GENDER OF AUTHORS IN THE MEXICAN JOURNAL OF BEHAVIOR ANALYSIS: CHANGES OVER TIME

GÉNERO DE LOS AUTORES DE LA REVISTA MEXICANA DE ANÁLISIS DE LA CONDUCTA: CAMBIOS A TRAVÉS DEL TIEMPO

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Abstract

The *Mexican Journal of Behavior Analysis* was examined from 1975 to 2018 to determine the proportion of authorship by women and men.

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Data were compiled and assessed for the percentage of authorship, percentage of first-authored publications, percentage of publications with at least one woman, and percentage of publications with at least one man. From the journal's inception to 2018, women and men accounted for 33% and 67% of authorship, respectively. The data suggest that women's participation, based on percentages of total authorship, has increased across time.

Keywords: Mexican Journal of Behavior Analysis, gender, authorship

Resumen

Con el propósito de determinar la proporción de autores mujeres y hombres, se analizaron los artículos publicados en la Revista Mexicana de Análisis de la Conducta de 1975 a 2018. Con base en los datos recopilados, se evaluó el porcentaje de artículos publicados, el porcentaje de artículos publicados como primer autor, el porcentaje de publicaciones con al menos una mujer como autora y el porcentaje de publicaciones con al menos un hombre como autor. Desde la creación de la revista hasta 2018, las mujeres y los hombres conformaron el 33% y el 67% de los autores, respectivamente. Con base en los porcentajes del total de publicaciones, los datos sugieren que la participación de las mujeres de hecho ha aumentado a través del tiempo.

Palabras clave: Revista Mexicana de Análisis de la Conducta, género, autores

Gender of Authors in the *Mexican Journal of Behavior Analysis*: Changes Over Time

Gender issues have long and consistently interested behavior analysts (e.g., Iwata & Lent, 1984; Laties, 1987; Li, et al., 2019; McGee, et al., 2004; Myers, 1993; Neef, 1993; Simon, et al., 2007). The first published discussion of the topic appears to be an article by Poling

et al. (1983). They reported the relative number of authors who were women and men for articles published in the *Journal of the Experimental Analysis of Behavior* (*JEAB*) and the *Journal of Applied Behavior Analysis* (*JABA*) from their inceptions through 1981, a period spanning 24 and 14 years, respectively. Men appeared as authors far more frequently than women in both journals, although the difference was larger for *JEAB* than for *JABA*. Across years, there was an upward trend in the proportion of *JEAB* first and total authors who were women. In *JABA*, however, the upward trend in proportion of women was only apparent for first author publications.

Publishing is a meaningful index of participation in the scholarly activities of a discipline, and subsequent research updated and extended the analysis begun by Poling et al. (1983). McSweeney and Swindell (1998) examined the relative number of first and total authors of *JEAB* articles published from 1978 to 1997 and found that the participation of women increased over time. For example, the percentage of first-authored publications by women increased from 10.2 (1978–1982) to 14.9 (1993–1997), while the percentage of authorship, as a whole, increased from 12.6 (1978–1982) to 20.9 (1993–1997). Nonetheless, women's participation in *JEAB* was consistently less than their participation in three similar journals that were not exclusively behavior analytic (*Animal Learning & Behavior*, *Journal of Experimental Psychology*, and *Learning and Motivation*).

McSweeney, et al., (2000) used similar methods to examine women's contribution to *JABA*, relative to their contribution to three similar journals that were not exclusively behavior analytic (*Behavior Modification*, *Behaviour Research and Therapy,* and *Behavior Therapy*) from 1978 to 1997. They found that "[f]or all journals, the percentage of articles with at least one female author, the percentage of authors who are female, and the percentage of articles with a female first author increased from 1978 to 1997" (McSweeney et al., p. 267). The percentage, on average, of authors who were women increased from 27 (1978 –1982), to 36 (1983–1987), to 37 (1988–1992), to 42 (1993–1997) for all authors, while the percentage for first-authored publications

increased from 24 (1978–1982), to 31 (1983–1987), to 30 (1988–
1992), to 35 (1993–1997). Men's participation consistently exceeded
that of women's. Moreover, women's participation was inversely re-
lated to the selectivity of activities. That is, their participation as any
author exceeded their participation as first authors, which exceeded
their participation as members of editorial boards (McSweeney et al.).
The percentage of women on the *JABA* editorial board decreased from
30 (1978–1982), 29 (1983–1987), 27 (1988–1992), to 28 (1993–
1997). In view of these findings, coupled with those of McSweeney
and Swindell (1998), McSweeney et al. proposed that a "glass ceiling"
reduced the participation of women at the highest levels (i.e., editorial
boards) of behavior analysis. Like Poling et al. (1983), they made se-
veral suggestions for increasing women's participation, which will be
discussed subsequently.

