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Factors Influencing Publication Rates Among Counselor Educators

Sean Newhart, Patrick R. Mullen, Ashley J. Blount, W. Bryce Hagedorn

Factors influencing publication rates were examined among a simple random sample of 257 counselor educators. The factors of: (a) gender, (b) experience as a counselor educator, (c) faculty rank, and (d) working in a research institution predicted peer-reviewed publication rates in the counselor educator sample, with a large effect size. Additional results, limitations of the investigation, areas for future research, and implications for counselor educators are discussed.

Keywords: counselor educators, publication rates, faculty

Publishing academic manuscripts in peer-reviewed journals has long been an important activity for faculty in higher education, the purpose of which is twofold: to further the knowledge base in the academic's field of study or professional discipline (McGrail, Rickard, & Jones, 2006) and to support faculty scholarly productivity. Whereas it is not a new phenomenon, faculty in many research-focused institutions are under increasing pressure to publish peer-reviewed publications, leading to use of the phrase "publish or perish" by academics to describe the current landscape of the profession (Garfield, 1996). Increasing expectations for publication were primarily influenced by university administrators' decision to focus on publication rates as a measure of performance (Baveye, 2010) and has emerged as the focus of institutions who seek to improve their status or perceived ranking in comparison to others (Youn & Price, 2009). Following academic trends, publication rates of faculty have been identified as a strong predictor of earning tenure (Park & Gordon, 1996) and are often attributed to individual and institutional performance (Hulac, Johnson, Ushijima, & Schneider, 2016; McGrail et al., 2006). Furthermore, publication rates serve as a criterion for garnering external funding from government and other professional organizations (Ali, Bhattacharyya, & Olejniczak, 2010). Given these trends, publication rates among faculty members have been deemed to be of

importance to the professional performance and advancement of the academic.

Current research on publication rates and factors influencing these publication frequencies appear mixed, with some researchers supporting decreases or no increase in publication rates, and others supporting overall increases in publications. Considering the competitive academic climate in many universities, it seems paradoxical that patterns of low publication rates among faculty have been reported in the literature (McGrail et al., 2006). Upon reviewing the publication rates of a diverse sample of faculty, Fanelli and Lariviere (2016) found that the total number of peer-reviewed articles published has increased across 11 academic disciplines, especially in recent decades. However, when adjusted for coauthorship, the publication rate of scientists in all disciplines has not increased overall, with some disciplines evidencing declining publication rates. In support of publication rates increasing, Niles, Schimanski, McKiernan, and Alperin (preprint) found the rate of academic publishing increased 56% from 2006 to 2016 and a total of 33,000 academic peer-reviewed articles being published across four academic disciplines in 2018 alone. Because of the push for publication, many faculty are searching for ways to keep up with the pace of research in their field (Adler, Ewing, & Taylor, 2009; Niles et al., preprint).

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Regardless of stagnant, increasing, or decreasing publication rates, Niles and colleagues stated faculty in many universities were being incentivized to publish; with increased funding opportunities to publish in certain areas, merit for publishing in journals with high journal impact factors (JIF), and prioritization on quantity of publications. The aforementioned themes may eventually result in increasing volume of publications and scholarly output, yet researchers are questioning the quality of research outputs (Siegel, Brand, Rossi, & Lubowitz, 2018) and reproducibility of results (Grimes, Bauch, & Ioannidis, 2018). Finally, with a push for publications in certain fields, academics are also collaborating more often with one another, possibly to meet the increased pressure to publish, or perhaps in response to their institutions' push for interdisciplinary collaboration.

While analyses of publication rates en masse provide a broad picture of the academic landscape, many researchers have instead focused on publication trends specific to their discipline. Counselor education is one such field. As in related programs, tenure-track faculty in counselor education programs often "encounter a publish-or-perish mentality within the counselor education profession" (Davis, Levitt, McGlothlin, & Hill, 2006, p. 148). Scholarly productivity among counselor educators, especially those working in research I institutions (e.g., R1, R2), is often considered in their evaluations for promotion and tenure (e.g., Lambie, Sias, Davis, Lawson, & Akos, 2008; Magnuson, 2002; Magnuson, Black, & Lahman, 2006; Magnuson et al., 2003; Ramsey, Cavallaro, Kiselica, & Zila, 2002; Seipel, 2003), particularly since publication in these environments seems to be a strong indicator of counselor educators' accomplishments in generating and disseminating knowledge (Barrio Minton, Fernando, & Ray, 2008). Therefore, publishing articles in peer-reviewed journals is important to many counselor education faculty for advancement in their professional environments.

Although peer-reviewed publications are important for many counselor education faculty, there has been a paucity of research into factors that predict peer-reviewed publication rates among counselor educators. While earlier investigations of professional contributions in counselor education have been conducted (e.g., Baruth & Miller, 1977; Roland & Fontanesi-Seime, 1996; Walton, 1982; Weinrach,

Lustig, Chan, & Thomas, 1998), Ramsey and colleagues (2002) conducted the first comprehensive examination of faculty scholarly productivity in counselor education. Results from 113 faculty indicated that they perceived traditional scholarly activity, such as journal articles, book chapters, and conference presentations, to be more important for tenure and promotion decisions than other forms of scholarly activities such as professional leadership roles, scholarly works pertaining to teaching, and other professional activities. In Ramsey et al.'s (2002) sample, counselor educators published an average of 1.45 articles per year and presented at conferences 2.99 times per year. Furthermore, male and female counselor educators were similar in the scholarly activities they emphasized in their work, although men published more articles and other published works, while women presented more often at conferences. Though Ramsey and colleagues (2002) found early evidence of publication rates in counselor educators, the assessment involved only a small percentage of total faculty employed at institutions accredited by the Council for Accreditation of Counseling and Related Education Programs (CACREP). Additionally, participant responses were self-reported, and the overall accuracy is cautioned. Finally, while the current study may have been influenced by the sample and subsequent response bias, the findings support the idea that the field of counselor education may emphasize the importance of traditional scholarly activity among faculty.

