Faculty Perceptions on Research Impact Metrics, Researcher Profile Systems, Fairness of Research Evaluation, and Time Allocations

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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Background

This case study was conducted by a small group of 5 people who are listed here as authors: four from the University Libraries: Rachel A. Miles, Amanda MacDonald, Nathaniel D. Porter, Virginia Pannabecker, and Jim A. Kuypers, Professor in the Department of Communication, College of Liberal Arts and Human Sciences.

Rachel Miles led the initial survey design; helped with data analysis and data visualizations; and led writing the report in its entirety. Amanda MacDonald helped greatly with the survey design and led its creation in Qualtrics. Nathaniel D. Porter helped with survey design/structure/flow, qualitative data analysis, and data visualizations. Virginia (Ginny) Pannabecker helped with survey IRB approval and distribution, and with writing the report in its entirety and providing review/feedback. Jim Kuypers (who was the Committee Chair) led the committee's work, and contributed substantially to the survey development and report.

Input was provided towards the case study by several others on a faculty level committee. (See next slide.)

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Notes on Accessibility of Slides

- All graphs in these slides are images with alt-text which is compatible with screen readers. However, these graphs do contain important textual information, and therefore, tables of these data are provided in the Appendix of the slides in accessible formats for screen readers.

- In some instances, in order to fit the all data in a table in the Appendix, smaller text is used that may not accommodating for all individuals. The same issue may be present in some of the graphs.

- In order to accommodate screen readers, notes for slides, which provide important context and background information, are provided on the same slide or on the subsequent slide when space was limited.

- If for some reason you do not find that the content of these slides to be accommodating, or you would like a different version provided, please contact the creator/owner of the slides, Rachel Miles, at ramiles@vt.edu.

Faculty Senate Research Assessment Committee (FSRAC)

- Formed January 2019

- Formed to explore concerns regarding salaries and the evaluation of faculty research at Virginia Tech

- Representation from each college, including the University Libraries

- Goals
  - Assess faculty perceptions on research assessment and salaries with a survey and to provide a report to Faculty Senate by May 2019
  - Faculty Senate President to present outcomes / findings of survey report to the Board of Visitors on June 3.

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)

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Survey Participation

- **501 respondents, 10.33% of all full-time faculty (471) completed**

- ~20% of all **tenured and tenure-track faculty** (302) responded.

  - Majority of respondents* (63%) tenured or tenure-track, compared to 34% or all university faculty.

- Largest percentage and number of responses from the **College of Liberal Arts and Human Sciences** (31%).

- **Racial demographics** mostly representative of university faculty racial data* **(large majority** (73%) selected "**White or Caucasian**").

- **Gender demographics** also mostly representative of university faculty (survey: male 58%, female 42%; univ: male 50%, female 38%).

Survey Participation - Notes on previous slide

- University data on number of faculty was retrieved from the <u>Office of Institutional Research (OIR)</u>.

- 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.
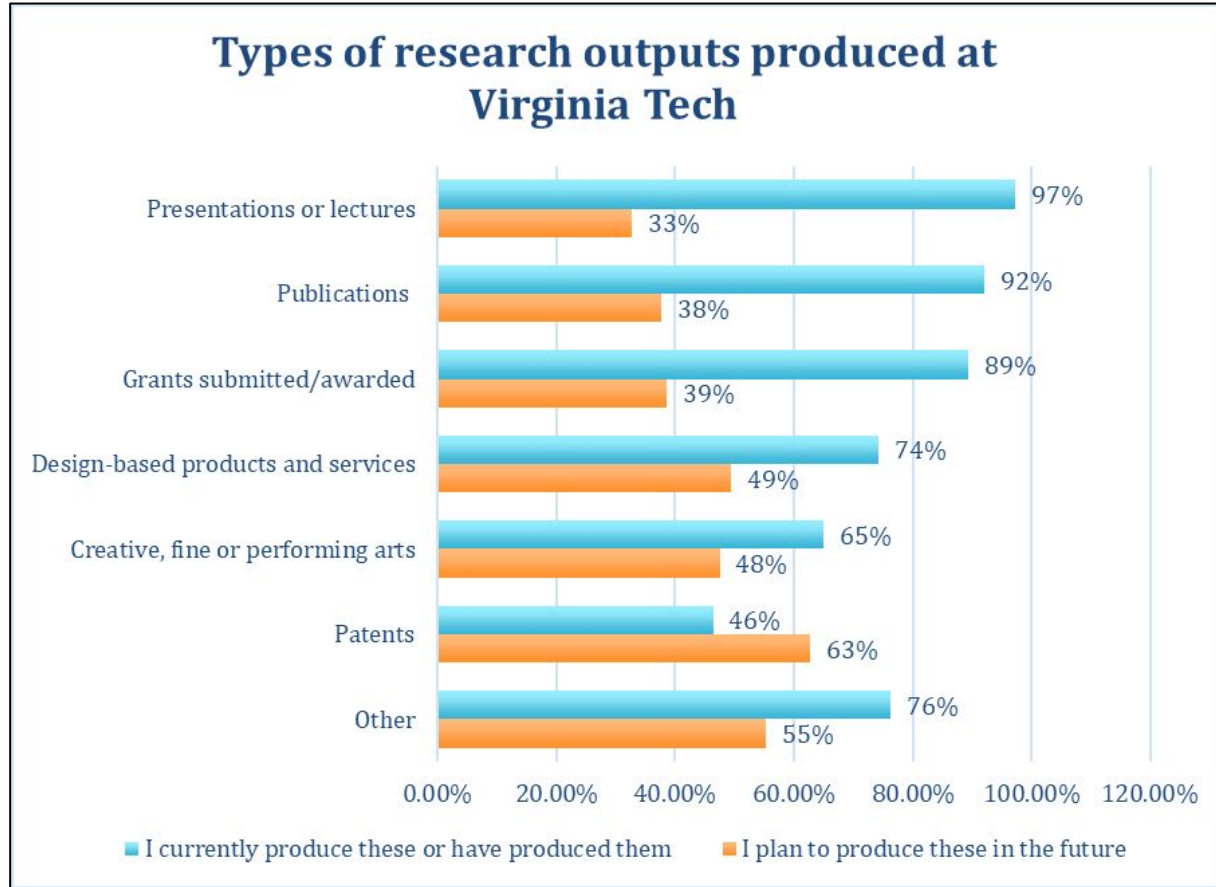
outputs

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.

Types of research outputs produced at Virginia Tech

Research Output	I currently produce these or have produced them	I plan to produce these in the future
Presentations or lectures	97%	33%
Publications	92%	38%
Grants submitted/awarded	89%	39%
Design-based products and services	74%	49%
Creative, fine or performing arts	65%	48%
Patents	46%	63%
Other	76%	55%

■ I currently produce these or have produced them   ■ I plan to produce these in the future

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Types of Research Outputs
Notes on previous 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.

