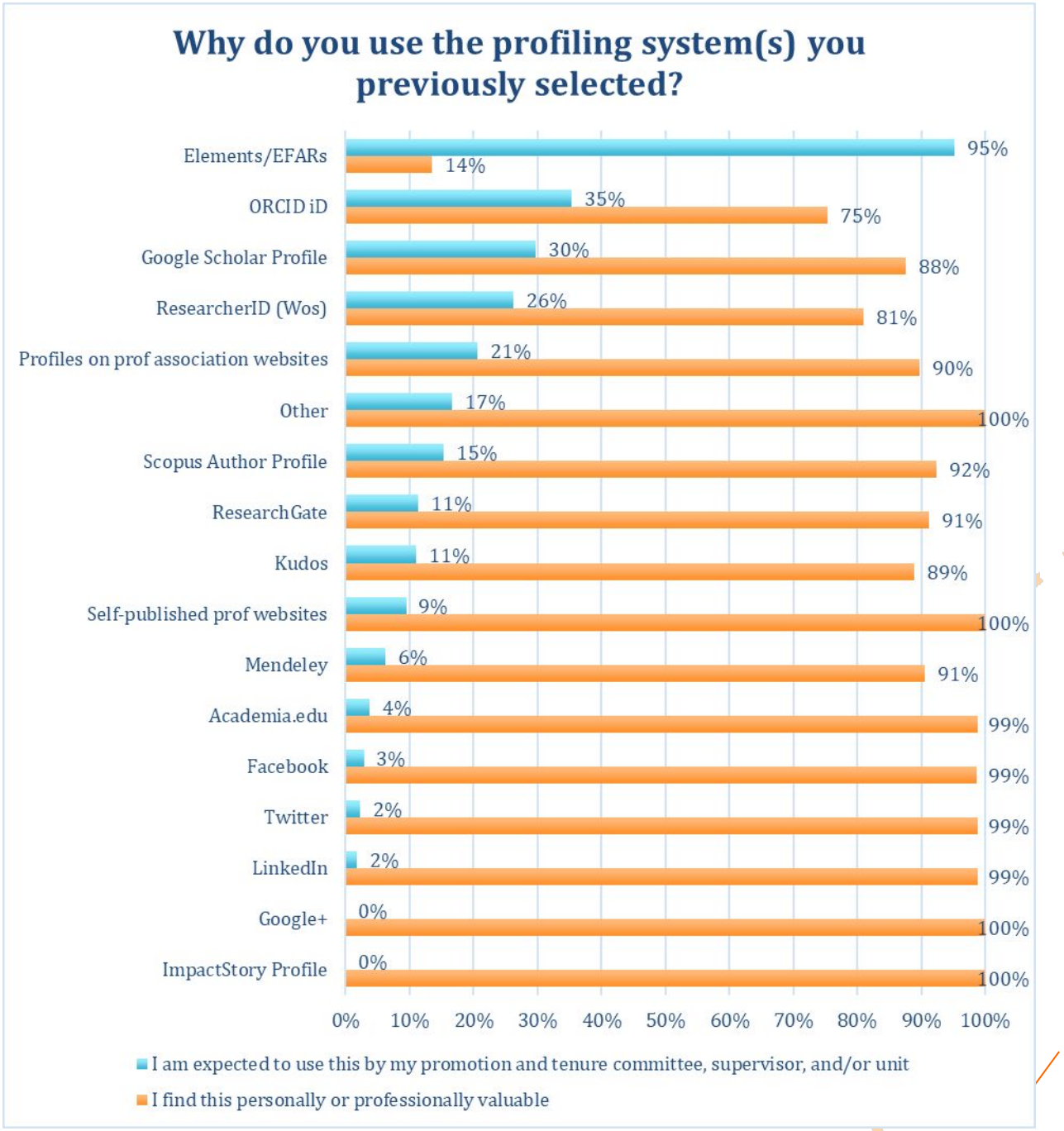


Additional Profiles or Platforms described in 'Other'

- Publons - written in by 3 participants
- YouTube - written in by 2 participants
- PhilPapers, Humanities Commons, Loop, Instagram
- 2 people also noted in-person conference attendance, reading literature as related activities

