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Ranking Nordic Criminologists by Impact and Prestige

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ABSTRACT

Criminology is growing internationally. In this study, I examine articles by Nordic criminologists in fifteen top journals for the period 2008–2017 and present quality-adjusted rankings of the top 30. The ranking applies measures that integrate publications and citations with position in the author-sequence and journal impact factor. I found 191 articles by 188 unique authors with 352 contributions in total. The scholars in the sample had, on average, contributed to 1.87 articles in the selected journals, but only about a third were published in ten selected U.S.-based journals while the rest were published in five European-based journals. Six scholars place high on all the three composite scores of impact and prestige. The identified trend may signal the increasing diversity and inclusivity of the field. The results can provide benchmarks for the going rate of academic performance among Nordic criminologists and may serve to empower younger researchers seeking promotions.

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Introduction

Impact and prestige rankings are popular within criminology and criminal justice. They provide measures used in hiring decisions and demonstrate the discipline's health and growth (Graham, Pratt, Lee, & Cullen, 2019). While there has been an increasing internationalization of criminology (Barberet, 2007), most ranking studies focus either explicitly or implicitly on American criminology, and for good reasons. Of the 100 top scholars identified by Walters (2015), only five were non-U.S.-based, three of which were Canadian, one Australian, and only one European. While it is an accomplishment for anyone to publish in the field's most prestigious journals (Orrick & Weir, 2011), it is especially challenging for scholars from outside the U.S. In 2005, an average of 88% of articles in the top journals had U.S.-based authors (Cohn & Farrington, 2012) and these authors tend to cite other Americans (Cohn, Farrington, & Iratzoqui, 2017). The generic explanations for this dominance are that the leading universities are in the U.S. (Butler, 2010) and the size of the researcher population implies obvious advantages (Man, Weinkauf, Tsang, & Sin, 2004).

The purpose of this article is to examine the claim of growing criminological internationalization by counting publications by researchers based in the Nordic countries

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in the field's most prestigious journals. Within criminology, the Nordic countries—Denmark, Finland, Iceland, Norway, and Sweden—are, perhaps, best known for their "exceptional" penal policies and humane prison conditions (Pratt, 2008). More broadly, they are egalitarian and affluent welfare states with comparatively expert-driven criminal justice policies (Korsell & Larsson, 2011; Moeller, 2018) and a high per-capita rate of scientific publishing (Man et al., 2004). However, staying true to the egalitarian culture of these countries, no scientometric research has examined which criminologists have had the most impact internationally.

Scientometrics in criminology

Scientometrics, the science of science, evolved out of Merton's (1957, p. 635) sociology of knowledge, where he examined "science as a social institution, not in the large but in terms of its principal components." Two principal components of science are publications and the reaction from the research community in the form of citations. Impact studies use objective measures to assess productivity and researchers' citations while prestige surveys assess journals and academic programs based on subjective measures (Dejong & St. George, 2018; Graham et al., 2019).

Impact studies may count the number of publications within a period with the aim of ranking the most prolific scholars (Cohn et al., 2017). A central finding in this research is that publishing in criminology is relatively rare. Copes, Khey, and Tewksbury (2011) found that faculty, on average, published 1.44 (SD = 1.62) articles per year, and Orrick and Weir (2011) found that 1,518 publishing authors had an average of 1.64 articles over a ten-year period, where they were either the sole or the leading author. Barranco, Jennings, May, and Wells (2016) examined ASC members' productivity over time and found an increase from 2004 to 2005, where they averaged one peer-reviewed article per year, to 2010–2011, where it was 1.4.

In itself, productivity does not imply impact on the scientific field, but the number of publications correlates positively with research quality (Wuchty, Jones, & Uzzi, 2007), prizes, and even earnings (Cohn & Farrington, 2012). Productivity has an increasing rate of return, as more publications tend to imply even more citations (Sandström & van den Besselaar, 2016; Walters, 2015). Citations are highly concentrated among a few academics (Orrick & Weir, 2011) and most criminological articles are only rarely cited (Cohn et al., 2017; Graham et al., 2019). Copes et al. (2011) found that faculty, on average, were cited 14.78 (SD = 31.34) times a year and the ten most cited authors in Cohn and Farrington's (2012) study achieved between 92 and 239 citations in the year 2005.

Nordic criminology

Historically, Nordic criminology has been synonymous with Oslo University in Norway, the home of Johannes Andenaes (e.g., Andenaes, 1965) and Nils Christie (e.g., Christie, 1977). Oslo has offered a criminology program since 1954 and still has the largest department in the region. The remaining countries were slower in embracing criminology as an academic discipline and Denmark did not have a university program until

2013. In recent years, there has been an increase in criminological output and appreciation of the study of crime and responses to crime. Illustratively, The Stockholm Prize for outstanding achievement in criminology was awarded for the first time in 2006 and has since become one the field's most prestigious annual prizes with a purse of more than US$100,000.

Only a few studies have examined Nordic criminologists' contributions. Two early studies analyzed the substantive contents and Wolf (1976) classified five dominant research themes based on articles in Nordisk Tidsskrift for Kriminalvidenskab (Nordic Journal of Criminal Science) from 1961 to 1976. Snare and Bondeson (1985, p. 254) described the institutional structure of research in each Nordic country and discussed how pressure from the government influenced research: "[Over time] interest has moved from law breakers to the law enforcement apparatus".