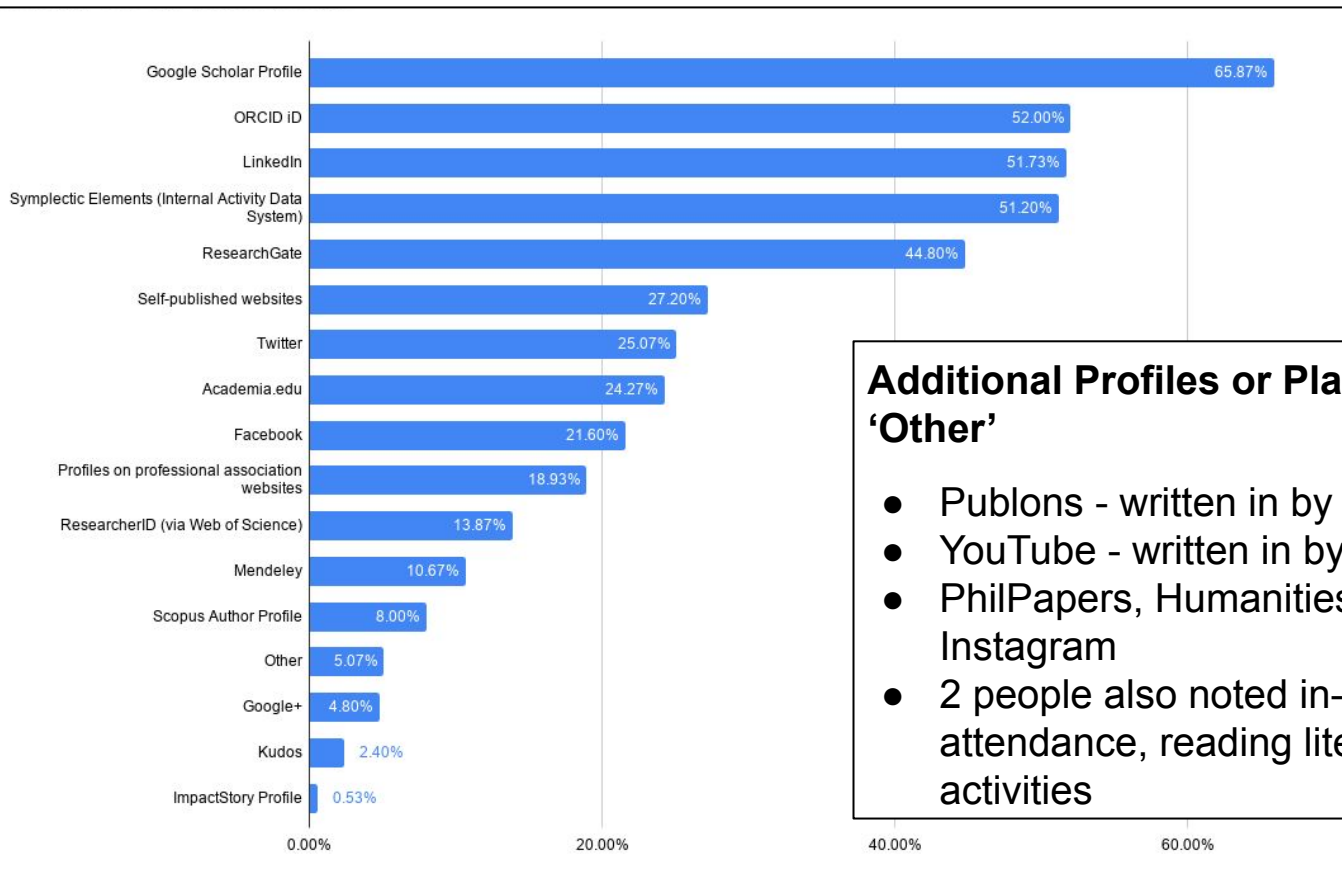Examples of works self-described in the 'Other' category include:

- 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

Tables 8, 9, & 10 (in the Appendix) breaks down the types of publications, presentations, and creative or artistic works currently produced into additional types with counts and percentages.

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profiles

Results: Profile Systems Used Overall*

Profile System	Percentage
Google Scholar Profile	65.87%
ORCID iD	52.00%
LinkedIn	51.73%
Symplectic Elements (Internal Activity Data System)	51.20%
ResearchGate	44.80%
Self-published websites	27.20%
Twitter	25.07%
Academia.edu	24.27%
Facebook	21.60%
Profiles on professional association websites	18.93%
ResearcherID (via Web of Science)	13.87%
Mendeley	10.67%
Scopus Author Profile	8.00%
Other	5.07%
Google+	4.80%
Kudos	2.40%
ImpactStory Profile	0.53%

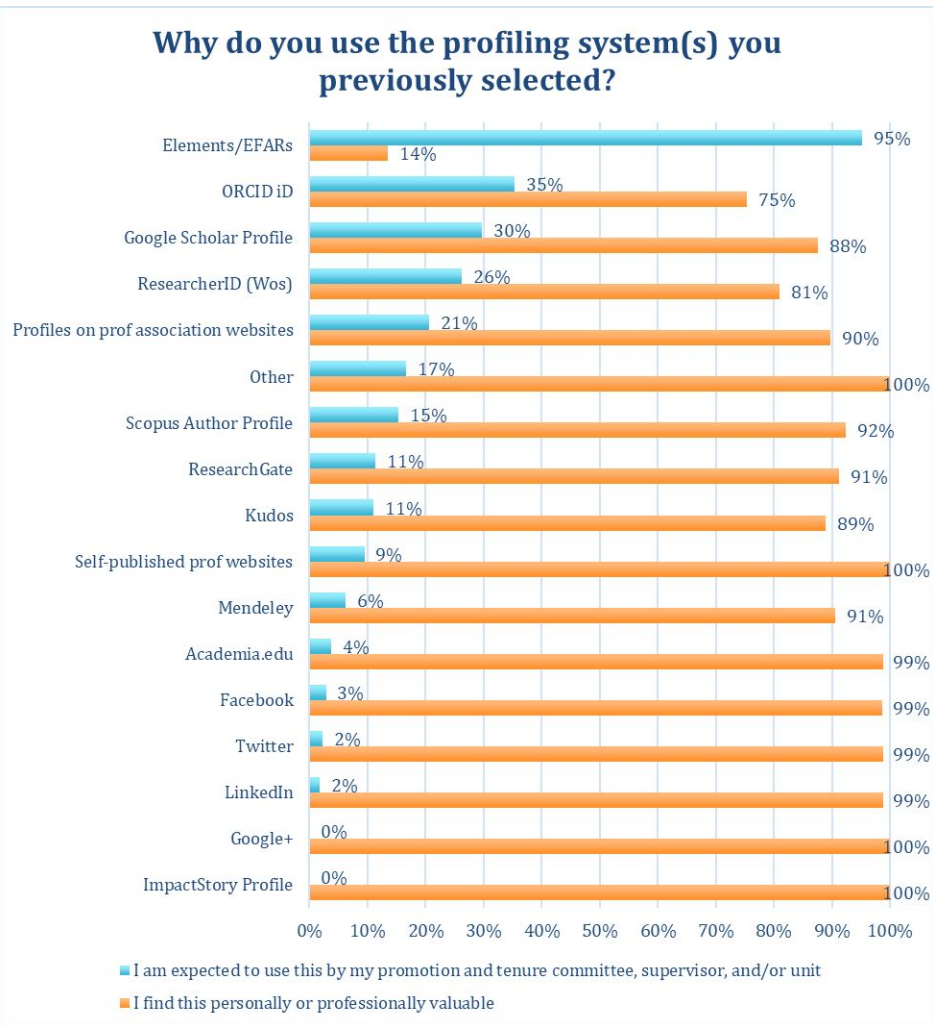**Additional Profiles or Platforms described in 'Other'**

- 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

See Appendix, Table 11, for numbers (only percentages shown here).