Results: Motivation for Using Profile Systems

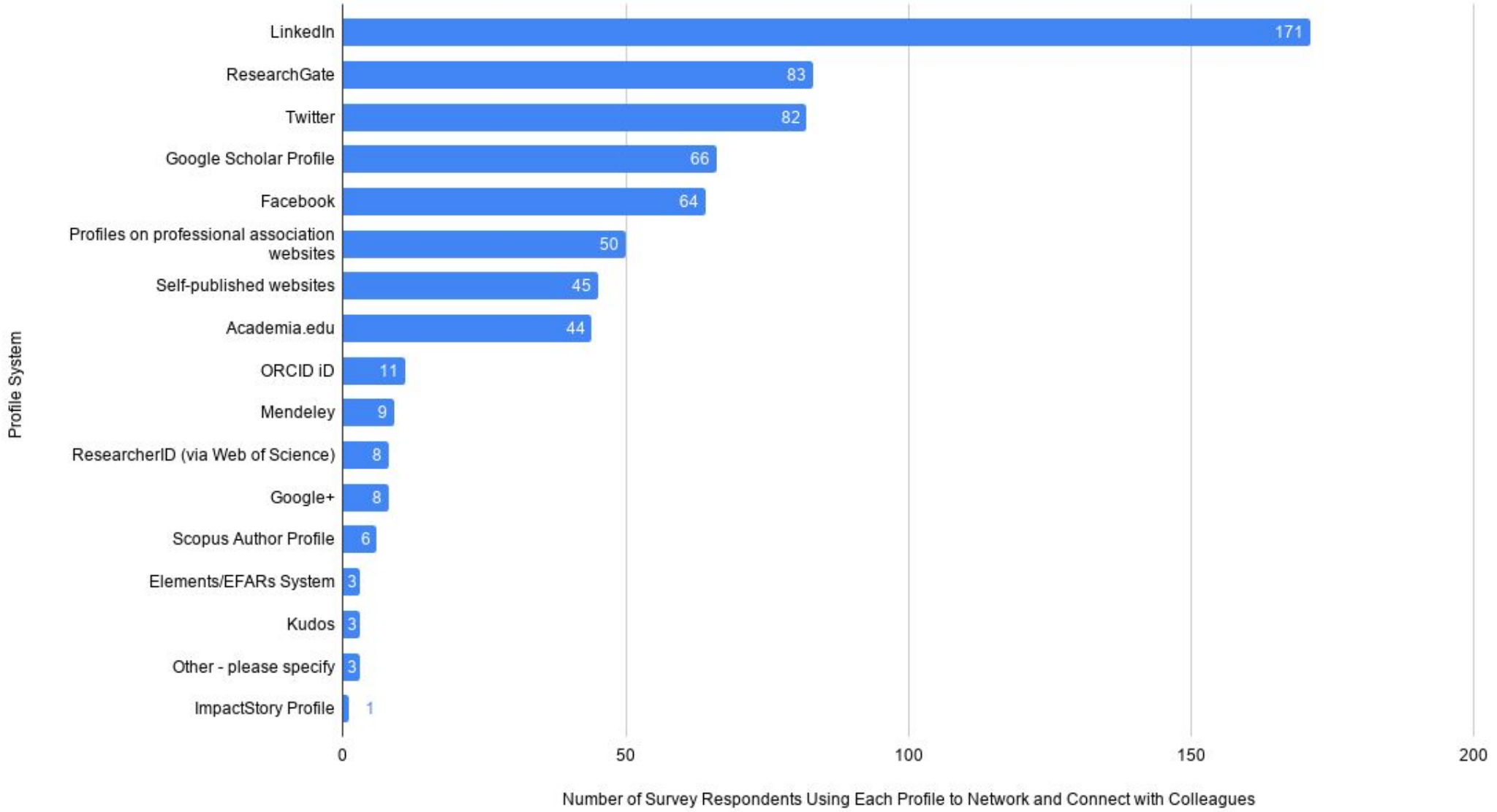
- I am expected to use this by my promotion and tenure committee, supervisor, and/or unit.
- I find this personally or professionally valuable.



Results: Most Used Profile Systems

Five Most Used Profile Systems		
Profile System	**Count**	**Percentage**
Google Scholar Profile	247	65.87%
ORCID iD	195	52.00%
LinkedIn	194	51.73%
Symplectic Elements (Internal Activity Data System)	192	51.20%
ResearchGate	168	44.80%