The purpose of this article is to examine which Nordic researchers have influenced criminology at the international level over the past ten years, drawing attention to the work of these researchers and contributing to the diversity and internationalization of the field. The results can serve as a benchmark for younger scholars and in the hiring process of criminological departments. I present three rankings of the top 30 Nordic criminologists and discuss the overall temporal trends in productivity and prestige.

Materials and methods

I count articles in a selected sample of the most prestigious criminology journals from 2008 to 2017, authored by researchers with their primary institutional affiliation in one of the five Nordic countries. I use publications and citations as objective measures, and add subjective quality-adjustments by weighing authors' share of the publications and journal impact factors (IF), to form three composite scores that capture innovation and prestige. In this section, I describe which journals were included and how I identified articles by Nordic scholars, counted citations, and applied an author sequence weight.

Journals

It is a recurrent discussion, which are the most prestigious journals of the 300–400 journals in criminology? The best-known rankings, Thompson Reuter's Impact Factor, Google Scholar, and Elsevier's Scopus, use objective citation counts. These rankings are highly correlated (Barranco et al., 2016; Cohn & Farrington, 2012; Walters, 2015) but differ in what journals they consider criminology, e.g., Google Scholar's ranking is based on "Criminology, criminal law, and policing" and Thompson Reuter's Impact Factor counts citations in "Criminology & Penology." In contrast, subjective surveys of experts in the field also consider "historical reputation" (Dejong & St. George, 2018, p. 295; Sorensen, Snell, & Rodriguez, 2006).

I aimed for generalist journals that have an IF for most of the ten-year period and are not focused on a particular subject matter or region. I excluded journals where no Nordic researcher has published during the study period. IFs were collected through Web of Science (December 3, 2018) and I combined this information with insights on

Table 1. Journals in the sample.

Journal name	Abbreviation	Mean IF	Volumes	Years w. IF
Criminology	CRIM	3.837	56	10
Jour. of Res. in Crime and Delinquency	JRCD	2.495	55	10
Journal of Quantitative Criminology	JQC	2.619	34	10
Justice Quarterly	JQ	2.442	35	10
Journal of Criminal Justice	JCJ	2.502	45	10
Journal of Experimental Criminology	JEC	2.140	14	7
Crime and Delinquency	CD	1.513	64	10
Crime and Justice	CJ	2.250	47	10
Criminal Justice and Behavior	CJB	1.783	45	10
Criminology and Public Policy	CPP	1.238	17	6
British Journal of Criminology	BJC	1.743	58	10
European Journal of Criminology	EJC	1.271	15	8
Theoretical Criminology	TC	1.733	22	10
Criminology and Criminal Justice	CCJ	0.854	18	8
Euro. Jour. of Crim. Policy and Res.	EJCPR	0.740	24	8

Notes: (1) Since 2016, JCJ has used a system of ascribing journal volumes that does not follow the calendar year. The volume number in the table denotes the number of years published, i.e. from 1973.

the historical importance of journals derived from prestige surveys. Sorensen, Snell, and Rodriguez (2006) found a positive correlation ($r = .65$) for all the journal ratings across survey studies, and results are especially consistent for the highest ranked journals (Cohn et al., 2017; Graham et al., 2019; Orrick & Weir, 2011). The "big three" are Criminology, Journal of Research in Crime and Delinquency, and Justice Quarterly, with Journal of Quantitative Criminology as a recent contender (Barranco et al., 2016). Immediately outside of the absolute top, a few European-based journals compare on IF and international acclaim. I included the five best European-based journals that are generalist in their aims and scope. Nordic researchers frequently use these journals and including them allows for comparing aggregate publication trends.

I decided on a sampling frame consisting of the following ten U.S.-based journals and five European-based journals. Table 1 below displays the chosen journals, the abbreviation used in this article, the mean IF for the ten-year period, total volumes of the journal that have been published, and the number of years during the ten-year sample period where the journal has had an IF.

Articles and citations

To identify articles by Nordic researchers, I inspected each issue and article for the author's institutional affiliations. Some authors have more than one, but I only include those with primary affiliation in a Nordic country. This criterion excludes Nordic researchers working at institutions abroad (e.g., Savolainen, Wikstrøm, and Lindegaard) and a few publications from visiting international scholars temporarily working at Nordic institutions (e.g., Wildeman). To validate my search and possibly enrich the data, I examined the Google Scholar pages for the researchers and collected structural data from their institution web pages.

I excluded editorial comments, introductions, responses to articles, book reviews, and other pieces not reporting original research results. I did not exclude articles

published in special issues. For each article, I coded the author's name, the publication year, the title, the number of authors, the position in the author sequence, the journal IF for that year, and the country. Only published articles with assigned issues and page numbers were included. I counted citations using Google Scholar, which collects data from journals, books, theses, technical reports, and selected "scholarly" web pages (Peress, 2019). As my interest is in impact and prestige, I measure prevalence and not frequency. I do not weigh citations by exposure time (Cohn & Farrington, 2012).

