The Profession

Department Rankings: An Alternative Approach*

Arthur H. Miller, Charles Tien, and Andrew A. Peebler, *University of Iowa*

Department rankings are important. The amount of space in the June 1996 *PS* devoted to presenting and analyzing the 1995 National Research Council (NRC) rankings bears witness to this importance. The NRC reputational rankings provide more than mere bragging rights (see Magner 1995 for some of the institutional implications). For example, the NRC rankings, and those provided by *U.S. News and World Report*, are incorporated into the strategic plans of universities which are subsequently used by administrators to distribute and redistribute scarce resources. Students examine these rankings when applying to graduate programs, and better students apply primarily to more highly ranked departments, thereby perpetuating the rankings of the top programs. No doubt rankings also have more subtle and indirect effects on the resources and quality of graduate programs. It is not farfetched to expect that department rankings could influence peer review of research proposals for funding, or manuscripts submitted to journals for review and publication.

Given the importance and impact of rankings, anyone using them must remember that all approaches to ranking have some limitations. For example, when evaluating the NRC rankings people frequently forget that rankings are based upon mail-back survey responses provided by a relatively small number of evaluators for a given field. While the overall sample in the NRC study is some 8,000 respondents, only 208 individuals provided the evaluations of political science programs. This sample of 208 respondents (produced by a response rate of only 55%) has an overall sampling error of roughly ± 7.1%. Given this large sampling error, it is statistically impossible to differentiate the rank ordering of many schools because the mean scores used to assign the ranks are not significantly different from one another.[1] In short, reputational rankings suggest more difference between one school and another than is warranted by the data.

As has been previously argued (Klingemann 1986), reputational rankings may not reflect the best criteria for judging the academic and scholarly quality of the various departments rated. As the analysis pieces in the June 1996 *PS* demonstrate, while reputational rankings have some relationship to the quality of scholarly output, they are dominated by the size of faculty, the number of Ph.D.'s produced and the reputation of the university (Jackman and Siverson 1996; Katz and Eagles 1996; Lowry and Silver 1996). Even the NRC report itself acknowledges that "reputational measures provide only one tool for reviewing the relative standing of doctoral programs in a field" (NRC 1995, 23).

An Alternative Approach

Previous work has suggested that more objective measures can be used as alternatives to reputational surveys. Two more objective measures that are recommended include number of publications and citations (Robey 1982 preferred the number of articles published; Klingemann 1986 used citations). The NRC should be commended for their 1995 report which presented additional information that goes beyond the reputational rankings, such as data on the number of publications and citations per department. Those interested in a somewhat more objective ranking system can use the NRC information to determine such a ranking.

Nevertheless, every evaluation approach has some limitation. Welch and Hibbing (1983) have persuasively argued that the sheer number of publications is too crude an indicator of a department's productivity or quality because it fails to consider the quality of the publisher. As several authors have previously suggested, the number of articles published should be weighted by the prestige of the journal if the number of publications is to be used as an indicator of program quality (Garand 1990, Christenson & Sigelman 1985). Unfortunately, the NRC count of publications does not weight for journal quality. Moreover, the number of publications per department was counted for only the period 1988–92, a very limited period of time (NRC 1995, 25 and Appendix L, 312).

The NRC report, however, goes beyond the sheer number of publications by reporting information on the number of citations that those publications received. Again, this is a step in the right direction for the citation count indicates the extent to which others in the profession see the scholarly output of a program as substantively important. Moreover, the approach that the NRC used in compiling the citation information from the data provided by the Institute of Scientific Information (ISI) appears quite sound. A detailed description of the NRC approach to compiling the citation data is provided in Appendix G, page 143, of the NRC report. Briefly, NRC used the list of faculty members provided by each university to locate, by last name, Zip Code, and program substantive area (political science as

https://doi.org/10.2307/420798 Published online by Cambridge University Press

opposed to sociology, anthropology or any other field), the articles produced by each department between 1988 and 1992 and the number of citations these same publications produced during the 1988–1992 period (NRC 1995, 25 and 312).

On the surface, the NRC compilation of citations appears above reproach. The combination of last name, Zip Code, and substantive field appears to solve the problem of misattribution of citations to an author because there is more than one individual with the same last name and first initials. Yet the rather narrow field designation used by NRC may result in undercounting citations for individuals who publish in interdisciplinary areas. Moreover, faculty lists could be incomplete, a problem noted by others (Magner 1995, Fenton 1995). Also, the fact that the University of Houston is listed in the NRC report (Appendix, Table P-36) as having no citations should have alerted someone at the NRC to the possibility that a problem existed in data reporting.[2] That this obvious error did not set off alarms raises questions and points to limitations.

Perhaps even more important than these shortcomings is the limited timeframe used for the citation counts. Normally, there is a lag time in citations. It takes time for the profession to read a publication and then incorporate the research into later work through citation or a more direct response to the work. The time period between 1988 and 1992 is a rather limited one and thus may not reflect the enduring quality of the research, but rather what is most topical at the time.[3]

Despite these limitations, our purpose is not to critique the NRC report. Rather, we applaud the NRC's efforts to provide more objective data for evaluating graduate programs. We follow in the footsteps of Hans-Dieter Klingemann who, ten years ago, also presented an alternative to the 1982 NRC ranking. Klingemann's (1986) alternative ranking was based on citations, an indicator not included in the 1982 NRC report. Our approach utilizes both citations and the number of articles published in the *American Political Science Review*. By focusing on *APSR* publications, we control for the quality of the publication. Moreover, since we seek to chart change in the profession rather than merely rank departments, we take a broader historical approach to the publications and citations by examining these over the 40-year period from 1954–1994.

The Data

Each author published in the *APSR* from 1954 through 1994 is represented in our data set. For each author, we collected data on the number of *APSR* publications in the last forty years and the number of citations listed in the *Social Science Citations Index*. Needless to say, collecting so much data was not a trouble-free task. For a detailed description of our data collection of *APSR* publications and citations and the pitfalls we encountered, see our earlier article on the *APSR* Hall of Fame (Miller, Tien, and Peebler 1996). For our first report, we collected citation data on all authors with two or more publications, and 28% of authors with one publication. For this project, we collected citations data for the remaining authors in the data set (the total number of authors is 1,628).[4]

. . . a majority of political science departments around the country still have only one or two faculty members who have ever published in the APSR.

We also collected biographical information on the authors. We wanted to know what year the authors completed their Ph.D.'s, the schools that granted their degrees, the authors' institutional affiliation when the *APSR* article was published, and where the authors currently work if the publication occurred between 1974 and 1994. For authors publishing between 1954 and 1973, we researched where they worked in 1973. We divided the data analysis into two different time periods to look at how departments have changed over the last twenty years. The institutional affiliation of the authors at the point of publication were easily obtained from the *APSR*—they are listed on the first page of each article.

To collect the remaining biographical information, we searched seven different sources. For authors publishing between 1974 and 1994, we cross-checked three different sources when gathering their biographical data: the *1994–1996 APSA Directory of Members*; the *1995–97 APSA Graduate Faculty and Programs in Political Science*; and the *1993–95 APSA Directory of Undergraduate Political Science Faculty*. For authors publishing between 1954 and 1973, we used the *1973 APSA Biographical Directory*, and the *1976 Guide to Graduate Study in Political Science*.[5] The final source we used to track down biographical data on the authors was the *Dissertation Abstracts Ondisc (DAO)*, which told us where and when authors received degrees, but did not tell us where they worked in 1973 or 1994.[6] We were able to collect biographical data on 74% of the authors (765 authors) publishing in the 1974 to 1994 period, and 65% (444 authors) from the earlier period using this extensive search process.[7] Since we sought to evaluate political science departments, we excluded authors from other disciplines and those not working in political science departments.[8]

Some basic frequencies from these data provide a fascinating portrait of the discipline. Table 1 breaks down the number of departments by raw number of faculty members published in *APSR* for both twenty year periods. Between 1974 and 1994, a total of 206 different departments had faculty publishing in *APSR*, a 49% increase from the 138 departments publishing in the previous twenty year period. Despite this increase in the number of departments publishing in *APSR*, the distributions of departments by the number of *APSR* published faculty for the two twenty-year periods are similar. Roughly 25% of the departments with *APSR* published faculty in both periods have five or more faculty members with publications in *APSR*

https://doi.org/10.2307/420798 Published online by Cambridge University Press

(see Table 1). Approximately 45% of departments with *APSR* published faculty in both periods have only one faculty member with a publication in the field's leading journal. Yet the increase in the size of political science departments in recent years has apparently brought an accompanying increase in the percentage of departments with 10 or more *APSR* authors (this percentage was 4.9% and 9.9% of departments in the earlier and more recent 20 years respectively). Nevertheless, a majority of political science departments around the country still have only one or two faculty members who have ever published in *APSR*. Thus, as the number of authors publishing in *APSR* rises, it is clear that this increase in authors does not occur only among the schools that previously had a relatively larger number of faculty publishing in *APSR*.