Results: Profile Systems Used to Network and Connect with Colleagues in My Field



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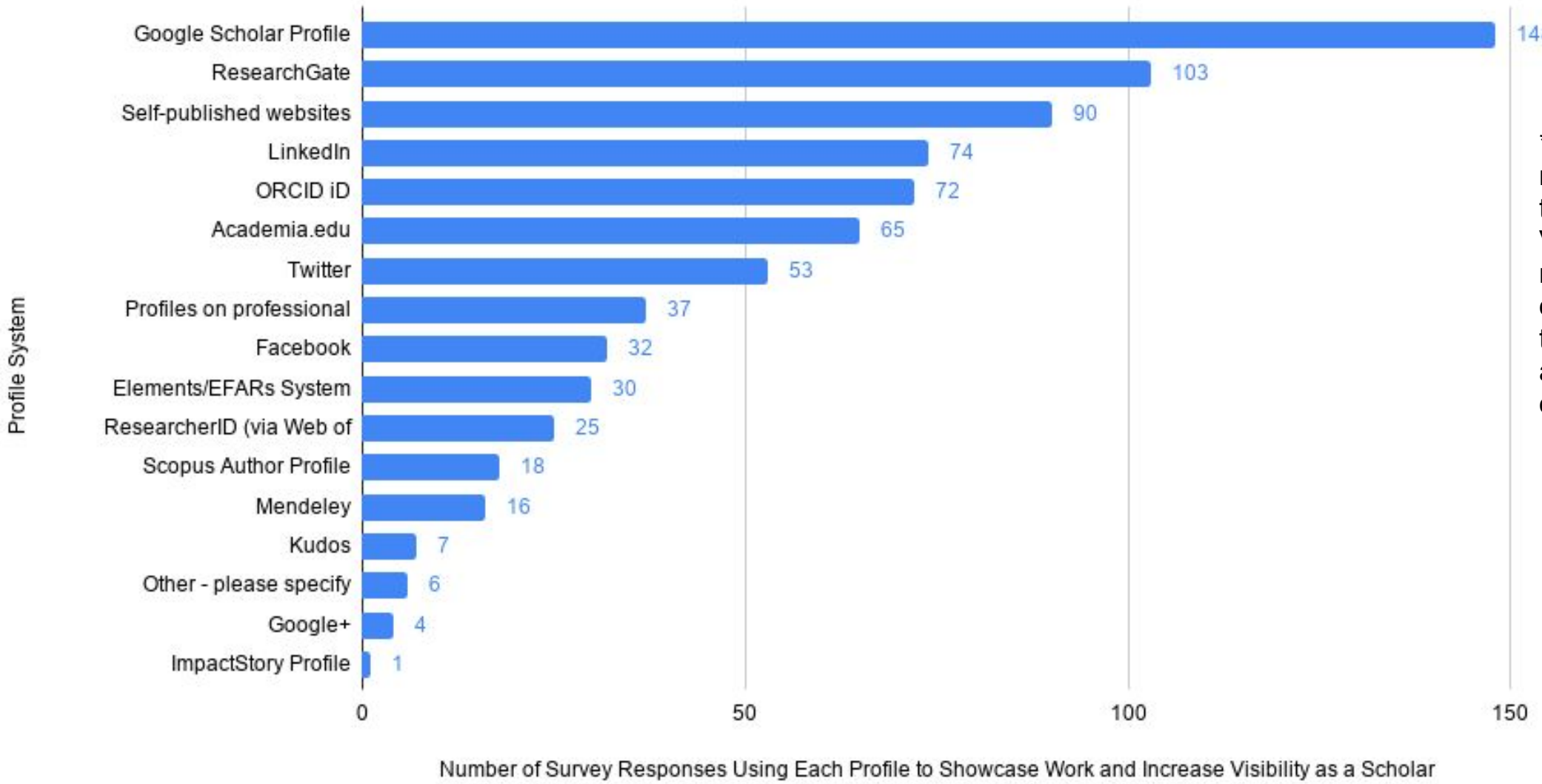
Notes from "Results: Profile Systems Used to Network and Connect with Colleagues in My Field" Slide

As may be expected, social and Social-Professional profiles, including self-published websites are the main systems used for networking and connecting to colleagues, with LinkedIn leading strongly, followed by ResearchGate and Twitter equally, then Google Scholar profiles and Facebook, with Professional Association profiles, self-published Websites, and Academia.edu also of noticeable use.

*Results: Profile Systems Used to Showcase My Work and Increase My Visibility as a Scholar**



*Note: Institutional repositories, including the VT repository, VTechWorks, were not included as an option to select as these were not listed as a 'profile system' option in the survey.