Results: Motivation for Using Profile Systems

Why do you use the profiling system(s) you previously selected?

System	I am expected to use this by my promotion and tenure committee, supervisor, and/or unit	I find this personally or professionally valuable
Elements/EFARs	95%	14%
ORCID iD	35%	75%
Google Scholar Profile	30%	88%
ResearcherID (WoS)	26%	81%
Profiles on prof association websites	21%	90%
Other	17%	100%
Scopus Author Profile	15%	92%
ResearchGate	11%	91%
Kudos	11%	89%
Self-published prof websites	9%	100%
Mendeley	6%	91%
Academia.edu	4%	99%
Facebook	3%	99%
Twitter	2%	99%
LinkedIn	2%	99%
Google+	0%	100%
ImpactStory Profile	0%	100%

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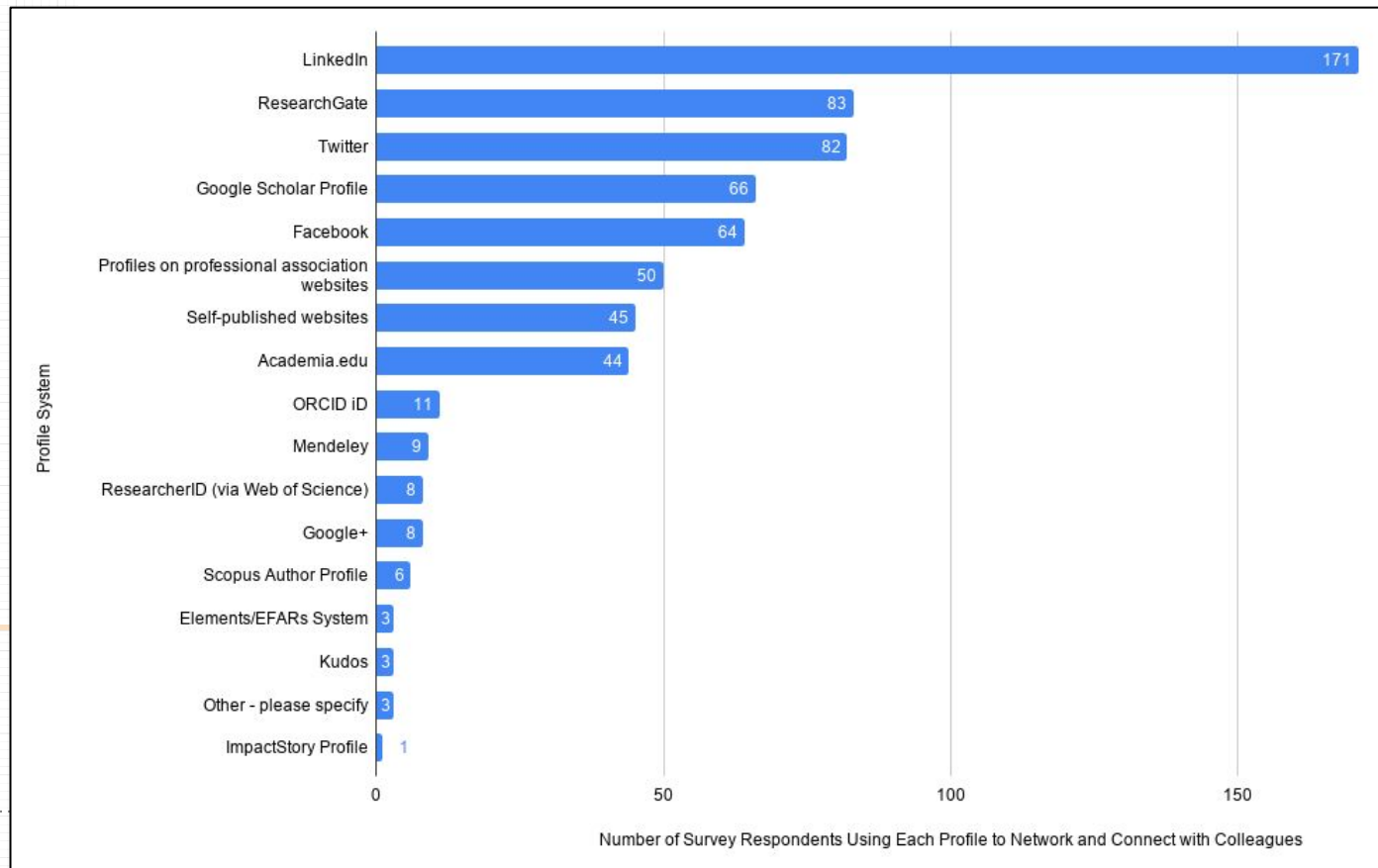■ I find this personally or professionally valuable

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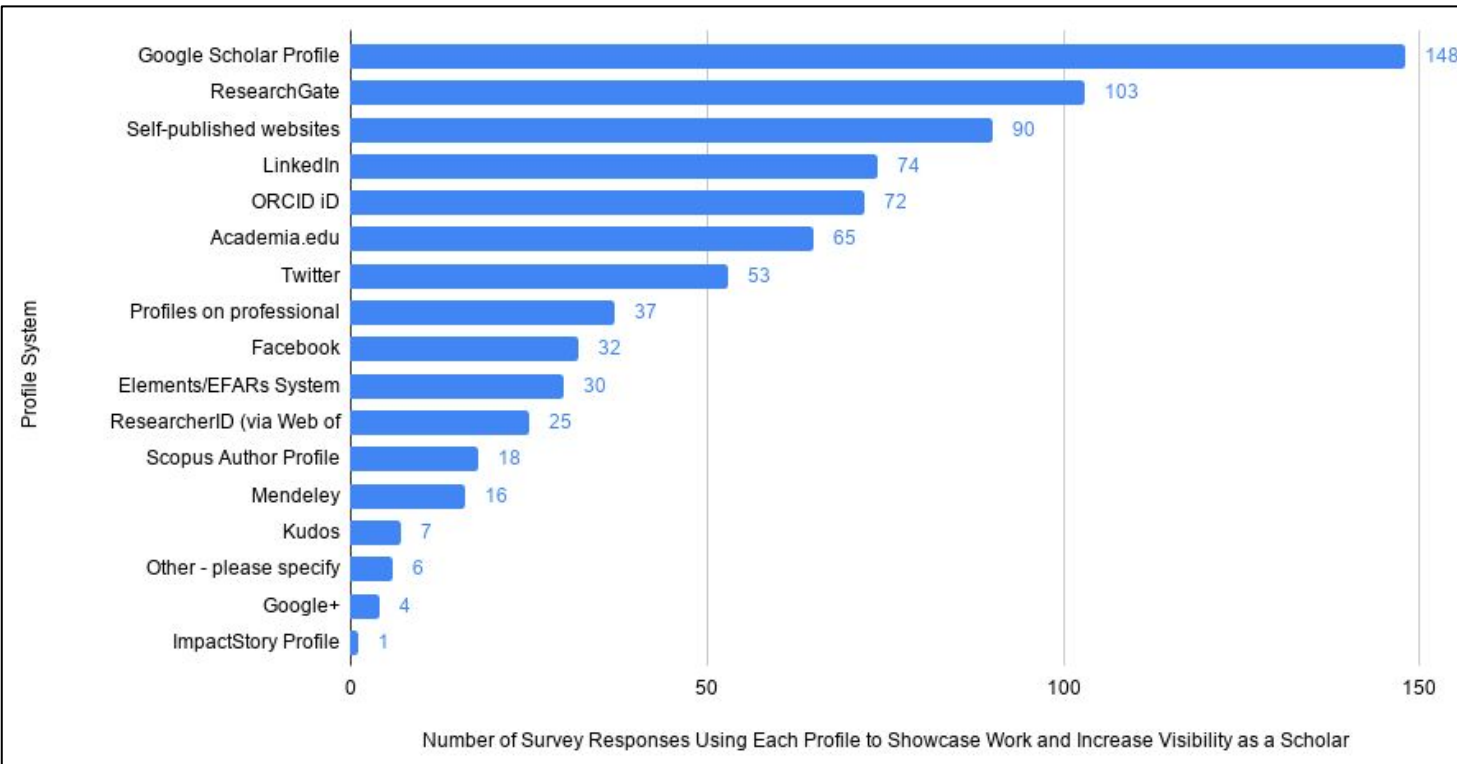
■ I find this personally or professionally valuable.