TABLE 1
Number of *APSR* Authors Per Department by Number of Departments

1994		1973	
Number of *APSR* Published Faculty in Department	Number of Departments	Number of *APSR* Published Faculty in Department	Number of Departments
1	93 (45.1)	1	66 (47.8)
2	33 (16.0)	2	11 (8.0)
3	14 (6.8)	3	20 (14.5)
4	13 (6.3)	4	11 (8.0)
5	11 (5.3)	5	3 (2.2)
6	7 (3.4)	6	8 (5.8)
7	6 (2.9)	7	9 (6.5)
8	2 (1.0)	8	1 (0.7)
9	7 (3.4)	9	2 (1.4)
10	3 (1.5)	10	0 (0.0)
11	1 (0.5)	11	2 (1.4)
12	3 (1.5)	12	1 (0.7)
13	2 (1.0)	13	1 (0.7)
14	2 (1.0)	14	1 (0.7)
15	1 (0.5)	15	0 (0.0)
16	1 (0.5)	16	0 (0.0)
17	4 (1.9)	17	0 (0.0)
18	0 (0.0)	18	0 (0.0)
19	0 (0.0)	19	1 (0.7)
20	1 (0.5)	20	1 (0.7)
21	1 (0.5)		
22	0 (0.0)		
23	1 (0.5)		
765 Authors	206 (100) Depts.	444 Authors	138 (100) Depts.

Source: The University of Iowa *APSR* School Data Set
Figures in parenthesis are percentages.

Performance Evaluated Through Publications and Citations

We evaluated departments by the performance of current faculty as indicated by the number of publications in *APSR*. First, we ranked departments by the raw number of faculty members in each department with any publications in the *APSR*. Departments with more than two *APSR* authors in 1994 are listed in the left half of Table 2, while the right half lists departments with more than one *APSR* author for 1973. The University of Michigan leads the way with 23 faculty members publishing in *APSR* between 1974 and 1994. However, the differences among the top departments are relatively small—the fourth through seventh ranked departments are only six members short of tying Michigan. What is even more noteworthy than Michigan's lead in both twenty year time periods, is the dramatic change that occurred in UCLA's rank. UCLA ranked second with 21 current faculty having published in *APSR* during the more recent twenty years, whereas only three UCLA faculty had published in *APSR* as of 1973, though faculty size was roughly the same in both periods (see Table 2). Michigan State and the University of Maryland also experienced dramatic increases in the number of faculty publishing in *APSR* (they went from 2 faculty in 1973 to 16 and 13 respectively in 1994, again with almost no change in faculty size).

On the other hand, some departments dropped significantly. For example, the number of Columbia University faculty publishing in *APSR* dropped from a rank of 10 in 1973 to 49 in 1994, despite a 26% increase in the size of the faculty (see Table 2). Due to the departure of some very productive faculty (such as Burnham and Hibbs), MIT also experienced marked decline in the number of authors publishing in *APSR*, and thus is absent from the set of schools in Table 2 for 1994.

Total number of publications attributed to each department can also be used in ranking departments (listed under '*APSR* Articles' in Table 2).[9] Using this measure changes rankings by shifting the order for many of the top ten schools, but there is very little movement in or out of the top ten (see Table 3 for the ranked list of the top 25 based on the number of articles). Indiana and UC San Diego drop from the top 10 list as determined by the number of authors, to be replaced among the top 10 by Rochester and North Carolina (see Table 3). Given the relative stability in the top 10 when ranked by either the number of *APSR* authors or the number of articles, it may be that this ranking reflects no more than the size of the faculty. Yet looking down the list in Table 2, it is evident that some smaller departments produce more articles than some larger departments.

To measure the relative productivity of *APSR* authors from different departments, we also provide in Table 2 a measure of productivity for each department: the average number of articles produced by each *APSR* author (the number of articles divided by the number of authors). Rochester, despite its relatively small faculty size, had the most productive authors in 1973 and remained so in 1994 (P = 3.86 in 1973 and 5.33 in 1994, see Table 2). Other highly pro-

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ductive authors in 1994 were found at Stanford, California Institute of Technology, and UC Santa Barbara. Many programs saw an increase in the productivity level of their *APSR* authors over the 20-year period, but the University of Wisconsin at Madison was a noticeable exception (they fell from P = 3.15, second highest in 1973, to a relatively low P = 2.00 in 1994). Also, while the Wisconsin faculty size increased significantly between 1973 and 1994, their number of publications dropped by 40% (see Table 2).

To determine if the productivity measure is an accurate portrayal of the number of *APSR* articles produced by each author in the department rather than just a few outstanding individuals, we calculated a Gini coefficient for each department based on publications. The Gini coefficient indicates the extent to which a distribution deviates from a perfectly uniform distribution which would be obtained if all authors in a department produced the same number of publications (see Lambert 1989 for a detailed explanation). As explained by Jackman and Siverson (1996), a Gini coefficient "reflect[s] variations across programs in the degree to which overall productivity for individual programs stems from the activity of a minority of faculty members within them." The Gini coefficient as computed here is bounded between zero and one, where zero indicates that all authors are contributing an equal number of articles. The larger Gini coefficients in Table 2 indicate that many of the *APSR* publications from a department are coming from a minority of the *APSR* authors.[10] For example, the University of California at Santa Barbara has one of the highest Gini coefficients in the list, with a value of .52, that resulted from one author publishing 11 articles, another author has two articles, while the two remaining authors contributed one article each.

The Gini coefficients in Table 2 for most schools, including the top schools (as determined by the number of *APSR* authors), are relatively small. These low coefficients indicate that most authors within a department are contributing roughly comparable numbers of publications. Of course, it must be remembered that the distribution for the number of published articles for each department excludes those faculty who have zero *APSR* publications, thereby limiting the extent to which the distributions can be skewed.[11] Among the 25 schools with the largest number of *APSR* articles (see Table 3), two schools stand out as having the lowest Gini coefficients in Table 2 (Texas A & M and SUNY-Stony Brook), while four departments have relatively high coefficients (University of Arizona, Arizona State, California Institute of Technology, and New York University) in the most recent period. Departments receiving high coefficients may be somewhat less balanced in strength as the high coefficients indicate that most of the publications are coming from one or two individuals.

Thus, it appears that getting published in APSR *is easier than making a significant impact on the discipline.*

Evaluating departments on the basis of citations provides yet another way of assessing program performance. The extent to which a department is able to publish in the field's most prestigious journal provides some measure of the scholarly quality of the work produced by the faculty. Assessments based on citations, on the other hand, reflect the acknowledgment of intellectual importance through the use of the departments' research by others. A significant number of citations over a period of time demonstrates an established track record for a department thereby indicating that the overall research of the department has made an enduring contribution to the discipline. Recent publications are more likely to give emphasis to novel ideas that may, or may not, eventually find acceptance among others in the discipline.

Rankings based on the number of publications and the number of citations may be correlated, but these two indicators may not necessarily produce the same ranking of departments. The citation rankings of Table 3 show a somewhat different list of departments from the *APSR* article rankings—four departments that were absent from the publications rankings appear in the top 25 citations rankings (UC Irvine, American University, Cornell and Duke). Many of these additions are due in large part to single individuals who have high citation counts. For example, Cornell (with 16 articles) did not make the top 25 based on the number of articles, but they are ranked 20th based on citations because Ted Lowi has over three thousand citations himself (the next highest person at Cornell had 450 citations).

Given that the NRC report had the University of Houston listed with very few publications (only 8 total publications for the 1988–1992 period for the entire department), and no citations, it is noteworthy where Houston ranks in Table 3. Based on the number of *APSR* articles, Houston ranks 17th, although they do fall to 23rd when only citations are used for the ranking. Nonetheless, it is quite clear that Houston is among the top 25 departments when the number of publications and citations are the relevant criteria for ranking departments.

Comparing the Gini coefficients for citations presented in Table 3 with those from Table 2 is also quite revealing about most of these top ranked departments. The relatively large values for the coefficients in Table 3, as compared with the lower values in Table 2, demonstrate that, while most departments have a number of authors contributing *APSR* articles, they have only one or two individuals who are getting cited frequently. Thus, it appears that getting published in *APSR* is easier than making a significant impact on the discipline. A department like Ohio State, on the other hand, has a relatively low Gini for both publications and citations, thereby indicating considerable uniformity across the faculty in both productivity and peer recognition.