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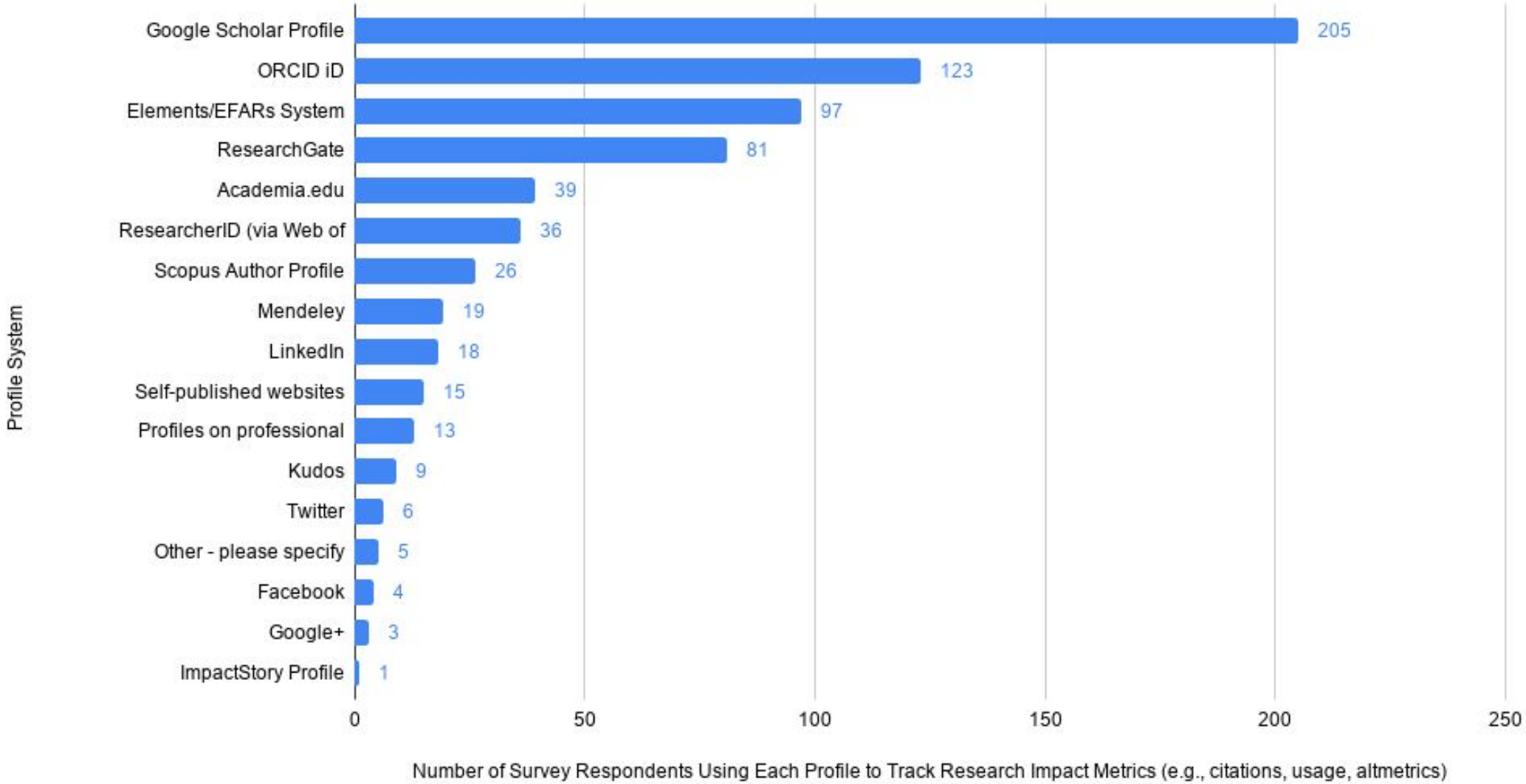
Notes from "Results: Profile Systems Used to Showcase My Work and Increase My Visibility as a Scholar" Slide

Differently than any other purpose, the most variety of strong profile use across the board is in order to showcase work and increase one's visibility. This may indicate that researchers see value in sharing highlights across many profile systems to expand their footprint and make their work available (or identifiable) as widely as possible. While Google Scholar, ResearchGate, and ORCID may seem obvious high use profile systems for this area, the 3rd most used type is self-published websites and LinkedIn is fourth here.