Other researchers have examined long-term publication trends in counselor education using large research databases. For example, Barrio Minton et al. (2008) examined 10-year publication trends of 317 faculty from doctoral programs accredited by CACREP. Results from a literature review of Academic Search Premier and PsycINFO indicated a steady increase in the number of articles published from 1997 to 2005, with large increases in publication levels from 2003 to 2005, accounting for 38% of the publication total. The mean number of yearly publications per author was 0.49, with nearly 60% of articles appearing in the 15 journals affiliated with the American Counseling Association. Articles were categorized as theory or practice, followed by their empirical nature (i.e., quantitative or mixed method, qualitative, and other). A limitation of Barrio Minton and colleagues' (2008) work includes their sampling,

as their participants were strictly from CACREP-accredited, doctoral-level programs — making generalization to non-CACREP, non-doctoral faculty difficult. Even so, results showed counselor education faculty publishing at higher rates over time, with the majority of manuscripts submitted to and published by counseling-related journals.

More recently, researchers have sought to determine which factors predict publication rates of counselor education faculty. By accessing curriculum vitas of faculty in doctoral training programs, Lambie, Ascher, Sivo, and Hayes (2014) collected data spanning a 6-year period from 378 counselor educators. The authors tallied data related to the number of publications, academic rank, Carnegie category of their current university, gender, and year their degree was awarded. Results indicated that 44% of counselor educators published up to two articles during the 6-year period, with an average of 0.74 articles per year. This rate was comparable to previous findings with counselor educators (i.e., Barrio Minton et al., 2008), school psychologists (Wagner, Lail, Viglietta, & Burns, 2007), and faculty in a School of Education (Santo, Engstrom, Reetz, Schweinle, & Reed, 2009), but lower than publication rates for faculty in clinical psychology programs (Stewart, Roberts, & Roy, 2007). Factors that significantly predicted publication rates were earning a doctoral degree in the 2000s and 1990s, being an associate professor, being employed at a research university, and being male gender (Lambie et al., 2014). Results from this study shed light on publication trends in counselor education while identifying potential factors that influence publication rates. However, this study failed to address faculty from Master's only CACREP-accredited programs, nor did it utilize contemporary, self-reported data from counselor education faculty. Furthermore, counselor educators' publication rates seem to be comparable to many related fields of study.

Purpose of the Study

Current data regarding scholarly activity (i.e., peer-reviewed publications) of counselor educators is useful for gauging and addressing trends in the profession, which can provide a general snapshot of such trends as well as data to compare to other academic professions. Furthermore, replicating past

investigations using different methodologies can lend support to or disconfirm past findings, thus providing a better understanding of the phenomenon being investigated. By examining the curriculum vitae of individual faculty, Lambie et al. (2014) reviewed the literature published by counselor educators who were working in CACREP-accredited doctoral programs from 2009 to 2010. Barrio Minton et al. (2008) also focused on doctoral-level counseling faculty, and Ramsey and colleagues (2002; though highlighting Carnegie classification) failed to mention if their participants were teaching in doctoral or master's-level counseling programs. Thus, the purpose of this study was to expand the literature base by exploring factors that predict peer-reviewed publication rates using self-report data from counselor educators teaching in CACREP-accredited programs, including master's-only programs. The primary research question was: Do counselor educators' self-reported academic rank, gender, years of experience (e.g., as a professional counselor, in the professoriate), and Carnegie classification of current university predict their number of peer-reviewed publications? The secondary research question was: Does the number of peer-reviewed publications vary by gender, Carnegie classification, faculty rank, or program type?

Method

Sampling Procedures

The focus of the current study was on current faculty in CACREP-accredited counselor education programs. After obtaining Institutional Review Board approval, a list was generated of all counselor education programs currently accredited at the time of the study ($N=341$) by using the program directory provided by the CACREP website. Each program's website was reviewed to identify the current faculty members and their email addresses (if a faculty member's email address could not be obtained, they were not included in the final sample), which resulted in a sample of 2,695 faculty members. We completed an a priori power analysis using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009), which indicated a minimum sample size of 147 for a multiple linear regression with 10 predictor variables at 90% power,

anticipated medium effect size, and an alpha of .05. Using a random number generator, 1,500 faculty members were randomly selected from the sample to participate in this study. Following their identification, each faculty member's contact information (i.e., name and email address) was collected for surveying.

To encourage a higher response rate to the survey, the tailored design method for web and mobile questionnaires was followed (Dillman, Smyth, & Christian, 2014). Potential participants were sent an initial personalized email inviting them to complete the study. Embedded in the initial email was (a) a brief description of the survey with a request for their participation, (b) links to either complete the survey or be removed from the survey, (c) a confidentiality statement, and (d) the researchers' contact information. Participants who agreed to complete the survey were directed to the Qualtrics-based survey, and upon completion, were removed from the list of participants. Potential participants who did not complete the survey were sent an email reminder 2 weeks after the initial email, requesting their participation. A third and final reminder email was sent 2 weeks after the second email to potential participants who had not completed the survey. Two hundred and fifty-seven participants completed the full survey, resulting in a useable response rate of 17%.

