JOURNAL OF CRIMINAL JUSTICE EDUCATION 2012, 1–18, iFirst Article

Criminology and Criminal Justice Hit Parade: Measuring Academic Productivity in the Discipline

Heith Copes, David N. Khey and Richard Tewksbury

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Previous research assessing the productivity of criminology and criminal justice (CCJ) scholars has sought to determine the overall most productive scholars based on various measures (e.g. total articles published, total cites, and articles per year). While such lists may be important for those who rank high, they may be best used to establish benchmarks for the discipline. To date, research examining the stars in CCJ has focused on overall stars. The aim of the current research is to highlight the most productive scholars (in CCJ doctoral programs), but to do so based on academic rank. As such, our sample is more inclusive than others that have assessed highly productive scholars in the field. By disaggregating productivity measures by academic ranks, it is possible to determine rising stars in the discipline as well as top stars overall. Additionally, and we think more importantly, such rankings give insights into the state of the discipline.

The evaluation of scholarly productivity and influence has received considerable attention in recent decades. Perhaps of most interest to academics at the current time is the shifting methodology of evaluating scholarly work. These changes have been driven by technical advancements that enable on-demand access to such things as a count of how often an author is cited and instant indices of scholarly impact via easy-to-use interfaces. For example, the *h*-index, one of the more increasingly influential metrics (Hirsch, 2005), is now available in several proprietary services that compute scholarly productivity and impact. Proprietary services have had a difficult time in keeping up with the state of the art, leading the way for open-source alternatives to take center stage (e.g. Harzing's *Publish or Perish*). Achieving a parsimonious and robust evaluation strategy for scholarly productivity and impact can be daunting given the sheer amount of choices in methodologies, services, and metrics that currently exist.

Interestingly, the very same technological advances that have allowed these productivity and impact metrics to proliferate have also eliminated many of

ISSN 1051-1253 print/1745-9117 online/12/000001-18
© 2012 Academy of Criminal Justice Sciences
http://dx.doi.org/10.1080/10511253.2012.683016

the barriers of generating scholarly work. Immediate or near-immediate access to digital full-text literature and secondary datasets, electronic communication to collaborators and journal editors, and rapid methods of data analysis certainly have cut the amount of time and investment needed to engineer a publishable manuscript from start to finish. This is particularly the case for "digital native" academics (see Prensky, 2001), or those who were born immersed in the era of broadband Internet and electronic communication. For many scholars, compiling, processing, and publishing digital information is second nature and can be accomplished with much less effort than was previously required. Such technological advances likely play a large part in the increased productivity among scholars in the past couple of decades.

Research evaluating scholarly productivity and impact is not without detractors, however. A subset of academics have argued that most studies using these aforementioned tools, dubbed "productivity" and "citation studies," only seem to reify the quality of doctoral program rankings or the influence of the elite scholars within the discipline of criminology and criminal justice (CCJ). This has raised concerns within the field as noted by Gabbidon (2009) and most recently by the former *Journal of Criminal Justice Education* editor, Schreck (2011). Yet, others argue that these studies have important utility in that they can arm departments with evidence of excellence to either retain or request additional financial support and to compare themselves to aspirant and peer departments (Frost, Phillips, & Clear, 2007). Individual scholars can also equip themselves with proven evaluation criteria to aid them in the compilation of tenure and/or promotion portfolios (Cohn & Farrington, 2011; Copes, Sloan, & Cardwell, 2012; Frost et al., 2007; Kleck, Wang, & Tark, 2007; Stack, 2002). These same tactics can assist hiring committees when evaluating job candidates. Rather than simply viewing the vast majority of productivity/citation studies as a pat on the back for those individuals and programs that are excelling, the useful information that results from these evaluations allows for us to reflect on the changing nature of the field (e.g. female scholar participation or reducing disparities in race) and ground our scholarly expectations in real-time levels of productivity.

Jennings, Gibson, Ward, and Beaver (2008) offer a clear example of this latter advantage. They reviewed previous relevant literature and found that the vast majority identified two distinct scholar types within the CCJ discipline: one small group that seems to be very prolific and another group (the vast majority of CCJ academics) that publishes at a much lower rate. By adapting nonparametric group-based trajectory modeling (typically used by life-course criminologists) to analyze productivity over time, Jennings and his colleagues were able to empirically estimate the existence of three distinct groups: one that publishes academic work at a near-zero rate, a second that publishes at a moderate rate, and a third that publishes at an aggressive rate. This should make sense to readers as our discipline consists of academics whose institutions and positions emphasize research productivity (e.g. Carnegie Research 1, or "research intensive," Institutions), while others emphasize teaching and service or have a blend of these two polarities (e.g. Carnegie Research 2

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Institutions, institutions with at least 20 doctoral programs, or those with master's degrees and fewer than 20 doctoral programs).[1] Thus, depending on the institutional/departmental emphases under which one works, Jennings et al. (2008) have allowed for a benchmark of mean productivity levels for each group to enable evaluation based on current data.

