# Current trends of peer review publications among early career counseling psychologists in academia

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*Author Notes:* The authors would like to acknowledge the contributions and support of Dr. Lindsay Rice who acted as the official judge in a game of *Zombie Dice*, which determined who would be the corresponding author. Since Dr. Currin lost, correspondence concerning this article should be addressed to the loser of that game: Joseph M. Currin, Ph.D. at joecurrin.phd@gmail.com. Both authors consider each other as co-first authors. We'd also like to thank Avery A. Garcia, Britney L. Golden, and Kassidy Cox for their help in collecting the data.

**Abstract**

Tenure and promotion procedures are an important work consideration for those seeking academic appointments. The first six years (the typical pre-tenure period) are particularly central to these concerns, with merit determinations frequently relying on scholarly contribution. Accordingly, this study examines trends in peer-reviewed journal publication amongst counseling psychologists using accessible Web of Science accounts of early career professionals (those who graduated in or after 2009) employed in tenure-track positions at Counseling Psychology programs accredited by the American Psychological Association (APA). Specifically, we calculate the mean and median number of publications per year during the pre-tenure period, analyze trends over time by year, as well as include a comparison on citations and citation indices, considering differences in scholarly output across universities classified differently using the Carnegie classification system. Results suggest a recent pressure to increase publications is present among pre-tenured faculty working at R1 institutions when compared to their peers at R2 institutions. Results of this study provide insight into current publication patterns of counseling psychologists. Implications of these trends for academic career planning are discussed.

Keywords: Counseling Psychology, Academic Employment, Career, Publication Trends

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Tenure and promotion (TNP) procedures rely, in part, on consideration of an individual's scholarly productivity by senior colleagues to determine if that faculty member has demonstrated a significant contribution to their field. Productivity can be thought of broadly, determined both by the number of written contributions and the degree to which the faculty member is a corresponding, or lead, investigator to those products. In psychology, the academic career edict of "publish or perish" is most often associated with peer-reviewed journal publications; however, TNP evaluations may also consider a variety of other indicators representing faculty career efforts and predicting the trajectory of contribution to the field (e.g., conference proceedings, encyclopedia entries, book chapters, grant attainment, etc.).

Knowledge of productivity trends within a discipline provides increasingly objective data with which senior faculty charged with making tenure and promotion (TNP) decisions may determine academic merit (Byrnes, 2007). Such information is important because of the vast individual variability underlying scientific productivity (Way, Morgan, Clauset, & Larremore, 2017). While it is generally accepted that faculty members have a rapid rise in scholarly output, and the long, gradual decline in productivity after tenure is granted, Way and colleagues (2017) found this was only true for one-fifth of a sample of over 2,400 tenure track scientists (not field specific). They concluded that there are diverse patterns of scholarly production which lead to tenure, regardless of university prestige, and that current models assessing scholarly productivity for tenure need to be re-evaluated (Way et al., 2017).

Given the centrality of TNP to the career process of many academics and the role of research productivity for trainees in research-intensive environments, one might expect to find a

robust literature that elucidates clear standards and normative levels of research production within disciplines. However, despite the implications on academic careers, normative data examining publication rates of academic psychologists are rare. Jones and colleagues (1982) surveyed clinical, counseling, and school (i.e. applied) psychology doctoral programs in the 1970s and found that faculty averaged 0.8 publications per year, which was similar to other research conducted during the same timeframe (e.g., Pasework, Fitzgerald, & Sawyer, 1975). More recently, Tien and Blackburn (1996) found that across a national survey of over 2,500 graduate program faculty (regardless of field and specialty), assistant professors had a mean of 1.8 publications per year. Fennell and Kohout (2002) surveyed graduate programs across applied psychology specialties and found that faculty produced 2.5 publications a year in doctoral granting institutions.

