

Publication Patterns of Women in Behavioral and Developmental Psychology

by

Lindsay Woods Frohlich

A Thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfilment of the requirements of the degree of

MASTER OF ARTS

Department of Psychology
University of Manitoba
Winnipeg

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FACULTY OF GRADUATE STUDIES

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Abstract

In the ever growing field of psychology, women are quickly becoming the majority of students in, and graduates of, university programs around the world. Because women tend to work in applied fields, a concern is that they will publish less than men, with a resulting decline in the knowledge base of psychology. Previous research has indicated that women outnumber men in psychology programs at universities in North America. However women are not increasing their relative proportion of authorships, especially of first authorships, in key journals in their respective fields. I examined changes over time of female versus male publications in two behavior analytic journals (one experimental and one applied), and two developmental journals (control comparisons). Finally I examined gender differences in higher positions in publishing (such as editors, associate editors, and members of editorial boards) in the behavioral journals. My research provided more extensive data than previous studies, achieved more accurate identification of authors' names, and attempted to examine relative rates of rejection in these journals to determine if women's submissions were being rejected more often than men's. Results indicated that women have increased their overall publication rates in all journals over the last 22 years. Women are publishing at a higher rate in the developmental comparison journals than in the behavioral journals. In *Journal of Applied Behavior Analysis* women are participating as authors at a rate comparable to that for men; however in *The Journal of the Experimental Analysis of Behavior* women still are only authoring 23% of the articles. Women continue to participate at a much lower rate in comparison to men at the higher levels of publishing such as editorial board member, associate editor and editor, in the behavioral journals.

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Publication Patterns of Women in Behavioral and Developmental Psychology

In many countries of the world psychology is quickly becoming (if it is not already) a female-majority discipline; an outcome which has been labeled the “Feminization of Psychology” (Williams, Wedding & Kohout, 2000). The term derived from the fact that, as more women began to enter the field of psychology in the 1970’s, the number of men entering the field declined, producing a shift in gender composition. This shift has been evident at all levels of psychology training programs (BA, MA, and PhD). In 1995 the American Psychological Association (APA) initiated a Task Force on the Changing Gender Composition of Psychology. It predicted that by 2004 psychology as a profession would consist of more women than men. However in 1995 while women were receiving the majority of doctoral degrees (63%) in psychology in the United States, they accounted for only 25% of the top-level positions of full professor in universities (Rider, 2000). Of course, some time lag could be expected, as it takes time and experience to gain prestige in any field; but how long will it be before women have representative standing in the field of psychology? Women have been the majority in university psychology programs since the 1970’s.

What does the “feminization of psychology” mean for the future of psychology? Research has shown that women tend to work in applied settings, such as clinical or school settings, and hence will be less likely to engage in research or to publish (Sexton & Hogan, 1992). Women also are less likely to hold top academic positions in universities which further removes them from both financial and academic support, and from opportunities for research (Skinner, Robinson, Brown, & Cates, 1999). Whether this occurs due to choice or some other factor has yet to be determined. However, if these

trends continue, then the body of psychological research will falter and there will be significantly fewer gains in the knowledge base of psychology. Are these fears warranted? Are women not increasing their publications? In order to answer these questions I will examine previous research conducted on women and women's publications in psychology (see Appendix A for further discussion).

Moon and Hoffman (2000) found that references for women have greatly outnumbered references for men since the 1970's. References refer to the amount of times the words *women* and *men* were found in literature searches. They determined that from 1887 to 1939 the proportion of the total number of references obtained was greater for men (.53) than for women (.47). In contrast from 1974 to 1997 almost twice as many of the total references were for women (.65 vs. .35). They also reported a dramatic increase in the number of total references for both men and women from the early to later years. These changes may reflect the emergence of the study of women in the literature (because women are more likely to study women), increased numbers of women in the field, and the creation of new journal outlets relevant to women (Moon & Hoffman). Although Moon and Hoffman found that women are being studied more in recent years, several other researchers have found that women are not fairing so well in producing publications.

To illustrate West, Newsom and Fenaughty (1992) expressed concern as to the extent of representation of women at all levels of editorial and research processes. Women are more likely to work in applied settings, such as general clinical work, school psychology, or teaching psychology at college level or below, and are less likely to be involved in research or teaching at the university level (Sexton & Hogan, 1992). In

publications reported in Psychological Abstracts from 1975-1986 the authors were more often only male (one or more) [62%] whereas publications with only females (one or more) were much less likely at 15% (Rosenzweig, 1992).

