An Evaluation of Research Productivity Among I-O Psychology Doctoral Programs

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Abstract: There are various ways in which one can evaluate the quality of a doctoral program. Program quality is important to gauge because this information enables those within the field to better understand the dynamics contributing to the contemporary research environment. Evaluations may be utilized by prospective students to make decisions of where to apply, by schools to attract new faculty, and by the general public as a preview into the field. Previous studies have drawn upon both subjective indicators of program quality (e.g., *US News and World Report*, 2013) and objective indicators of program quality (e.g., Roy, Roberts, & Stewart, 2006). The present study seeks to provide an updated and expanded investigation of faculty research productivity associated with industrial-organizational (I-O) psychology doctoral programs. Using a multifaceted approach, we focused on various objective indicators of performance including faculty publications and program presence at national conferences.

It is essential to note that productivity is multidimensional. Previous studies have examined productivity using numerous indicators, including the average number of publications produced by graduates of each program (Roy, Roberts, & Stewart, 2006), student ratings of quality (Kraiger & Abalos, 2004), and institutional representation in the SIOP conference program (Payne, Succa, Maxey, & Bolton, 2001). *US News and World Report* (2013) ranks programs based upon the opinions of psychology department chairs regarding reputations of graduate programs. Some of the most comprehensive objective evaluations of program productivity include efforts by Gibby, Reeve, Grauer, Mohr, and Zickar (2002), and Oliver, Blair, Gorman, and Woehr (2005). However, both of these studies have now become outdated. Gibby et al.'s study only examined publications through 2000 and Oliver et al.'s study only examined publications through 2003. In the decade since previous examinations of program research productivity, numerous changes have occurred within programs (e.g., faculty movement, programs created or dissolved); thus, it is imperative that this information is periodically updated.

The purpose of this paper is to update and extend previous objective evalua-

tions of I-O psychology doctoral programs in the United States conducted by Gibby et al. (2002) and Oliver et al. (2005). Both of these studies examined program research productivity using multiple indices: (a) publications in the top 10 I-O journals over the past 5 years, (b) publications in the top 10 I-O journals over the entire career of a faculty member, (c) total research output for the past five years, and (d) total research output for the entire career of a faculty member. However, both of these studies used 5-year assessments of recent productivity. In this study, we expanded this to a 10-year period (2003-2012) in order to provide a more stable index of recent productivity. In addition, this study integrated information beyond publications. Specifically, using methodology similar to that of Payne et al. (2001), we examined institutional representation (including both faculty and students) over the past 10 years at the SIOP conference.

Overall, this study contributes to existing literature by assessing program quality using multiple objective measures of performance (i.e., faculty publications and program presence at SIOP). Although some studies have examined these measures separately, this study is the first to combine several objective indicators of program performance into the same analysis. Given that performance is multidimensional, we chose to include several different aspects of objective performance in order to better capture the criterion domain. An update to the existing research productivity studies is greatly needed, and this study sought to do just that.

Method

Overview

In accordance with previous studies, the SIOP official web page was used to access a list of current I-O and related psychology programs. Schools were included if they met the following criteria:

- The university offered a Doctor of Philosophy (PhD) degree in Industrial-Organizational Psychology or a similar program (including Organizational Psychology, Organizational Science, Applied Psychology, and Social-Organizational Psychology). Doctor of Psychology (PsyD) programs were excluded, as were Consulting and Health Psychology programs included on the official SIOP site.
- The program was not identified as a web-based (online) program.

This study analyzed both U.S. based and international schools included on the SIOP web site. Utilizing these criteria, 62 programs were included in the current study. Listings of core program faculty members as of fall 2012 were gathered from official university websites, and an initial e-mail was sent out

to each program's director or coordinator, if identifiable, to confirm its accuracy. Emeritus faculty members, visiting professors, and any faculty member not receiving at least part of his or her salary from the Psychology department were excluded. This correspondence also requested contact information for any faculty members who were not listed or the program's webpage did not provide an e-mail address. A reminder was sent out to any programs who failed to confirm their program's faculty. If a program did not respond to this second request, only faculty listed on the official program webpage were included.