Despite copious investigation, previous research has left a curious gap in that it is unclear how academic rank factors into levels of productivity across each of the metrics available for its assessment. We certainly can recognize that research agendas take different shape at each stage of an academic's career. Yet, we must recognize that other forces may be changing our levels of productivity at each phase of the academic career that may prove important upon evaluation of individuals or groups of scholars. For example, generations of academics may be differentially adept in adapting to rapidly changing technology. Prensky (2001) identifies these scholars as digital immigrants:

> Digital Immigrants learn——like all immigrants, some better than others——to adapt to their environment, [and] they always retain, to some degree, their "accent," that is, their foot in the past. The "digital immigrant accent" can be seen in such things as turning to the Internet for information second rather than first, or in reading the manual for a program rather than assuming that the program itself will teach us to use it. Today's older folk were "socialized" differently from their kids, and are now in the process of learning a new language. And a language learned later in life, scientists tell us, goes into a different part of the brain. (2)

It is imperative that we explore changes in productivity over time in light of these societal shifts. We must also understand how the available measures of productivity operate across the academic career to adapt appropriate ways to evaluate ourselves depending on career stage. The aim of the current research is to highlight productivity measures for the most productive scholars currently employed in CCJ Ph.D. granting programs, by rank. Due to the volatility of productivity rankings, we create an overall ranking by examining a host of such measures. By disaggregating ranking measures by academic ranks, it is possible to determine benchmarks for productivity and to gain insights into the state of discipline (e.g. patterns in demographics, typical methodologies used, and theoretical orientations).

Methods

To provide estimates on productivity measures for the discipline, we included tenure-earning faculty in 35 CCJ Ph.D. granting universities in the USA as of

1. Jennings et al. (2008) results should be used with caution for evaluating colleagues at liberal arts colleges as their methodology only focused on faculty that serve on CCJ programs that offer a doctoral degree. This does not mean comparison of productivity levels based on these published benchmarks would not be valid, it simply means that one must be mindful of the source of the data and frame these comparisons properly.

summer 2011 ($n = 504$). A full list of programs included in the analysis appears in Appendix 1.[2] Only faculty members who were in regular tenure-earning positions (i.e. assistant professors, associate professors, and full professors) are included in the sample.[3] The list of eligible faculty was determined from departmental websites. We excluded all faculty listed as instructors, nontenure research, or emeritus. For John Jay College, we included only the department of Criminal Justice as it most closely resembled other CCJ departments (Kleck & Barnes, 2011). For the University of North Dakota, only on-campus faculty were included. Additionally, for those departments that housed degrees in multiple disciplines (e.g. sociology and criminology) only the CCJ faculty were included. These include departments at University of Delaware, University of Florida, and Penn State University.

After obtaining the list of tenure-earning faculty, we sought out information on their current rank, years at current rank, the year they received their highest degree, and the year of their first publication. We were able to obtain this information for most faculty directly from departmental websites or links to curriculum vitae. Using such means, we were able to determine current rank for all faculty members in the sample. However, we were unable to determine the remaining information on some faculty. For these faculty, we emailed them asking for the information. After a two-week period following the initial emails, we were still unable to determine faculty information on 91 individuals. Upon evaluation, we were able to obtain all relevant information on the scholars in the top categories for the various productivity measures. Yet, for various reasons, we were unable to locate productivity measures for 28 individuals and thus removed them from the analysis.[4] The final sample consists of 504 faculty members.

Productivity Measures

To determine the productivity measures of each faculty member, we relied exclusively on *Scopus*, which is promoted as the largest bibliographic citation and abstract databases of peer-reviewed literature in the world (Ball & Tunger, 2006). Recent citation ranking in CCJ have relied on indices created using Harzing's *Publish or Perish*, which relies on data from Google Scholar (Khey, Jennings, Higgins, Schoepfer, & Langton, 2011; Long, Boggess, & Jennings, 2011). However, evaluations of citations using Google Scholar have pointed to

2. We excluded Texas Southern from the analysis because we could not locate a working website when determining faculty at the time of data collection. Also, we omitted Florida International from the analysis because their program offers a Ph.D. in Public Affairs and not in criminology or criminal justice (see Kleck & Barnes, 2011).

3. In some cases, such as at American University, institutions use traditional titles for faculty in nonresearch positions. We excluded these individuals from the analysis. We thank faculty at American University for pointing this out to us.

4. *Scopus* had no record of these individuals in its database. This could be due to them not publishing in articles indexed by Scopus.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

numerous limitations with it that keep this tool in Beta (Bar-Ilan, 2008; Gavel & Iselid, 2008; Jasco, 2008). Upon close evaluation, the results of the *Publish or Perish* program can yield noisy results solely due to its underlying database (not the methods themselves). These problems can be eliminated via careful manipulation and refining of the results, which are outlined by Harzing (2010). This process is straight forward for individual evaluations and can yield robust results much more inclusive than *Scopus* and *Web of Knowledge*; yet, for a sample in the hundreds, this process can be daunting and unjustified depending on the purpose of the research. In this circumstance, the investment it would take to obtain the tacit gains in coverage was unwarranted as we are trying to explore a baseline of productivity by academic rank. Thus, we chose to use *Scopus*.

When using *Scopus*, it is important to collect data in a short time period as this service frequently updates and refreshes its databases. To reduce the possibility of changing citation scores, we collected all citation data from 16 July 2011 to 23 July 2011. To search for faculty in *Scopus*, we began by including the person's last name and first and middle initials. It was necessary to read through each result to confirm that *Scopus* was identifying the appropriate author, thus eliminating false-positive results (Bar-Ilan, 2008). While more time consuming, this led to more accurate measures.