In recent years researchers have begun to examine the issues that surround women in psychology. These issues have become more prevalent due to the fact that women are beginning to outnumber men in psychology programs and, as already acknowledged, women may be more interested than men in studying women. The representation of women in the Canadian Psychological Association (CPA) has advanced dramatically since its early days. Membership of women was 17% in 1939, 25% in 1970, 45% in 1995 and at least 55% in 2001 (10% of members did not identify their gender). Women also outnumbered men in undergraduate programs in Canada in 1997/98, both full-time (56%) and part-time (62%). During the same time period women were the majority in doctoral programs as well with 70% of the positions (Boatswain et al., 2001). Despite the increase in the representation of women in psychology, the representation of women in university faculty positions has not kept pace in Canada. In 1998 only 26% of all faculty were women and 51% of those were employed in the lower ranks as lecturers (Boatswain et al., 2001).

Participation in research by women has received empirical scrutiny in two areas: educational psychology and behavioral psychology. Robinson, McKay, Katayama, and Fan (1998) measured the progress women have made in the last 20 years in contributing to the educational psychology knowledge base. They examined authorship in journals as well as positions as editors or membership on editorial boards. They used six educational psychology journals and analyzed every research article that appeared during even years

from 1976-1996. They calculated the number of authors per article, the number of male and female authors per article, the gender of primary author, the number of male co-authors and the number of female co-authors. A judgment was made based on the first name of the author to determine gender in order to classify authors as male or female. This was more difficult for foreign names and for those names that used initials. If the names were unclassifiable, they were excluded, which occurred in 8% of the cases.

The average number of authors per article increased from 1.82 to 2.40 from 1976 to 1996. In 1976 there were 76% male and 24% female first authors and in 1996 there were 52% male and 48% female first authors (a statistically significant change in the female-to-male ratio). The average number of male co-authors did not change much from 1976 (61%) to 1996 (63%) [non-significant] whereas the average number of female co-authors increased from 19% in 1976 to 74% in 1996 (statistically significant). This indicates that more women became involved in research both as first authors and as co-authors, but women still are more likely to be found as co-authors. In 1976 seven males and two females (24%) were editors and in 1996 there were eight male and one female (17%) editors. This change was not statistically significant. Women did make statistically significant gains as editorial board members, a lower ranked position than editor. In 1976 there were only 7 female and 48 male board members. In 1996 there were 94 female and 127 male board members, a statistically significant change in the ratio of males to females. Although there has been much progress for women in educational psychology, they found that such progress has not yet reached the level of editor.

Skinner et al. (1999) found patterns in educational psychology that were similar to those uncovered by Robinson et al. (1998). They found an increasing number of women

entering graduate training programs. Although they did find an increase of female faculty members, it was mostly at the lower ranks. Women were receiving 69% of doctoral degrees but represented only 40% of new faculty in 1991. Skinner et al. also examined three educational psychology journals. They found that women were increasing in proportion as authors, from 31% to 58% of total authorship, but that they tended to publish more empirical articles than review or theoretical articles. Skinner et al. proposed that this may be due to the need to establish themselves in their area of expertise.

Turning to behavioral psychology, Myers (1993) reported that the percentage of first authors that were female in (JEAB) (15%) was smaller than the percentage of women in the general population (51%), the percentage of female doctorates in psychology in general (55%) and female doctorates in experimental psychology (48%), and the percentage of female full members of the Association for Behavior Analysis (31%).

More current research has examined the differences occurring in female and male authorship. McSweeney and Swindell (1998) wanted to gather different data than those obtained in the past, which had typically focused on the use of data that was not related to publications. They compared participation by women in the *Journal of the Experimental Analysis of Behavior* (JEAB) to participation in three other journals that were comparable in subject matter. They used these journals to attempt to rule out differences in ability and interest of the researchers who were seeking to publish. The three comparison journals were *Journal of Experimental Psychology: Animal Behavior Processes* (JEP); *Animal Learning and Behavior* (ALB); and *Learning and Motivation* (LM). Changes over a 20 year period from 1978 to 1997 were examined. The authors tabulated the number of

authors, number of female authors, number of articles, number of female first authors and percentage of articles that included a female first author. They chose years over which authors' opinions and attitudes towards women changed substantially. The acceptance rate of JEAB was 50%, making it relatively easier to publish in this journal as compared to the comparison journals whose acceptance rates were 20%, 30%, and 30% respectively.

The authors stated that they needed to make a few assumptions in order to collect their data. These assumptions were that authors were considered to be female, if they had a stereotypically female first name or a stereotypically female spelling of ambiguous names, for example Frances (female), Francis (male). They counted authors who used initials as women only when they knew that to be the case. In this case they may have counted some women as men. Authors with unisex first names such as Chris or Robin were counted as female, unless they knew otherwise. This was done to offset the over-counting of men among initialed authors. Their coding of gender appeared to have a few flaws that were recognized by the authors, as they stated, "As a result of these compromises, our calculations are undoubtedly somewhat inaccurate. However, the level of accuracy probably did not change systematically over time or differ across journals".