Next, all core faculty members were contacted with a request for their updated curriculum vitae (CV), and a reminder was sent out approximately 2 weeks later if no response was received. Of 316 identified faculty members, 164 responded with the information requested, comprising a 51.9% response rate. All CVs were reviewed to check the date of the most recent citation. If this citation was 2011 or earlier, a PsychInfo database search was performed to ensure each faculty member's citations were current. A PsychInfo database search was also performed for any faculty member who did not provide a CV.

Our first step was to narrow down our database to a set of 40 schools for in-depth analyses. To do this, our first index was based on core faculty publications in the top 10 I-O journals as established by Zickar and Highhouse (2001) over the past 10 years (2003–2012). (See Appendix A for a list of included journals.) In accordance with prior studies, errata, editorials, comments, obituaries, and book reviews were excluded (Gibby et al., 2002). We also excluded introductions to special issues. Each qualifying journal article was assigned points based on a weighting scheme incorporating both authorship order and number of authors, utilizing Howard, Cole, and Maxwell's (1987) formula:

$$\text{credit} = (1.5^{n-i}) \,/\, (\mathbf{S}_{i=1}^{n}\, 1.5^{i-1})$$

where *n* indicates the number of authors on the article and *i* refers to the position of a specific target author among all authors on the article.

After points were determined for each article, points were summed to create a point total for each faculty member. The total points of each program's core faculty members were then summed to obtain the total number of points for each program.

We then calculated four additional indices for the top 40 schools: (a) publications in the top 10 I-O journals over the entire career of a faculty member, (b) total publications over the last 10 years of a faculty member, (c) total publications over the entire career of a faculty

member, and (d) institutional presence at the SIOP conference for the past 10 years. Finally, an overall productivity score across all of these assessments was calculated utilizing the methodology of Oliver et al. (2005). In addition, we calculated per-capita scores by dividing a program's overall score by the number of core faculty in that respective program.

Results

Productivity points for all schools in our database based upon publications in the top 10 I-O journals over the past 10 years (the first index), and comparisons between current scores and previous ranking data from Gibby et al. (2002) and Oliver et al. (2005) are presented in Table 1.

Tables 2 through 5 present further analyses for the top 40 schools only (as determined by the first index). For the second index, productivity points based upon publications in the top 10 I-O journals over a faculty member's entire career were calculated using the same exclusion criteria and weighting formula as outlined in the first index, and points were summed for each program (see Table 2).

For the third index, total publications (including all peer-reviewed journal publications, books, book chapters, and edited books) over the past 10 years was calculated. Encyclopedia entries, publications in journals that are not peer reviewed, and publications with the same exclusion criteria as the previous two indices (obituaries, commentaries, etc.) were excluded from this index. Each qualifying publication was again weighted using Howard et al.'s (1987) formula, although no differential weight was given for varying types of publications (book, chapter, article, etc.). After points were determined, they were summed within each program to determine total program points. The fourth index expanded upon the third index by including total publications over the entire career of a faculty member. All procedures for this index were identical to those of the third index (see Table 3 for the third and fourth indices).

For the fifth index, we examined institutional presence at SIOP, including faculty and students, for the past 10 years. SIOP programs from 2003–2012 were compiled for data entry, and an individual search was performed for each of the 40 programs. In accordance with Payne et al. (2001), we did not differentiate between roles in a session (e.g., presenter, chair, host, discussant, panelist, coordinator, etc.). Submitters were not included in the present analysis. Due to the variety of session types

Table 1.