In our previous paper on the

https://doi.org/10.2307/420798 Published online by Cambridge University Press

Table 2. Departments Ranked by Number of *APSR* Authors

	School in 1994	FS	*APSR* Authors	*APSR* Articles	P	G	School in 1973	FS	*APSR* Authors	*APSR* Articles	P	G
1	Michigan, U of	44	23	56	2.43	.35	Michigan, U of	60	20	46	2.30	.36
2	UCLA	57	21	41	1.95	.34	UC Berkeley	46	19	39	2.05	.37
3	Harvard	48	20	56	2.80	.36	Harvard	44	14	31	2.21	.26
4	Ohio State Uni.	33	17	48	2.82	.31	Wisconsin, U of (Mad)	37	13	41	3.15	.30
5	UC Berkeley	41	17	43	2.53	.44	Princeton	30	12	23	1.92	.32
6	UC San Diego	36	17	36	2.12	.30	Stanford	30	11	22	2.00	.32
7	Indiana Uni.	27	17	32	1.88	.31	Chicago, U of	24	11	20	1.82	.26
8	Michigan State Uni.	28	16	49	3.06	.44	Yale	37	9	21	2.33	.38
9	Stanford	28	15	64	4.27	.32	Ohio State Uni.	28	9	14	1.56	.22
10	Yale	29	14	38	2.71	.43	Columbia Uni.	38	8	11	1.38	.22
11	North Carolina, U of	28	14	37	2.64	.38	Rochester, U of	14	7	27	3.86	.28
12	Maryland, U of	40	13	25	1.92	.33	Hawaii, U of	--	7	18	2.57	.33
13	Texas A & M	37	13	19	1.46	.24	Iowa, U of	21	7	14	2.00	.24
14	Minnesota, U of (Mnpls)	30	12	32	2.67	.35	North Carolina, U of	35	7	14	2.00	.29
15	Wisconsin, U of (Mad.)	49	12	24	2.00	.37	Massachusetts, U of	39	7	12	1.71	.33
16	Princeton	49	12	23	1.92	.31	Johns Hopkins Uni.	27	7	10	1.43	.17
17	Iowa, U of	22	11	27	2.45	.44	Washington Uni.	21	7	9	1.29	.16
18	Arizona, U of	20	10	33	3.30	.49	MIT	--	7	8	1.14	.11
19	Chicago, U of	28	10	19	1.90	.31	Florida State Uni.	26	7	7	1.00	.00
20	Colorado, U of (Boulder)	26	10	17	1.70	.24	Cornell Uni.	28	6	9	1.50	.24
21	Rochester, U of	18	9	48	5.33	.46	Georgia, U of	30	6	9	1.50	.17
22	SUNY (Stony Brook)	18	9	27	3.00	.26	Minnesota, U of (Mnpls)	28	6	9	1.50	.24
23	Texas, U of (Austin)	53	9	21	2.33	.33	Illinois, U of	29	6	7	1.17	.12
24	Duke	29	9	18	2.00	.40	Indiana Uni.	38	6	7	1.17	.12
25	Georgetown	31	9	13	1.44	.22	Washington, U of	20	6	7	1.17	.12
26	Florida State Uni.	19	9	12	1.33	.17	Missouri, U of (Columbia)	23	6	6	1.00	.00
27	Illinois, U of	33	9	12	1.33	.22	Northwestern Uni.	24	6	6	1.00	.00
28	Houston, U of	28	8	25	3.13	.45	Brandeis Uni.	15	5	12	2.40	.30
29	Pittsburgh, U of	29	8	20	2.50	.42	Rutgers (New Brnswk)	46	5	7	1.40	.17
30	Cornell Uni.	39	7	16	2.29	.29	Pennsylvania, U of	25	5	5	1.00	.00
31	Washington Uni.	18	7	16	2.29	.30	Carnegie-Mellon Uni.	35	4	10	2.50	.30
32	Emory Uni.	22	7	12	1.71	.31	Duke	25	4	8	2.00	.25
33	Loyola Uni., Chicago	18	7	12	1.71	.21	New York, City College	--	4	7	1.75	.32
34	Penn State Uni.	19	7	11	1.57	.29	SUNY (Stony Brook)	--	4	7	1.75	.32
35	Wayne State Uni.	24	7	8	1.14	.11	Syracuse Uni.	26	4	7	1.75	.11
36	Cal. Tech.	9	6	24	4.00	.51	New Mexico, U of	14	4	6	1.50	.25
37	Arizona State	16	6	20	3.33	.52	Pittsburgh, U of	31	4	6	1.50	.17
38	New York Uni.	21	6	19	3.17	.52	Dartmouth	--	4	5	1.25	.15
39	Oregon, U of	18	6	15	2.50	.46	Penn State Uni.	20	4	5	1.25	.15
40	Virginia, U of	34	6	11	1.83	.26	UC Santa Barbara	24	4	5	1.25	.15
41	Florida, U of	28	6	10	1.67	.27	UC Davis	29	4	4	1.00	.00
42	Washington, U of	30	6	7	1.17	.12	Connecticut, U of	28	3	6	2.00	.33
43	UC Irvine	23	5	18	3.60	.36	Purdue Uni.	22	3	6	2.00	.22
44	Louisiana State U	19	5	11	2.20	.33	Claremont Grad. School	31	3	5	1.67	.27
45	UC Davis	21	5	11	2.20	.29	Northern Illinois Uni.	35	3	5	1.67	.13
46	North Texas, U of	22	5	10	2.00	.24	Oregon, U of	19	3	5	1.67	.13
47	American Uni.	22	5	9	1.80	.36	Swarthmore College	--	3	5	1.67	.13
48	Purdue Uni.	29	5	9	1.80	.22	Texas, U of (Austin)	--	3	5	1.67	.13
49	Columbia Uni.	48	5	8	1.60	.30	Vanderbilt Uni.	16	3	5	1.67	.13
50	South Carolina, U of	15	5	7	1.40	.17	Florida, U of	25	3	4	1.33	.17
51	Cincinnati, U of	14	5	6	1.20	.13	Kentucky, U of	19	3	4	1.33	.17
52	Kansas, U of	19	5	6	1.20	.13	SUNY (Buffalo)	26	3	4	1.33	.17
53	New Mexico, U of	16	5	6	1.20	.13	UC Riverside	16	3	4	1.33	.17
54	UC Santa Barbara	22	4	15	3.75	.52	Virginia, U of	35	3	4	1.33	.17
55	Missouri, U of (St. Louis)	23	4	10	2.50	.45	Brown	--	3	3	1.00	.00
56	Northwestern Uni.	20	4	10	2.50	.40	Denver, U of	5	3	3	1.00	.00
57	George Washington Uni.	30	4	9	2.25	.28	Georgetown	25	3	3	1.00	.00
58	Illinois, U of (Chicago)	22	4	9	2.25	.19	SUNY (Binghamton)	22	3	3	1.00	.00
59	SUNY (Binghamton)	17	4	8	2.00	.31	SUNY (Brockport)	24	3	3	1.00	.00
60	Carnegie-Mellon Uni.	44	4	7	1.75	.25	Toronto, U of	--	3	3	1.00	.00

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Table 2. Departments Ranked by Number of *APSR* Authors (cont.)

	School in 1994	FS	*APSR* Authors	*APSR* Articles	P	G	School in 1973	FS	*APSR* Authors	*APSR* Articles	P	G
61	Johns Hopkins Uni.	19	4	7	1.75	.25	UCLA	55	3	3	1.00	.00
62	Toronto, U of	56	4	6	1.50	.25	Arizona, U of	29	2	4	2.00	.25
63	Wisconsin, U of (Milw.)	20	4	6	1.50	.17	CUNY Grad Center	70	2	4	2.00	.00
64	Brown	19	4	5	1.25	.15	Michigan State Uni.	25	2	4	2.00	.25
65	Kentucky, U of	17	4	4	1.00	.00	Temple Uni.	27	2	4	2.00	.00
66	Pennsylvania, U of	23	4	4	1.00	.00	Oakland Uni.	--	2	3	1.50	.17
67	Georgia, U of	30	3	7	2.33	.25	California State Uni.	29	2	2	1.00	.00
68	Auburn Uni.	29	3	6	2.00	.33	Maryland, U of	41	2	2	1.00	.00
69	Denver, U of	19	3	6	2.00	.22	San Diego State Uni.	25	2	2	1.00	.00
70	Tulane	14	3	6	2.00	.33	SUNY (Albany)	23	2	2	1.00	.00
71	UC Santa Cruz	20	3	6	2.00	.22	West Virginia Uni.	25	2	2	1.00	.00
72	Bryn Mawr College	5	3	5	1.67	.27	York Uni.	--	2	2	1.00	.00
73	Iowa State Uni.	20	3	5	1.67	.27						
74	UC Riverside	19	3	5	1.67	.13						
75	Claremont Grad. School	9	3	4	1.33	.17						
76	Northeastern Uni.	20	3	4	1.33	.17						
77	Alabama, U of	15	3	3	1.00	.00						
78	British Columbia, U of		3	3	1.00	.00						
79	Cleveland State Uni.	14	3	3	1.00	.00						
80	Notre Dame, U of	33	3	3	1.00	.00						

Source: The University of Iowa *APSR* School Data Set.
FS = Faculty size for 1994 is as reported in NRC Report or *1995-97 Graduate Faculty and Programs in Political Science*. Faculty size for 1973 is as reported in the *APSA Guide to Graduate Study in Political Science 1976*.
APSR Authors = Number of faculty publishing in *APSR* between 1954-1994 for 1994 rankings, and between 1954-1973 for 1973 rankings.
APSR Articles = Number of *APSR* articles between 1954-1994 for faculty publishing in APSR between 1974 and 1994. Number of *APSR* articles between 1954 and 1973 for faculty publishing in that time period.
P = Productivity of APSR authors in department (APSR articles/APSR authors).
G = Gini coefficient for *APSR* publications.