Despite this general information on historic trends, productivity has generally differed across the psychology subfields (Brems, Johnson, & Gallucci, 1996; Byrnes & McNamara, 2001) and institution types (Joy, 2006). Moreover, and equally important, is that the expectations for tenure have, and continue, to change. Since the 1990s, a shift in tenure evaluation has taken place. Before the 1990s, it was commonplace for TNP decisions to be granted based on achieving excellence in one of three categories: research, service, or teaching (Gardner & Veliz, 2014). However, a shift has occurred as institutions began competing for recognition and status based on research output (Youn & Price, 2009) and grant dollars (Lilienfeld, 2017). Currently, teaching and service are often undervalued in the TNP process (Schimanki & Alperin, 2018).

For those pursing tenure-track appointments, the productivity expectations may be vaguely worded. While the vagueness in the documents outlining TNP procedures allow for flexibility for administrators, it may also lead to anxiety among faculty pursuing tenure.

Specifically related to this manuscript is the vagueness in which research activity is operationalized. Often, research activity for faculty is defined in broad, non-specific terms such as "…the enhancement and expansion of Texas Tech University's research and creative scholarship" (Texas Tech University, 2018), "...recommendations for tenure and promotion in rank of all faculty to be based on excellence in performance pursuant to an evaluation of the faculty member's contribution" (University of Texas, 2019), and "…expected to demonstrate accomplishment in three areas: (1) research, scholarship, creative and/or professional activity..." (University of Maryland, 2019).

With the lack of scholarship on research activity for early career psychologists (ECP) in tenure-track faculty jobs, it is difficult for current ECP faculty working in a tenure track position to gauge their output among their peers to know if their output is "enhancing," "expanding," or "of excellence." While many institutions have formalized processes to provide feedback, such as through annual and third year reviews, these review processes face the same difficulty in conceptualizing the state and level of contribution associated with a faculty member's research. To our knowledge, no published studies have examined trends in the rate at which pre-tenure Counseling Psychology faculty publish peer review articles. As such, this investigation is warranted. To accomplish this goal, this study examines peer-reviewed journal publication trends of early career professionals (e.g., have been awarded their degree within the past 10 years) currently holding tenure-track academic positions in American Psychological Association (APA) accredited Counseling Psychology doctoral programs. Furthermore, we examine subgroups in the data including the trends of ECP faculty who have obtained tenure at universities with differing Carnegie rankings (which is based on research output and support; see Carnegie, n.d.a for more information).

## Methods

Inclusion criteria for the current study was as follows: 1) work as a tenure track professor at an APA accredited Counseling Psychology doctoral program, 2) graduated in the ten year period of 2009-2018 from an APA accredited psychology program since an ECP is defined by APA (2005) as a psychologist who has graduated within the ten year period, and 3) have a searchable research author account on Web of Science. Web of Science was chosen because accounts are automatically generated when articles are published and is searchable by author and year. Since all information used in the current analysis is available publicly, a review by the Institutional Review Board was not necessary. To ensure anonymity of the information analyzed, we present data de-identified and in aggregate.

A report available on the APA (2018) website listed all accredited doctoral programs, and from that list the authors identified the 69 currently accredited Counseling Psychology doctoral programs. To identify the faculty hired in the ten year period of 2009-2018, a search of each program's faculty webpage was performed. The search criteria included identifying if the faculty member was in a tenure-track position (e.g., assistant professor, associate professor) or a non-tenured track position (e.g., assistant professor of practice, visiting assistant professor, etc.). Only individuals in tenure-track positions were used in the current study. For each tenure-track professor listed, a search was conducted on that faculty member's webpage to determine if a graduation year from an accredited doctoral level psychology program was available. Two individuals did not provide information regarding graduation date (either directly on the webpage or via a curriculum vitae link) and were not included in the study. Individuals who graduated with their doctorate degree in psychology in the ten year period (2009-2018) were included in the current study. All data was collected between August 29th and September 1st, 2019. At the

time of data collection, all faculty members who met criteria would be considered ECPs. Two individuals separately collected data on publications from Web of Science and any discrepancies were revisited to ensure accuracy. There were 17 individuals who did not have a searchable account on Web of Science and were excluded from the current analysis and our final analysis included 160 individuals, indicating our sampling procedure captured 89.4% of the total population.