Author weights

Measuring scholarly impact and prestige involves a multiple-author dilemma. Giving the whole credit to each author of a multi-authored paper overemphasizes minor contributions in high-impact publications and biases the ranking towards senior researchers with access to more resources (Higgins, Swartz, & Hayden, 2019). The trend in scientific publishing towards more authors on articles exacerbates this problem and implies a need for weighing contributions to provide a better representation of individual impact and prestige (Walters, 2015). There is no simple way to determine credit, especially when the number of authors increases beyond two, and different disciplines have their own culturally borne traditions (Higgins et al., 2019; Kleck & Barnes, 2011). Orrick and Weir (2011) focused exclusively on sole authored articles and first authorships, as these represent scholarly "innovation," and Walters (2015) double-counted first authorships. Other studies have weighed contributions equally (Cohn & Farrington, 2012).

Tscharntke, Hochberg, Rand, Resh, and Krauss (2007) quantified four approaches for sharing author credit: equal contribution, first-last-author-emphasis, percent-contribution-indicated, and sequence-determines-credit (SDC). In criminology, a merit-based ranking of authorship has been the norm (Higgins et al., 2019; Orrick & Weir, 2011; Walters, 2015) and I follow Tscharntke et al. (2007) recommendation of the SDC-approach: the first author gets full credit, the second author half, the third a third, and so forth, up to ten. After author number ten, each additional author gets 5% credit.

Limitations

There is no agreed-upon scientometric evaluation strategy in the criminological field and different methods may provide different results (Copes et al., 2011). Studies based on citations are more objective than surveys but suffer from known problems: Counts do not discriminate between positive and negative citations. A few highly cited articles, especially review studies, can make up the majority of a journal's IF (Dejong & St. George, 2018; Sorensen et al., 2006). Individual scholar's citations are "vulnerable to corruption" (Rossmo, 2019, p. 8): self-citation, piecemeal publication, cuckoo referencing, publishing rings. I only count articles, even though the most impactful works may be books (Cohn et al., 2017).

Analytic plan

My aim is to measure the impact and prestige of Nordic criminologists over a ten-year period. The analysis proceeds in four stages. In this section, I explain the measures used to form the composite scores and how the composite scores were calculated. Table 2 shows the sample descriptive statistics for the measures of productivity (number of contributions to publications), impact (citations), innovation (position in author sequence), and prestige (journal IF). These measures are combined in various ways to form the composite scores. I explain this in more detailed below. In the results section, I present the number of articles by year and journal for the sample, to give a first impression of the productivity and prestige of Nordic scholars over time. To conclude, I calculate the three composite scores for each scholar and present the rankings in Table 4.

I calculate both an unweighted and weighed count of each scholar's publications and citations. The unweighted scores are simply a count of the scholar's number of contributions to publications and their associated citations added up. The weighted counts apply the SDC-approach to each publication and its associated citations, e.g., if an author is the second author on two articles and third author on one article, her weighed publication score is $.5 + .5 + .33 = 1.33$. Similarly, the weighed citations measure multiplies the author's contribution to each article by the number of citations to that publication. If the same three publications used in the examples above had 17, 5, and 34 citations, the weighed citation score would be $.5*17 + .5*5 + .33*34 = 22.22$. The weighed IF score includes the author's contribution to each publication and this is multiplied by the journal's IF for the corresponding year. If the three articles from the previous example were published in journals with IFs of 2.2, 1.5, and .5, the scholar's weighed IF score is $.5*2.2 + .5*1.5 + .33*.5 = 2.015$.

To calculate the three composite scores, I start with the raw count of publications and citations and sequentially add the information on author contribution and journal IF. As the composite scores are based on the publication and citations counts and each scholar has substantially more citations than publications, I convert each count to a *z*-score. The *z*-score is a standard score with a mean of 0 and SD of 1; it expresses the indices as relative to the mean of the sample instead of raw numbers. A *z*-score above zero implies the scholar is above the mean for the sample, and a negative score implies below the mean for the sample. Converting counts to *z*-scores enables adding them up to form the composite scores, but the resultant composite scores are not *z*-scores.

Table 2. Sample descriptive statistics.

	Publications	Citations	Weighed Publications	Weighed Citations	Weighed IF
Mean	1.87	50.55	1.25	35.84	1.98
SD	2.27	84.85	1.70	70.05	2.98
Min	1	1	.07	.067	0
Max	16	631	10.83	489.67	22.22

Note: The minimum weighed IF value is zero because three journals had no IF at the time of the Nordic contribution.

The first composite score uses the unweighted counts of publication and citations. Each author's number of publications is measured relative to the mean in the sample and is converted to a *z*-score. This score is then added to the author's *z*-score for number of citations. If a scholar has a publication *z*-score of 1, i.e., one standard deviation above the mean for the sample, and a citation *z*-score of -.25, the composite score is .75. This score prioritizes scholars that have co-authored many publications that have accumulated citations over the years.

The second composite score applies the weighed publication and weighed citation measures. Each publication is weighed by the authors' contribution, according to the SDC-approach, and the sum is converted to a *z*-score. Similarly, citations to the article are weighed by author contribution and the sum is converted to a *z*-score, which is then added to the first *z*-score. This measure gives credit to innovative scholars that are first authors on articles with many citations.