Initial Productivity Point Values for All Schools and Comparisons With Prior Productivity Studies

Productivity points	University	Total points in top 10 journals: 2003-2012	Ranking for publication in top 10 journals: 1996-2000 (Gibby et al., 2002)	Publication in top 10 I-O journals: 1999-2003 (Oliver et al., 2005)
1	University of South Florida	22.17	8	2
2	University of Georgia	19.71	9	8
3	Michigan State University	17.58	1	1
4	University of Minnesota	16.25	3	5
5	Purdue University	13.83	19	24
6	Texas A&M University	13.74	18	12
7	University of Akron	13.35	7	11
8	George Mason University	12.87	10	7
9	Rice University	12.05	(NL)[a]	31
10	University of North Carolina - Charlotte	10.56	(NL)	(NL)
11	Bowling Green State University	10.20	2	4
12	University of Illinois at Urbana - Champaign	10.02	4	6
13	University of Maryland	9.36	(NL)	9
14	Georgia Institute of Technology	9.29	15	17
15	University of Houston	8.75	5	50
16	Baruch College, CUNY	8.19	(NL)	15
17	North Carolina State University	7.94	(NL)	37
18	The Pennsylvania State University	7.56	6	3
19	Portland State University	7.44	(NL)	20
20	Wright State University	7.09	(NL)	43
21	University of Western Ontario	6.77	(NL)	16
22	Central Michigan University	6.49	(NL)	18
23	Wayne State University	6.04	(NL)	14
24	Ohio University	5.99	(NL)	40
25	De Paul University	5.76	(NL)	42
26	University of Waterloo	5.57	11	30
27	Florida International University	5.55	(NL)	22
28	University of Missouri - St. Louis	4.49	(NL)	25
29	University of Central Florida	4.41	20	23
30	University at Albany, SUNY	4.27	(NL)	34
31	Illinois Institute of Technology	4.02	(NL)	36
32	Griffith University	3.90	(NL)	(NL)
33	Teacher's College, Columbia University	3.82	(NL)	19
34	University of Calgary	3.78	(NL)	35
35	University of Guelph	3.53	(NL)	(NL)
36	Florida Institute of Technology	3.43	(NL)	51
37	Colorado State University	3.09	12	38
38	Old Dominion University	2.87	(NL)	52
39	Clemson University	2.72	(NL)	27
40	Auburn University	2.65	(NL)	48
41	Northern Illinois University	2.01	(NL)	(NL)
42	Saint Louis University	1.99	(NL)	59
43	University of Tulsa	1.86	(NL)	39
44	University of Oklahoma	1.77	(NL)	29
45	Virginia Polytechnic Institute and State University	1.40	(NL)	32
46	University of Connecticut	1.39	16	47
47	Kansas State University	1.34	(NL)	44
48	Claremont Graduate University	1.04	(NL)	57
49	University of Tennessee Knoxville	1.01	(NL)	13
50	George Washington University	1.00	(NL)	46
51	Hofstra University	0.94	(NL)	(NL)
52	Roosevelt University	0.71	(NL)	(NL)
53[b]	Alliant International University - Los Angeles	0.60	(NL)	21
53	Louisiana Technical University	0.60	(NL)	(NL)
55	University of Texas - Arlington	0.28	(NL)	(NL)
56	University of Nebraska - Omaha	0.24	(NL)	45
57	Seattle Pacific University	0.08	(NL)	(NL)

Notes. Schools with zero points were not included in the current table.

[a] (NL) indicates a program not listed in the previous study.

[b] Alliant University LA and Louisiana Technical University had identical scores, and are listed in alphabetical order.

Table 2

Research Productivity Based on Publications in the Top Ten I-O Psychology-Oriented Journals