Google Scholar was chosen as the data source for the citation analysis to calculate a person's total number of citations, *h*-index, and *i*-10 index. Google Scholar automatically records citations for manuscripts regardless of where the citing manuscripts are indexed, therefore it provides the most comprehensive number for total citations. Furthermore, Google Scholar automatically computes an author's *h*-index and *i*-10 index which provide alternative metrics of research impact beyond general rate of citation. Google Scholar was not used for publication counts because faculty members must setup their own Google Scholar accounts. Currently, 92 of the 160 ECP faculty members had a Google Scholar account (57.5%). Only individuals that had Google Scholar accounts were used for the citation analysis.

**Data Analysis and Assumptions**

Faculty were divided into a *tenured faculty* group and a *mid-tenure track faculty* group. Faculty were placed in the *tenured faculty* group if they have been working as faculty for at least six years and thus were assumed to have achieved tenure, as tenure is usually considered at or during the sixth year of employment (Batterbury, 2008). All of the faculty in this grouping had the ranking of Associate Professor or Professor based on their faculty web page or linked CV. Faculty that had been employed in tenure track positions for at least three years were placed in the *mid-tenure track* faculty group. Members in this group only had the rank of Assistant

Professor. There were 86 individuals in the *tenured faculty* group and 55 in the *mid-tenure track faculty* group. A total of 19 individuals were in position for less than 3 years, and therefore were not included in the analysis for not meeting the qualification for inclusion into either group. Due to potential varying expectations as well as varying institutional support for research productivity, programs where faculty worked were grouped by the university's rating of research output and support as conducted by the Carnegie Classification of Institutions of Higher Education (2019). There were 90 ECP faculty from universities classified as "Very High Research Activity (R1)." ECP faculty from universities that were not classified as R1 were grouped together into the "R2+" grouping. The R2+ grouping includes two universities (six faculty members) that were not classified as either an R1 or R2 university by the Carnegie (n.d.a.) report, so they were combined with the R2 classified universities. There were 70 ECP faculty in the R2+ group.

Some assumptions were made in the calculations of the publications that need to be addressed. First, counseling psychologists, as part of their doctoral programs, are required to complete a yearlong internship. These internships typically end in the summer of a person's graduating year. Furthermore, most academic hires start at the beginning of the academic calendar year (i.e., late August, early September) of any given calendar year. Therefore, a person's graduating year represents 7-8 months of the calendar year completing the degree, and usually the following few months of that calendar year as the first few months of employment. To account for this, year one of publications was based on the next calendar year after graduation (e.g., the first full calendar year during which they may hold a tenure track academic appointment). For example, if a person graduated in 2010, the assumption made is the first academic year would be 2011, with 2012 representing the second year, 2013 representing the

third year, and so forth. Data about publications only included publications from peer reviewed journals, and only for the pre-tenured years (years 1-6) of a person's appointment, as these tend to be most salient to TNP decisions (Byrnes, 2007). For individuals in the *tenured faculty* group, yearly means were calculated for the first six years after graduation. Data after year six was not included in the analysis. For the *mid-tenure track faculty* group, yearly means of publications were calculated only for the first three years. Data after year 3 for this group was not included in the yearly means. Since Web of Science can combine authors of a similar name as one overall entry, each entry of the author's Web of Science entry was analyzed to ensure the correct author was used.

## Results

There were 1,509 peer reviewed articles from the 160 tenure-track faculty sampled. The mean number of years of service for the participants was 6.44 years (*SD* = 3.05) for R1 ECP faculty in tenure track or tenured positions. There were similar mean number of years of service for the R2+ group (6.01, *SD* = 3.13). In both the R1 and R2+ groups, the majority of ECP faculty had been in position for at least six years. Overall, ECP faculty published a mean of 9.43 (*SD* = 12.50, median = 5.00) peer reviewed articles within the first six years of employment. Individuals at R1 institutions published a mean of 12.19 (*SD* = 14.70, median = 9.00) manuscripts, and individuals at R2+ institutions published a mean of 5.89 (*SD* = 8.64, median = 3.00). Not surprisingly, there were significant differences in overall means between the faculty in the R1 institutions when compared to faculty in the R2 institutions ($t$ (158) = 3.26, $p$ = .001, $d$ = .53).