For the third and final score, I add journal prestige. First, I take the weighed author contribution to publications, multiply it by the journal's IF, and convert it to a *z*-score. Next, I add the weighed citations *z*-score. This final composite score is the most quality-adjusted measure because it considers innovation, impact, and prestige. This composite score emphasizes first-authored publications in high-prestige journals with many citations. Table 2 above presents the sample means and descriptive statistics on the measures used to calculate the three composite scores.

Lastly, when presenting the rankings, I calculate the coefficient of variation (CV) across each author's three composite scores. The CV is the SD for the three scores divided by the mean of the three scores. A high number denotes change across the three composite scores and a low number denotes stability. This illustrates how a scholar's ratings change more or less with the sequential addition of the quality-adjusting measures.

Results

In this section, I first present a description of the sample in Table 3 that shows the number of articles in the selected journals by journal and year. I distinguish between publications and contributions because each article may have several contributing authors. This provides an illustration of productivity, prestige, and temporal trend in publishing by Nordic criminologists. Table 4 lists the top 30 Nordic criminological scholars on the three composite scores.

Articles, contributions, and citations

I found 191 articles that had at least one author with primary institutional affiliation in a Nordic country. Overall, these articles have 352 Nordic author contributions and 188 unique authors. Each article had an average of 3.10 authors (including non-Nordic) (SD = 2.25). Fifty-eight of the 191 articles, corresponding to 31%, were single--authored. Over the ten-year period, scholars in the sample contributed to 1.87 articles (SD = 2.27) in the selected journals. The distribution is highly skewed, as 131 authors had contributed to one publication, 29 had contributed to two, 12 had three contributions, and only five had four. Eleven scholars had more than one SD over the mean

Table 3. Number of articles and contributing Nordic authors by year and journal.

Year Journal	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
CRIM	1/2		1/1	1/1		2/4	1/1	1/1	1/3	3/3	11/16
JRCD						1/2		1/2	1/2	1/1	4/7
JQC			1/1		1/2			2/2	2/2	1/1	7/8
JQ				1/1						1/2	2/3
JCJ			1/1		1/2	2/4			1/2	3/9	8/18
JEC		1/2			1/1	1/2		1/1	1/5		5/11
CD			1/1		1/1			1/1		3/4	6/7
CJ				12/20	1/1		2/2	1/3	1/1		17/27
CJB	3/4	2/2	2/6	1/4			2/6	1/2		1/2	12/26
CPP							1/2				1/2
BJC	2/2	1/1	1/1	1/2	3/6	3/9	7/20	10/15	3/11		31/67
EJC	3/4	3/4	8/17	5/9	9/21	7/15	6/14	3/9	6/8	6/9	56/110
TC	1/1			2/2	2/2	1/1	1/1		1/1	1/1	9/9
CCJ						2/2	1/1		2/5	2/6	7/14
EJCPR	1/1		1/1	1/1	1/1	5/11	1/2	3/5	2/5		15/27
Articles	11	7	16	24	20	24	22	24	21	22	191
Contributions	14	9	29	40	37	50	49	41	45	38	352

Table 4. Top 30 ranking using three composite scores.

Scholar	Nation	Publ./Cit.	CV	Composite score 1	Composite score 2	Composite score 3
Skardhamar	NOR	15/614	.06	12.42 (2)	12.13 (1)	13.23 (1)
Lappi-Seppälä	FIN	9/426	.16	7.56 (4)	9.28 (3)	9.45 (2)
Svensson	SWE	16/631	.20	13.06 (1)	11.68 (2)	9.25 (3)
Sandberg	NOR	11/393	.08	8.05 (3)	8.62 (4)	7.62 (4)
Aaltonen	FIN	10/206	.16	5.41 (6)	5.64 (6)	6.90 (5)
Kivivuori	FIN	14/223	.09	7.37 (5)	6.71 (5)	6.41 (6)
Aas	NOR	2/337	.23	3.43 (9)	4.74 (7)	4.51 (7)
Lyngstad	NOR	6/220	.07	3.81 (8)	3.46 (8)	3.81 (8)
Carlsson	SWE	3/219	.24	2.48 (12)	3.27 (9)	3.65 (9)
Moeller	DEN	4/59	.55	1.04 (18)	1.95 (13)	2.75 (10)
Barker	SWE	3/129	.40	1.42 (16)	2.36 (12)	2.72 (11)
Estrada	SWE	8/155	.32	3.93 (7)	3.24 (10)	2.25 (12)
Bäckman	SWE	6/87	.21	2.25 (14)	1.66 (15)	1.97 (13)
Nilsson	SWE	7/126	.23	3.15 (10)	2.51 (11)	1.96 (14)
Andersen, L.	DEN	4/48	.45	.91 (20)	1.29 (18)	1.92 (15)
Grundetjern	NOR	2/57	1.07	.13 (37)	.74 (24)	1.58 (16)
Gerell	SWE	3/28	.86	.23 (34)	.92 (23)	1.39 (17)
Ceccato	SWE	3/211	.40	2.39 (13)	1.60 (16)	1.35 (18)
Kääriäinen	FIN	2/127	.42	.96 (19)	1.74 (14)	1.32 (19)
Larsson, H.	SWE	2/110	.23	.76 (25)	1.05 (19)	1.02 (20)
Andersen, S.	DEN	3/65	.35	.67 (26)	.57 (26)	1.00 (21)
Aase	NOR	2/98	.31	.62 (28)	.65 (25)	.97 (22)
Tham	SWE	4/72	.32	1.19 (17)	1.48 (17)	.86 (23)
Sirén	FIN	5/159	.89	2.66 (11)	1.03 (20)	.82 (24)
Kolind	DEN	3/55	.39	.55 (29)	.93 (22)	.65 (25)
Von Hofer	SWE	3/62	.36	.63 (27)	.95 (21)	.59 (26)
Skillbrei	NOR	1/70	1.89	−.16 (50)	.34 (33)	.56 (27)
Häkkänen-Nyholm	FIN	1/78	1.40	−.06 (44)	.45 (28)	.51 (28)
Smith, P. K.	FIN	1/73	1.82	−.12 (47)	.38 (31)	.39 (29)
Monsbakken	NOR	2/66	.41	.24 (33)	.44 (30)	.39 (30)