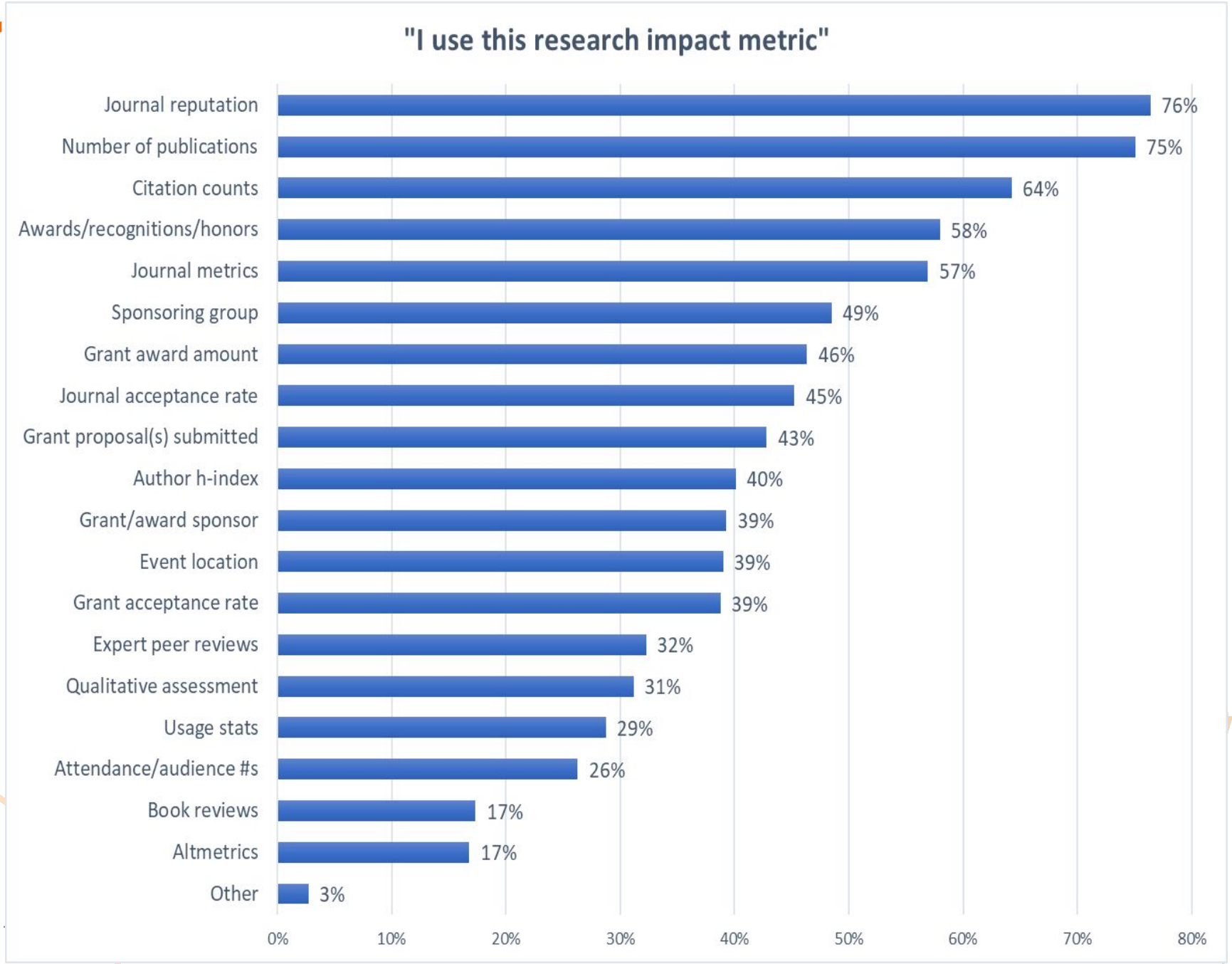
Results: Profile Systems Used to Track Research Impact Metrics



Notes from "Results: Profile Systems Used to Track Research Impact Metrics" Slide

Fewer profiles are used more often for tracking research impact metrics.

Results: Research Impact Metrics Used



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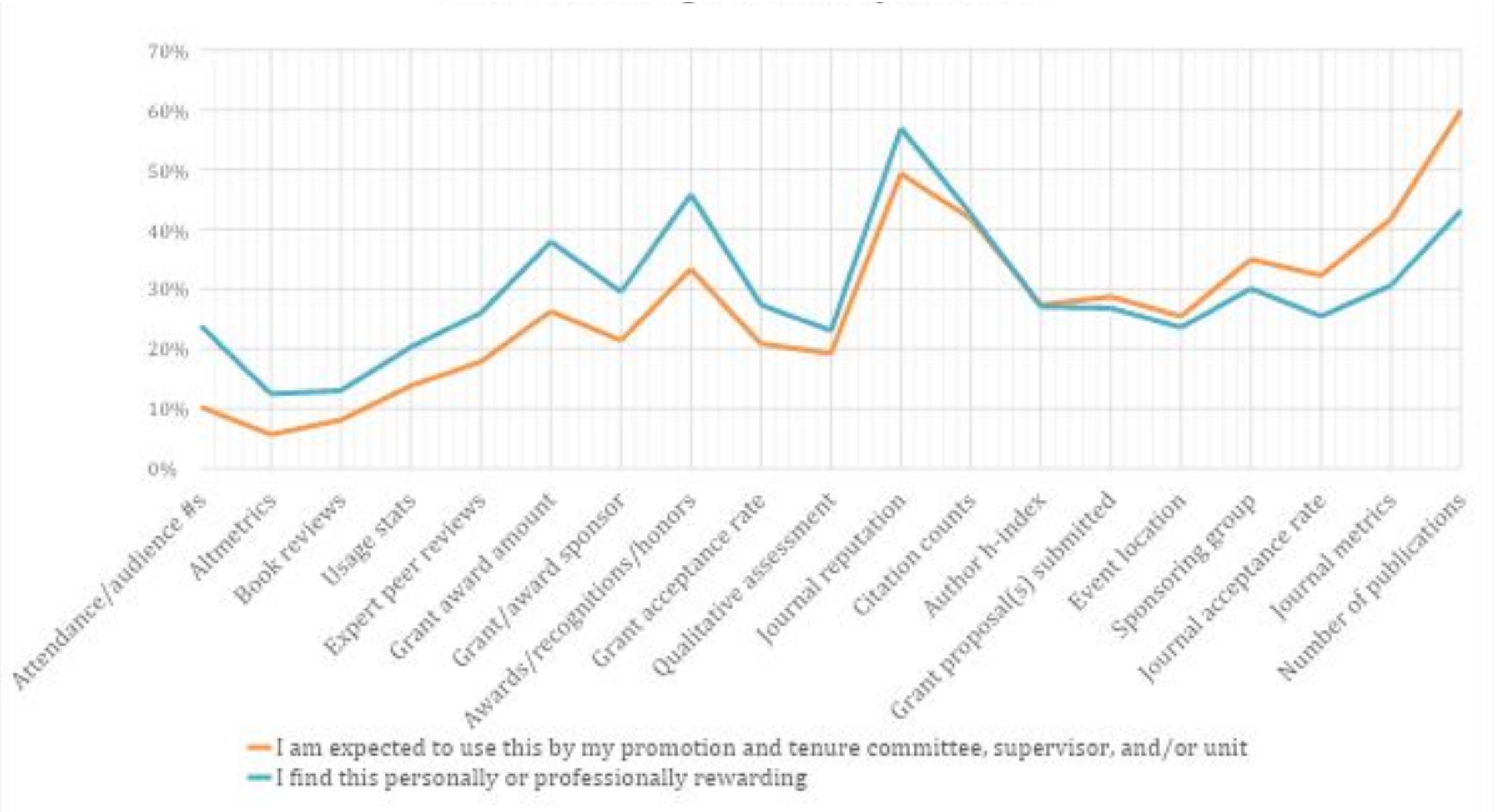
Results: Most Relied Upon Research Impact Metrics