Rank	School	Total points in top 10 journals: 2003-2012	Total points in top 10 journals: Career
1	University of South Florida	22.17	59.83 (2)
2	University of Georgia	19.71	35.99 (5)
3	Michigan State University	17.58	62.83 (1)
4	University of Minnesota	16.25	51.18 (3)
5	Purdue University	13.83	16.33 (22)
6	Texas A&M University	13.74	22.51 (14)
7	University of Akron	13.35	36.12 (4)
8	George Mason University	12.87	29.10 (8)
9	Rice University	12.05	31.15 (7)
10	University of North Carolina - Charlotte	10.56	19.91 (17)
11	Bowling Green State University	10.20	25.81 (10)
12	University of Illinois at Urbana - Champaign	10.02	27.22 (9)
13	University of Maryland	9.36	22.71 (13)
14	Georgia Institute of Technology	9.29	32.96 (6)
15	University of Houston	8.75	21.83 (15)
16	Baruch College, CUNY	8.19	15.87 (23)
17	North Carolina State University	7.94	14.22 (24)
18	The Pennsylvania State University	7.56	23.38 (12)
19	Portland State University	7.44	13.14 (26)
20	Wright State University	7.09	8.11 (35)
21	University of Western Ontario	6.77	20.45 (16)
22	Central Michigan University	6.49	24.21 (11)
23	Wayne State University	6.04	17.86 (20)
24	Ohio University	5.99	19.25 (18)
25	De Paul University	5.76	9.84 (30)
26	University of Waterloo	5.57	8.52 (33)
27	Florida International University	5.55	11.99 (27)
28	University of Missouri - St. Louis	4.49	17.20 (21)
29	University of Central Florida	4.41	18.09 (19)
30	University At Albany, SUNY	4.27	8.46 (34)
31	Illinois Institute of Technology	4.02	8.92 (31)
32	Griffith University	3.90	4.37 (37)
33	Teacher's College, Columbia University	3.82	13.78 (25)
34	University of Calgary	3.78	4.85 (36)
35	University of Guelph	3.53	4.23 (38)
36	Florida Institute of Technology	3.43	3.61 (39)
37	Colorado State University	3.09	10.7 (28)
38	Old Dominion University	2.87	10.38 (29)
39	Clemson University	2.72	8.76 (32)
40	Auburn University	2.65	3.45 (40)

Table 3

Research Productivity Based on All Publications

Rank	School	All publications: 2003-2012	All publications: Career
1	Michigan State University	149.33	374.40 (1)
2	University of Minnesota	127.93	218.62 (3)
3	University of South Florida	125.68	277.78 (2)
4	University of Central Florida	86.78	144.68 (6)
5	Griffith University	84.11	128.76 (8)
6	Rice University	80.36	117.76 (11)
7	George Mason University	78.61	145.62 (5)
8	University of Georgia	71.53	158.14 (4)
9	Teacher's College, Columbia University	65.29	141.38 (7)
10	University of Akron	59.68	123.20 (9)
11	University of North Carolina - Charlotte	58.51	90.46 (19)
12	University of Calgary	57.30	92.60 (18)
13	Portland State University	52.27	93.50 (17)
14	Bowling Green State University	50.59	102.72 (15)
15	University of Maryland	49.49	83.23 (21)
16	University of Waterloo	48.02	64.71 (25)
17	Old Dominion University	46.50	77.13 (23)
18	Purdue University	45.79	63.30 (26)
19	The Pennsylvania State University	44.84	97.91 (16)
20	Georgia Institute of Technology	41.16	122.37 (10)
21	Texas A&M University	41.09	85.79 (20)
22	University of Illinois at Urbana - Champaign	40.24	104.97 (14)
23	Central Michigan University	38.48	105.83 (13)
24	Florida Institute of Technology	38.07	49.96 (33)
25	Wright State University	37.17	45.15 (34)
26	Baruch College, CUNY	37.09	61.44 (29)
27	North Carolina State University	36.03	62.35 (28)
28	University of Western Ontario	34.59	82.38 (22)
29	University of Missouri - St. Louis	33.26	72.82 (24)
30	Colorado State University	32.55	57.21 (31)
31	Florida International University	31.89	57.91 (30)
32	University of Houston	28.71	108.55 (12)
33	Clemson University	27.78	53.05 (32)
34	Wayne State University	23.01	62.57 (27)
35	De Paul University	22.67	43.47 (36)
36	University of Albany, SUNY	20.86	33.14 (39)
37	University of Guelph	19.46	24.13 (40)
38	Auburn University	16.67	38.35 (37)
39	Ohio University	16.65	44.96 (35)
40	Illinois Institute of Technology	16.48	33.47 (38)

Table 4

Research Productivity Based on Institutional Presence at SIOP Conference From January 2003 to December 2012