See Appendix, Table 12, for numbers (only percentages shown here).

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

Number of Survey Respondents Using Each Profile to Network and Connect with Colleagues

Profile System	Number
LinkedIn	171
ResearchGate	83
Twitter	82
Google Scholar Profile	66
Facebook	64
Profiles on professional association websites	50
Self-published websites	45
Academia.edu	44
ORCID iD	11
Mendeley	9
ResearcherID (via Web of Science)	8
Google+	8
Scopus Author Profile	6
Elements/EFARs System	3
Kudos	3
Other - please specify	3
ImpactStory Profile	1

Notes: 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 and Increase Visibility*

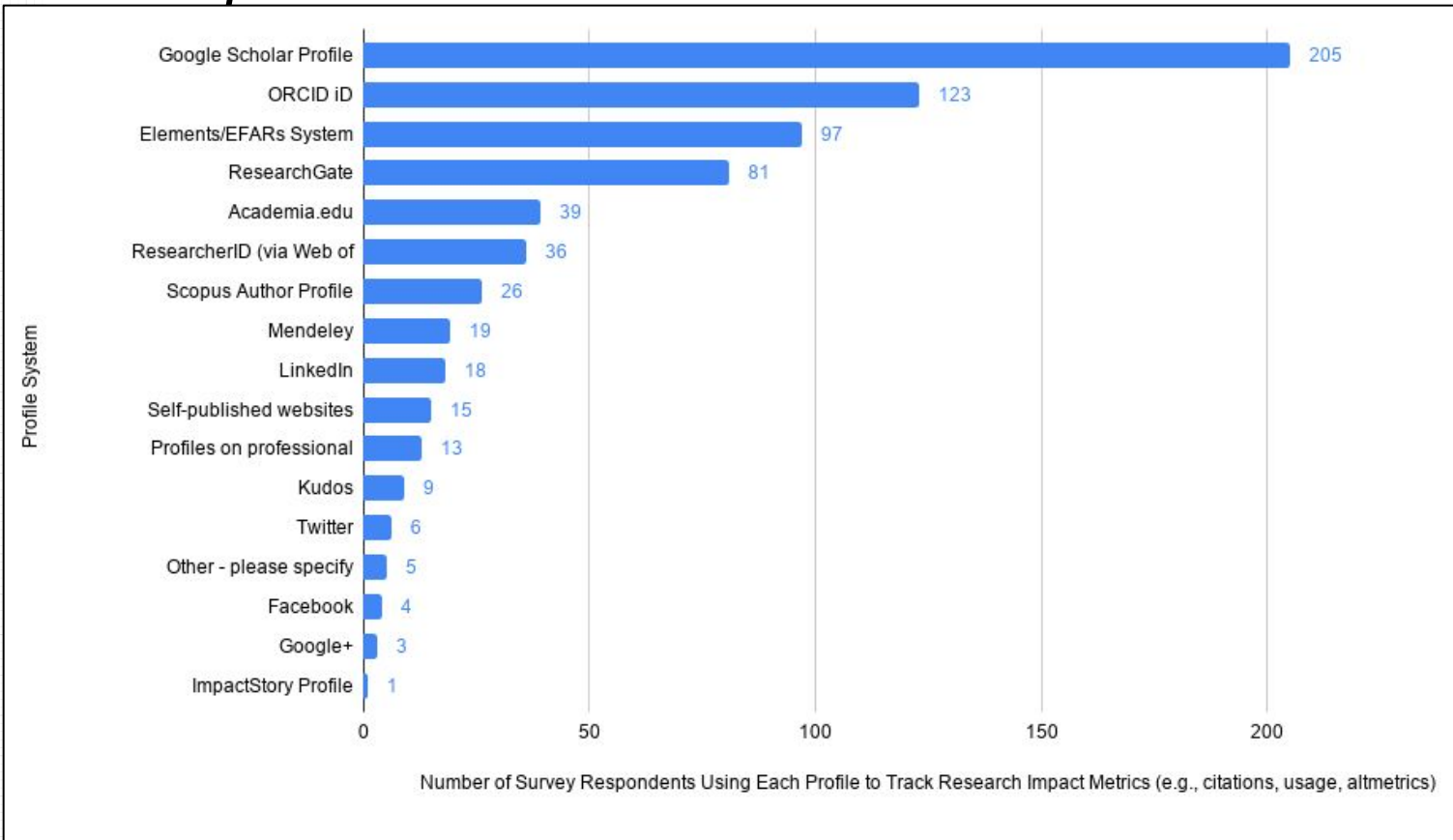Number of Survey Responses Using Each Profile to Showcase Work and Increase Visibility as a Scholar

*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.