Data Sources

Items used in this study were part of a larger survey to assess preferred qualities in faculty candidates among current faculty members in the field of counselor education. General demographic information was gathered from participants including age, gender, race/ethnicity, highest degree earned, discipline of highest degree, counseling specialization, and current faculty status. Furthermore, demographic information was gathered regarding each participant's institution, including university location type, Carnegie classification, and degrees offered by the program. The final set of data utilized in this study was related to the professional activity of each participant, including years worked as a professional counselor, years worked in higher education, years worked as a counselor educator, articles published or "in press," number of presentations delivered at conferences, and internal and external grants received. For this study, the variables of gender, race/ethnicity,

age, years of experience as a counselor educator, academic rank, Carnegie classification, and articles published or "in press" were utilized.

Participants

Females were slightly more represented ($n=154$, 59.9%) than males ($n=101$, 39.3%) in the sample, and two participants identified as cisgender and genderqueer, respectively ($n=2$, .8%). In terms of race and ethnicity, participants primarily identified as White ($n=203$, 79%), followed by Black or African-American ($n=23$, 8.95%), Other ($n=11$, 4.3%), Hispanic or Latino ($n=10$, 3.9%), Multiracial ($n=4$, 1.6%), Asian ($n=3$, 1.2%), and American Indian or Alaska Native ($n=1$, .4). Due to the variance in representation of racial and ethnic groups, we elected to forgo using this demographic quality as a variable in this study. The average age of the sample was 47.78 ($SD=9.32$), and participants had worked an average of 10.33 years ($SD=8.44$) as a counselor educator. The sample also varied in their academic roles and institutional characteristics. In terms of academic rank, 91 participants identified as Assistant Professor (35.4%), 64 as Professors (24.9%), 52 as Associate Professors (20.2%), 36 as Non-Tenure Track faculty (14%), and 14 as Other (5.4%). Carnegie classification of participants' institutions included mostly master's programs ($n=89$, 34.6%), followed by Doctoral/Research University–High ($n=58$, 22.6%), Doctoral/Research University–Very High ($n=50$, 19.5%), Doctoral/Research University–Moderate ($n=26$, 10.1%), and Unknown ($n=34$, 13.2%; see Table 3).

Data Analysis

Following data collection, participants' responses were entered into a database and analyzed by SPSS (Version 25) using a Poisson regression and multiple linear regression (MLR). Categorical variables were dummy coded to perform analyses. For both the MLR and Poisson regression analyses, the independent variables included (a) academic rank, (b) gender, (c) years of experience as a counselor educator, and (d) Carnegie classification of current university. The dependent variables were total number of peer-reviewed publications, including publications "in press," as well as average number of peer-

reviewed publications per year. Overall peer-reviewed publications and number of peer-reviewed publications per year were then compared across participant and program characteristics (i.e., gender, Carnegie classification, or faculty rank). Based on the nonnormality of the data, Mann-Whitney U and Kruskal-Wallis H tests were used for comparisons. Participants who did not know their Carnegie classification ($n=17$) were removed from any analyses involving this variable.

Results

Descriptive Statistics

Participants reported an average of 14.24 articles ($SD=17.61$, $Mdn=8$, Range=0 to 100) in press or published at the time of the survey. Furthermore, participants reported a rate of 1.69 publications per year ($SD=1.69$, $Mdn=1.2$, Range=0 to 10). Figure 1 displays the mean number of peer-reviewed publications by Carnegie classification. Regarding the mean number of publications,

Doctoral/Research University–Very High institutions reporting the highest average peer-reviewed publication rate ($M=25.78$, $S=26.15$), followed by Doctoral/Research University–High ($M=19.74$, $SD=18.53$), Doctoral/Research University–Moderate ($M=13.31$, $SD=14.78$), Master’s ($M=7.98$, $SD=7.46$), and Unknown ($M=4.97$, $SD=5.69$). Figure 2 displays the mean number of peer-reviewed publications by faculty rank, with Professors reporting the highest number of publications ($M=31.14$, $SD=25.24$), followed by Associate Professor ($M=13.83$, $SD=9.63$), Assistant Professor ($M=7.80$, $SD=7.08$), Other ($M=8$, $SD=13.85$), and Non-Tenure Track ($M=3.47$, $SD=4.49$). Yearly average peer-reviewed publication rate also seemed to vary across faculty rank, with Assistant Professors reporting the highest peer-reviewed publication rate ($M=2.41$, $SD=2.14$), followed by Professors ($M=1.56$, $SD=1.31$), Associate Professors ($M=1.41$, $SD=1.33$), Other ($M=1.17$, $SD=1.85$), and Non-Tenure Track ($M=.71$, $SD=1.01$). Peer-reviewed publication rate also varied by gender, with males reporting the most articles published or “in press” ($M=19.92$,