Consistent with prior faculty ranking research in CCJ, we include productivity measures such as total articles (productivity), total citations (impact), and *h*-index (blended measure) for each individual. All of this information is provided by *Scopus*.[5] Unfamiliar to some, the *h*-index is a relatively new way to measure the productivity of scholars (see Hirsch, 2005) that has been adopted by *Scopus* in the last five years. It was created to take into account both the quantity and quality of one's research and has been widely accepted as a valid measure of assessing productivity in a variety of disciplines (Bornmann & Daniel, 2005a, 2005b). According to Hirsch (2005), "A scientist has index *h* if h of his or her Np papers have at least h citations and the other (Np − h) papers have fewer than ⩽ h citations each" (p. 16569). In other words, a scholar has an *h* of 20 when he or she has published at least 20 articles that have each been cited at least 20 times. Large *h* scores indicate that a scholar has produced many articles that are well received within the field. A recent evaluation of *h*-index averages in CCJ showed that the overall average for faculty was 4.79, average for the top 10 CCJ departments was 7.74, and average for editorial board members of *Criminology*, *Justice Quarterly*, and the *Journal of Research in Crime and Delinquency* was 11.59 (Copes et al., 2012).

One noted limitation of the productivity measures is that it disadvantages those early in their career (Wendl, 2007). To take length of career into account, scholars have adjusted the productivity measures by time since first publication or since earning their Ph.D. (Bornmann, Mutz, & Daniel, 2008). To

5. It should be noted that scores for total articles and citations are based on the journals archived by *Scopus*.

account for length of career, we divided the various productivity measures by the number of years since the scholar's first published article listed in *Scopus*. We created measures for total articles, total citations, and *h*-index since the beginning of one's publishing career.

When dividing length of career by *h*-index, the result is commonly referred to as the *m*-quotient (Hirsch, 2005). We chose to use time since first publication because previous citation research suggests that this is a more accurate reflection of a scholar's career and is thought to allow for better comparisons among faculty (Bornmann et al., 2008). In addition, this measure was more complete than years since Ph.D. due to lack of access to vitae and biographies on departmental websites for some faculty members. *Scopus* only includes articles that were published from 1996 onward when calculating *h*-index scores. This disadvantages researchers who have been well published and cited prior to 1996. We accounted for this by using 1996 as the date of first publication for those faculty who had pre-1996 publications. Average *m*-quotient values in CCJ are .44 for all faculty, .66 for the top 10 CCJ departments, and .83 for editorial board members of *Criminology*, *Justice Quarterly*, and the *Journal of Research in Crime and Delinquency* (Copes et al., 2012).

Those who study productivity measures suggest that it is important to use more than one measure when determining a particular scholar's level of productivity or impact on the field (Khey et al., 2011). Thus, we rank scholars (by academic rank) based on their average scores for the six productivity measures. Once we obtained the six productivity measures for the 504 CCJ faculty, we sorted them by academic rank and then ordered them from first to last for each measure. We then averaged their specific productivity ranks. This allowed us to determine the top fifteen scholars in CCJ Ph.D. programs at each academic rank. We believe that this strategy produced a more accurate ranking system than does relying on a single measure.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Results

The findings are based on 504 regular, tenure-earning faculty members at 35 CCJ Ph.D. granting institutions. Of these faculty members, 125 held the rank of assistant professor, 150 held the rank of associate professor, and 229 held the rank of professor. The overall productivity means for these faculty members were: total articles 16.04 (SD = 20.72), articles per year 1.44 (SD = 1.62), total cites 197.46 (SD = 469.40), cites per year 14.78 (31.34), *h*-index 4.79 (SD = 4.42), and *m*-quotient .44 (SD = .34).

To provide a baseline for measurements for tenure-earning faculty at the three ranks, Table 1 displays the overall productivity measures. Mean estimated productivity values for assistant professors were: total articles 7.38 (SD = 7.83), articles per year 1.45 (SD = 1.37), total cites 46.91 (SD = 85.85), cites per year 6.44 (7.65), *h*-index 2.64 (SD = 2.46), and *m*-quotient .50 (SD=.36). For associate professors, mean productivity values were: total

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Table 1 Productivity measure descriptive data by rank

Rank	Total articles	Articles/year	Total cites	Cites/year	*h*-Index	*m*-Quotient
Assistant	7.38 (7.83)	1.45 (1.37)	46.91 (85.85)	6.44 (7.65)	2.64 (2.46)	.50 (.36)
Associate	12.36 (12.33)	1.22 (1.54)	111.23 (144.86)	9.62 (12.04)	4.45 (3.22)	.41 (.30)
Full	23.13 (26.67)	1.58 (1.79)	335.15 (655.87)	22.64 (43.75)	6.18 (5.33)	.42 (.36)
Overall	16.04 (20.72)	1.44 (1.62)	197.46 (469.40)	14.78 (31.34)	4.79 (4.42)	.44 (.34)

articles 12.36 (SD = 12.33), articles per year 1.22 (SD = 1.79), total cites 111.23 (SD = 144.86), cites per year 9.62 (12.04), *h*-index 4.45 (SD = 3.22), and *m*-quotient .41 (SD=.30). Finally, the mean values for full professors were: total articles 23.13 (SD = 26.67), articles per year 1.58 (SD = 1.79), total cites 335 (SD = 655.87), cites per year 22.64 (43.75), *h*-index 6.18 (SD = 5.33), and *m*-quotient .42 (SD = .36).