### Faculty Group Analysis

A detailed analysis was conducted on the *tenured faculty* and the *mid-tenure track faculty* groups to determine publication trends of ECP faculty. The *tenured faculty* group was split by Carnegie classification as well, so there were two groups analyzed for the *tenured faculty group*: the *tenured faculty R1* (TR1) group and the *tenured faculty R2+* (TR2+) group. Similarly, the *mid-tenure track faculty* group was split by Carnegie classification into the *mid-tenure track faculty R1* (MR1) and *mid-tenure track faculty R2+* (MR2+) groups.

Figure 1 shows the year by year publication means for each of the four faculty groups. The MR1 group in Years 1, 2, and 3 had the highest means of publications, and the TR1 group had the highest means of publications in Years 4, 5, and 6. An analysis of variance (ANOVA) was conducted between the four groups for each of the first three years to determine if the differences in shown in the histogram were significantly different (See Table 2 for *F* values and significance). White it was expected that the ANOVAs would be significant due in part to the Carnegie research classifications, of note was that in Years 1 and 2, Tukey's HSD post-hoc comparisons indicated that the MR1 faculty group had a significantly higher mean number of publications than the TR1 faculty group (See Table 2).

**Citations and Citation Indices**

There was a large amount of variability in the number of citations for ECP faculty (See Table 1). The total number of citations calculated for all ECP's with Google Scholar accounts was 69,390. Not surprisingly, individuals at an R1 institution had the bulk of the citations, 59,211 (individuals at an R2+ accounted for 10,179). Citations amounts ranged from 6 to 8,386 for individuals at an R1 institution, and 0 to 1,951 for individuals at an R2+ institution. Two metrics that attempt to put citation numbers in context are the *h*-index (Hirsch, 2005) and the *i*-10 index (Chambers & Miller, 2014). Both indices are an attempt to help scholars measure the

overall impact of their work. The formula for an author's *h*-index is the largest number of papers (*h*) that have been cited *h* times (for more information, see Hirsch, 2005). The overall mean *h*-index for ECP faculty was 10.33 (*SD* = 7.76); the means for R1 and R2+ ECPs were 12.10 (*SD* = 8.42) and 7.15 (*SD* = 5.04), respectively. Google recently created the *i*-10 index, which is a count of the number of articles listed on Google Scholar that have at least 10 citations (Chambers & Miller, 2014). Overall, ECPs had a mean *i*-10 index of 12.65 (*SD* = 17.06); and individuals employed at R1 and R2+ institutions had *i*-10 index means of 15.88 (*SD* = 19.95) and 6.89 (*SD* = 6.94), respectively. Of note, the mean number of manuscripts published by professors with Google Scholar accounts (see Table 1) was significantly higher than the overall means of all participants (for R1 $t(147) = 2.35$, $p = .02$, $d = .48$; R2+ $t(101) = 2.78$, $p = .01$, $d = .66$).

## Discussion

This study examined trends in peer-reviewed journal publication rates amongst early career professionals currently holding tenure-track academic positions in American Psychological Association (APA) accredited Counseling Psychology doctoral programs using publicly accessible Web of Science for frequency of peer-reviewed publications and Google Scholar accounts for citations. This evaluation expands available knowledge on Counseling Psychology academic job market performance and outcomes using a central metric to TNP, namely number of scholarly peer-reviewed publications. This contemporary analysis of research productivity output provides some distinct findings relevant to academic appointed psychologists in Counseling Psychology. It was not surprising that individuals working at a Carnegie research classified R1 institutions had significantly higher publication means when compared to their counterparts at Carnegie research classified R2 universities. Of note was that the mid-tenure track faculty at R1 universities had significantly higher publication means in years 1 and 2, and

higher overall means in years 1 through 3 when compared to their tenured R1 faculty counterparts.