APSR Hall of Fame, we proposed a new measure of performance that combined publications in *APSR* and citation lines, which we called the Professional Visibility Index (PVI).[12] We argued that publications in *APSR* and citations were somewhat different measures of performance and visibility. To keep up with the current literature, most political scientists read *APSR*. Yet high quality work tends to be noticed and cited frequently regardless of where it is published—for example, Philip E. Converse's much cited "The Nature of Belief Systems in Mass Publics," published in *Ideology and Discontent*, edited by David E. Apter. We believe this same logic applies to department performance. Citation lines and publications in *APSR* are each indications of good scholarship, and departments benefit from having faculty that rate highly on these measures because individuals become identified with their departments over time. We also argue that rankings of departments based on the combination of these two indicators should be more valid and reliable than rankings based on only one of these measures.[13]

Table 3 also lists the top 25 departments according to the PVI. All the schools listed in the PVI top 25 appeared somewhere in the rankings by number of *APSR* articles or citations. The final ranking in Table 3 simply adjusts the PVI ranking from the previous column for the faculty size of each department. Some notable shifts occur when faculty size is controlled. For example, the University of Wisconsin, Texas, and Cornell drop out of the top 25 because they have relatively large faculty. Washington University in St. Louis, because of a relatively small faculty, makes the final top 25. Similarly, Stony Brook comes back into the final listing although it did not make the PVI top 25 prior to controlling for faculty size.

Many of the departments that appear in the top 25 as determined by the PVI list in Table 3 have been recognized as highly productive departments for some time. Yet a comparison of the Table 3 rankings with comparable rankings for the 1954–1973 period (presented in Table 4) reveals that major changes occurred in the scholarly quality of various graduate programs. Some departments appear in the top 25 in Table 3, but did not appear as a top-ranked department in 1973. Perhaps most notable among highly improved departments are Michigan State,

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UCLA, Maryland and UC San Diego, none of which appear in Table 4 though all are among the most productive departments in Table 3. A number of departments also disappeared from the top 25 over the twenty years between 1973 and 1994. Among those schools listed in Table 4, but not in Table 3, are Hawaii, Syracuse, Brandeis, Georgia and Johns Hopkins. The shift in the ranking, whether up or down, was generally due to turnover in faculty.

Table 3. Departments Ranked by *APSR* Authors, Citations, and PVI, 1994

Order	School in 1994	*APSR* Articles	School in 1994	Citations	G	School in 1994	PVI	School in 1994	PVI/Fac
1	Stanford	64	Harvard	24,822	.64	Stanford	1,419.07	Stanford	50.68
2	Michigan, U of	56	Stanford	22,173	.64	Harvard	1,390.03	Harvard	28.96
3	Harvard	56	Yale	19,847	.70	Michigan, U of	950.10	Yale	26.01
4	Michigan State Uni.	49	Michigan, U of	16,966	.72	Yale	754.19	Rochester, U of	23.17
5	Ohio State Uni.	48	UCLA	14,411	.77	UCLA	590.85	Michigan, U of	21.59
6	Rochester, U of	48	Maryland, U of	13,944	.78	Rochester, U of	417.13	Arizona, U of	12.22
7	UC Berkeley	43	Rochester, U of	8,690	.58	Maryland, U of	348.60	UCLA	10.37
8	UCLA	41	UC San Diego	8,249	.69	UC Berkeley	345.81	Maryland, U of	8.72
9	Yale	38	UC Berkeley	8,042	.66	UC San Diego	296.96	Ohio State Uni.	8.49
10	North Carolina, U of	37	Arizona, U of	7,405	.81	Ohio State Uni.	280.18	UC Berkeley	8.43
11	UC San Diego	36	Indiana Uni.	7,087	.75	Arizona, U of	244.37	Indiana Uni.	8.40
12	Arizona, U of	33	Princeton	6,806	.67	Michigan State Uni.	229.13	UC San Diego	8.25
13	Minnesota, U of (Mnpls)	32	Ohio State Uni.	5,837	.44	Indiana Uni.	226.79	Michigan State Uni.	8.18
14	Indiana Uni.	32	New York Uni.	4,867	.49	Princeton	156.54	Cal. Tech.	7.69
15	Iowa, U of	27	Michigan State Uni.	4,676	.76	Minnesota, U of (Mnpls)	142.08	Iowa, U of	5.26
16	SUNY (Stony Brook)	27	Minnesota, U of (Mnpls)	4,440	.64	Iowa, U of	115.74	Minnesota, U of (Mnpls)	4.74
17	Houston, U of	25	Wisconsin, U of (Mad.)	4,317	.66	Wisconsin, U of (Mad.)	103.61	New York Uni.	4.40
18	Maryland, U of	25	Iowa, U of	4,287	.76	New York Uni.	92.46	SUNY (Stony Brook)	3.33
19	Wisconsin, U of (Mad.)	24	UC Irvine	4,198	.52	Houston, U of	86.23	UC Irvine	3.29
20	Cal. Tech.	24	Cornell Uni.	4,143	.80	North Carolina, U of	81.37	Princeton	3.19
21	Princeton	23	Chicago, U of	3,715	.83	UC Irvine	75.56	Houston, U of	3.08
22	Texas, U of (Austin)	21	American Uni.	3,468	.58	Chicago, U of	70.58	Arizona State	3.06
23	Pittsburgh, U of	20	Houston, U of	3,449	.54	Cal. Tech.	69.19	North Carolina, U of	2.91
24	Arizona State	20	Duke	3,437	.72	Texas, U of (Austin)	68.87	Chicago, U of	2.52
25	Texas A & M	19	Texas, U of (Austin)	3,279	.69	Cornell Uni.	66.29	Washington Uni.	2.42
26	Chicago, U of	19							
27	New York Uni.	19							

Source: The University of Iowa *APSR* School Data Set.
APSR Articles = Number of *APSR* articles between 1954-1994 by the department faculty publishing in *APSR* between 1974 and 1994.
Citations = Citations listed in *SSCI* between 1956 and 1993 for faculty publishing in *APSR* between 1974 and 1994.
G = Gini coefficient for citations.
PVI = Professional Visibility Index ((*APSR* Publications*Citations)/1000).
PVI/Fac = PVI controlling for faculty size (PVI/Faculty Size).

Performance Evaluated Through Teaching

One responsibility of faculty is to teach. One aspect of this responsibility is to train graduate students in the profession. Evaluating the quality of graduate programs, then, should include an assessment of creativity and scholarship produced by graduates of each department. The NRC report acknowledges that evaluating scholarly accomplishments of graduates should be an important component of assessing the quality of education provided by those programs (NRC 1995, 26). Yet this is missing from both the 1982 and 1995 NRC reports.

Because we collected information on the school from which all authors in *APSR* for the past 40 years received their Ph.D., we are able to evaluate the effectiveness of departments in preparing research scholars. Table 5 presents the ranking of departments by the number of their Ph.D.'s publishing in *APSR*, and the number of *APSR* articles these graduates produced (Table 5 is restricted to departments with at least two *APSR* authors). As the data in Table 5 demonstrate, there are some major shifts in the productivity level of the graduates produced by certain departments over time. In the recent twenty years, Michigan and UC Berkeley have replaced Harvard and Yale as the schools that produced the most graduates publishing in *APSR*. Columbia, Wisconsin, and Duke declined even more dramatically than Harvard and Yale in the production of graduates published in *APSR*. This dramatic decline occurred despite the large number of graduate students these programs train. Some departments, on the other hand, saw a large increase during the 1973–1994 period in the production of graduates publishing in *APSR*: for example, Minnesota, Iowa, Ohio State and the California Institute of Technology. Perhaps the most noteworthy increase occurs for the California Institute of Technology which did not make the list for the earlier twenty years, but ends up 13th during the more recent period (see Table 5).