Notes: 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

Number of Survey Respondents Using Each Profile to Track Research Impact Metrics (e.g., citations, usage, altmetrics)
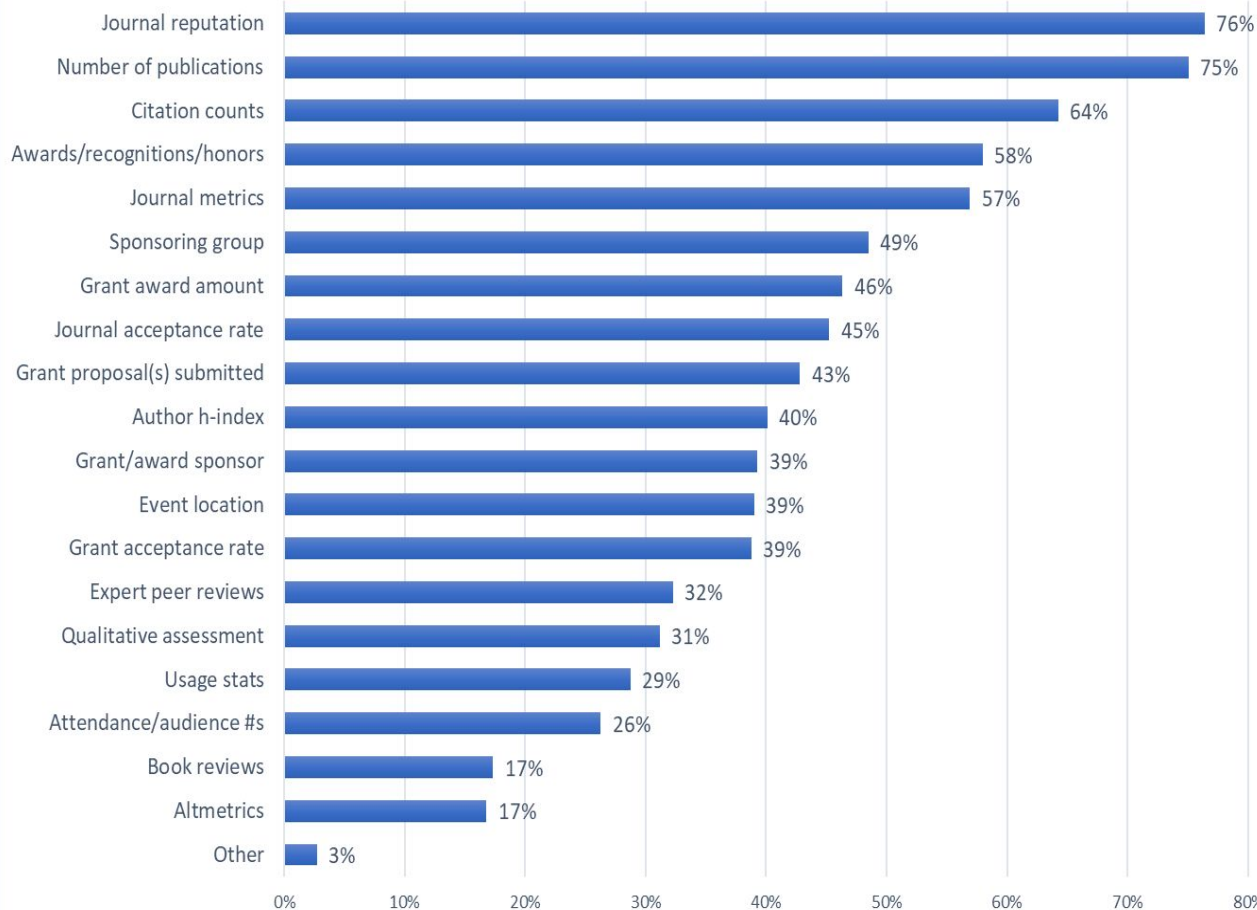
Overall, a select few profile systems are used more often for tracking research impact metrics, namely Google Scholar (205), ORCID iD (123), and the internal Elements/eFAR system (97).
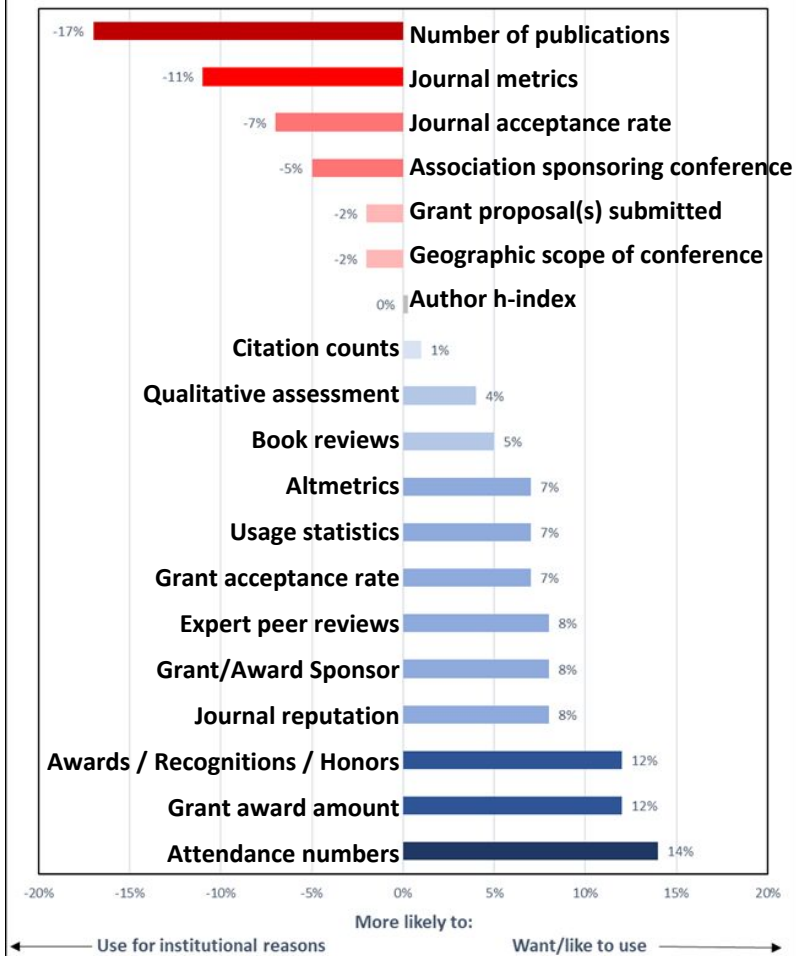
metrics

"I use this research impact metric"

Metric	Percentage
Journal reputation	76%
Number of publications	75%
Citation counts	64%
Awards/recognitions/honors	58%
Journal metrics	57%
Sponsoring group	49%
Grant award amount	46%
Journal acceptance rate	45%
Grant proposal(s) submitted	43%
Author h-index	40%
Grant/award sponsor	39%
Event location	39%
Grant acceptance rate	39%
Expert peer reviews	32%
Qualitative assessment	31%
Usage stats	29%
Attendance/audience #s	26%
Book reviews	17%
Altmetrics	17%
Other	3%

Results: Research Impact Metrics Used

See Appendix, Table 13, for numbers (only percentages shown here).

Results: Reasons for Using Research Impact Metrics

Percentage Differences - Primary Reasons for Using Research Impact Indicators
N=369

Reason	Percentage
Number of publications	-17%
Journal metrics	-11%
Journal acceptance rate	-7%
Association sponsoring conference	-5%
Grant proposal(s) submitted	-2%
Geographic scope of conference	-2%
Author h-index	0%
Citation counts	1%
Qualitative assessment	4%
Book reviews	5%
Altmetrics	7%
Usage statistics	7%
Grant acceptance rate	7%
Expert peer reviews	8%
Grant/Award Sponsor	8%
Journal reputation	8%
Awards / Recognitions / Honors	12%
Grant award amount	12%
Attendance numbers	14%

More likely to:
← Use for institutional reasons   Want/like to use →

See Appendix, Table 14 for data on percentages and Table 15 for actual numbers.

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Results: Reasons for Using Research Impact Metrics - Notes on previous slide

- The majority of participants were more likely to select "I am expected to use this" for number of publications, journal metrics, journal acceptance rate, and association sponsoring conference (in order of emphasis / percent difference).

- In contrast, participants indicated the following metrics more useful for professional or personal reasons (in order of emphasis / percent difference): attendance numbers, grant award amount (funded grants only), awards/recognitions/honors, journal reputation, grant/award sponsor, expert peer reviews, grant acceptance rate, usage statistics, altmetrics, and book reviews.

- Metrics with less than five percent difference include the following slightly in favor of personal reasons: qualitative or narrative assessment (4%), citation counts to individual works (1%), and the author h-index (0%); the following slightly in favor of institutional reasons: geographic scope of conference/event (2%) and grant proposal(s) submitted (2%).