The difference in means among faculty in Counseling Psychology programs housed in Carengie classified R1 universities and those at R2 universities is consistent with the purpose of the classification system itself. The Carnegie Commission on Higher Education developed a classification of colleges and universities to support its program of research and policy analysis," (Carnegie, n.d.b). This classification system highlights the different levels of support provided by the institution and provides a means to compare university programs within the same classifications (Carnegie, n.d.b).

The number of citations, as well as the *h*-index and *i*-10 were much higher for individuals at R1 institutions than at R2+ institutions. However, caution should be exercised on assigning interpretation of these findings. While the citations, *h*-index, and *i*-10 can be a metric to help quantify a person's impact on the field, these metrics can be manipulated and may include some non-peer reviewed citations (e.g. citations from dissertations, theses, books, etc.). As Biagioli (2016) demonstrated, once scientific metrics are used for evaluation (e.g., citations, *h*-index, etc.) they become targets for manipulation. Further compounding this issue is the significantly higher publication rate among those professors who maintain a Google Scholar account. This may demonstrate that those with higher publication rates may be more apt to establish a Google Scholar account.

According to the current analysis, the means of yearly publications appear to be increasing at Carnegie classified R1 universities between faculty who have received tenure when compared to those who are currently seeking tenure. This may be indicative of universities increasing the focus on scholarly productivity as a major deciding factor in TNP decisions. This

potential increase in quantity of publications may lead to a hyper focus of only publishing novel findings and not null findings (e.g., Grimes, Bauch, & Ioanidis, 2018), submitting multiple publications from the same data set (e.g., Hicks & Berg, 2014), and even potentially adding to the replication crisis currently in psychology (Grimes et al., 2018; Lilienfeld, 2017).

**Limitations**

This study must also be considered within the scope of its limitations. Although the majority of the sample are now tenured faculty, rates of publication may differ slightly from what is observed in this study as this study was unable to include within it other ECP individuals who entered and left academia prior to data collection. This may have occurred either because of their publication record and TNP competitiveness, or for other opportunities outside of academia. Likewise, it is possible that an individual may have transitioned between R1 to R2+ institutions (or vice versa), which might skew productivity estimates. It is also possible individuals did not start academic positions immediately following graduation. The type of program that faculty in the current study graduated from could not be determined with the information provided on the faculty websites. While most of the websites did state the faculty member graduated with a degree in Counseling Psychology, some of the websites did not specify the type of program faculty members graduated. Therefore, some faculty members in the sample currently teaching in Counseling Psychology programs may have a Ph.D. from another field (e.g., Clinical Psychology, Quantitative Psychology, etc.). Finally, this study evaluated faculty productivity using only quantity of peer reviewed publications. While this is frequently the most accessible measure of research productivity, there are also other aspects of performance, including teaching performance, service to the university and field, and national/international presentations, which are considered during TNP procedures (e.g., Duffy, Martin, Bryan, & Raque-Bogdan, 2008).

Despite these limitations, and given that merit determinations rely somewhat on the comparison of an individual to contemporary practices, this study offers a means through which faculty members may contextualize their own performance or TNP committee members may compare a junior faculty going up for TNP based on observed performance during this period of time.

**Implications**

With the potential increased importance of the number of publications as a key criterion for TNP as highlighted by our results, certain research methodologies have practical advantages over others. Qualitative research methodologies tend to take a longer time to prepare and analyze the data as well as report the findings when compared to quantitative methods. This is mainly due to the need in qualitative research to conduct interviews, transcribe and verify the transcriptions of the interviews, and having multiple coders to analyze the qualitative data. Researchers trained in qualitative methodologies may be disadvantaged in this system as conducting a quantitative study can take much less time. Furthermore, quantitative researchers conducting longitudinal research may feel pressured to report cross-sectional analyses of their data instead of waiting for the complete collection of the longitudinal data collection due to the same focus on number of publications. Fortunately, the presence of variability within the R1 and R2+ groups in regards to publication frequency in our study provides hope that not all institutions regard quantity of publications as the most important factor to consider when evaluating a professor's scholarly output.