Ranking Scholars

To accomplish our goal of determining general standards of productivity by rank, we begin by discussing findings about the various productivity measures for assistant professors. Overall, the mean scores for the various productivity measures for the top ranked assistant professors in CCJ Ph.D. programs were: total articles 22.87, articles per year 3.45, total cites 191.53, cites per year 21.81, *h*-index 7.13, and *m*-quotient .98. These mean scores are significantly higher than the average scores for all assistant professors in CCJ Ph.D. programs (see Table 2).

As shown in Table 2, the top 15 ranked assistant professors showed considerable variation among the productivity measures. That is, no single scholar ranked in the top five of all six categories. This supports the idea that multiple productivity measures are needed when assessing the relative ranks of scholars, at least for young faculty. Based on the average ranking, the top five ranked assistant professors in CCJ Ph.D. programs were Wesley Jennings, Christopher Sullivan, Allison Redlich, Abigail Fagan, and Chris Gibson. All of these scholars ranked in the top three of at least one category. The next five top ranked scholars are Leah Daigle, Brent Teasdale, Nathalie Fontaine, Tom Holt, and J.C. Barnes; each of these scored in the top 10 of at least one category. These five scholars were closely ranked. In fact, Fontaine, Holt, and Barnes tied for eighth in the rankings. The final five include Benjamin Steiner, T.J Taylor, Amie Schuck, Chris Melde, and Brian Stults. This last group showed the greatest variation in ranks. Their total ranks ranged from 1st to 78th.

For the top ranked associate professors in CCJ Ph.D. programs, the overall mean scores for the various productivity measures were: total articles 36.93, articles per year 3.58, total cites 493.20, cites per year 37.64, *h*-index 10.67, and *m*-quotient .94 (see Table 3).

Like assistant professors, the top ranked associate professors in CCJ Ph.D. programs show considerable variation among the various productivity categories. Only John Paul Wright, Kevin Beaver, and Matt Hiller scored in the top 10 of all six categories. These three had very similar average productivity scores, being separated by only one point. The next five top ranked associates also had similar scores (overall averages ranged from 8 to 11 for this group). Those who ranked from fourth to eighth (in order) were Shawn Bushway, John MacDoanld, Charis Kubrin, Therese Richmond, and John Hipp. Rounding out the top 15 associates were Brian Johnson, Greg Pogarsky, Jean McGloin, Tim Brezina, Jeffery Ulmer, Ivan Sun, and Brandon Welsh.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Table 2 Scores and ranks for various productivity measures for assistant professors

Name	Articles	Articles/year	Cites	Cites/year	*h*-Index	*m*-Quotient	Overall rank
Jennings, Wesley	48 (1)	12.00 (1)	125 (13)	31.25 (3)	7 (6)	1.75 (2)	1
Sullivan, Christopher	29 (4)	4.14 (3)	176 (8)	25.14 (5)	7 (6)	1.00 (6)	2
Fagan, Abigail[a]	27 (5)	2.70 (15)	236 (4)	23.60 (6)	11 (2)	1.10 (5)	3
Redlich, Allison[a]	42 (2)	2.80 (14)	596 (1)	39.73 (2)	14 (1)	.93 (17)	3
Gibson, Chris	38 (3)	2.92 (13)	337 (3)	25.92 (4)	11 (2)	.85 (18)	5
Daigle, Leah	15 (11)	2.50 (17)	139 (10)	23.17 (7)	7 (6)	1.17 (4)	6
Teasdale, Brent	20 (8)	3.33 (9)	101 (16)	16.83 (11)	6 (12)	1.00 (6)	7
Barnes, JC	18 (9)	4.50 (2)	45 (35)	11.25 (22)	4 (18)	1.00 (6)	8
Fontaine, Nathalie	10 (26)	3.33 (9)	67 (23)	22.33 (8)	4 (18)	1.33 (3)	8
Holt, Thomas[a]	14 (15)	3.50 (7)	53 (28)	13.25 (18)	4 (18)	1.00 (6)	8
Steiner, Benjamin	21 (7)	3.50 (7)	72 (20)	12.00 (20)	4 (18)	.67 (27)	11
Melde, Christopher	12 (19)	2.40 (21)	52 (30)	10.40 (24)	5 (16)	1.00 (6)	12
Schuck, Amie	15 (11)	1.50 (42)	136 (12)	13.60 (17)	7 (6)	.70 (26)	12
Taylor, Terrance J.	24 (6)	1.71 (34)	235 (5)	16.79 (12)	7 (6)	.50 (48)	12
Stults, Brian	10 (26)	.83 (78)	503 (2)	41.92 (1)	9 (4)	.75 (22)	15
Means	22.87	3.45	191.53	21.81	7.13	.98	

Note. Number in parentheses is the scholars rank on that measure.
[a]Faculty promoted to associate professor after data collected.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Table 3 Scores and ranks for various productivity measures for associate professors