number of publications (i.e., over four contributions) and eight authors had more than two SD over the mean number of contributions (i.e., over six). The most productive scholar had sixteen.

The mean number of citations per author is 50.55 (SD = 84.85) and the sample distribution is skewed similar to the number of publications per author. Fifty-five authors had more than the mean number of citations, and twelve authors had more than one SD over the mean, i.e., over 135, and only six authors had more than two SD over the mean, i.e., over 220 citations. Each scholar's number of citations is strongly correlated with their number of publications ($r = .85$).

Focusing on the ten U.S.-based journals, I found 73 articles with 125 Nordic contributions, corresponding to 38% and 36% of the total sample, respectively. The "Big Three" journals published 17 articles with 26 contributing Nordic authors and JQC published seven articles with eight contributions over the ten-year period. The publication frequency of Nordic scholars in these four top journals has increased over time. Of the sixteen contributions to CRIM articles, twelve were from 2013 to 2017. All of the seven contributions to JRCD, two of the three contributions in JQ, and five of eight contributions to JQC were from 2013 to 2017.

This increasing publication frequency does not hold for the remaining six U.S. journals. For the journals JCJ, JEC, CD, CJ, CJB, and CPP, only 43% of all articles and 51% of all contributions are from 2013 to 2017. However, because the numbers are so small, it does not take much to affect this result. A special issue of CJ on Scandinavia in 2011 contained 12 articles and 20 contributions, which constituted around 40% of all articles and contributions in these journals from 2008 to 2012. CJ and CJB published 85% of the articles by Nordic criminologist in the ten U.S. journals for the first five years under examination. For the ten-year period, the two most frequently used U.S. publication outlets are CJ and CJB with 37% of all articles and 42% of all contributions. Conversely, JQ and CPP are the most elusive journals for Nordic scholars, with only three published articles by five contributors over ten years.

Table 3 above shows the number of articles and contributions by year and journal, and the total for each year, journal, and sample.

Turning to the five European journals, I found 118 articles by 227 contributors, corresponding to 62% and 64% of the total sample, respectively. In these journals, there is a discernable trend of more publications over time, as 73 articles and 151 contributions are from 2013 to 2017, corresponding to 62% of all articles and 67% of contributions. The E.U. journal with the highest IF, BJC, has published 31 articles with 67 contributions by Nordic criminologists over ten years. EJC is the most commonly used E.U. publication outlet in my sample with 56 articles and 110 contributions, almost half of all the publications in E.U. journals. Conversely, TC has only published nine articles by Nordic scholars, and five of these were single authored. CCJ did not publish any articles with Nordic contributions until 2013.

Rankings

I combined four different indicators of scholarly impact and prestige to arrive at my quality-adjusted composite scores: a measure of productivity (number of articles), impact (citations), innovation (author sequence), and prestige (journal IF). Table 4 above displays the names, nations, number of publications and citations, the coefficient of variation, and the three composite scores. The number in parenthesis

after each composite score is the scholar's ranking according to that score. The third composite score organizes the table.

The top six scholars each have nine or more publications with over 200 citations. These scholars are stably in the top six across the three composite scores. Of the top 30 ranked scholars, eight are from Norway, seven from Finland, eleven from Sweden, and four from Denmark. The share of scholars from Sweden in the ranking corresponds roughly to their share of the total Nordic population, while Norway and Finland have a higher share of scholars relative to population and Denmark has fewer. Iceland is represented in the sample with six contributions to five articles but none of these scholars made the top 30.

Composite score 1 uses the raw number of publications and citations, with no regard for author contribution or journal prestige. Composite score 2 weighs these publications and citations by the author's contribution according to the SDC approach. This improves the scores of those with first authorships of highly cited publications, relative to those with many co-author contributions. Composite score 3 is similar to Composite score 2, except it also considers journal prestige. Composite score 3 prioritizes innovation, impact, and prestige. Examining the CV between the rankings reveals that Skardhamar, Sandberg, Kivivuori, and Lyngstad were the most consistently ranked (CV from .06 to .09). The biggest variation occurs at the other end of the ranking, namely Smith, Skillbrei, and Häkkänen-Nyholm (CV from 1.89 to 1.40).