Figure 1. Visual of Peer-Reviewed Publication Rates by Carnegie Classification

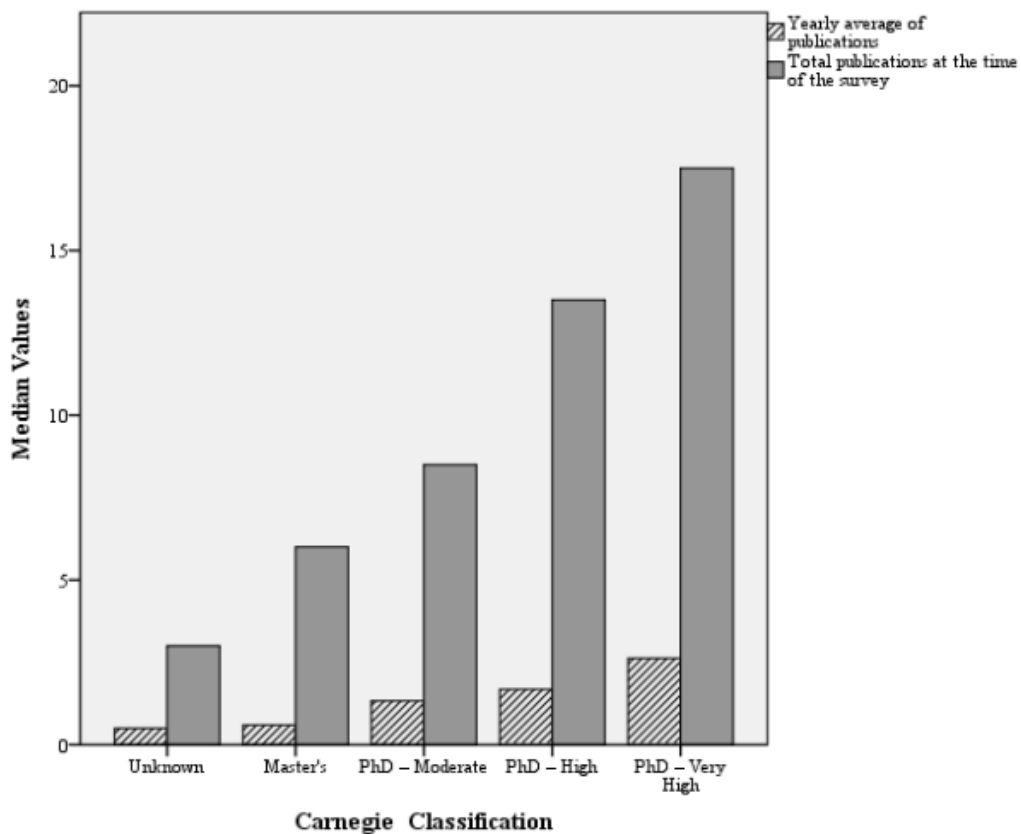
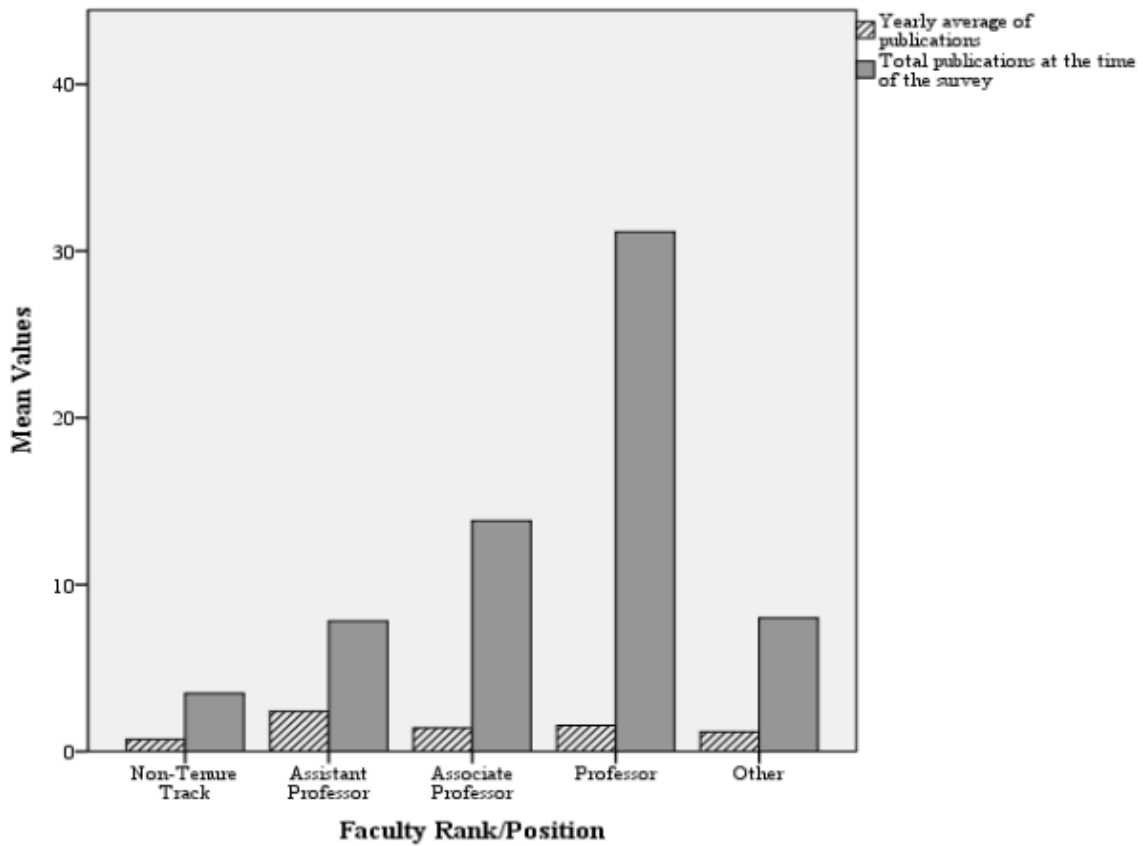


Figure 2. Visual of Peer-Reviewed Publication Rates by Faculty Rank



SD=22.32) than females (*M*=10.65, *SD*=12.55) or other (*M*=3.50, *SD*=3.54; see Table 2).