Name	Articles	Articles/year	Cites	Cites/year	*h*-Index	*m*-Quotient	Over all rank
Beaver, Kevin	99 (1)	16.50 (1)	430 (7)	71.67 (1)	11 (6)	1.83 (1)	1
Wright, John Paul	63 (2)	4.20 (3)	779 (2)	51.93 (3)	15 (1)	1.00 (4)	1
Hiller, Matt	40 (4)	2.67 (10)	888 (1)	59.20 (2)	14 (2)	.93 (7)	3
Bushway, Shawn[a]	29 (8)	2.23 (16)	499 (4)	38.38 (6)	12 (3)	.92 (8)	4
MacDonald, John M.	39 (5)	2.79 (9)	409 (8)	29.21 (11)	11 (6)	.79 (16)	5
Kubrin, Charis	19 (23)	2.38 (14)	393 (10)	49.13 (4)	11 (6)	1.38 (2)	6
Richmond, Therese	63 (2)	4.20 (3)	405 (9)	27.00 (13)	10 (10)	.67 (25)	6
Hipp, John	32 (7)	3.20 (6)	342 (11)	34.20 (8)	8 (19)	.80 (13)	8
Johnson, Brian	17 (30)	2.13 (20)	337 (12)	42.13 (5)	9 (11)	1.13 (3)	9
Pogarsky, Greg	23 (18)	1.64 (36)	475 (5)	33.93 (9)	12 (3)	.86 (11)	9
McGloin, Jean	24 (14)	2.40 (13)	253 (19)	25.30 (14)	8 (19)	.80 (13)	11
Brezina, Timothy	23 (18)	1.53 (39)	542 (3)	36.13 (7)	11 (6)	.73 (20)	12
Ulmer, Jeffery	20 (21)	1.33 (45)	465 (6)	31.00 (10)	12 (3)	.80 (13)	12
Sun, Ivan	35 (6)	4.38 (2)	144 (40)	18.00 (22)	7 (28)	.88 (9)	14
Welsh, Brandon	28 (10)	2.15 (19)	227 (21)	17.46 (24)	9 (11)	.69 (23)	14
Means	36.93	3.58	493.20	37.64	10.67	.94	

Note. Number in parentheses is the scholars rank on that measure.
[a]Faculty promoted after data collected.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Table 4 Scores and ranks for various productivity measures for full professors

Name	Articles	Articles/year	Cites	Cites/year	*h*-Index	*m*-Quotient	Over all rank
Raine, Adrian	199 (1)	13.27 (1)	6,203 (1)	413.53 (1)	32 (1)	2.13 (1)	1
Loftus, Elizabeth	188 (2)	12.53 (2)	5,035 (2)	335.67 (2)	22 (5)	1.47 (5)	2
Piquero, Alex	186 (3)	12.40 (3)	3,191 (3)	212.73 (3)	30 (2)	2.00 (2)	2
Cullen, Francis	137 (4)	9.13 (4)	3,174 (4)	211.60 (4)	28 (3)	1.87 (3)	4
Ullman, Sarah	71 (7)	4.73 (7)	1,646 (7)	109.73 (7)	27 (4)	1.80 (4)	5
Paternoster, Ray	48 (17)	3.20 (19)	1,754 (5)	116.93 (5)	18 (6)	1.20 (7)	6
Felson, Richard	58 (11)	3.87 (12)	953 (18)	63.53 (19)	17 (8)	1.13 (10)	7
Gottfredson, Denise	51 (16)	3.40 (17)	1,159 (13)	77.27 (13)	17 (8)	1.13 (10)	7
Dembo, Richard	127 (5)	8.47 (5)	1,184 (11)	78.93 (11)	12 (24)	.80 (26)	9
Osgood, Wayne	45 (21)	3.00 (23)	1,383 (8)	92.20 (8)	16 (11)	1.07 (14)	9
Pratt, Travis	46 (18)	3.54 (15)	946 (19)	72.77 (14)	16 (11)	1.23 (6)	9
Fisher, Bonnie S	63 (9)	4.20(10)	769 (23)	51.27 (23)	15 (14)	1.00 (16)	12
Silver, Eric	35 (39)	2.33 (42)	1,659 (6)	110.60 (6)	18 (6)	1.20 (7)	13
Berk, Richard A	59 (10)	3.93 (11)	879 (22)	58.60 (22)	11 (29)	.73 (33)	14
Pridemore, William	52 (15)	4.73 (7)	444 (49)	40.36 (30)	13 (17)	1.18 (9)	14
Steffensmeier, Darrell	39 (33)	2.60 (35)	1,167 (12)	77.80 (12)	13 (17)	.87 (19)	14
Means	87.75	5.96	1971.63	132.72	19.06	1.30	

Note. Number in parentheses is the scholars rank on that measure.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Table 4 displays the productivity measures and overall rankings of full professors in CCJ Ph.D. programs. The means for the various productivity measures for the top ranked full professors in CCJ Ph.D. programs were: total articles 87.75, articles per year 5.96, total cites 1971.63, cites per year 132.72, *h*-index 19.06, and *m*-quotient 1.30.

Based on the overall ranks, the top five full professors were Adrian Raine, Alex Piquero, Elizabeth Loftus, Frank Cullen, and Sarah Ullman. The top four of these scholars had consistently high ranks in each of the productivity measures. For example, Adrian Raine ranked first in all six categories. Also, these four had considerably higher scores on each of the measures than the remaining scholars. For example, individually these four had nearly twice as many total articles, articles per year, total citations, and citations per year than the others on the list. The remaining ten full professors in the top fifteen had more variation in their rankings, scoring in the top 10% of some categories but top 25% of other categories overall. The next top six full professors included Ray Paternoster, Denise Gottfredson, Richard Felson, Richard Dembo, Travis Pratt, and D. Wayne Osgood. Rounding out the top full professors were Bonnie Fisher, Eric Silver, Richard Berk, William Pridemore, and Darrell Steffensmeier.