Comparing the Spearman's rank correlation for the entire sample reveals the three composite measures all correlate positively and significantly ($p < .001$). The strength of the correlation decreased as the author weight and IF indices are added. Departing from a raw count of publications, Composite score 1 correlates positively (Spearman's $r = .76$), as does Composite score 2, which weighs publications and citations by author contributions (Spearman's $r = .62$), and the final measure, Composite score 3, which also includes journal IF (Spearman's $r = .59$). The biggest difference occurs between Composite score 1 and Composite score 2 where the addition of the author weight changes the ranking substantially after position fifteen, but the overall rankings remain correlated (Spearman's $r = .70$). Adding the journal IF changed the overall ranking less, than adjusting for author contribution, as Composite score 2 and Composite score 3 are more strongly correlated (Spearman's $r = .95$).

Discussion

Criminology is growing in international diversity but scholars outside of the U.S. are still poorly represented among the top scholars of the field. To elucidate the contributions from Nordic criminologists, I examined their productivity, impact, innovation, and prestige for the past ten years, measured in a selected sample of top journals. I calculated three composite scores based on publications, citations, authorship sequence, journal IF, and formed three rankings of the top 30. My aim was not to praise or criticize individual researchers or research traditions but to examine the status of criminological internationalization from the Nordic perspective. This analysis can contribute to increased diversity of the discipline by drawing attention to the work of these scholars, and serve as benchmarks of productivity for non-U.S. scholars.

My measures of scholarly productivity and impact consist of the number of peer-reviewed publications in selected journals and their associated citations. I argue that quantity alone does not imply achievement and introduce two quality-adjusting indices that encapsulate innovation and prestige. These are added sequentially to the measures of productivity and impact. First, I add a weight for the author's share of a publication using a sequence-determines-credit approach. This weight gives prominence to innovators and is broadly congruent with the culture in criminology (Higgins et al., 2019). The second quality-adjusting measure is journal IF. This measure differentiates the 15 selected journals using an objective criterion that rewards quality over quantity. While there is plenty criticism against journal IF, it provides a transparent means to ascribe a measure of quality to each publication.

My results indicate there is indeed an increase in the annual number of publications by Nordic criminologists in the field's most prestigious journals. Most notably, there is over double the number of publications in the Big Three plus JQC journals during 2013–2017, compared to 2008–2012. Of the ten American journals, JQ and CPP have the fewest articles with Nordic contributions while JCJ, CJ, and CJB have the highest counts. For the European journals, EJC and BJC are the most frequently used while TC is rare. More than half of the articles in TC in my sample are sole-authored, which is typical for theoretical articles (Tewksbury & Mustaine, 2011).

The scholars in my sample contributed to an average of 1.87 articles in the selected journals during the ten-year period. This publication prevalence level is comparable to Orrick and Weir's (2011) finding of 1.64 articles because their study also focused on a ten-year period and used a truncated sample of journals. In contrast to Orrick and Weir's (2011) exclusive focus on sole and lead authorships, I also counted contributions as co-author. The mean citation count of 50.55 for Nordic scholars appears to be on the lower end, compared to the research focused on U.S. scholars. The ten most cited articles in my sample had between 97 and 240 cites, substantially fewer compared to top scholars in the field (Cohn & Farrington, 2012; Graham et al., 2019).

There are two explanations for the lower citation counts. First, Nordic criminologists may be comparably "slow" (Kuus, 2015) in the sense that the intensification of academic life is not as severe as in the U.S. and fewer articles generally imply fewer citations per article (Sandström & van den Besselaar, 2016). Ambitious Nordic criminologists that strive towards working in the best departments and research-intensive institutions may look towards elite universities in other countries for employment. Second, there may be an element of the "ghettoization" of non-U.S. criminologists (Barberet, 2007). Cohn et al. (2017) noted the tendency of American researchers to cite other American researchers. While it is generally difficult to publish in the best peer-reviewed journals, it is even more difficult when the study uses non-U.S. data. Together, this strengthens the Matthew-effect, i.e., the "principle of cumulative advantage that operates in many systems of social stratification" (Merton, 1968; p. 62). To be highly cited, you need to have many citations. Both publications and citations are concentrated among a few scholars in my sample. The three composite scores correlated well for the entire sample overall but, importantly, they demonstrated the ranking of top Nordic criminologists remained quite stable across the different assessment methods. The first composite score, which only considers

publications and citations, should not be a substitute for more detailed analyses but it correlates positively with the second composite score, which included author contribution. In my opinion, the third measure provides the best representation of impact and prestige. These scholars have first-authored articles with many citations and have repeatedly published in the most acclaimed journals.

Using my measures, there are three ways to make the top positions in the rankings. A scholar can have a few but single-authored and highly cited papers. Aas ranked number seven in the third composite score and had two publications, around the mean for the sample; however, they are highly cited and she is the single author on both. The second way to be prominently featured in the final ranking is to have publications in journals with high IF. Grundetjern's ranking improves from position 37 in the first ranking to position 16 in the third because of two first-authored publications in CRIM and EJC. These two ways to make the ranking follow from how I weigh the author's contribution to each publication. Adding the author contribution weight in the second composite score creates the biggest change in the overall standings. Some scholars that have contributed to many papers as co-authors move down the ranking when adding this weight, e.g., Estrada and Ceccato, while others that are sole or first authors move up, e.g., Gerell and Andersen, L.