Rank	School	SIOP presence: 2003-2012	SIOP presence: 1986-2001 (Payne et al., 2001)
1	Michigan State University	1020	690 (1)
2	University of Central Florida	898	56 (45)
3	George Mason University	854	238 (12)
4	University of Minnesota	748	329 (5)
5	University of South Florida	686	217 (14)
6	Texas A&M University	567	270 (7)
7	University of Georgia	520	253 (10)
8	University of Houston	498	214 (16)
9	University of Maryland	496	393 (4)
10	The Pennsylvania State University	479	319 (6)
11	Bowling Green State University	475	469 (2)
12	University of Akron	431	432 (3)
13	Portland State University	426	67 (41)
14	University of Illinois at Urbana - Champaign	413	262 (8)
15	Wayne State University	384	107 (29)
16	Wright State University	345	72 (40)
17	Clemson University	338	(NL)
18	Central Michigan University	337	107 (29)
19	Florida Institute of Technology	333	(NL)
20	Purdue University	325	257 (9)
21	North Carolina State University	324	51 (47)
22	Colorado State University	309	157 (20)
23	Rice University	307	139 (23)
24	Baruch College, CUNY	287	107 (29)
25	Florida International University	251	192 (17)
26	University of Western Ontario	224	(NL)
27	Georgia Institute of Technology	223	155 (21)
28	Old Dominion University	207	116 (25)
29	University of North Carolina - Charlotte	192	(NL)
30	University of Albany, SUNY	181	224 (13)
31	De Paul University	179	(NL)
32	Illinois Institute of Technology	171	94 (35)
33	Ohio University	136	48 (48)
34	University of Missouri - St. Louis	132	61 (43)
35	Auburn University	130	33 (58)
36	University of Waterloo	115	(NL)
37	University of Calgary	111	(NL)
38	Teacher's College, Columbia University	88	42 (52)
39	University of Guelph	61	(NL)
40	Griffith University	16	(NL)

Table 5

Overall and Per Capita Scores of Research Productivity

Rank	School	Overall scores	Number of faculty	Per capita scores
1	Michigan State University	83.75	8	10.47 (9)
2	University of South Florida	77.26	8	9.66 (16)
3	University of Minnesota	71.99	5	14.40 (3)
4	University of Georgia	62.87	8	7.86 (29)
5	George Mason University	61.95	7	8.85 (21)
6	University of Akron	57.12	8	7.14 (32)
7	Rice University	55.89	7	7.98 (28)
8	Teacher's College, Columbia University	54.71	9	6.08 (38)
9	Texas A&M University	53.85	6	8.98 (18)
10	Bowling Green State University	53.13	5	10.63 (8)
11	University of Illinois at Urbana-Champaign	52.00	4	13.00 (6)
12	University of Maryland	51.73	3	17.24 (2)
13	Georgia Institute of Technology	51.40	5	10.28 (10)
14	The Pennsylvania State University	51.00	6	8.50 (24)
15	University of Houston	50.66	5	10.13 (12)
16	University of Central Florida	50.40	6	8.40 (25)
17	Purdue University	50.21	5	10.04 (13)
18	University of North Carolina - Charlotte	49.84	6	8.31 (27)
19	Portland State University	49.22	5	9.84 (14)
20	Central Michigan University	49.09	5	9.82 (15)
21	Griffith University	46.71	7	6.67 (35)
22	Baruch College, CUNY	46.50	7	6.64 (36)
23	University of Western Ontario	46.48	5	9.30 (17)
24	North Carolina State University	46.43	7	6.63 (37)
25	Wayne State University	45.77	8	5.72 (39)
26	Wright State University	44.79	5	8.96 (19)
27	Old Dominion University	44.59	5	8.92 (20)
28	Florida International University	43.84	5	8.77 (22)
29	University of Missouri - St. Louis	43.64	6	7.27 (31)
30	University of Waterloo	43.41	5	8.68 (23)
31	University of Calgary	43.10	4	10.78 (7)
32	Ohio University	42.55	2	21.27 (1)
33	Clemson University	42.39	6	7.06 (33)
34	De Paul University	41.76	5	8.35 (26)
35	Florida Institute of Technology	41.32	6	6.89 (34)
36	Colorado State University	40.99	4	10.25 (11)
37	University of Albany, SUNY	40.41	3	13.47 (4)
38	Auburn University	40.24	3	13.41 (5)
39	University of Guelph	38.51	7	5.50 (40)
40	Illinois Institute of Technology	38.48	5	7.70 (30)