The Gini coefficients presented in Table 5 reveal that the level of publications among the recent graduates is more uniform than it has been among those getting their Ph.D. before 1974. A number of schools produced some "stars" (as determined by the number of *APSR* publications) in the earlier period as noted by their relatively higher Gini coefficients (see for example the coefficients for Michigan, North Carolina, Rochester, Iowa and the University

https://doi.org/10.2307/420798 Published online by Cambridge University Press

Table 4. Departments Ranked by *APSR* Articles, Citations and PVI, 1973

Order	School in 1973	*APSR* Articles	School in 1973	Citations	G	School in 1973	PVI	School in 1973	PVI/Fac*
1	Michigan, U of	46	Harvard	13,480	.65	Harvard	417.89	Harvard	9.50
2	Wisconsin, U of (Mad)	41	UC Berkeley	4,705	.69	UC Berkeley	183.50	UC Berkeley	3.99
3	UC Berkeley	39	Yale	4,499	.70	Michigan, U of	110.75	Chicago, U of	3.41
4	Harvard	31	Chicago, U of	4,095	.66	Wisconsin, U of (Mad)	107.21	Wisconsin, U of (Mad)	2.90
5	Rochester, U of	27	Stanford	3,457	.73	Yale	94.47	Yale	2.55
6	Princeton	23	Syracuse Uni.	2,875	.72	Chicago, U of	81.91	Stanford	2.54
7	Stanford	22	Washington, U of	2,641	.78	Stanford	76.06	Rochester, U of	2.45
8	Yale	21	Wisconsin, U of (Mad)	2,615	.43	Princeton	41.56	Michigan, U of	1.85
9	Chicago, U of	20	Michigan, U of	2,408	.60	Rochester, U of	34.30	Princeton	1.39
10	Hawaii, U of	18	Princeton	1,807	.70	Syracuse Uni.	20.12	Washington, U of	0.92
11	Iowa, U of	14	Rochester, U of	1,270	.53	Washington, U of	18.49	Syracuse Uni.	0.77
12	North Carolina, U of	14	North Carolina, U of	1,245	.57	North Carolina, U of	17.43	Brandeis Uni.	0.73
13	Ohio State Uni.	14	Brandeis Uni.	916	.33	Hawaii, U of	13.83	North Carolina, U of	0.50
14	Brandeis Uni.	12	Minnesota, U of (Mnpls)	891	.52	Brandeis Uni.	10.99	Washington Uni.	0.33
15	Massachusetts, U of	12	Washington Uni.	775	.55	Minnesota, U of (Mnpls)	8.02	Iowa, U of	0.30
16	Columbia Uni.	11	Hawaii, U of	768	.31	Ohio State Uni.	7.30	Minnesota, U of (Mnpls)	0.29
17	Carnegie-Mellon Uni.	10	Georgia, U of	748	.63	Washington Uni.	6.97	Ohio State Uni.	0.26
18	Johns Hopkins Uni.	10	MIT	622	.66	Georgia, U of	6.73	Georgia, U of	0.22
19	Cornell Uni.	9	Carnegie-Mellon Uni.	596	.63	Iowa, U of	6.21	Johns Hopkins Uni.	0.19
20	Georgia, U of	9	Temple Uni.	565	.44	Columbia Uni.	5.99	Carnegie-Mellon Uni.	0.17
21	Minnesota, U of (Mnpls)	9	Columbia Uni.	545	.76	Carnegie-Mellon Uni.	5.96	Columbia Uni.	0.16
22	Washington Uni.	9	Ohio State Uni.	522	.69	Johns Hopkins Uni.	5.01	Duke	0.16
23	Duke	8	Johns Hopkins Uni.	501	.64	MIT	4.97	New Mexico, U of	0.12
24	MIT	8	Duke	489	.64	Massachusetts, U of	3.93	Cornell Uni.	0.11
25	Florida State Uni.	7	Rutgers (New Bruns)	471	.55	Duke	3.91	Massachusetts, U of	0.10
26	Illinois, U of	7							
27	Indiana Uni.	7							
28	New York, City College	7							
29	Rutgers (New Brunswick)	7							
30	SUNY (Stony Brook)	7							
31	Syracuse Uni.	7							
32	Washington, U of	7							

Source: The University of Iowa *APSR* School Data Set. Includes schools with more than one *APSR* author.
APSR Articles = Number of *APSR* articles between 1954-1973 by the department faculty.
Citations = Citations listed in *SSCI* between 1956 and 1976 for faculty publishing in *APSR* between 1954 and 1973.
G = Gini coefficient for citations.
PVI = Professional Visibility Index ((*APSR* Publications*Citations)/1000).
PVI/Fac = PVI controlling for faculty size (PVI/Faculty Size).
* Schools such as Hawaii and MIT might be absent from this column because of missing data on faculty size. However, they may have been excluded even if we had the data.

of Washington). Either more recent Ph.D.'s have not yet had enough time for the potential "stars" to distinguish themselves from their colleagues, or it is now more difficult for "stars" to emerge.

Perhaps the most accurate way to assess the quality and effectiveness of graduate programs is to utilize indicators of the accomplishments for both the department faculty and the Ph.D.'s they produce. Such a combined measure would capture both the scholarly quality of the program faculty and their effectiveness in training graduate students. Table 6 provides the rank ordering of the top 25 departments as determined by a combined PVI (faculty and graduate students) for the most recent and earlier 20 year periods. For reasons of space, we do not present the number of articles and citations used to compute the PVI values presented in Table 6, but interested readers can compute these values by using the information presented in the earlier tables.[14]

While the combined faculty and graduate measure reveals continuity

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Table 5. Departments by Number of PhD Graduates Published in *APSR*

	Degree 1974 or Later	GS	*APSR* Authors	*APSR* Articles	P	G	Degree Before 1974	GS	*APSR* Authors	*APSR* Articles	P	G
1	Michigan, U of	173	43	76	1.77	.33	Harvard	112	75	170	2.27	.37
2	UC Berkeley	143	34	63	1.85	.34	Yale	83	69	170	2.46	.41
3	Harvard	172	29	44	1.52	.22	Chicago, U of	129	54	103	1.91	.34
4	Minnesota, U of (Mnpls)	87	21	38	1.81	.28	UC Berkeley	273	37	79	2.14	.39
5	Chicago, U of	191	20	34	1.70	.31	Columbia Uni.	281	35	52	1.49	.23
6	Indiana Uni.	100	17	30	1.76	.33	Wisconsin, U of (Mad)	140	34	69	2.03	.36
7	Yale	69	17	28	1.65	.26	Michigan, U of	254	33	88	2.67	.45
8	Rochester, U of	31	13	33	2.54	.34	Princeton	80	31	58	1.87	.33
9	Iowa, U of	30	12	23	1.92	.37	North Carolina, U of	75	27	66	2.44	.46
10	Princeton	59	12	22	1.83	.36	Stanford	99	26	68	2.62	.38
11	Stanford	89	12	19	1.58	.29	Northwestern Uni.	45	25	62	2.48	.41
12	Washington Uni.	45	11	15	1.36	.22	Illinois, U of	100	20	38	1.90	.39
13	Cal. Tech.	19	10	22	2.20	.25	Indiana Uni.	139	17	33	1.94	.29
14	Northwestern Uni.	70	10	17	1.70	.26	Minnesota, U of (Mnpls)	75	16	30	1.88	.30
15	North Carolina, U of	103	8	12	1.50	.23	UCLA	155	16	27	1.69	.28
16	UCLA	177	8	11	1.38	.17	Cornell Uni.	80	13	25	1.92	.31
17	Cornell Uni.	86	8	8	1.00	.00	Syracuse Uni.	35	12	23	1.92	.37
18	Michigan State Uni.	41	7	14	2.00	.29	Duke	54	11	20	1.82	.29
19	Columbia Uni.	355	7	11	1.57	.23	MIT	95	10	21	2.10	.40
20	Johns Hopkins Uni.	148	6	12	2.00	.36	Rochester, U of	27	9	42	4.67	.49
21	Washington, U of	59	6	10	1.67	.27	Johns Hopkins Uni.	52	9	9	1.00	.00
22	MIT	70	6	9	1.50	.24	New York Uni.	100	8	11	1.38	.17
23	Florida State Uni.	155	6	8	1.33	.17	Iowa, U of	44	7	31	4.43	.47
24	Wisconsin, U of (Madison)	138	6	8	1.33	.21	Michigan State Uni.	30	7	9	1.29	.16
25	Ohio State Uni.	145	6	7	1.17	.12	Pennsylvania, U of	42	7	8	1.14	.11
26	Houston, U of	42	5	7	1.40	.23	Washington, U of	60	6	13	2.17	.45
27	SUNY (Stony Brook)	38	5	6	1.20	.13	Washington Uni.	42	5	9	1.80	.31
28	Illinois, U of	74	5	5	1.00	.00	Tulane	29	5	8	1.60	.25
29	Texas, U of (Austin)	89	4	7	1.75	.32	Oxford, U of (England)	--	5	5	1.00	.00
30	Wisconsin, U of (Milwaukee)	16	4	7	1.75	.25	Oregon, U of	36	4	8	2.00	.19
31	Syracuse Uni.	40	4	6	1.50	.17	Kentucky, U of	27	4	6	1.50	.25
32	New York Uni.	16	4	5	1.25	.15	Virginia, U of	65	4	6	1.50	.17
33	Oxford, England, U of	--	3	8	2.67	.25	London Sch. of Econ.	--	4	5	1.25	.15
34	Maryland, U of	139	3	6	2.00	.22	UC Santa Barbara	97	4	5	1.25	.15
35	SUNY (Buffalo)	34	3	6	2.00	.33	Ohio State Uni.	150	4	4	1.00	.00
36	Toronto, U of	--	3	5	1.67	.13	Texas, U of (Austin)	40	3	7	2.33	.19
37	Oregon, U of	34	3	4	1.33	.17	Connecticut, U of	25	3	3	1.00	.00
38	South Carolina, U of	32	3	4	1.33	.17	Illinois, U of (Chicago)	100	2	7	3.50	.07
39	Georgia, U of	48	3	3	1.00	.00	American Uni.	50	2	4	2.00	.00
40	Oklahoma, U of	58	3	3	1.00	.00	Missouri, U of	48	2	4	2.00	.00
41	Wayne State Uni.	42	3	3	1.00	.00	Penn State Uni.	62	2	4	2.00	.25
42	Pittsburgh, U of	53	2	5	2.50	.30	Vanderbilt Uni.	20	2	4	2.00	.00
43	UC Irvine	34	2	5	2.50	.30	Australian National	--	2	2	1.00	.00
44	Duke	89	2	4	2.00	.00	Claremont Grad. School	160	2	2	1.00	.00
45	Carnegie-Mellon Uni.	--	2	3	1.50	.17	Georgetown	80	2	2	1.00	.00
46	Rice Uni.	30	2	3	1.50	.17	Maryland, U of	56	2	2	1.00	.00
47	York Uni.	18	2	3	1.50	.17	Oslo, Norway, U of	--	2	2	1.00	.00
48	Boston College	--	2	2	1.00	.00						
49	Cincinnati, U of	47	2	2	1.00	.00						
50	Colorado, U of (Boulder)	27	2	2	1.00	.00						
51	Pennsylvania, U of	51	2	2	1.00	.00						
52	SUNY (Binghamton)	83	2	2	1.00	.00						