Five Most Relied upon Research Impact Metrics		
Research impact metric	**Count**	**Percentage**
Journal reputation	282	75.81%
Number of publications	277	74.46%
Citations to individual works	237	63.71%
Awards/Recognitions/Honors	214	57.53%
Journal metrics (e.g., Journal Impact Factor)	210	56.45%

Results: Reasons for Using Research Impact Metrics



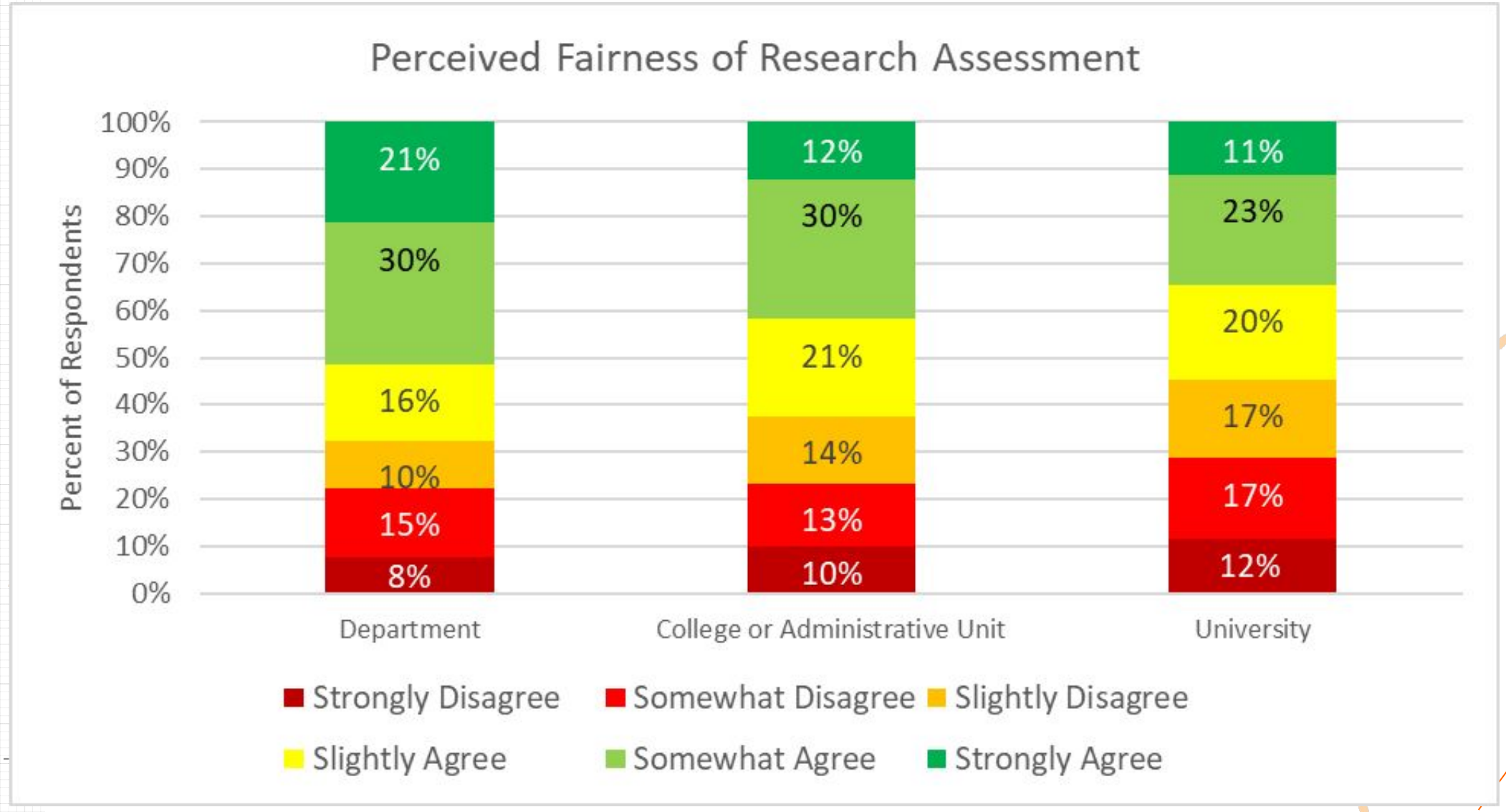
Notes from "Results: Reasons for Using Research Impact Metrics" Slide