The participants' responses from questions about research impact metrics suggest that there are certain metrics that are considered more valuable to faculty than others while there are other metrics that are primarily used to comply with expectations and requirements for formal evaluation purposes.

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Research Metric Use - A closer look

Taking a closer look at the data, we can now identify the metrics that are more likely to used for institutional versus personal/professional reasons.

"I use this research metric"

Metric	Value
Journal reputation**	282
Number of publications*	277
Citation counts±	237
Awards / Recognitions / Honors**	214
Journal metrics*	210
Association sponsoring conference*	179
Grant award amount**	171
Journal acceptance rate*	167
Grant proposal(s) submitted±	158
Author h-index±	148
Grant/Award Sponsor**	145
Geographic scope of conference±	144
Grant acceptance rate**	143
Expert peer reviews**	119
Qualitative assessment±	115
Usage statistics**	106
Attendance numbers**	97
Book reviews**	64
Altmetrics**	62

Accessible-friendly Key

*More likely to use for institutional reasons

**More likely to use for personal/professional reasons

±Likely to use for both reasons (less than 5% difference)

Color Key

Red: More likely to use for institutional reasons

Blue: More likely to use for personal/professional reasons

Grey: Likely to use for both reasons (less than 5% difference)

The darker the blue or red, the more likely it is to be used for that reason.

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 some 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**.

Discussion: Faculty Perspectives on Use of Research Metrics - Continued

Another observation of this data: faculty seem to like to use "grant award amount" and "grant acceptance rate" (both for funded grants only) for personal/professional reasons more so than for institutional reasons. Some speculation as to why this could be: they may want to have a better idea of how well they did / monitor their progress. It's unclear why institutional reasons are not as emphasized here, but the other data does speak clearly regarding journal metrics and number of publications, which seem to matter the most for external evaluation at Virginia Tech.

Discussion: Faculty Perspectives on Use of Research Metrics - Notes on previous slide

In other cases, participants explained that they are aware of the journals in their field with renowned reputations yet are expected to submit elsewhere due to departmental expectations:

Sample textual response: "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 in the eyes of the department. Thus I find myself sending paper to what I and the community around me considers as worse journals, just because their impact factor is for some reason or another high."

fairness

Results: Perceived Fairness of Research Evaluation by Level of Review

Perceived Fairness of Research Assessment

Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished:

1. Communicate Research Evaluation Methods and Expectations

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

b. **Use a mix of qualitative and quantitative measures** to avoid over-reliance on quantitative measures (*Leiden - Principle 1).*

c. 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."

d. 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.

2. *Consider How Evaluation Measures Affect Practices*

a. Faculty more likely to feel unconstrained to pursue their true research interests, journals, projects, etc. when not constrained by a singular metric

b. 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."

c. 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 also does not normalize across disciplines.

d. **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.

e. Beware the Cobra Effect, Goodhart's Law ("When a measure becomes a target, it ceases to be a good measure"), Campbell's Law

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Faculty Perspectives on How Fair Research Evaluation Can Be Accomplished:
3. Use Measures Relevant to Each Type of Work
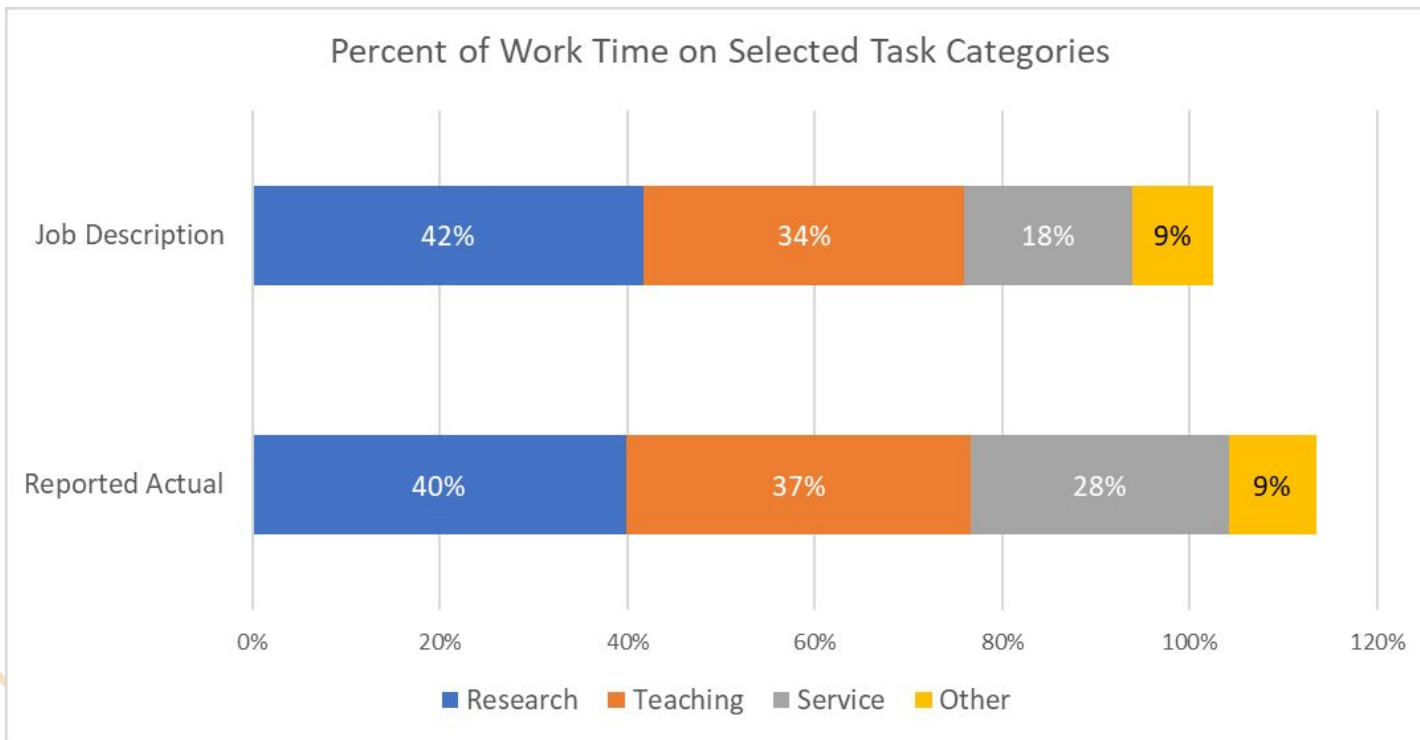
a. Don't compare different publication types on the same metric

b. **Relates to Leiden Principle 6:** *Avoid overuse of STEM-based research evaluation methods in evaluation of works from other disciplines*. (e.g., non-traditional outputs include Extension reports, books, & monographs)

c. One participant offered: "My department is biased toward journal articles. Books take longer but the department expects something each year to be published."

d. 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."

e. **Consider qualitative aspects of research activities** such as extent and frequency of collaboration

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4. Respect Disciplinary Differences

a. **Relates to Leiden Principle 6:** *Avoid overuse of STEM-based research evaluation methods in evaluation of works from other disciplines*.

b. Comments & sentiment include:

  i. "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."

  ii. Comments on this concern included "I am a social scientist, and it seems like research assessment is based on a STEM science standard,"

  iii. "There is an overreliance on money and privileging of indices that are, at best, relevant for only some (primarily STEM) disciplines."

  iv. 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."

time

Perceptions on Time Commitments

Percent of Work Time on Selected Task Categories

	Research	Teaching	Service	Other
Job Description	42%	34%	18%	9%
Reported Actual	40%	37%	28%	9%

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Perceptions on Time Commitments - Notes on Previous Slide

- 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.
- Interestingly, when you split the survey data by gender, job descriptions are about two to three times as good at predicting differences in actual work for men as for women. For total percent, the R-squared is 0.35 for men and 0.12 for women. For service, the R-squared is 0.67 for men and 0.32 for women. For whatever underlying reason, female faculty are feeling this disparity between research expectations and workload even more keenly than male faculty.