Discussion and Conclusions

We have provided an overview of various productivity measures for some of the top tenure-earning faculty in CCJ Ph.D. programs. Without a doubt, those making the list will likely benefit personally and/or materially. While it is easy to simply see this as a list of "stars," we must stress the importance of the findings is much greater. We believe that these findings are well suited to point to benchmarks for productivity in the discipline at different stages of the academic career. When determining expectations for promotions, raises, and funding, these findings can act as a barometer for the level of productivity for which scholars should be striving. Thus, making the list should not be used to claim they are "better" or more productive than those who are not listed. Instead, we hope that scholars will simply use this list as a means of comparing their own productivity measures (which they can obtain from Scopus or other citation databases) with others and to show how they fare against those considered at the top of the discipline as well as to the going rate of academic performance. We think such exercises will empower assistant and associate professors when making their case for promotions, and perhaps professors pursuing other titles, positions, or honors.

These findings also give insight into the state of the discipline. Specifically, the findings illustrate that we as a discipline have not yet reached parity for race and gender (Gabbidon, Greene, & Wilder, 2004; Potter, Higgins, & Gabbidon, 2011; Snell, Sorenson, Rodriguez, & Kuanliang, 2009). Despite the increased presence of women and racial minorities in the field, our findings show that these groups are still underrepresented among the top scholars,

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

even after disaggregation by rank. Only 12 (26%) of the 46 people ranked overall were women. The highest percentage of women in the top was for assistant professors, which suggests that this trend may be changing (Khey et al., 2011; Rice, Terry, Miller, & Ackerman, 2007). Additionally, the list overwhelmingly lacks racial minorities. In fact, the only racial/ethnic minority among full professors is Alex Piquero. It appears that the discipline is still white and male dominated, at least among those ranked as highly productive in CCJ Ph.D. programs.

A look at the top scholars also points to the theoretical and methodological direction of the discipline. Overwhelmingly, those at the tops of each rank rely primarily on quantitative methods. This is not surprising, however, as qualitative methods are underrepresented in the discipline (Copes, Brown, & Tewksbury, 2011; Tewksbury, Dabney, & Copes, 2010). Additionally, ethnographic methods typically take longer than quantitative methods, making it difficult to publish the large number of articles needed to make the list (Pogrebin, 2010).

The majority of those on the list have produced a substantial amount of their work testing and refining theory, which is consistent with discipline expectations (Tewksbury, DeMichele, & Miller, 2005). However, no one theory seems to be overrepresented among the group. Scholars on the list have been instrumental in advancing theories as broad ranging as self-control, general strain, rational choice, anomie, and differential association. One can make the assumption that theory testing is still a mainstay of the discipline. Interestingly, the two of the top professor (Adrian Raine and Alex Piquero) and two of the top associate professors (John Paul Wright and Kevin Beaver) have published on the relationship among biology, environment, and crime. This suggests that the bio-social approach to crime may be gaining in popularity or that those outside the discipline (e.g. psychology) are citing this work.

One of the most striking findings from our analysis of faculty productivity is the volatility of rankings (akin to the volatility in journal rankings, see Jennings, Higgins, & Khey, 2009). This is especially true for younger scholars. A review of the ranking for assistant professors shows that some scholars may be ranked highly on one variable, but relatively low on others. For instance, if we relied solely on *h*-index and *m*-quotient to rank scholars, a much different list would have appeared. In fact, if we ranked solely on *m*-quotient, then five of the current assistant professors would have been replaced by Robert Morris, Kristy Matsuda, Scott Jacques, Amy Farrell, and Howard Henderson. Such volatility in rankings suggests that we need to be wary of making broad sweeping claims about who is considered the top scholars in the discipline (Schreck, 2011).

Also, scholars can chart several paths to make lists of top producing scholars. Some scholars top the list because of the sheer volume of their publications, whereas others do so by producing highly cited works. This is most evident among associate and full professors. For example, Tim Brezina and Jeffrey Ulmer have much fewer total articles than those at the top of the associate professor list (i.e. John Paul Wright and Kevin Beaver). However, Brezina's and Ulmer's work have been well received and well cited by those in the discipline. The high number of citations per article allowed them to make the list. Findings also suggest that these lists may be biased in favor of those who publish high numbers of articles, rather than fewer articles that make a large impact. This is evidenced by the fact that the top three scholars in each rank also have the highest number of articles. This points to possible limitations in current productivity measures if observed in isolation.

Interestingly, it seems that professors of all ranks take similar advantage of technological advances that yield greater levels of productivity relative to the academy in pre-Internet times; there are no discernable quantitative differences in average productivity levels by rank overall or within the subset of academic stars by rank. Qualitatively, various "digital immigrant" professors may have adapted to the technological era via various methods (e.g. co-authorship with techno-savvy academics, computer workshops, and professional development). The notion of "publish or perish" seems appropriate here, in that the culture of productivity in academia seems to know no bounds across rank.

Readers should be aware of several caveats when interpreting the findings. First, our findings are based on tenure-earning faculty in CCJ Ph.D. granting programs. While this represents a significant portion of faculty, it does not reflect all, nor even the majority of them. Many top scholars in the field are housed in sociology departments or non-Ph.D. granting departments. Thus, many who have made other lists do not appear on ours. Second, *Scopus* is a useful and powerful database for determining productivity measures, but it is not comprehensive. Many journals where CCJ faculty publish are not included within the *Scopus* database. A notable journal that is excluded from the database is *Criminology & Public Policy*, which has a high prestige ranking among CCJ faculty (Sorensen, 2009; Sorensen, Snell, & Rodriguez, 2006). Since citations from this journal are eliminated in productivity measures, faculty who publish in this journal and others that are not indexed by *Scopus* may have artificially lower citation scores than what our analysis shows. Harzing's *Publish or Perish*, driven by Google Scholar search crawlers, enables a wider breadth of search capacity and can be an extremely effective tool when used responsibly and correctly (Harzing, 2010). Yet, neither *Publish or Perish* nor *Scopus* includes books as primary sources or as sources for citations, which severely limits those scholars who have produced many scholarly books. This issue comes into distinct focus when examining the list of top full professors.