- The majority of participants were more likely to select "I am expected to use this" for number of publications, journal metrics, and journal acceptance rate. In contrast, a large majority found the following metrics more useful for professional or personal reasons: attendance numbers, altmetrics, book reviews, usage statistics, and expert peer reviews.
- Exceptions include awards/recognitions, citation counts, and journal reputation, which were seen as valuable for both reasons.

Discussion: Faculty Perspectives on Use of Research Metrics

The chart on Research Metrics Used and the graph comparing Reasons for Using Research Impact Metrics help to clarify something important about respondents' behavior and preference towards metrics: **In many instances, they are more likely to use those metrics they are expected to use for formal evaluation purposes than those that they find professionally or personally valuable**.

Results: Perceived Fairness of Research Evaluation by Level of Review



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Discussion - 1 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished

- **Communicate** research evaluation methods and expectations
- **Use a mix of qualitative and quantitative measures** to avoid over-reliance on quantitative measures
  - One individual elaborated, “The main problem is that assessment is mainly based on numbers of publications without much honest consideration of quality of publications, relative difficulty of performing research, and relative difficulty of obtaining funding.”
  - Similarly, another pleaded, “Stop the counting! It is misleading, does not value creativity, and solidifies an already caustic, calcified environment based more upon power than true scholarship.”

Notes from "Discussion - 1 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished" Slide

Relates to Leiden Manifesto Principle **1) Quantitative evaluation should support qualitative, expert assessment**.

Discussion 2 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished

- **Consider how measures used to evaluate will affect practices**
  - One individual outlined this concern in detail: “It has radically changed how I think about what journals to send my publications to, because the department uses impact factor to determine what they think is a good journal. This is an incomplete metric and some really good journals don't qualify as good journal[s] in the eyes of the department. Thus I find myself sending paper[s] to what I and the community around me considers as worse journals, just because their impact factor is for some reason or another high.”
  - Journal reputation, after all, is more nuanced and based on expert opinions in the field rather than based on a quantitative metric such as the Journal Impact Factor (JIF), which does not normalize across disciplines.

Notes from "Discussion 2 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished" Slide

Leiden Principle **7) Base assessment of individual researchers on a qualitative judgement of their portfolio**. Journal indicators couple potentially be used to support the qualitative judgment but should not be used as a proxy for it.

Discussion 3 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished

- **Use measures relevant to each type of work** and don't compare different publication types on the same metric
  - One participant offered, "My department is biased toward journal articles. Books take longer but the department expects something each year to be published."
- **Include 'non-traditional' works that demonstrate impact and value**
  - One individual commented, "I believe reports should carry more weight. Some of my reports are highly cited and have shaped policy at the federal level. Yet these provide little recognition in the academic environment."
- **Consider qualitative aspects of research activities** such as extent and frequency of collaboration

Notes from "Discussion 3 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished" slide

Leiden Principle **6) Account for variation by field in publication and citation practices** - Best practice is to select a suite of possible indicators and allow fields to choose among them. Citation rates vary by field: top-ranked journals in mathematics have impact factors of around 3; top-ranked journals in cell biology have impact factors of about 30. Normalized indicators are required, and the most robust normalization method is based on percentiles