Source: The University of Iowa *APSR* School Data Set.
APSR Authors = Number of the department's Ph.D. graduates publishing in *APSR* between 1954-1994 for the 1974 or later rankings.
Number of the department's Ph.D. graduates publishing in the *APSR* between 1954-1973 for the before 1974 rankings.
APSR Articles = Number of *APSR* articles between 1954-1994 by the department's Ph.D. graduates publishing in APSR.
GS = Graduate students enrolled in program as reported in NRC Report or 1995-97 *Graduate Faculty and Programs in Political Science*.
For the earlier rankings we obtained the graduate student size from the *1976 Guide to Graduate Study in Political Science*.
P = Productivity of the department's Ph.D graduates publishing in APSR (APSR articles/APSR authors).
G = Gini coefficient for *APSR* publications

https://doi.org/10.2307/420798 Published online by Cambridge University Press

Table 6. Department Rankings by Performance of Faculty and their PhDs.

Order	Degree 1974 or Later	PVI	Degree 1974 or Later	PVI/(F+G)*	Degree before 1974	PVI	Degree before 1974	PVI/(F+G)*
1	Harvard	3,661.24	Rochester, U of	26.61	Harvard	17,568.50	Yale	113.56
2	Michigan, U of	2,915.75	Stanford	16.95	Yale	13,627.35	Harvard	112.62
3	Stanford	1,983.58	Harvard	16.64	Chicago, U of	5,236.78	Chicago, U of	34.23
4	Yale	1,514.45	Yale	15.45	Michigan, U of	2,482.09	Rochester, U of	14.20
5	UC Berkeley	1,505.32	Michigan, U of	13.44	UC Berkeley	1,858.56	North Carolina, U of	12.53
6	Rochester, U of	1,303.86	Cal. Tech.	10.19	Wisconsin, U of (Madison)	1,452.76	Princeton	11.83
7	UCLA	875.73	UC Berkeley	8.18	North Carolina, U of	1,378.36	Northwestern Uni.	10.30
8	Indiana Uni.	687.64	Iowa, U of	5.94	Princeton	1,301.22	Wisconsin, U of (Madison)	8.21
9	Minnesota, U of (Mnpls)	593.13	Indiana Uni.	5.41	Columbia Uni.	1,236.43	Michigan, U of	7.90
10	Maryland, U of	443.66	Minnesota, U of (Mnpls)	5.07	Stanford	1,000.02	Stanford	7.75
11	Michigan State Uni.	346.48	Michigan State Uni.	5.02	Northwestern Uni.	710.55	UC Berkeley	5.83
12	Princeton	330.59	UCLA	3.74	Rochester, U of	582.10	Iowa, U of	4.22
13	Ohio State Uni.	321.70	UC San Diego	3.28	Iowa, U of	274.51	Columbia Uni.	3.88
14	Iowa, U of	308.91	New York Uni.	3.25	Illinois, U of	250.62	Minnesota, U of (Mnpls)	2.34
15	UC San Diego	305.21	Princeton	3.06	Minnesota, U of (Mnpls)	241.44	Syracuse Uni.	2.10
16	Cal. Tech.	285.29	Arizona, U of	2.66	Indiana Uni.	206.79	Duke	2.02
17	Arizona, U of	252.50	Maryland, U of	2.48	MIT	170.38	Illinois, U of	1.94
18	Chicago, U of	222.76	Ohio State Uni.	1.78	Duke	159.22	MIT	1.79
19	North Carolina, U of	192.69	Washington Uni.	1.77	UCLA	155.23	Cornell Uni.	1.23
20	Wisconsin, U of (Madison)	161.87	UC Irvine	1.74	Cornell Uni.	132.44	Indiana Uni.	1.17
21	New York Uni.	120.25	Houston, U of	1.66	Syracuse Uni.	128.38	Washington, U of	0.79
22	Texas, U of (Austin)	117.28	North Carolina, U of	1.47	Washington, U of	62.89	Washington Uni.	0.74
23	Houston, U of	116.13	SUNY (Stony Brook)	1.40	New York Uni.	57.66	UCLA	0.74
24	Washington Uni.	111.76	Northwestern Uni.	1.19	Washington Uni.	46.75	Vanderbilt Uni.	0.69
25	Northwestern Uni.	106.86	Chicago, U of	1.02	UC Davis	37.51	New York Uni.	0.46

Source: The University of Iowa *APSR* School Data Set

APSR Articles = For the 1974 or later rankings, the number of *APSR* articles equals the number of *APSR* articles between 1954 and 1994 for the department's faculty publishing between 1974 and 1994, and the department's Ph.D. graduates receiving their degrees after 1973. For the before 1974 rankings, the number of articles equals the number of *APSR* articles between 1954 and 1973 for the faculty, and between 1954 and 1994 for the Ph.D. graduates.

Citations = For the 1974 or later rankings, citations equals the citations listed in *SSCI between 1956 and 1993* for department's faculty and Ph.D. graduates published in the *APSR*.

Citations = For the before 1974 rankings, citations equals the citations listed in *SSCI* for department's faculty between 1956 and 1976, and for the Ph.D. graduates between 1956 and 1993.

PVI = Professional Visibility Index ((*APSR* Publications*Citations of faculty and Ph.D. graduates)/1000).

PVI/(F+G) = Professional Visibility Index controlling for faculty size and graduate program size.

* Schools might be absent from this column because of missing data on faculty or graduate program size. However, they may have been excluded even if we had the data.

in the top ranked schools, the results presented in Table 6 demonstrate there has been some shift in the quality and effectiveness of programs in the recent past. Comparing rankings for the earlier and later time periods reveals that the ranks of some programs dropped (e.g., Wisconsin, Northwestern and MIT) while others improved (e.g., UCLA, Maryland, Michigan State, San Diego, Cal Tech and Arizona).

Direct Comparison of Reputational and Objective Rankings

Having produced a set of alternative rankings based on publications

https://doi.org/10.2307/420798 Published online by Cambridge University Press

in the leading journal and citation counts, it is possible to directly compare these objective rankings with the NRC reputational rankings. Table 7 presents this comparison for the top 50 departments. In many respects, the reputational and objective rankings are similar. Only two departments ranked in the NRC top 25 (MIT and the University of Washington) do not appear in the objective listing using the faculty PVI, and one of these schools (Washington) enters the list when the combined faculty and graduate PVI is used for the rankings in the third column of Table 7. Among the second 25 departments, there are nine in the NRC ranking that do not appear in the objective ranking—although, again, one of those (Wisconsin at Milwaukee) appears in the objective listing that uses the combined faculty and graduate PVI (see Table 7). Overall, 78% of the NRC top 50 departments are the same as those listed in the more objectively based ratings. Moreover, the correlation between the NRC reputational ranking, for the 98 departments included in the NRC report, and the faculty PVI is very significant (r = .60), thus indicating much similarity in the two types of rankings.

Despite the general similarity in the reputational and objective rankings, there are noteworthy discrepancies between the two rankings. Clearly some departments rate much higher in the reputational listing than in the objective listing—for example, MIT, Chicago, Wisconsin, Duke, Cornell and Columbia (see Table 7). Some other departments receive a lower ranking on the basis of reputation than they deserve according to objective indicators—for example, Cal Tech, Maryland, Michigan State, or Houston. In most cases, these latter departments are programs that have experienced an improvement productivity levels in recent years, so their reputation may not yet reflect this improvement.