It is not clear whether these suggestions played a role, but women's
participation as authors and editors in behavior-analytic journals have
increased substantially in recent years (Li, et al., 2018). Li et al. exami-
ned authorship—for first authors and all authors—by women and men
for articles published from 2014 through mid-2017 in *JABA, JEAB, The
Analysis of Verbal Behavior* (*TAVB*), *Behavior Analysis in Practice, Beha-
vior Analysis: Research and Practice, The Behavior Analyst* (*TBA*), and *The
Psychological Record* (*TPR*). Comparing obtained data to findings from
prior years (McSweeney et al., 2000; McSweeney & Swindell, 1998; Po-
ling et al., 1983) shows that women have made important contributions
to behavior analysis as authors of journal articles, and their authorship
has increased substantially over time (see Li et al.). For the period Li et
al. examined, there were more *JABA* and *TAVB* articles with women as
first authors than articles with men as first authors.

An interesting, but unfortunate, aspect of all of the studies that
have examined women's participation in behavior-analytic journals is
that international journals were not considered. Although behavior
analysis had its beginning in the United States of America, the disci-
pline is truly international, and there are important journals published
outside the United States. One of them is the *Mexican Journal of Beha-*

vior Analysis (*MJBA*), which is published by the Mexican Society of Behavior Analysis. According to the journal's website, for more than 40 years it has published:

> [O]riginal basic or applied research reports relevant to the behavior of nonhuman animals and humans. Review or theoretical articles, and technical notes are also considered for publication. The MJBA is a bilingual journal, publishing papers in either Spanish or English. Abstracts in both languages are also included for each article (http://rmac-mx.org/mjba/).

The *MJBA* has an extensive history, publishes articles in both Spanish and English, and is headquartered outside the United States. For these reasons, it seems worthwhile to trace the relative contributions of women and men to the journal. An excellent review of many aspects of the journal's contents, but not of authors' gender, has recently appeared (Mateos, et al., 2017), and we hope that our data furthers their analysis.

Method

Articles published in the *MJBA* from 1975 to 2018 were examined to determine the gender of authors. The data were compiled from the online database of available publications on the *MJBA* website. The website, however, did not include all issues. A total of 24 issues, across 16 years, did not appear on the website. The missing issues were located and included in the analysis.

The coding occurred in two phases. In the first phase, one of the authors examined each publication and coded the gender of each author. As in previous studies (e.g., Li et al., 2018), the coding author determined the gender of each author based on their name. If an author's name did not suggest gender, the coding author conducted internet searches on professional platforms (e.g., university websites, Association for Behavior Analysis International). The coding author could not determine the name of 44 authors for one of two reasons: (a) the gender could not be identified despite internet searches, or (b)

the name was listed using the author's initials (e.g., Cepeda, M. L.). In the second phase, a former *MJBA* editor—the third author—and the current *MJBA* editor identified the full names and/or gender for 41 of the 44 authors. Three authors were not identified. The gender counts were coded per article, not per author; therefore, recurring authors were counted as new entries (cf., McGee et al., 2004).

Interobserver agreement (IOA) was conducted for 193 randomly selected articles (25% of the total). The IOA data collector coded the gender of the first author, total number of women, and total number of men, per article. Percentage IOA was calculated as the number of agreements divided by the number of agreements and disagreements, then multiplied by 100. IOA was 95%.

For each year, the percentage of first authors who were women and the percentage of total authors who were men was determined. The yearly percentage of articles with at least one woman author and the percentage with at least one man author was calculated from 1975 to 2018 and 2014 to 2017 to analyze comparisons to those of Li et al. (2018).
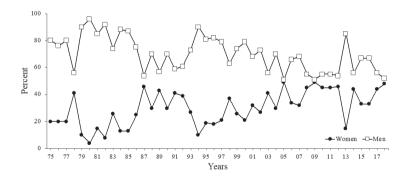

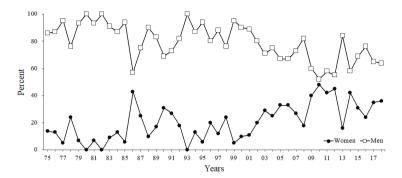*Figure 1.* Percentage of women and men as authors per year.

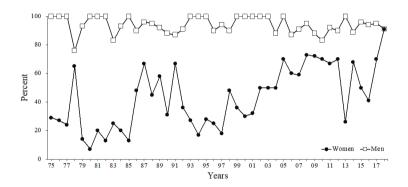*Figure 2.* Percentage of women and men as first authors per year.

Figure 3. Percentage of articles with at least one woman and percentage of articles with at least one man as an author.

Results

The percentage of authors, women and men, per year from 1975 to 2018 are shown in Figure 1. The figure shows a convergence in the percentages of publications for women and men over time. There were pronounced differences in the first 10 years of its publication. The percentage of authors who were women approached 50 in 1987, 2005, 2009, 2010, 2011, 2012, and 2018, with values of 46, 49, 49, 45, 45, 46, and 48, respectively. Despite the lower percentages of authorship by

women than by men, the data reflects increased authorship by women over time. Women accounted for 33% of total authorship, and men accounted for 67% over the entire sampling period. When the data are analyzed across decades (i.e., 1975–1979, 1980–1989, 1990–1999, 2000–2009, 2010–2018), authorship by women gradually increased, with percentage values of 22, 22, 27, 33, and 39, respectively.