Table 6
Correlations Between Indices

	Mean	*SD*	1	2	3	4	5	6	7
1. Top 10 Journals (2003-2012)	8.18	4.90	—						
2. Top 10 journals (entire career)	19.98	14.19	.87**	—					
3. Total research output (2003-2012)	50.41	30.66	.67**	.76**	—				
4. Total research output (entire career)	98.64	67.47	.71**	.87**	.93**	—			
5. SIOP presence (2003-2012)	355.43	234.61	.65**	.72**	.66**	.71**	—		
6. Overall productivity score	50.00	10.00	.87**	.94**	.89**	.95**	.77**	—	
7. Number of faculty	5.65	1.59	.38*	.36*	.47*	.47**	0.28	.48*	—

*Notes: *Correlation is significant at the .05 level. *** Correlation is significant at the .01 level.

(e.g., symposium/forum, poster session, panel discussion, etc.), authorship was not weighted. One point was given each time an individual listed the university as their affiliation. The total points for each university were summed to obtain the total number of SIOP points for each program. These findings are compared with Payne et al.'s (2001) point values for academic institutional presence at SIOP from 1986–2001 (see Table 4).

Last, we calculated each program's overall scores based on the methodology of Oliver et al. (2005). Specifically, scores within each index were converted to *z*-scores to account for differing measurements (i.e., authorship weights in indices 1 through 4 versus no weights in index 5), and average z-scores were calculated across all indices to determine an overall productivity score. These scores were then transformed into *t* -scores to remove any negative values. As a final analysis, we examined the impact that a program's number of faculty members has on its overall score. Each program's overall score was divided by its number of faculty members to create a per -capita score. Overall and per capita scores are included in Table 5.

Table 6 presents the intercorrelations between all indices. Most of the indices were highly correlated with one another (average intercorrelation of .71), and only one correlation was nonsignificant (i.e., r = .28 between number of faculty and SIOP presence). These findings are consistent with prior research, as all of our correlations between indices are within .08 of those found by Oliver et al. (2005), with only one exception. The sole discrepancy is the correlation between publications in the top 10 I-O journals from 2003–2012 and total output from 2003–2012 (r = .67 in the present study compared with r = .85 in Oliver et al.). In addition, presence at the SIOP conference, which was not included in Oliver et al.'s study, was significantly correlated with all other indices. This may suggest that SIOP presence should be incorporated into measures of program productivity.

Discussion

As described earlier, productivity can be measured in numerous ways. This study differed from previous studies (Gibby et al., 2002; Winter, Healy, & Svyantek,

1995) in a few ways. Both Gibby et al. and Winter et al. classified articles by program affiliation (including faculty and students) rather than core faculty. In contrast, this study (similar to Oliver et al., 2005) included only core faculty output for those working in the programs as of fall 2012 in indices 1 through 4. Both methods of data collection offer information regarding program productivity, and neither is without its limitations. Examining program affiliation provides an assessment of both faculty and student publications, and it accounts for retrospective productivity of a program. However, the fluid nature of academia and faculty positions may not allow for an accurate representation of a program's productivity based on the program's current faculty. A limitation of using program affiliation is that a university receives credit for publications for a faculty member who is no longer employed at that university. One key advantage of our approach is that our assessments capture the productivity of a program based on faculty who are currently affiliated with a given I-O program rather than who was there in the past.