Discussion 4 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished

- **Respect disciplinary differences** - avoid overuse of STEM-based research evaluation methods in evaluation of works from other disciplines
  - Comments on this concern included “I am a social scientist, and it seems like research assessment is based on a STEM science standard,”
  - “There is an overreliance on money and privileging of indices that are, at best, relevant for only some (primarily STEM) disciplines.”
  - Other individuals suggested that the lack of diversity in research assessment and a general unfamiliarity with standards in certain disciplines can be detrimental to faculty members, particularly when evaluated at the college and university levels: “The college has its own standards for judging us for P&T. However, they're not familiar with what we do [at our department level] ....they aren't in a place to set those standards.”

Notes from "Discussion 4 of 4: Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished" Slide

Again - Leiden Principle **6) Account for variation by field in publication and citation practices**

Discussion: Training Desired by Faculty

Notes from "Discussion: Training Desired by Faculty" Slide

The library offers workshops in all of these areas and responses indicate that most remain of significant interest, particularly regarding promoting one's work. This will inform and support the library's goals in offering such workshops currently and in the future.

Discussion: Additional Report Highlights

- Time
  - The committee noted the discrepancy between assigned time allocations versus time actually spent on research, teaching, and service. Participants feel overburdened by service, teaching, research, and administrative demands; and most felt their research suffered due to time constraints.
- Mental Health
  - Mental health issues among academic faculty and staff have become a rapidly growing concern in higher education, and performance management and metrics have been cited as one of the major contributing factors to this crisis. A new report produced by the Higher Education Policy Institute in the UK shows significant increase in demand for mental health support among higher education staff.

Report Recommendations on Research Assessments and Workloads

- The university should develop a brief, department level driven, university-wide, inclusive, and carefully-written responsible research assessment statement of principles to support and drive diverse research production
- Each department should review its research assessment documents to ensure that standards for assessment are made clear in writing
- Minimize college and university imposition on standards of assessment

Report Recommendations on Research Assessments and Workloads

- Departments should not impose overly-burdensome and unrealistic expectations on faculty to bring in large grants
- Each department should judge different research outputs differently (e.g., books take longer to produce and therefore should not be judged by a simplistic metric such as the “number of publications” metric, especially on a short timeline)

Report Recommendations on Research Assessments and Workloads

- The university should provide departments the resources to reduce teaching, service, and administrative expectations
- Allow departments and perhaps colleges to opt out of eFAR where it is overly-burdensome and of lesser value, or provide administrative support
- Consider “faculty research liaison” positions between faculty and administration

Next Steps at Virginia Tech

- Faculty Senate
  - Presented report at June 2019 Board of Visitors meeting
  - Possible future committee or working group to address research assessment items in this report
  - For 2019-2020, Faculty Affairs will host events on faculty workload equity (not a connected result of the report, but will address a report concern)
- University Libraries
  - Provide training, consultations towards use of researcher profiles and in best practices in research assessment methods
  - Project reviewing research assessment tools for VT use cases
  - Preparing follow up survey for additional faculty and for graduate students

Next Steps at Virginia Tech

Connecting back to VIVO

- University Libraries will use what we learned about Virginia Tech faculty interests to inform our approach to rolling out institutional researcher profile and data analysis options this year

References

- This presentation's files are available via the VTechWorks institutional repository: http://hdl.handle.net/10919/93360
- The Leiden Manifesto
- The San Francisco Declaration on Research Assessment (DORA)
- The Bibliomagician blog's Resource Hub)
- Report from Virginia Tech Faculty Senate Research Assessment Committee available via Board of Visitors Minutes, June 2-3, 2019, II. Report: Constituent Reports, **pages: 12-118**.
  - **Survey Text and Questions** are pages 81-118 of the report.
  - PDF of Report with bookmarks for easier navigation available here via Google Drive. (In this version, Survey Text and Questions are pages 70-107.)
- Office of Institutional Research. Faculty & Staff Data. Virginia Tech. https://www.ir.vt.edu/
- Pressure Vessels: The epidemic of poor mental health among higher education staff , HEPI Occasional Paper 20, by Dr Liz Morrish

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Related Presentations at October 9-10 6:AM Altmetrics Conference

- “Faculty Perceptions on Research Impact Metrics, Researcher Profile Systems, Fairness of Research Evaluation, and Time Allocations at a Large Research University in the Southeastern United States,” by: Rachel Miles, Amanda MacDonald, Virginia Pannabecker, Jim A. Kuypers, Nathaniel Porter (Virginia Tech, USA)
- “Rumor Has It: How Exploring Research Engagement through Metrics Transforms Student Learning,” by: Rachel Miles, Amanda MacDonald (Virginia Tech, USA)