The weighing by author contribution is important for measuring impact and prestige. With the trend of increasing numbers of authors on scientific articles over time comes a growing need for a system to determine credit. The articles in my sample had an average of 3.10 authors, and 31% were single-authored, slightly more than in U.S. criminology scientometrics (Graham et al., 2019; Tewksbury & Mustaine, 2011; Orrick & Weir, 2011). I applied the SDC-approach (Tscharntke et al., 2007) as an equitable solution to the dilemma of multiple authorships. The SDC-approach prioritizes innovation by giving full credit to first authors and only half credit to second authors and so forth, similar to how Walters (2015) ascribed double value to first-author papers. Kleck and Barnes (2011) also shared the credit for publications between authors but their system gave less credit to first authorship compared to the SDC-approach. For two-authored papers, they used a .60–.40 division, and for three-author papers, a division of .40–.35–.25. Conversely, the SDC-approach gives less credit to first authorships compared to Orrick and Weir (2011), who focused exclusively on sole and lead-authored articles. I believe the SDC-approach is a suitable middle ground and is compatible with the culture and practices for determining authorship order in criminology (Higgins et al., 2019).

There are several limitations to this study. It is important to reiterate that I only count publications in a subjective sample of journals. The truncated sample implies the ranking does not evaluate scholarly impact and prestige in general, but specifically for criminology. Many of the scholars on the list are equally or more prolific in academic fields outside of criminology. The decision to sample publications in this manner derived from my aim of studying the most internationally impactful Nordic criminologists. I followed the existing research that ranks journals but faced the issue that some of the higher ranked journals had no Nordic contributions. I aimed for general interest journals; however, this delineation is not objective. My choice of weighing publications by the journal IF also affected the sample composition. Arguably, it may be equally or even more difficult for Nordic scholars to publish in a U.S.-based

journal with no IF, compared to a European journal with a relatively high IF. As noted in Tables 2 and 3, there are eight articles and 11 contributions that were published in journals that did not have an IF at the time of publication. Only one of these is in a U.S. journal, JEC, which achieved an IF in 2011. IF is only used to calculate the third composite score that is focused on prestige. These journals were not as prestigious then as they are today. Ultimately, another sample of journals may have resulted in a different ranking.

While the internationalization of criminology has been growing in recent years, non-U.S. researchers still struggle to compete in terms of publications in top journals. In a broader perspective, there is a strong trend towards globalization of research. The Nordic countries have higher publication output in general medical journals per million population, than the US, and spend a similar share of GDP on research, as the US (Man et al., 2004). In the context of the recent expansion of criminology as an academic discipline in Nordic countries, this internationalization trend may well affect criminology in the coming years. Hopefully, the field will grow stronger from this increased diversity. In particular, Nordic criminologists can contribute through their access to register data. Without going into the substantive content of the articles in my sample, it is noteworthy that many of the publications in the Big Three journals use register data, e.g., most of the publications by Skardhamar, Aaltonen, and Kivivuori. Lyngstad and Skardhamar (2011) noted that this data is of exceptional quality in international comparison because it allows for detailed longitudinal analysis of individual offending trajectories with a very wide range of control variables available.

The main contributions of my study were, first, to highlight the best research by Nordic criminologists, which can play a small part in increasing the field's diversity and inclusivity. Secondly, my analyses provide benchmarks for the going rate of academic performance among Nordic criminologists. This can serve as a barometer for the level of productivity for which scholars should be striving, which is beneficial at a time when the publication levels at different stages of the academic career are increasing (Warren, 2019). Ultimately, the results may empower younger researchers with prestigious publications when making their cases for promotions. Future avenues of research for Nordic criminology scientometrics should look further into the substantive contents of the best publications.

Notes on contributor

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References

Andenaes, J. (1965). General preventive effects of punishment. *University of Pennsylvania Law Review*, *114*(7), 949–983. doi:10.2307/3310845

Barberet, R. (2007). The internationalization of criminology? A content analysis of presentations at American Society of Criminology Conferences. *Journal of Criminal Justice Education*, *18*(3), 406–427. doi:10.1080/10511250701705362

Barranco, R. E., Jennings, W. G., May, D.C., & Wells, J. M. (2016). What journals are the most cited journals in criminology and criminal justice's "big three" journals? *Journal of Criminal Justice Education*, 27(1), 19–34. doi:10.1080/10511253.2015.1065337

Butler, D. (2010). University rankings smarten up. *Nature*, *464*(7285), 16–17. doi:10.1038/464016a

Christie, N. (1977). Conflicts as property. *The British Journal of Criminology*, *17*(1), 1–15. doi:10.1093/oxfordjournals.bjc.a046783

Cohn, E. G., & Farrington, D. P. (2012). Scholarly influence in criminology and criminal justice journals in 1990–2005. *Criminal Justice Review*, *37*(3), 360–383. doi:10.1177/0734016812450025

Cohn, E. G., Farrington, D. P., & Iratzoqui, A. (2017). Changes in the most-cited scholars and works over 25 years: The evolution of the field of criminology and criminal justice. *Journal of Criminal Justice Education*, *28*(1), 25–51. doi:10.1080/10511253.2016.1153686