Perhaps the reason why reputation lags behind objective indicators and why reputation may be relatively stable over time, is that reputational rankings are largely influenced by factors that are fairly obvious to those doing the ranking. For example, the larger the department the more visible that department is to the profession as a whole. Larger departments send more faculty to conferences, publish more articles, and produce more graduate students. This does not mean that large departments lack quality. After all, when we controlled for faculty size in Table 3, the rank ordering among the top departments changed relatively little. Yet if reputational rankings are partially a reflection of what is most apparent, then we would expect that reputational rank is more a reflection of the number of publications than a reflection of citations, because citations are less visible than are publications. Indeed, this is exactly what we find when we regress reputational ranking on the number of *APSR* publications and the number of citations controlling for faculty size. The regression explains 70% of the variance (adjusted R squared) in the NRC reputational ranking, with the following Beta coefficients and T values for the three independent variables:

	Beta	T
Faculty Size	.45	6.48
APSR Publications	.46	4.20
Citations	.06	.58

In short, while reputational rankings reflect the scholarly quality of the faculty, they are based on obvious indicators of that quality rather than more subtle indicators. The size of a department and the number of publications produced by a department makes that department more visible, but the number of citations or the quality of the graduates add little to reputational rankings.

Collaboration by Department Rank

Collaboration has been increasing in the profession during the past 40 years. Between 1954 and 1960 only 10% of the articles in *APSR* were co-authored, whereas half of *APSR* articles published from 1989 to 1994 were co-authored. Over the entire 40 year period between 1954 and 1994 some 30% of all *APSR* articles were co-authored (our data set has 580 co-authored articles). In the earlier years, most of these co-authored articles were written by collaborators at the same university. Between 1954 and 1963, only 36% of collaborators were at different schools; however, between 1964 and 1983 this figure rose to 60%, and from 1984 to 1994, 70% of co-authored *APSR* articles involved collaborators from different schools. Over the entire 40 year period, 63% of all co-authored articles involved collaborators from different universities. In short, when collaboration occurs it is far more likely to be between different universities rather than within the same school.

While the extent of collaboration does not vary significantly across departments of different rank, the pattern of collaboration does change for schools of different scholarly rank. Departments in the highest quartiles, as determined by the number of *APSR* publications and citation counts, are somewhat more likely to have collaboration among members of the same department than are lower ranked departments (for example, 41% of collaborators are within the same department among the highest ranked departments as compared with 31% among the schools in the lowest quartile). Moreover, when collaboration occurs between departments, it tends to be between departments of a similar rank. Among the top ranked departments, 79% of collaboration was with a department of the same rank or only one quartile lower (62% in the same quartile, 17% in the second highest quartile). Similarly, among the lowest ranked schools, 56% of collaboration occurred with a school of the same rank and another 14% was with a department in the next highest rank.

If collaboration reflects an attempt to share resources, it is clearly not benefiting the lesser ranked departments. Higher-ranked departments appear to have more research resources at their disposal. It would be reasonable, therefore, if faculty at lower-ranked departments collaborated with faculty from higher-ranked departments to increase the resources at their disposal, but such collaboration is rare. Given this outcome, cross-department collaboration appears to be motivated by something other than an effort to

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Table 7. A Direct Comparison of Reputational and Objective Department Rankings

	School in 1994	NRC93Q	School in 1994	Faculty PVI	School in 1994	Faculty & Student PVI
1	Harvard	4.88	Stanford	1,419.07	Harvard	3,661.24
2	UC Berkeley	4.66	Harvard	1,390.03	Michigan, U of	2,915.75
3	Michigan, U of	4.60	Michigan, U of	950.10	Stanford	1,983.58
4	Yale	4.60	Yale	754.19	Yale	1,514.45
5	Stanford	4.50	UCLA	590.85	UC Berkeley	1,505.32
6	Chicago, U of	4.41	Rochester, U of	417.13	Rochester, U of	1,303.86
7	Princeton	4.39	Maryland, U of	348.60	UCLA	875.73
8	UCLA	4.25	UC Berkeley	345.81	Indiana Uni.	687.64
9	UC San Diego	4.13	UC San Diego	296.96	Minnesota, U of (Mnpls)	593.13
10	Wisconsin, U of (Madison)	4.09	Ohio State Uni.	280.18	Maryland, U of	443.66
11	Rochester, U of	4.01	Arizona, U of	244.37	Michigan State Uni.	346.48
12	MIT	3.96	Michigan State Uni.	229.13	Princeton	330.59
13	Minnesota, U of (Mnpls)	3.95	Indiana Uni.	226.79	Ohio State Uni.	321.70
14	Duke	3.94	Princeton	156.54	Iowa, U of	308.91
15	Cornell Uni.	3.85	Minnesota, U of (Mnpls)	142.08	UC San Diego	305.21
16	Columbia Uni.	3.84	Iowa, U of	115.74	Cal. Tech.	285.29
17	Ohio State Uni.	3.69	Wisconsin, U of (Madison)	103.61	Arizona, U of	252.50
18	North Carolina, U of	3.54	New York Uni.	92.46	Chicago, U of	222.76
19	Texas, U of (Austin)	3.49	Houston, U of	86.23	North Carolina, U of	192.69
20	Indiana Uni.	3.45	North Carolina, U of	81.37	Wisconsin, U of (Madison)	161.87
21	Johns Hopkins Uni.	3.37	UC Irvine	75.56	New York Uni.	120.25
22	Northwestern Uni.	3.35	Chicago, U of	70.58	Texas, U of (Austin)	117.28
23	Washington, U of	3.34	Cal. Tech.	69.19	Houston, U of	116.13
24	Washington Uni.	3.29	Texas, U of (Austin)	68.87	Washington Uni.	111.76
25	Iowa, U of	3.25	Cornell Uni.	66.29	Northwestern Uni.	106.86
26	Virginia, U of	3.24	Duke	61.86	Cornell Uni.	99.94
27	Rutgers Uni. (New Brunsw.)	3.24	SUNY (Stony Brook)	59.88	UC Irvine	99.06
28	Michigan State Uni.	3.24	Arizona State	48.89	Duke	80.42
29	Maryland, U of	3.23	Washington Uni.	43.65	SUNY (Stony Brook)	78.42
30	Illinois, U of	3.20	UC Santa Barbara	38.88	Johns Hopkins Uni.	67.63
31	Pittsburgh, U of	3.15	Texas A & M	32.03	Arizona State	48.89
32	UC Irvine	3.14	Colorado, U of (Boulder)	31.80	Pittsburgh, U of	42.15
33	Houston, U of	2.96	Northwestern Uni.	31.48	UC Santa Barbara	41.52
34	SUNY (Stony Brook)	2.92	American Uni.	31.21	Oregon, U of	39.46
35	Arizona, U of	2.89	Oregon, U of	27.80	Colorado, U of (Boulder)	35.82
36	Emory Uni.	2.88	Pittsburgh, U of	23.49	Washington, U of	35.72
37	Georgetown	2.85	Georgetown	22.32	American Uni.	34.68
38	Florida State Uni.	2.82	Penn State Uni.	22.20	Texas A & M	33.72
39	Colorado, U of (Boulder)	2.78	Johns Hopkins Uni.	21.58	Columbia Uni.	32.39
40	Syracuse Uni.	2.77	George Washington Uni.	20.34	Carnegie-Mellon Uni.	30.73
41	UC Santa Barbara	2.74	Carnegie-Mellon Uni.	19.21	Georgetown	24.46
42	Pennsylvania, U of	2.68	UC Davis	17.44	Georgia, U of	22.71
43	Arizona State	2.67	Georgia, U of	15.82	Penn State Uni.	22.20
44	Georgia, U of	2.66	North Texas, U of	13.69	George Washington Uni.	20.34
45	Notre Dame, U of	2.66	Emory Uni.	13.33	Wisconsin, U of (Milwaukee)	19.79
46	UC Davis	2.61	Purdue Uni.	11.68	UC Davis	17.44
47	George Washington Uni.	2.57	Columbia Uni.	11.50	Emory Uni.	17.16
48	CUNY Grad Center	2.57	Illinois, U of	9.58	SUNY (Buffalo)	17.01
49	Tufts Uni.	2.51	Marquette Uni.	7.91	Illinois, U of	16.12
50	Wisconsin, U of (Milwaukee)	2.48	Louisiana State U	7.35	North Texas, U of	13.69

Source: The University of Iowa *APSR* School Data Set.
NRC93Q = Score from 1995 National Research Council Rankings.
Faculty PVI = (Faculty Publications * Faculty Citations)/1000. Data from 1954 to 1994 are used for faculty publishing between 1974 and 1994.
Faculty & Student PVI = ((Faculty + Student Publications)*(Faculty + Student Citations))/1000. Student data are from 1954 to 1994 for PhD graduates receiving their degrees after 1973.

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share resources; more likely, collaboration reflects a similarity of substantive interests and methodological expertise among the collaborators. Regardless of the motivation for cross-department collaboration, the pattern of collaboration by rank of departments suggests that collaboration, in general, does not provide a mechanism for improving the relative ranking of lower ranked departments. Rather, given the pattern with which cross-department collaboration occurs, collaboration is far more likely to maintain the rank order of departments than to change that order.

Conclusion

There is a substantial relationship between reputational rankings of the quality of departments and more objective indicators of department quality. Particularly important is the number of publications that departments have in the leading journals. Less substantial, but still important, are the number of citations produced by the department faculty and the quality of the research conducted by the graduates of the department. But despite the overlap in reputational and objective ratings, enough difference remains between the two approaches to warrant using both the objective rankings and the reputational rankings.