Discussion: Additional Report Highlights

- **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.

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Virginia Tech's
*P*artnership for an *I*ncentive *B*ased *B*udget (PIBB)

pibb

PIBB Integration with Research

- PIBB is a major change from an incremental budgeting approach to performance budgeting approach

- PIBB still not fully integrated at Virginia Tech

- Research evaluation not a part of the PIBB at all at this point

- Discussions have begun about whether and how to include research in the PIBB

- Overall, participants indicated the following:

  - Little to no familiarity with the PIBB model

  - Distrust in the model's ability to fairly measure output

  - Concerns about the impacts of the model on research output

PIBB Model - Qualitative Responses Slide 1 of 4

- "How [to] assess a book? Writing takes years.... Then impact could take years."

- "Cannot be used fairly across the diversity of disciplines and expectations in the university."

- "The PIBB should not be used in this way. In my field, the metrics are grossly inaccurate and fail to include large amounts of information. The metrics are unable to judge the quality of the publications as well. What is more, the system [can and will] be gamed to some extent...."

- "I am skeptical of the utility of the PIBB approach, as it seems to likely over-emphasize quantitative metrics that likely don't adequately capture the quality and real impact of faculty contributions, in whatever university mission the faculty member is engaged in. The diverse nature of faculty programs across the university will likely make this problem even worse…"

PIBB Model - Qualitative Responses
Slide 3 of 4

"Should NOT [use the PIBB] in conjunction with research productivity. If tenure and post-tenure reviews are functioning as they should (e.g. making sure that faculty are producing), then the use of the PIBB model should be unnecessary. All it would do is create greater stress and de-incentivize collaborations by promoting competition between departments (i.e., there's a set amount of money, so we need to fight for it all ourselves)."
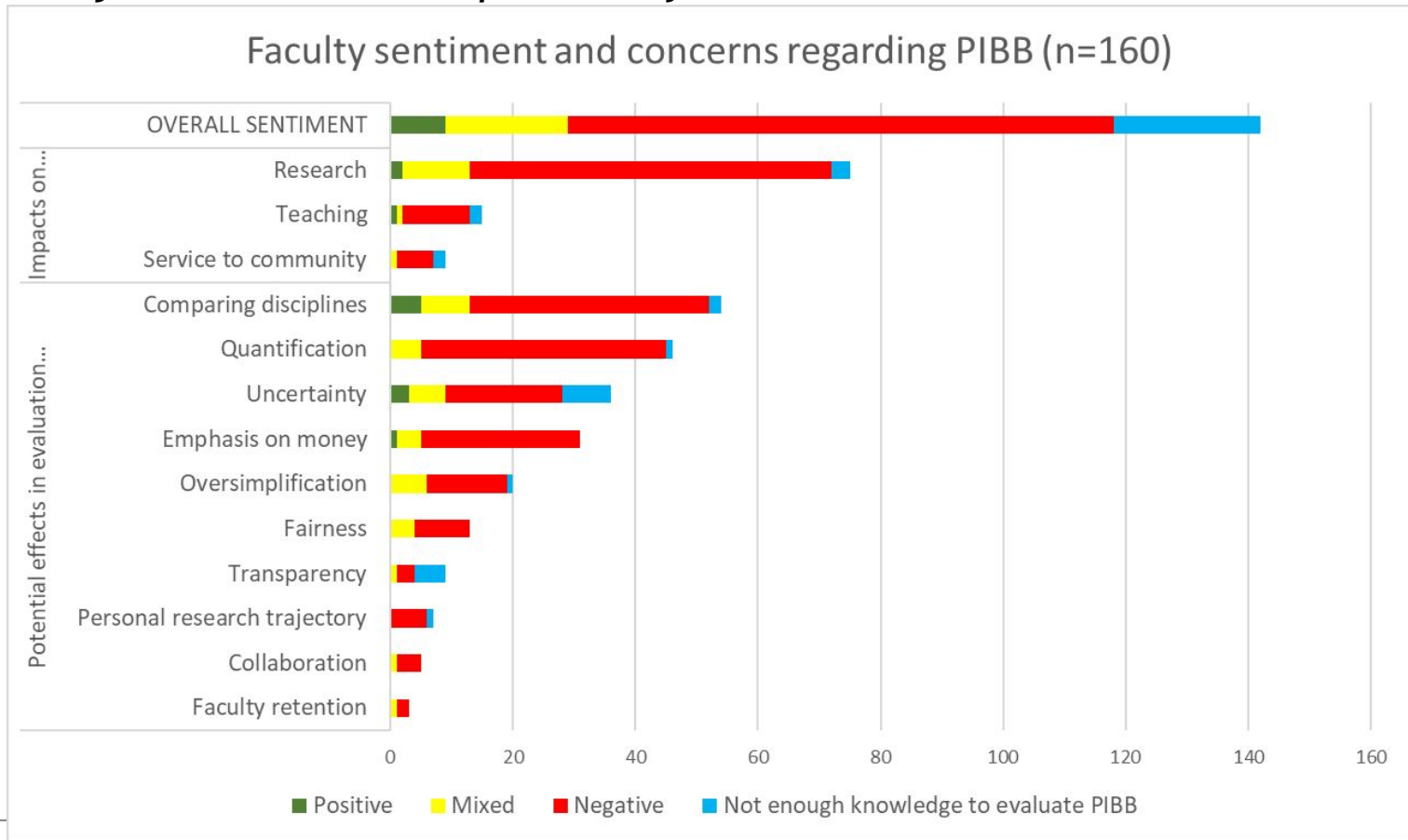
PIBB Model - Qualitative Responses
Slide 4 of 4

"The whole premise of using the PIBB in this way is ridiculous. How is comparing my research to an outside metric [going to] make me more productive? Giving me the time and resources to conduct my research will improve my productivity. Taking away time by requiring me to explain the inadequacies of the system being used to measure undermines my productivity, morale and my confidence in the decision makers."

Faculty sentiment and concerns regarding the use of the PIBB in conjunction with research productivity

Faculty sentiment and concerns regarding PIBB (n=160)

Qualitative responses were coded and analyzed using NVIVO software.

Recommendations

recommendations

Recommendations to Faculty Senate: University Recommendations

- 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.