Factors Predicting Publication rates

In this study, the factors related to peer-reviewed publications for faculty in counselor education programs was examined. The first dependent variable, self-reported number of peer-reviewed publications, included count data that formed a Poisson distribution. Therefore, a Poisson regression was utilized to evaluate the ability of specific demographic factors (i.e., counselor educators’ academic rank, gender, experience as a counselor educator, and Carnegie classification of current university) to predict the dependent variable. In addition, we employed a MLR to predict their average peer-reviewed publication rate per year based on the same demographic variables. In both procedures, the variable gender (male as reference group) along with faculty status and Carnegie ranking (each category compared to all other categories with Other or Unknown as the omitted

reference groups) dummy coded perform the analyses. Table 1 displays these results.

In the Poisson regression, the likelihood ratio chi-square test, $\chi^2(10)=2674.23, p<.001$, indicated that the full model was a significant improvement in fit over the null model. Experience as a counselor educator (Wald $\chi^2(1)=46.62, p<.001$), gender (Wald $\chi^2(2)=39.52, p<.001$), Carnegie classification of University (Wald $\chi^2(4)=676.15, p<.001$), and Faculty position of professor (Wald $\chi^2(4)=413.35, p<.001$) predicted number of peer-reviewed publications. Table 1 displays the parameter estimates for each predictor variable where *B* is the unstandardized regression coefficient and *EXP(B)* is the incident rate ratio. Review of this table will show that gender (coded with 1 for female), faculty status (non-tenure track, associate professor, and professor) and Carnegie ranking (Doctoral/Research University–Moderate, Doctoral/Research University–High, and Doctoral/Research University–Very High) were predictive of the publication numbers for participants.

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Table 1

Poisson and MLR regressions

Variables	Number of Publications		Average Publications per Year	
	Poisson Regression		Multiple Linear Regression	
	<i>B(SE)</i>	<i>Exp(B)</i>	<i>B(SE)</i>	β
Experience in Counselor Education	.02(.00) *	1.02	-.07 (.02)	-.36 *
Gender ^a	-.22(.04) *	.80	-.35(.19)	-.10
Faculty Status				
Non-Tenure Track	-.82(.13) *	.44	-.76 (.47)	-.15
Assistant Professor	-.08(.11)	.93	.33(.45)	.09
Associate Professor	.46 (.10) *	1.59	.09(.45)	.02
Professor	.90 (.10) *	2.47	.60 (.47)	.15
Carnegie Ranking				
Master's	.14(.09)	1.15	1.88 (.30)	.04
Doctoral/Research University – Moderate	.54(.10) *	1.72	.50 (.39)	.09
Doctoral/Research University – High	.87(.09) *	2.38	1.12 (.33)	.27 *
Doctoral/Research University – Very High	1.27(.08) *	3.55	1.88(.33)	.43 *
Likelihood Ratio Chi-Square	2674.23 *		-	
<i>R</i>	-		.57	
<i>R</i> ²	-		.33	
<i>F</i>	-		11.99 *	
<i>df</i>	10		10	

Note. ^aReference group is male; * = $p < .001$

Table 2

Total and Yearly Average of Peer-Reviewed Publication Rates by Demographic Variables

Variable	Total Publications			Yearly Average		
	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>
Carnegie Classification						
Master's	6.00	7.98	7.46	.60	1.06	1.21
Doctoral/Research University – Moderate	8.50	13.31	14.78	1.33	1.52	1.32
Doctoral/Research University – High	13.50	19.74	18.53	1.68	2.21	1.93
Doctoral/Research University – Very High	17.50	25.78	26.15	2.63	2.89	2.04
Unknown	3.00	4.97	5.69	.50	.83	1.17
Faculty Status						
Non-Tenure Track	2.00	3.47	4.49	.23	.71	1.01
Assistant Professor	6.00	7.80	7.08	1.60	2.41	2.14
Associate Professor	12.00	13.83	9.63	1.07	1.41	1.33
Professor	25.00	31.14	25.24	1.29	1.56	1.31
Other	3.00	8.00	13.85	.46	1.17	1.85
Gender						
Female	7.00	10.65	12.55	1.20	1.64	1.72
Male	12.00	19.92	22.32	1.25	1.79	1.80
Other	3.50	3.50	3.54	.63	.63	.05

Note. *N* = 257

To examine the same variables' (i.e., faculty rank, gender, years of experience in counselor education, Carnegie classification) ability to predict *average peer-reviewed publication rate per year*, a MLR was utilized. The linear composite of independent variables accounted for 33% of the variance ($R=.57$, $R^2=.33$) in the participants' self-reported publications per year, $F(10, 256)=11.99$, $p<.001$. Of the predictor variables, years in counselor education ($\beta=-.36$, $p=.001$), working in a university with a Carnegie classification of Doctoral/Research University–Very High ($\beta=.43$, $p<.001$), and Doctoral/Research University–High ($\beta=.27$, $p<.001$) were found to have statistically significant beta weights.