The NRC has moved in the right direction by adding more objective data to their report. Despite the limitations in the NRC publication and citation data, there is significant correlation between their objective measures and those reported here (the correlation between the NRC number of publications and the number of *APSR* articles is .66 and the two sets of citation counts are correlated at .71). To improve the validity of their objective measures in future reports, the NRC should weight the number of publications by journal quality, utilize a longer time period for citations, and check the accuracy of data.

The comparison of objective measures of program quality over the past 40 years demonstrates that departments can increase program effectiveness, and, in turn, benefit reputational standing. Similarly, the quality of graduate programs can be drastically changed by the departure of very productive faculty members. The ranking by objective measures for both current faculty and graduates should be a useful list for any department hiring new faculty in the future.

Finally, we had thought that collaborative research and publishing might be a mechanism for improving the quality of scholarship among lower ranked departments. If collaboration occurred between departments of differing rank, schools of lower-rank would benefit through sharing in the greater resources of the higher-ranked departments, thus improving the visibility and quality of the initially lower-ranked departments. The results demonstrate, however, that there is little collaboration across departments of differing rank. As collaboration in political science increases, it does not change either the reputational or objective rankings of departments.

Notes

*This effort has been, perhaps more than anything else, an exercise in data set construction. We wish to thank those individuals whose countless hours of data collection, rechecking, coding and entry have made this article possible: Megan Lutz, Graham Fuller, Michelle Ucci, Scott Fitzgerald, Jeremy Johnson and Chris Hipschen. We also wish to thank Chia-Hsing Lu for technical assistance, Karen Mazaika for editorial assistance and Peggy Swails for secretarial assistance.

1. The NRC is certainly aware of the sampling error issue. They do present the mean ratings of departments within confidence intervals, but this information appears in an appendix to the report (for Political Science see Appendix, Figure Q-36, pages 688–89 in the report). However, a closer look at Figure Q36 reveals that only 10 broad categories of ratings can be differentiated when statistical significance is taken into consideration. Statistically speaking, the ranking of schools that fall into the 10 different broad categories of ratings can be differentiated from one another, but schools falling into the same broad category cannot be statistically differentiated.

Figure Q36 does confirm that Harvard receives a statistically higher reputational rating than the remaining schools. Beyond that clear difference, however, it is statistically impossible to precisely differentiate the rankings among various subsets of schools. For example, due to sampling error, it is statistically impossible to differentiate among the following six schools for the second place ranking—Berkeley, Yale, Michigan, Stanford, Chicago and Princeton. Despite the imprecision that arises from the large sampling error, the NRC reports mean ratings with two decimal places, thereby implying more precision than the data warrant.

2. Neither ISI nor NRC could give us an explanation for the erroneous reporting of the Houston citation and publication data. We were told by NRC, however, that they did not have the resources to check the accuracy of any of the citation and publication counts data presented in their report. Moreover, NRC did not check for misspelled names, a possibility that can arise on either the lists of faculty that came from the included universities or in the citation data base.

3. The time period from which the NRC selected publication counts and citations is somewhat confusing in their report. On page 143, the NRC report refers to the ISI publications and citations data set for the period 1981 to 1992. Yet, on pages 25 and 312, the NRC report refers only to publications during the 1988–1992 period. Again, NRC confirmed that only publications for the 1988–1992 period were used in the count of publications and citations.

4. As indicated in our earlier report, sometimes it is difficult to determine from the individuals name which citations actually belong to the individual. This occurs for such common names as Brown, Jones and Smith. Given that the Social Science Index lists authors by last name and then by first initial, and on occasion middle initial, and given that there are a number of individuals in the social sciences that have the same last name, we spent a good deal of time checking and rechecking the citation counts for authors with common names. In a small number of cases we were still not confident that we could properly allocate the citations to the right individuals, so we eliminated those individuals from the analysis and presentations that utilize citation counts. The five names with which we had problems were as follows: C. Brown, R. Brown, W. Dixon, E. Jones and J. Smith. In most cases, these names would have fallen out of our analyses because they do not meet other criteria (such as a minimum number of publications or a clear cut department affiliation). Nevertheless, we apologize to individuals with these names and initials if they feel slighted by exclusion from the departmental evaluations. The same apology goes to any department that may have a faculty member with one of these names and initials.

Moreover, the reader should be aware of the updated Table 6 from our earlier PS article (March 1996, p. 80) published in the June 1996 *PS* (page 192). Also, Seymour Martin Lipset was inadvertently missing from the Table 5 list of citation leaders (March 1996 *PS* p. 79). He has a total of 12,930 citations for the period 1956–1993 and three *APSR* publications, one of which occurred in the most recent twenty years. Excluding R. Brown and Norman Nie who gets a large number of citations for the SPSS manual, Lipset is the profession's most frequently cited individual. Because Norman Nie receives a huge number of citations to the SPSS manual, we did not attribute his citations in the most recent twenty years to Chicago, nor did they get added to

https://doi.org/10.2307/420798 Published online by Cambridge University Press

Stanford when assessing the quality of Ph.D. graduates.

5. We thank the APSA office for generously allowing us to use the older directories.

6. *Dissertation Abstracts Ondisc* is a single database that combines information from the *Comprehensive Dissertation Index, Dissertation Abstracts International, American Doctoral Dissertations* and *Masters Abstracts International*. Dissertations from 1861 to present are in the database.

7. The authors on whom we were unable to locate biographical data fall into four major categories: they are either from other disciplines, from foreign universities, from non-academic institutions, or they have recently retired. The reason for the larger percentage of missing data on biographical information for the earlier twenty-year period is because during that time, fewer authors were members of the *APSA* and more of them appeared to be from outside the United States.

8. For example, we identified a total of sixty-three authors from *DAO* that received their Ph.D.'s in other disciplines. Our data also showed a total of 42 authors listed at non-academic institutions (e.g., Brookings Institution) in 1994 or 1973.

9. A school receives credit for a publication when a faculty member publishes in the *APSR*, regardless of whether it was a single-authored or multi-authored article. Thus, if a team of four collaborators are all from the same school that school gets credit for four publications.

10. The equation for the Gini coefficient is, $G = 1 + 1/N - [2(x_N + 2x_{N-1} + 3x_{N-2} + \ldots + Nx_1)/N^2\mu]$, where N equals the number of APSR authors in the department, x_N is the highest number of *APSR* publications in a department and x_1 is the smallest, and μ equals the mean number of APSR publications in the department.

11. The purpose here was to determine to what extent the *APSR* publications were uniformly distributed across the authors who had contributed to the *Review* rather than determining to what extent the articles were distributed across all the members of each department. If we included all members of each department who have no *APSR* publications, the coefficients would be much higher. The coefficient values are also surpressed by the fact that very few individuals in the profession publish five or more *APSR* articles. As a result of how difficult it is to publish in the *Review*, few departments will ever have a highly skewed distribution for the number of *APSR* publications contributed by those who published at least once in the *Review*, hence Gini coefficients for the number of articles in the *APSR* should be relatively low.

12. The PVI is calculated by multiplying publications by citations and then dividing by 1,000.

13. It might be argued that the PVI, as we calculated it (number of *APSR* articles times the number of citations), is dominated by the weight of the citations. To examine this possibility we produced another ranking after setting publication counts equal to citation counts and adding the two numbers together. Setting publications equal to citations was accomplished by dividing the mean number of citations by the mean number of publications, then multiplying the number of publications times the resulting number (185.64). The new ranking with equally weighted publication and citation counts is virtually the same as our original ranking, no doubt because number of publications and number of citations are correlated.

14. The number of *APSR* articles for the faculty comes from Tables 3 and 4. The number of articles produced by the graduates of a department comes from Table 5. To compute the number of citations used to calculate the PVI in Table 6, add the number of articles from Tables 3 (or 4 depending on the time period) and 5, then divide the PVI value in Table 6 (after multiplying by 1000) by the number of articles. For example, to calculate the combined number of citations for Harvard, add 43 articles from Table 3 for 1994 and 44 articles from Table 5 for a total of 87 articles. Multiply the Table 6 PVI (3661.24) by 1000 and divide by 87 for a total of 42,083 citations. Interested readers can write the senior author to request these values and the PVI values for the fuller set of schools included in the data.

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A Political Scientist Rides the Talk Radio Circuit

James G. Gimpel, *University of Maryland*

Old geezers sitting around in barber shops listening to cattle market and farm commodity reports, grousing about community problems, and bragging about their latest hunting and fishing expeditions. That's my vision of AM talk radio listeners formed by my childhood upbringing in a small western Nebraska town. Growing up, I figured the only reason why people listened to talk radio was because there were only three radio stations on the dial in my remote part of an out-of-the-way state. So when my publisher, Allyn and Bacon, decided to hire a publicist to promote my book on the first 100 days of the 104th Congress and the

https://doi.org/10.2307/420798 Published online by Cambridge University Press