The increased rate of publication for mid-tenure track faculty members may also highlight the increase in pressure to "publish or perish," and this may negatively impact job satisfaction and training among tenured track faculty in psychology (Vannini, 2005), as it may force individuals to pursue quantity of publications for job security instead of focusing on quality

of publications. Work motivation is driven largely by subjective norms and these norms provide a framework through which individuals generate their own sense of achievement and work dissatisfaction (see Herzberg, Mausner, & Snyderman, 1959). Norms about research productivity are critical to not only developing an intention to conduct research (Holttum & Goble, 2006) but also the resulting sense of self-efficacy and outcome expectations associated with research involvement (Kahn, 2001). Indeed, job satisfaction is notably impacted by a pre-tenure faculty's emotions, with job dissatisfaction relating most to the research activities at research universities (Stupnisky, Hall, & Pekrun, 2019). Moreover, research on factors contributing to pre-tenure faculty success consistently highlights the need for clear task and performance expectations (Austin, Sorcinelli, & McDaniels, 2007).

**Conclusion**

As newly hired faculty navigate the difficulties and stresses of TNP procedures, the implications of relative research productivity are clear (Stupnisky et al., 2019). Faculty are often advised to make themselves competitive in research output and build their curriculum vitae in order to achieve tenure (e.g., James, 2014). This study has provided comparable and contemporary information so that Counseling Psychology faculty may do so by providing some metrics through which to ease the ambiguity of TNP research productivity separately for R1 and R2 institutions, which may differ in faculty expectations for service, research resources, and teaching duties. Undoubtedly these trends change and emerge over time (*c.f.,* Brems et al., 1996), with future expectations and productivity being higher than the past. However, the current study provides a snapshot of current normative performance in peer-review article output. In addition to being useful to those already in tenure track positions, individuals interested in academic careers may also use this information to become increasingly empowered in their decision

making about how they would like to allot their time and energy in future jobs. Differences in R1/R2+ rates of productivity likely stem from several job-related factors, including different service and teaching load expectations as well as resource availability. In order to achieve comparable performance to that seen in the field (and thus maximize their chances for tenure at whichever university they become employed at), aspiring faculty may weigh obligations and resources to relative productivity as they negotiate employment contracts.

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Table 1. Means and Frequencies of Published Articles

| | Total | | R1 | | R2+ | |
|---|---|---|---|---|---|---|
| | *N* or $\bar{x}$ | *SD* | *N* or $\bar{x}$ | *SD* | *N* or $\bar{x}$ | *SD* |
| $N_{WOS}$ | 160 | | 90 | | 70 | |
| Mean Yrs of Service | 6.25 | 3.08 | 6.44 | 3.05 | 6.01 | 3.13 |
| Articles | | | | | | |
| Total | 1,509 | | 1,097 | | 412 | |
| Per Year | 1.57 | 2.92 | 2.03 | 3.36 | 0.98 | 1.96 |
| $N_{GS}$ | 92 | | 59 | | 33 | |
| Mean Years of Service | 5.85 | 2.90 | 5.95 | 2.91 | 5.67 | 2.86 |
| Articles | 2.98 | 1.40 | 3.53 | 2.89 | 2.01 | 1.01 |
| Total Citations | 69,390 | | 59,211 | | 10,179 | |
| *h*-index | 10.33 | 7.76 | 12.10 | 8.42 | 7.15 | 5.04 |
| *i*10-index | 12.65 | 17.06 | 15.88 | 19.95 | 6.89 | 6.94 |