Copes, H., Khey, D. N., & Tewksbury, R. (2011). Criminology and criminal justice hit parade: Measuring academic productivity in the discipline. *Journal of Criminal Justice Education*, *23*(4), 432–440. doi:10.1080/10511253.2012.683016

DeJong, C., & St. George, S. (2018). Measuring journal prestige in criminal justice and criminology. *Journal of Criminal Justice Education*, *29*(2), 290–309. doi:10.1080/10511253.2017.1398344

Graham, A., Pratt, T. C., Lee, H., &Cullen, F. T. (2019). Contemporary classics? The early onset of influence of articles published in criminology and criminal justice journals, 2010–2015. *Journal of Criminal Justice Education* (in press). doi:10.1080/10511253.2018.1510018

Higgins, E. M., Swartz, K., & Hayden, E. A. (2019). State of authorship in criminology: Perceptions of right and order among elite criminologists. *Journal of Criminal Justice Education* (in press). doi:10.1080/10511253.2019.1566481

Kleck, G., & Barnes, J. C. (2011). Article productivity among the faculty of criminology and criminal justice doctoral programs, 2005–2009. *Journal of Criminal Justice Education*, *22*(1), 43–66. doi:10.1080/10511250701705347

Korsell, L., & Larsson, P. (2011). Organized crime the Nordic way. *Crime and Justice*, 40(1), 519–554. doi:10.1080/10511253.2010.517650

Kuus, M. (2015). For slow research. *International Journal of Urban and Regional Research*, *39*(4), 838–840. doi:10.1111/1468-2427.12257

Lyngstad, T. H., & Skardhamar, T. (2011). Nordic register data and their untapped potential for criminological knowledge. *Crime and Justice*, *40*(1), 613–645. doi:10.1086/658881

Man, J. P., Weinkauf, J. G., Tsang, M., & Sin, J. H. D. D. (2004). Why do some countries publish more than others? An international comparison of research funding, English proficiency and publication output in highly ranked general medical journals. *European Journal of Epidemiology*, *19*(8), 811–817. doi:10.1023/B:EJEP.0000036571.00320.b8

Merton, R. K. (1957). Priorities in scientific discovery: A chapter in the sociology of science. *American Sociological Review*, *22*(6), 635–659. doi:10.2307/2089193

Merton, R. K. (1968). The Matthew effect in science: The reward and communication systems of science are considered. *Science*, *159*(3810), 56–63. doi:10.1126/science.159.3810.56

Moeller, K. (2018). Denmark, Corrections in. In: Kerley, K. (Ed.). *The Encyclopedia of Corrections* (pp. 201–207). Wiley-Blackwell, Hoboken, NJ.

Orrick, E. A., & Weir, H. (2011). The most prolific sole and lead authors in elite criminology and criminal justice journals, 2000–2009. *Journal of Criminal Justice Education*, *22*(1), 24–42. doi:10.1080/10511253.2010.517649

Peress, M. (2019). Measuring the research productivity of political science departments using Google scholar. *PS: Political Science & Politics*, *52*(2), 312–317.

Pratt, J. (2008). Scandinavian exceptionalism in an era of penal excess part I: The nature and roots of scandinavian exceptionalism. *The British Journal of Criminology*, *48*(2), 119–137. doi:10.1093/bjc/azm072

Rossmo, K. (2019). Darwin and scholarly metrics. Natural selection in the academic environment. *The Criminologist*, *43*(6), 7–11.

Sandström, U., & van den Besselaar, P. (2016). Quantity and/or quality? The importance of publishing many papers. *PLoS One*, *11*(11), 1–16. e0166149. doi:10.1371/journal.pone.0166149

Snare, A., & Bondeson, U. (1985). Criminological research in Scandinavia. *Crime and Justice*, *6*, 237–259. doi:10.1086/449109

Sorensen, J., Snell, C., & Rodriguez, J. J. (2006). An assessment of criminal justice and criminology journal prestige. *Journal of Criminal Justice Education*, *17*(2), 297–322. doi:10.1080/10511250500336203

Tewksbury, R., & Mustaine, E. E. (2011). How many authors does it take to write an article? An assessment of criminology and criminal justice research article author composition. *Journal of Criminal Justice Education*, *22*(1), 12–23. doi:10.1080/10511253.2010.517648

Tscharntke, T., Hochberg, M. E., Rand, T. A., Resh, V. H., & Krauss, J. (2007). Author sequence and credit for contributions in multiauthored publications. *PLoS Biology*, *5*(1), e18: 13–14. doi:10.1371/journal.pbio.0050018

Walters, G. D. (2015). Measuring the quantity and quality of scholarly productivity in criminology and criminal justice: A test of three integrated models. *Scientometrics 102*(3), 2011–2022. doi:10.1007/s11192-014-1496-z

Warren, J. R. (2019). How much do you have to publish to get a job in a top sociology department? Or to get tenure? Trends over a generation. *Sociological Science*, *6*, 172–196. doi:10.15195/v6.a7

Wolf, P. (1976). Apparent tendencies in Scandinavian criminology during recent years. *Annales Internationales de Criminologie*, *15*(2), 217–225.

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, *316*(5827), 1036–1039. doi:10.1126/science.1136099