Due in part to the fluidity of academic programs, but in some cases due to program inclusion criteria (e.g., University of North Carolina Charlotte), there are several notable differences between the present findings and Gibby et al.'s (2002) and Oliver et al.'s (2005) results. Of the programs included in all three studies, some have shown marked increases in productivity point standings since prior productivity studies (e.g., the University of South Florida, the University of Georgia, Purdue University), whereas others have shown decreases in productivity point standings since prior productivity studies (e.g., The Pennsylvania State University, Bowling Green State University), and still others have fluctuated widely (e.g., University of Houston). In addition, Tulane University, which held a ranking of 13th (Gibby et al., 2002) and 10th (Oliver et al., 2005) in the previous studies, no longer maintains an I-O program. These specific examples are just a sampling of the many differences found within productivity studies over time, supporting the need for more regular analyses of program productivity.

By including all peer-reviewed publications and SIOP presence, this study presents a broader assessment of overall program productivity across a variety of different criteria. The third and fourth indices account for programs whose faculty members may publish frequently in journals outside of those specific to I-O (*Psychological Bulletin, Psychological Methods,* etc.). The fifth index broadens the scope of the analysis by including conference representation of those associated with each institution, allowing for the incorporation of both faculty and graduate student work. It is important to note, however, that the SIOP program does not specify departmental affiliations (e.g., psychology vs. management). Thus, I-O program scores for SIOP pres-

ence are inflated to the extent that the particular institution has a strong SIOP presence from members of other departments within that university. This should be considered a limitation of this study. Furthermore, this study evaluated programs on the basis of faculty rather than student productivity and did not collect data on the number of graduate students who were enrolled within each program. Although the fifth index, SIOP presence, is certainly influenced by student performance, future research could benefit from evaluating student productivity within I-O psychology programs, as well as per capita student productivity, which may yield interesting findings.

The use of the contribution formula has both advantages and disadvantages. One advantage is that we use the same contribution formula as prior productivity studies, which facilitates comparisons across studies. By using author order to determine weight, however, individuals (and programs) that place a minimal role on collaboration are rewarded. Authors who publish alone receive maximum credit, whereas authors working on collaborative projects receive less credit. For example, an individual who publishes alone earns one point using Howard et al.'s (1987) formula, whereas the first author on a paper with five total authors earns .38 points. One might argue, though, that an individual actively collaborating will coauthor more publications (i.e., strength in numbers), causing the equation to balance out in the end.

Our focus on a specific set of 10 I-O journals may be considered a limitation of the present study. Indeed, some very reputable faculty members publish frequently in top psychology journals besides the 10 utilized in the initial analysis of this study (e.g., *Psychological Bulletin, Psychological Methods*) or prestigious journals in a specialty area (e.g., *Leadership Quarterly*), which were not captured in this first index (although this was captured in later indices). In addition, the specific list of top 10 I-O journals used in this study (as well as previous productivity studies) was determined in 2001 by assessing SIOP members' perceptions of the top 10 I-O journals (Zickar & Highhouse, 2001). What I-O psychologists consider a premier I-O journal may certainly have changed over time. In addition, when compared to Oliver et al. (2005), the correlation between publications in the top 10 I-O journals from 2003–2012 and all other indices decreased, including total research output. This may signal changes in publication trends. Thus, we believe an update of the top 10 I-O psychology publications is necessary. It is also critical to note that I-O programs vary in the emphasis they place on academic research and publications as compared to applied experience. Programs with a strong applied focus may need to be identified and examined with alternate methods (e.g., ability to prepare graduate students for applying I-O internships in the workplace) in order to fully assess productivity within that domain.

It is important to note that this study focused on objective assessments of program productivity; however, performance is a multidimensional construct (Campbell, McCloy, Oppler, & Sager, 1993), and as such, there are many other viable methods of assessing the performance/quality of a program. For example, programs could be evaluated based on reputation, grant support obtained, quality of jobs obtained by graduates, number of SIOP fellows produced, and many other methods.

Even with its limitations, this study provides the most comprehensive examination of program productivity using objective criteria to date. By incorporating both publications and program conference representation (which includes faculty and student output), this study aims to offer a multifaceted perspective that provides a more well-rounded representation than previous productivity studies. In line with previous studies (Winter et al., 1995; Gibby, 2002), it is recommended that these types of studies are frequently updated, in order to keep pace with the vast changes that often occur within and between academic programs.

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