Finally, *Scopus* only includes articles that were published from 1996 onward in their database. Thus, any articles produced before this date are not factored into *h*-index scores. Almost half of the sample (48.7%, and fully 89% of professors) earned their Ph.D. from 1996 or before, and it can be assumed that many of these individuals published articles before this year. This is a great disadvantage for researchers who have been well published and cited for years (e.g. advanced associate and full professors) since articles prior to 1996 are not included within calculations. We did attempt to account for this by using 1996 as the date of first publication for those faculty who had pre-1996

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

publications. Despite these limitations, *Scopus* has been shown to be an effective and efficient way to measure citation counts, including *h*-index values (Ball & Tunger, 2006; Jasco, 2008).

Due to these limitations with *Scopus*, the discipline would benefit from similar analyses with other databases. Calculating the various productivity measures through ISI Web of Knowledge or Google Scholar Citations would certainly enhance our understanding of patterns of productivity in the field. It appears that Google is in the beginning stages of providing productivity measures for academics (e.g. they provide total citations, *h*-index, and *i*10-index, which is the number of articles with 10 or more cites). Once this information is widely available, it may provide an ideal source of data for similar analyses.

This study offers insights into what constitutes high levels of productivity by CCJ Ph.D. granting department faculty, and highlights what "high expectations" are for faculty across ranks. Interestingly, rank seems to play a relatively small role in distinguishing high rates of productivity: across time-standardized measures, there are only small differences for scholars by rank. Based on this knowledge, it is possible for promotion and tenure review committees, search committees, administrators, and any interested other observers to move toward truly objective assessment of CCJ faculty productivity. This may be the most valuable use and application of these findings—moving a historically highly subjective assessment and review process toward a more objective procedure.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

References

Ball, R., and D. Tunger. 2006. Science indicators revisited: Science citation index versus Scopus. *Information Services & Use* 26: 293-301.

Bar-Ilan, J. 2008. Which h-index? A comparison of WoS, Scopus and Google Scholar. *Scientometrics* 74: 257-271.

Bornmann, L., and H. D. Daniel. 2005a. What do we know about the h-index?. *Journal of the American Society for Information Science and Technology* 58: 1381-1385.

Bornmann, L., and H. D. Daniel. 2005b. Does the h-index for ranking of scientists really work?. *Scientometrics* 65: 391-392.

Bornmann, L., R. Mutz, and H. Daniel. 2008. Are there better indices for evaluating purposes than the h-index? A comparison of nine different variants of the h index using data from biomedicine. *Journal of the American Society for Information Sciences and Technology* 59: 830-837.

Cohn, E. G., and D. P. Farrington. 2011. Scholarly influence and prestige in criminology and criminal justice. *Journal of Criminal Justice Education* 22: 5-11.

Copes, H., A. Brown, and R. Tewksbury. 2011. A content analysis of ethnographic research published in top criminology and criminal justice journals from 2000–2009. *Journal of Criminal Justice Education* 22: 341-359.

Copes, H., J. Sloan, and S. Cardwell. 2012. h-index and m-quotient benchmarks of scholarly impact in criminology and criminal justice. A preliminary note. *Journal of Criminal Justice Education*. Advance online publication. DOI: 10.1080/10511253.2012.680896