- The university should provide departments the resources to reduce teaching, service, and administrative expectations

- Consider "faculty research liaison" positions between faculty and administration

- Minimize university and college imposition on assessmnt

- Allow departments and perhaps colleges to opt out of eFAR where overly-burdensome and of lesser value, or provide administrative support

Recommendations to Faculty Senate: Department Recommendations

- Review research assessment documents to ensure that standards for assessment are made clear in writing

- Avoid imposing overly-burdensome and unrealistic expectations on faculty to bring in large grants

- 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

Next Steps at Virginia Tech

- **Faculty Senate**
  - FS President presented report at June 2019 Board of Visitors meeting
  - Research Assessment Subcommittee forming in spring 2020 to make recommendations high priority and start developing policies
  - 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, researchers, students

limitations

*Context is **crucial***

Understand context

With exception to select qualitative data, results presented here are not analyzed on a discipline- or or college- or department-specified level, and therefore should be interpreted with care.

Data and results cannot be applied to the general population

Thank you!

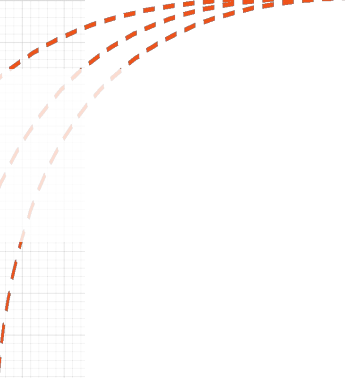Contact me for questions, thoughts, discussion!
ramiles@vt.edu

Connect on Twitter
@metric_guru

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References

references

References

- Note: some slides and much of the information were also presented at VIVO 2019 in Podgorica, Montenegro. Those 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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Acknowledgements

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  - In addition to the presentation authors, this case study derives from a report charged to and written with contributions and input from the Faculty Senate Research Assessment Committee members: 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

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

  - 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.

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Appendix

appendix

Additional data, tables, and graphics for context & background

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

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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

University data on number of faculty was retrieved from the Office of Institutional Research (OIR).

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	4,451	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 - Top-Level Unit or College Affiliation

- **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%)

Notes: 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

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

**Research Outputs Produced - Publications**

PUBLICATION TYPES	% of publications	Count
Articles or critical essays in peer-reviewed journals	16.76%	342
Published conference papers, abstracts, or proceedings	13.87%	283
Book chapters	12.50%	255
Non-peer-reviewed scholarship	8.14%	166
Published reviews of published works by others	6.86%	140
Newspaper or magazine articles	5.49%	112
Books authored	5.20%	106
Special journal issues edited	5.15%	105
Books edited	4.36%	89
Other published instructional materials	4.12%	84
Entries in reference works	3.87%	79
Data, software or digital code	3.63%	74
Digital scholarship not captured by other categories	3.04%	62
Prefaces, introductions, catalog statements, etc.	2.55%	52
Textbooks authored or edited	2.45%	50

Table 8.

Research Outputs Produced - Presentations

PRESENTATION TYPES	% of presentations	Count
Formal conference presentations	23.54%	371
Poster presentations	16.37%	258
Presentations at professional meetings	21.51%	339
Seminar presentations	17.70%	279
Panel presentations at events and/or conferences	18.72%	295
Other - please specify	2.16%	34

Table 9.

TYPES OF CREATIVE WORK	% of creative works	Count
Performances or other live productions or readings	23.97%	29
Exhibitions	20.66%	25
Competitions and commissions, including juried shows	18.18%	22
Poems, plays, short stories, and creative essays	8.26%	10
Other - please specify	6.61%	8

Table 10.

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Profile Systems Use

Profile System Used (Slide 13)	#
Google Scholar Profile	251
ORCID iD	199
LinkedIn	197
Elements/EFARs System	194
ResearchGate	172
Self-published websites	102
Twitter	95
Academia.edu	91
Facebook	82
Profiles on professional association websites	72
ResearcherID	56
Mendeley	40
Scopus Author Profile	31
Other	20
Google+	19
Kudos	10
ImpactStory Profile	2

Table 11.

Reasons for using Profile Systems

Profile System Used (Slide 14)	"I am expected to use this"	"I find this personally / professionally valuable"
Elements/EFARs System	179	26
Google Scholar Profile	68	201
ORCID iD	61	129
ResearchGate	18	138
ResearcherID (via Web of Science)	12	36
Profiles on professional association websites	12	53
Self-published professional websites	9	95
Scopus Author Profile	5	24
Academia.edu	3	79
LinkedIn	3	167
Twitter	3	85
Mendeley	2	29
Facebook	2	70
Kudos	1	9
Other - please specify	1	6
ImpactStory Profile	0	1
Google+	0	11

Table 12.

Metric Used (Slide 19)	#
Journal reputation	282
Number of publications	277
Citation counts	237
Awards / Recognitions / Honors	214
Journal metrics	210
Association, society, or organization sponsored conference presentation	179
Grant award amount	171
Journal acceptance rate	167
Grant proposal(s) submitted	158
Author h-index	148
Grant / award sponsor or funding organization	145
Location & geographic scope of conference / event	144
Grant acceptance rate	143
Expert peer reviews	119
Qualitative or narrative assessment	115
Usage statistics	106
Attendance numbers	97
Book reviews	64
Altmetrics	62
Other	10

Table 13.

Metric	HAVE TO	WANT TO	Percent Diff
Attendance / audience numbers at presentations or performances	10%	24%	-14%
Altmetrics (i.e., online attention to research)	6%	12%	-7%
Book reviews	8%	13%	-5%
Usage statistics (page views, downloads)	14%	20%	-7%
Expert peer reviews of individual works	18%	26%	-8%
Grant award amount (funded grants only)	26%	38%	-12%
Grant/Award Sponsor or funding organization (funded grants only)	21%	30%	-8%
Awards / Recognitions / Honors	33%	46%	-12%
Grant acceptance rate (funded grants only)	21%	27%	-7%
Qualitative or narrative assessment	19%	23%	-4%
Journal reputation	49%	57%	-8%
Citation counts to individual works	42%	43%	-1%
Author h-index	27%	27%	0%
Grant proposal(s) submitted	29%	27%	2%
Location and geographic scope of conference, event, symposium, etc.	25%	24%	2%
Association, society, or organization sponsoring conference where you presented	35%	30%	5%
Journal acceptance rate	32%	25%	7%
Journal metrics (e.g., Journal Impact Factor, etc.)	42%	31%	11%
Number of publications	60%	43%	17%

n=369; Selections not mutually exclusive.

Table 14.

Table 15.

Reason for using research metrics - actual numbers

Metric	HAVE TO	WANT TO	Difference
Attendance / audience numbers at presentations or performances	38	88	50
Altmetrics (i.e., online attention to research)	21	46	25
Book reviews	30	48	18
Usage statistics (page views, downloads)	51	75	24
Expert peer reviews of individual works	66	96	30
Grant award amount (funded grants only)	97	140	43
Grant/Award Sponsor or funding organization (funded grants only)	79	109	30
Awards / Recognitions / Honors	123	169	46
Grant acceptance rate (funded grants only)	77	101	24
Qualitative or narrative assessment	71	85	14
Journal reputation	182	210	28
Citation counts to individual works	154	157	3
Author h-index	101	100	1
Grant proposal(s) submitted	106	99	7
Location and geographic scope of conference, event, symposium, etc.	94	87	7
Association, society, or organization sponsoring conference where you presented	129	111	18
Journal acceptance rate	119	94	25
Journal metrics (e.g., Journal Impact Factor, etc.)	154	113	41
Number of publications	221	159	62

n=369; Selections not mutually exclusive.