The percentage of articles first-authored by women and the percentage first-authored by men are shown in Figure 2. Men first-authored more articles across all years, accounting for 80% of first-authored publications across all years. When the data are analyzed per decade, first-authorship by women increased from 12% (1975–1979), to 13% (1980–1989), to 16% (1990–1999), to 25% (2000–2009), to 35% (2010–2018).

The percentages of publications with at least one woman and those with at least one man are shown in Figure 3. From 1975 to 2018, women appeared on 43% of articles, on average, with a range of 7% to 91%. Men appeared on 94% of articles, on average, with a range of 76% to 100%. The data was also analyzed for the 2014–2017 period to compare with Li et al. (2018) findings. The percentage of articles with at least one woman as an author across these years was 68, 50, 41, and 70, respectively. The percentage of articles with at least one man as an author, for the same years, was 89, 96, 94, and 95. Women—or at least one woman—appeared as authors on 57% of publications, while men—or at least one man—appeared as authors on 94% of publications, on average.

The aforementioned data are presented as percentages per year. This is because the number of publications per year were not fixed. The average number of yearly publications was 18, with a range of eight to 26 publications.

Discussion

The *MJBA* was examined from 1975 to 2018 to determine the proportion of authorship by women and men. Participation by women increased over time, both with respect to total authorship and first-

authored publications. The increasing percentages are encouraging. The data, however, depict robust disparities at some points in time between women and men. To place the present data within the context of other behavior-analytic journals, we compared the percentage of authorship, first-authored publications, publications with at least one woman, and publications with at least one man.

The general increase across time in women's participation as *MJBA* authors is consistent with patterns observed in other behavior-analytic journals, although the percentages differ substantially across journals. As evidence of this variability, Li et al. (2018) reported the percentage of articles with women as first authors and found that the value for the years 2014 to mid-2017 ranged from 27% to 57% across seven behavior-analytic journals, with a mean of 42%. When our data are combined across 2014 to 2017, women accounted for 33% of first-authored publications. This value is close to the values Li et al. obtained for *JEAB* and *TBA*.

Li et al. (2018) also reported the percentage of articles with at least one woman as an author and the percentage with at least one man as an author. The percentage of articles with at least one woman ranged from 39% to 86% across journals, with a mean of 67%. For articles with at least one man, the percentages ranged from 80% to 96%, with a mean of 85%. Our data for 2014 to 2017 indicate that 57% of the articles had at least one woman as author and 94% had at least one man as an author. These values fall within the range of values reported by Li. et al. The percentage of *MJBA* articles with at least one woman as an author was similar to the value reported for *JEAB*. The percentage of *MJBA* articles with at least one man as an author was similar to the value reported for *JEAB* and *TPR*. It is interesting, and heartening, that the increase in women's participation as authors that is evident in English-language behavior-analytic journals housed in the United States is also evident in a bilingual, behavior-analytic journal housed in Mexico. Of course, some people publish in many of these journals, and it would be interesting to determine if the women (and men) who recently published in *MJBA* were the same people who published in other journals.

discrimination as part of program accreditation. All of these suggestions strike us as sound. Some have been followed (e.g., the Women in Behavior Analysis conference and some behavior-analytic journals use blind reviews), which may have contributed to the substantial increase in women's participation in behavior analysis over time.

Be that as it may, as Neef (1993) pointed out, gender differences in participation are not in and of themselves evidence of discrimination, or of a problem. Our data show that women's participation as authors of articles published in the *MJBA* has increased over time, which we view as a good thing, but this is not *prima facie* evidence that women were discriminated against. They also show that relatively few women currently serve as editors of that journal, but the reason why, and whether this finding is a reason for concern, are unclear.

Our data should be interpreted in light of some limitations. First, although precedented, determining gender based on the name of authors, and drawing a simple male-female distinction on that basis, has obvious limitations and is a crude index. Surveying all authors regarding self-identified gender would provide better information, but unfortunately is not practical. Second, we did not analyze women's participation as editorial board members for *MJBA*. Future research may consider accessing and assessing editorial trends for women and men from 1975 to the present. Despite these limitations, our data appear to be adequate to support some meaningful conclusions.

In closing, behavior analysis is growing rapidly and is a truly international discipline. Given this, an obvious yet significant suggestion for further research is to conduct similar analyses with articles published in other behavior-analytic journals housed outside the United States, namely the *European Journal of Behavior Analysis*, *Brazilian Journal of Behavior Analysis,* and *Japanese Journal of Behavior Analysis*. Data from these journals would help to provide an even fuller understanding of women's participation in our field, and how it has changed over time.

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