Frost, N. A., N. D. Phillips, and T. R. Clear. 2007. Productivity of criminal justice scholars across the career. *Journal of Criminal Justice Education* 18: 428-443.
Gabbidon, S. L. 2009. An essay on the utility of scholarly publications in criminology/criminal justice. *The Criminologist* 34 (4): 7-9.
Gabbidon, S. L., H. T. Greene, and K. Wilder. 2004. Still excluded? An update on the status of African American scholars in the discipline of criminology and criminal justice. *Journal of Research in Crime and Delinquency* 41: 384-406.
Gavel, Y., and L. Iselid. 2008. Web of Science and Scopus: A journal title overlap study. *Online Information Review* 32: 8-21.
Harzing, A. 2010. *The Publish or Perish book: Your guide to effective and responsible citation analysis*. Melbourne: Tarma Software Research Pty Ltd.
Hirsch, J. E. (2005). An index to quantify an individual's scientific research output. *Proceedings of the National Academy of Sciences of the United States of America*. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1283832/
Jasco, P. 2008. The pros and cons of computing the h-index using Scopus. *Online Information Review* 32: 524-535.
Jennings, W. G., C. L. Gibson, J. T. Ward, and K. M. Beaver. 2008. Which group are you in?: A preliminary investigation of group-based publication trajectories of criminology and criminal justice scholars. *Journal of Criminal Justice Education* 19: 227-250.
Jennings, W. G., G. E. Higgins, and D. N. Khey. 2009. Exploring the stability and variability of impact factors and associated rankings in criminology and criminal justice journals, 1998—2007. *Journal of Criminal Justice Education* 20: 157-172.
Khey, D. N., W. G. Jennings, G. E. Higgins, A. Schoepfer, and L. Langton. 2011. Re-ranking the top female academic "stars" in criminology and criminal justice using an alternative method: A research note. *Journal of Criminal Justice Education* 23: 118-129.
Kleck, G., and J. C. Barnes. 2011. Article productivity among the faculty of criminology and criminal justice doctoral programs, 2005—2009. *Journal of Criminal Justice Education* 22: 43-66.
Kleck, G., S. K. Wang, and J. Tark. 2007. Article productivity among the faculty of criminology and criminal justice doctoral programs, 2000—2005. *Journal of Criminal Justice Education* 18: 385-405.
Long, H., L. N. Boggess, and W. G. Jennings. 2011. Re-assessing publication productivity among academic "stars" in criminology and criminal justice. *Journal of Criminal Justice Education* 22: 102-117.
Pogrebin, M. 2010. On the way to the field: Reflections of one qualitative criminal justice professor's experiences. *Journal of Criminal Justice Education* 21: 540-561.
Potter, H., G. E. Higgins, and S. L. Gabbidon. 2011. The influence of gender, race/ethnicity, and faculty perceptions on scholarly productivity in criminology/criminal justice. *Journal of Criminal Justice Education* 22: 84-101.
Prensky, M. 2001. *Digital natives, digital immigrants*. (Reprinted from *On the horizion*. http://www.marcprensky.com/writing/prensky - digital natives, digital immigrants - part1.pdf. Last Accessed December 10, 2011
Rice, S. K., K. J. Terry, H. V. Miller, and A. R. Ackerman. 2007. Research trajectories of female scholars in criminology and criminal justice. *Journal of Criminal Justice Education* 18: 360-384.
Schreck, C. 2011. Editor's farewell. *Journal of Criminal Justice Education* 22: 477-478.
Snell, C., J. Sorenson, J. J. Rodriguez, and A. Kuanliang. 2009. Gender differences in research productivity among criminal justice and criminology scholars. *Journal of Criminal Justice* 37: 288-295.
Sorensen, J. R. 2009. An assessment of the relative impact of criminal justice and criminology journals. *Journal of Criminal Justice* 37: 505-511.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Sorensen, J. R., C. Snell, and J. J. Rodriguez. 2006. An assessment of criminal justice and criminology journal prestige. *Journal of Criminal Justice Education* 17: 297-322.
Stack, S. 2002. Gender and scholarly productivity: The case of criminal justice. *Journal of Criminal Justice* 30: 175-182.
Tewksbury, R., D. Dabney, and H. Copes. 2010. The prominence of qualitative research in criminology and criminal justice scholarship. *Journal of Criminal Justice Education* 21: 391-411.
Tewksbury, R., M. T. DeMichele, and J. M. Miller. 2005. Methodological orientations of articles appearing in criminal justice's top journals: Who publishes what and where. *Journal of Criminal Justice Education* 16: 265-279.
Wendl, M. C. 2007. H-index: However ranked, citations need context. *Nature* 449 (27): 403.

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012

Appendix 1. List of Doctoral CCJ Programs

University	Academic unit
University at Albany	School of Criminal Justice Albany
American University	School of Public Affairs, Program in Justice, Law and Society
University of Arkansas-Little Rock	Department of Criminal Justice
Arizona State University-West Campus	School of Criminology and Criminal Justice
University of California-Irvine	Department of Criminology, Law and Society, School of Social Ecology
University of Central Florida	Department of Criminal Justice and Legal Studies
University of Cincinnati	Division of Criminal Justice Cincinnati
University of Delaware	Department of Sociology and Criminal Justice
University of Florida	Department of Criminology, Law, and Society
Florida State University	College of Criminology and Criminal Justice
George Mason University	Department of Public and International Affairs, Program in the Administration of Justice
Georgia State University	Department of Criminal Justice
University of Illinois at Chicago	Department of Criminology, Law, and Justice
Indiana University, Bloomington	Department of Criminal
Indiana University of Pennsylvania	Department of Criminology
John Jay College of Criminal Justice	Department of Criminal Justice
University of Maryland	Department of Criminology and Criminal Justice

(*Continued*)

Appendix 1. (*Continued*)

University	Academic unit
Michigan State University	School of Criminal Justice
University of Missouri-St. Louis	Department of Criminology and Criminal Justice
University of Nebraska-Omaha	School of Criminology and Criminal Justice
University of North Dakota	Department of Criminal Justice
North Dakota State University	Department of Criminal Justice and Political Science
Northeastern University	College of Criminal Justice
Old Dominion University	Department of Sociology and Criminal Justice
University of Pennsylvania	Department of Criminology
Pennsylvania State University	Department of Sociology, Program in Crime, Law, and Justice
Prairie View A&M University	College of Juvenile Justice and Psychology
Rutgers, State Uni. of New Jersey, Newark	School of Criminal Justice
Sam Houston State University	College of Criminal Justice
University of South Carolina	Department of Criminology and Criminal Justice
University of South Florida	Department of Criminology
University of Southern Mississippi	Department of Administration of Justice
Temple University	Department of Criminal Justice
University of Texas at Dallas	School of Economic, Political, and Policy Sciences Program in Criminology
Washington State University	Department of Political Science, Criminal Justice Program

Downloaded by [State University of New York at Albany] at 06:56 28 June 2012