Comparative Publication Rates

In addition to these earlier findings, the differences in *number of publications* based upon participants' personal and professional characteristics was also examined. Based on the data being nonnormal, nonparametric analyses were used. A Mann-Whitney U test was run to determine if there were differences in number of publications based on gender (between males and females). An approximate value for r was used to calculate an effect size of Mann-Whitney U test results. Distributions of the number of publications for males and females were similar, as assessed by visual inspection. Number of publications was statistically significantly higher in males ($M=19.92$, $SD=22.32$, $Mdn=12$) than in females ($M=10.65$, $SD=12.55$, $Mdn=7$), $U=5978$, $z=-3.13$, $p=.002$, $r=.20$.

A Kruskal-Wallis H test was run to determine if there were differences in number of publications based on faculty rank. The distributions of number of publications indicated statistically significant differences between groups, $\chi^2(4)=97.55$, $p<.001$. Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. Adjusted p -values are presented. This post-hoc analysis revealed statistically significant differences in number of publications between non-tenure track faculty ($Mdn=2.00$, $M^{rank}=58.90$), Associate Professors ($Mdn=12.00$, $M^{rank}=151.91$; $p<.001$), and Professors ($Mdn=25.00$, $M^{rank}=192.12$; $p<.001$). In addition, there was a statistically

significant difference between Assistant Professors' ($Mdn=6.00$, $M^{rank}=106.77$) total publications when compared to Associate Professors ($p=.005$) and Professors ($p<.001$). No other significant differences were found. Table 2 displays additional descriptive statistics for these groups.

A Kruskal-Wallis test was then run to determine if there were differences in number of publications between Carnegie classification. The distributions of number of publications revealed statistically significant differences between groups, $\chi^2(4)=47.57$, $p<.001$. Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. Adjusted p -values are presented. This post-hoc analysis revealed statistically significant differences in number of total faculty publications for those participants in master's-only programs ($Mdn=6.00$, $M^{rank}=106.58$) when compared to Doctoral/Research University–High ($Mdn=13.50$, $M^{rank}=155.19$; $p<.001$) and Doctoral/Research University–Very High ($Mdn=17.50$, $M^{rank}=169.42$; $p<.001$) programs, but not any other group combination.

Along with examining differences in number of publications, the differences in *peer-reviewed publication rate per year* in counselor education was also examined. Based on the nonnormality of the data, Kruskal-Wallis tests were employed to examine differences in peer-reviewed publication rate per year between faculty ranks. The distributions of peer-reviewed publication rates were statistically significant between groups, $\chi^2(4)=39.87$, $p<.001$. Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. Adjusted p -values are presented. This post-hoc analysis revealed that Professors ($Mdn=1.29$, $M^{rank}=133.95$) and Assistant Professors ($Mdn=1.60$, $M^{rank}=157.22$) reported significantly higher average yearly peer-reviewed publication rates than non-tenure track faculty ($Mdn=.23$, $M^{rank}=70.07$). However, no other statistically significant differences existed.

The average peer-reviewed publication rate per year across reported Carnegie classification was then examined. The distributions of peer-reviewed publication rates were significantly different between groups, $\chi^2(4)=59.88$, $p<.001$. Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons.

Table 3

Proportions of Female and Male Faculty Based on Faculty Status and Carnegie Ranking

Faculty Status	Female	Male
Non-Tenure Track	57.10% (<i>n</i> = 20)	42.90% (<i>n</i> = 15)
Assistant Professor	74.70% (<i>n</i> = 68)	25.30% (<i>n</i> = 23)
Associate Professor	54.90% (<i>n</i> = 28)	45.10% (<i>n</i> = 23)
Professor	45.30% (<i>n</i> = 29)	54.70% (<i>n</i> = 35)
Carnegie Classification	Female	Male
Master's	59.10% (<i>n</i> = 52)	40.90% (<i>n</i> = 36)
Doctoral/Research University – Moderate	53.8% (<i>n</i> = 14)	46.20% (<i>n</i> = 12)
Doctoral/Research University – High	56.90% (<i>n</i> = 33)	43.10% (<i>n</i> = 25)
Doctoral/Research University – Very High	60.00% (<i>n</i> = 30)	40.00% (<i>n</i> = 20)
Unknown	75.80% (<i>n</i> = 25)	24.20% (<i>n</i> = 8)

Note. *N* = 255

Adjusted *p*-values are presented. This post-hoc analysis revealed that faculty members from institutions with Carnegie classification of Doctoral/Research University–Very High (*Mdn*=2.63, *M^{rank}*=177.09) and Doctoral/Research University–High (*Mdn*=1.68, *M^{rank}*=159.87) reported significantly higher rates of publications per year than faculty members from master's-only programs (*Mdn*=.60, *M^{rank}*=98.73). No other differences were identified.

Post-Hoc Analyses

In light of the findings, an unplanned statistical analysis was performed. Specifically, the gender rates of participants by faculty status and Carnegie classification were examined. After removing the participants who identified as cisgender and

genderqueer (to accommodate the statistical analysis), a chi-square test of independence indicated there was a statistically significant difference in the proportion of women and men in the current sample when compared across the levels of faculty status, $\chi^2(4, n=255)=14.79, p<.01$. The Cramer's V produced a value of .24, indicating medium to large effect size. Visual inspection of Table 3 indicated more female participants at the rank of Assistant Professor than male participants, while other faculty ranks were similar in proportions in the sample. In a second post-hoc analysis, a chi-square test of independence indicated there was no statistically significant difference in the proportion of women and men in the current sample when compared across the Carnegie classification, $\chi^2(4, N=255)=4.09, p=.40$.