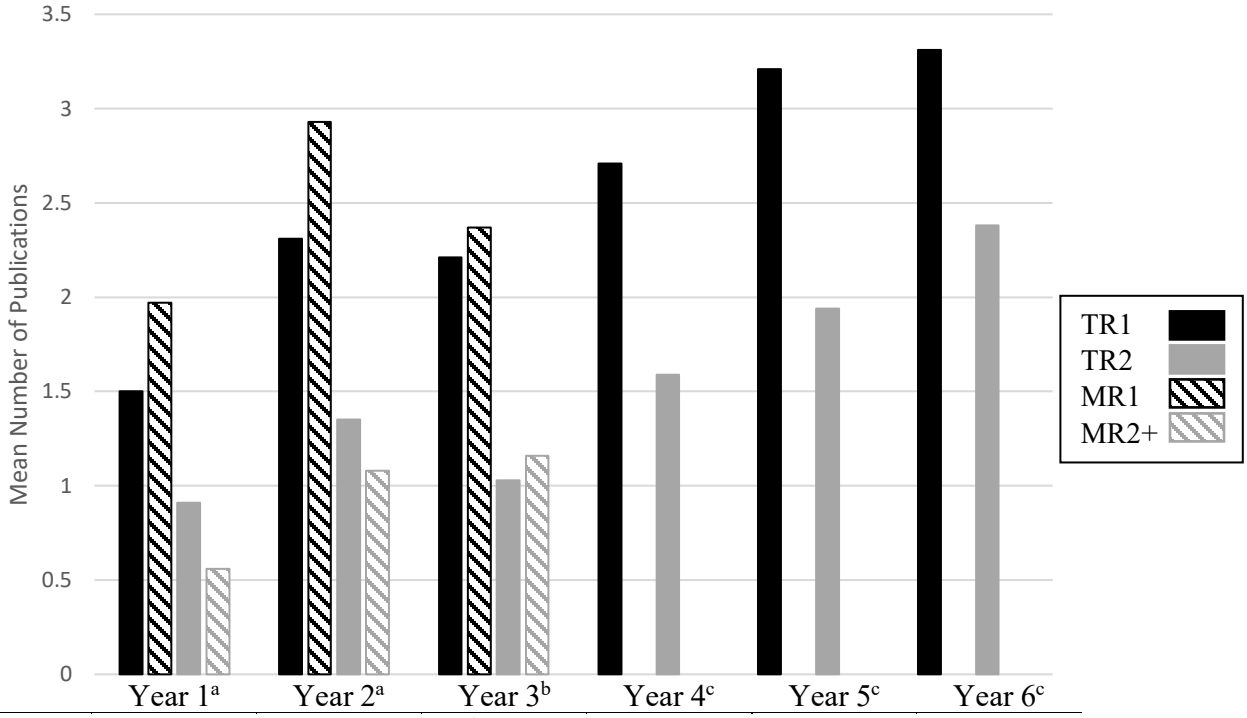
Note: *SD* = standard deviation; $N_{WOS}$ = number of Web of Science accounts; $N_{GS}$ = number of Google Scholar accounts

Table 2. ANOVA Table of Year 1 through 3 Mean Comparisons

| | *F* | *p* | Tukey's Post-hoc Comparisons* |
|---|---|---|---|
| Year 1 | 5.85 | .001 | MR1 > TR1 > TR2+ & MR2+ |
| Year 2 | 6.82 | <.001 | MR1 > TR1 > TR2+ & MR2+ |
| Year 3 | 3.34 | .02 | MR1 & TR1 > TR2+ & MR2+ |

Note: *Groups separated by > were significantly different at $p < .05$; TR1 = Tenured Faculty R1 Group; TR2+ = Tenured Faculty R2+ Group; MR1 = Mid-tenure Track Faculty R1 Group; MR2+ = Mid-tenure Track Faculty R2+ Group

Figure 1. Bar Graph of Yearly Publication Means of Faculty by Group




Note: [a]MR1 > TR1 > TR2+ & MR2+; [b]MR1 & TR1 > TR2+ & MR2+; [c]TR1 > TR2+; Groups separated by > were significantly different at $p < .05$; TR1 = Tenured Faculty R1 Group; TR2+ = Tenured Faculty R2+ Group; MR1 = Mid-tenure Track Faculty R1 Group; MR2+ = Mid-tenure Track Faculty R2+ Group