Discussion

The current study highlights current trends regarding peer-reviewed publication rates among counselor educators utilizing self-report data, which has not been examined since Ramsey et al. (2002). Furthermore, those factors influencing peer-reviewed publication rates in all CACREP-accredited programs (including master's-only programs) were explored with an emphasis on the potential effects of: (a) academic rank, (b) gender, (c) years of experience as a counselor educator, and (d) Carnegie classification of current university. The findings indicate that peer-reviewed publication rates varied by institution, with faculty from Doctoral/Research University–Very High institutions reporting the highest number of publications, followed by Doctoral/Research University–High and master's programs, respectively. This finding supports the idea that faculty working in research-focused (e.g., R1) institutions publish more often than faculty working in other institutions with lower expectations for research or publications. Furthermore, differences in faculty peer-reviewed publication rates across institutions may be due to other factors such as time constraints, job requirements (e.g., teaching load, service, research), and differences in available resources based on institution.

Faculty rank predicted total publications but not average publications per year. Higher total peer-reviewed publication rates among faculty are likely based on the typical academic advancement process from Assistant Professor to full Professor, as well as the scholarly activity required to achieve higher academic rank. For example, it is logical that Professors have written more over the span of their career than Assistant Professors who are still in their early years of academia. For average yearly peer-reviewed publication rates, Assistant Professors appear to publish at a higher rate than their Associate Professor and Professor colleagues, when examining the descriptive statistics. However, the nonparametric examination of these groups revealed there was no statistical difference in mean rank for yearly peer-reviewed publication rates between these faculty rankings.

The findings also indicate that several factors may predict peer-reviewed publication rates among counselor educators. The initial analysis indicated

that academic rank, gender, years of experience as a counselor educator, and Carnegie classification accounted for a large percentage of variance related to self-reported peer-reviewed publication rates. Of these variables, male gender, more experience as a counselor educator, higher faculty rank, and working in a very high or high research institution significantly predicted peer-reviewed publication rates. The finding of a large effect size indicates that these factors appear to be influential in relation to scholarly publications. When accounting for the nonmorality count distribution in the data, the analysis supported the initial results, such that experience, higher faculty rank, and high/very high research institutions significantly predicted higher peer-reviewed publication rate.

In response to gender being a predictor for peer-reviewed publication rates, a post-hoc analysis was created to explore the proportions of female and male faculty across rank and Carnegie classification. Interestingly, female faculty held the rank of Assistant Professor at a higher rate than male faculty but there were no differences based on Carnegie classification. This finding may be a symptom of the sampling methods, as more participants who were Assistant Professors were also female. This result may also be a trend in higher rates of female faculty entering counselor education and academia. More research on this topic may be useful to explore the rate of female faculty members at the assistant level and their progression through the tenure process.

Implications

Results from the current study have several implications for counselor educators. The descriptive data offers an overview of varying peer-reviewed publication rates based on Carnegie classification and faculty rank. Furthermore, these variables significantly predicted self-reported peer-reviewed publication rates with a large effect size. Regarding peer-reviewed publication rate, the participants self-reported an average of 14 publications “in press” or published, and a rate of roughly 1.6 publications per year, which is over two times the number reported by Lambie et al. (2014) and Barrio Minton et al. (2008; $M=0.74$ and $M=0.48$ publications per year, respectively). Furthermore, the rate of publications per year found in this study exceeded peer-reviewed

publication rates of school psychologists ($M=1.0$ publication per year; Wagner et al., 2007) and faculty members in a School of Education ($M=0.48$ publications per year; Santo et al., 2009), and more closely matched the peer-reviewed publication rates from research-oriented fields such as clinical psychology ($M=1.62$ publications per year; Stewart et al., 2007). It is hypothesized that the difference could be due to the self-report nature of the investigation, which may have led to participants inflating their actual peer-reviewed publication rates. On the other hand, the increase in peer-reviewed publication rates may support Fanelli and Lariviere's (2016) conclusion that the total number of peer-reviewed articles published has increased among faculty in general, as well as supporting Barrio Minton and colleagues' (2008) findings that publications are increasing for counselor educators, specifically.

If counselor educator peer-reviewed publication rates are increasing, it would behoove their departments to put additional support systems in place to embolden more of a publish and less of a perish academic atmosphere. Examples of support may be incentives for publication (e.g., reduction in teaching load), mentorship opportunities (Borders et al., 2012; Briggs & Pehrsson, 2008), and professional workshops regarding scholarly publication. Furthermore, it might be beneficial for counselor educators to look into collaborating with other colleagues on publication projects as well as investigating research journal acceptance rates and impact factors prior to submitting work. Lastly, though counselor educator peer-reviewed publication rates seem to be on the upswing, faculty who have higher teaching and/or service loads could benefit by advocating for merit based on these attributes, rather than specifically or solely on scholarly activities.

Similar to the findings of Ramsey et al. (2002) and Lambie et al. (2014), the overall number of publications for participants was statistically significantly higher in males than in females, a finding that was not present when examining yearly peer-reviewed publication rates. Regarding these differences in peer-reviewed publication rates between gender, variables such as traditional family roles (Probert, 2005), having children (Baker, 2012), and sexism (Husu, 2004) might be at play. Growing research sheds light on the work-life balance strains experienced by women and women of color in

counselor education and academia (e.g., Haskins et al., 2016; Neale-McFall, Eckart, Hermann, Haskins, & Ziomek-Daigle, 2018; Wolf-Wendel & Ward, 2006); thus, these results may not be surprising. As our findings and other researchers support differences based on gender, it is important that counselor educator departments take steps to support all faculty, and ensure opportunities are available to faculty across the gender and rank spectrums. Regarding years of experience and/or rank as a counselor educator, the findings may offer solace to counselor educators who do not currently have a large number of publications, as the results support that publications often increase with experience as a counselor educator and advancement in faculty rank.

Another finding like that of Lambie et al. (2014), was the statistically significant differences in the number of publications between Carnegie classification status, suggesting that in certain programs (i.e., Doctoral/Research University-Very High and Doctoral/Research University-High), faculty produce more publications. Thus, it may behoove counselor educators entering the work force to attempt to seek employment in a setting that fits their aspirations for publication and career advancement. For example, doctoral students and current counselor educators wishing for an environment conducive to research and publications may wish to pursue doctoral institutions with very high or high research expectations, as doctoral research training environments may influence research interest and research self-efficacy (Wester, Borders, Gonzalez, & Waalkes, 2019). Similarly, individuals wishing to teach and engage in service at higher levels may wish to seek out faculty positions where those skills are utilized and count toward rank merit.

In general, it was interesting that the variables of male gender, more experience as a counselor educator, higher faculty rank, and working in a very high or high research institution significantly predicted peer-reviewed publication rates. While some variables seem common sense (e.g., working at a very high or high research institution would support/require more publications for job security), other results were less clear. For example, other researchers have found that Associate Professors exhibited higher peer-reviewed publication rates than Assistant or full Professors (Lambie et al., 2014). In the current study however, Assistant Professors reported the

highest yearly peer-reviewed publication rate, followed by Professors, and then Associate Professors, Other, and Non-Tenure Track. This trend may be based on the contemporary publish-or-perish climate, leading to an increased focus on research and publication when training doctoral students and new faculty members.

Regarding Associate Professors having the lowest numbers of tenure-line faculty publications, we suspect the concept of *tenure-penalty*, or the idea that as faculty increase rank (e.g., go from Assistant to Associate status), their academic expectations/job requirements may change. For example, faculty may be inundated with additional academic duties and expectations such as serving on additional committees, applying for internal and/or external funding opportunities, or any number of other duties as assigned. As such, counselor educators can advocate for and maintain appropriate boundaries (including saying *no*) where applicable. Finally, counselor educators at all levels may benefit from focusing on and advocating for work–life balance. Similar to *well* counselors providing better services to clients (Lawson, 2007), *well* counselor educators will be better suited to excel in academic systems.

Limitations

Results from the current study must be interpreted in light of their limitations. First, the sample consisted of primarily White females, which may not be representative of the population of counselor educators as a whole, thus limiting generalizability. Furthermore, because demographic data was not represented evenly across participants, their influence on the measured variables may have minimized their influence. This fact limited the ability to make comparisons across race and ethnicity, which is likely a factor contributing to peer-reviewed publication rates due to systemic and cultural barrier in institutes of higher education. Another factor that may have influenced the results is response bias, such that only counselor educators who were interested in the study decided to participate. Similarly, the use of self-report data may have biased the results, as self-report can be influenced by confounding variables such as social desirability. Third, there may be other factors that influence peer-reviewed publication rates that were not examined in the current study, such as *when*

the doctoral degree was earned or *the institution* from which the doctoral degree was earned. Finally, due to the cross-sectional nature of this study, causation cannot be implied.

Future Research

As the design and intent of this study was influenced by the prior research, there are items that resulted from this study that can help inform future research. First, future investigators could examine counselor educators' peer-reviewed publication rates longitudinally over time to evaluate career events that may impact peer-reviewed publication rates. Similarly, in order to provide a clearer picture of the types of participants involved in the investigation and, as stated previously, to provide more comprehensive information about why certain variables (e.g., male gender) seem to predict counselor educator peer-reviewed publication rates, future investigations could also assess the impact of particular demographic variables that were not gathered in this study. A third research suggestion is to better understand the role of gender, particularly by considering such personal variables as family work load, in addition to career variables, to see whether family roles (e.g., time spent caring for children) influence work productivity. Next, future research could employ stratified sampling procedures to obtain equal groups of major racial/ethnic groups for comparisons. In addition, investigators may want to include a social desirability scale (e.g., Strahan & Gerbasi, 1972) to assess if participants' self-reports are socially influenced; by assessing social desirability and assuring participants are answering truthfully, researchers could potentially mitigate the potential biases of self-reported data. Finally, counselor educator publication trends could be compared with other helping professions (e.g., psychology and social work) to compare peer-reviewed publication rates across fields.

Conclusion

In sum, the intent of the current study was to further examine the factors that impact publication rates among counselor education faculty in CACREP-accredited doctoral- and master-level programs. This

study both replicated the findings of prior works and furthered the literature with a new approach to examining this phenomenon. Results indicated that gender, years of experience, Carnegie classification, and faculty rank predicted total peer-reviewed publication rates, whereas only years of experience, Carnegie classification, and faculty rank predicted yearly peer-reviewed publication rates. Of these predictors, the Carnegie ranking of Doctoral/Research University–Very High served as the largest predictor. Academics in counselor education can use this information to better understand the work environments of institutes and publication expectations. In addition, the findings from this study can inform training of counselor education doctoral students and mentoring of new faculty in counselor education.

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