The results showed that participation by women from 1978-1997 has increased. This effect was found for all journals and for all measures of participation. The percentage of all authors who were female rose from 13% to 20% for JEAB, from 12% to 22% for JEP, from 17% to 28% for ALB, and from 20% to 28% for LM. When examining first authorship for women the percentage of first authors who were female rose from 10% to 14% for JEAB, from 12% to 17% for JEP, from 13% to 23% for ALB,

and from 17% to 26% for LM. They found that the participation by women in JEAB lagged behind all the comparison journals which was a surprise considering that it is the flagship journal of the field of the experimental analysis of behavior and that it had the highest acceptance rate of all the journals examined. Although the publication rates of women increased from 1978-1997, they were still not on par with those for men. One hypothesis given by the authors was that work by women is treated differently from work by men and therefore gender discrimination is occurring (see Appendix A for further discussion).

Their research also examined the editorial board membership of both JEP and JEAB. Participation by women on the editorial board of JEP rose substantially over the 20 year period, from 5% to approximately 25%. The participation by women in JEAB decreased slightly. In 1978-82 the board was composed of 14.1% women, in 1993-97 that number had dropped to 12.7%. One potential explanation given by McSweeney and Swindell (1998) was that the increasing participation by women has not yet had time to reach the level of the editorial board. Other hypotheses that they provided were that women might decline invitations to boards (due to factors such as family responsibilities) more than men, and that candidates for editorial positions were mainly from experienced authors. The authors state that the implication here is that if women are publishing less than men; then they do not gain the experience necessary to be appointed to an editorial board.

The authors make another assumption that seems to be true, that it is easier to appear as author than as first author, and as first author than it is to be selected to the editorial board. Their research shows that participation by women decreases with

increases in the difficulty or “selectivity” of the position. They believed that these data were consistent with the notion of a “glass ceiling” for women. The “glass ceiling” image is of an invisible barrier which prevents women from moving up to seemingly available positions of higher prestige or authority. Women can see that the positions are there but when they try to reach them, there is an invisible barrier in the way, the glass ceiling. McSweeney and Parks (2002) stated that “This term has been used in the past to describe a similar phenomenon: the failure of women to advance to top management positions in corporations and government”. It seems that although these positions are there and available, they have not been made available to women.

McSweeney, Donahoe and Swindell (2000) conducted another examination of women’s publication patterns, this time in the area of Applied Behavior Analysis. They were interested to find if women were publishing less than men in applied behavioral areas and if this were true, in looking at the reasons why.

Their research examined four applied behavioral journals over the years 1978-1997. The journals were: *Journal of Applied Behavior Analysis (JABA)*, *Behavior Therapy (BT)*, *Behavior Modification (BM)*, and, *Behavior Research and Therapy (BR&T)*. They examined the number of authors, number of articles, number of female authors, number of female first authors, and percentage of articles that included a female author. In their research McSweeney et al. (2000) included the years over which attitudes towards women seemed to have changed, meaning that women were becoming more accepted in higher levels of education. They included all articles in the journals despite content or category; all of the journals looked at similar content and subject matter and they all had similar audiences. This research used methods of categorization identified in

previous research conducted by McSweeney and Swindell (1998) for JEAB. In order to determine the membership of the editorial boards they looked at the first issue of each year.

The data indicated that participation by women increased from 1978-1997 on all measures. The increase in the participation in JABA was similar to that for JEAB. They found that the absolute number of women participating had increased over the 20 years. The percentage of authors who were female rose from 26% to 40% for JABA, from 22% to 39% for BT from 23% to 36 % for BM, and from 21% to 30% for BR&T. When examining first authorship they found that the percentage of first authors who were female rose from 23% to 33% for JABA, from 20% to 36% for BT from 20% to 30 % for BM, and from 21% to 24% for BR&T. There also was an increase in the number of articles published per year and the authors believed that this should have resulted in an increase in opportunity to publish for women.

They found that the participation by women in JABA equaled or exceeded participation by women in the comparison journals. This differed from JEAB where participation by women lagged behind comparison journals. This difference between JEAB and JABA indicated that women are publishing more in applied rather than the experimental analyses of behavior, which fits with previous trends that demonstrate that women tend to work more in applied settings. Women's participation in JEAB is substantially lower than participation by women in applied journals. This may indicate that women are more interested in the applications of psychology and more interested in the behavior of human participants (JEAB publishes more studies that employ nonhuman subjects). In looking at the editorial boards they found that participation by women in

JABA equaled or exceeded comparison journals. They did find that overall participation by women on the editorial board of JABA did not increase over the 20 year period. The mean percentage of female editorial board members averaged 23% from 1978-1982 across the four journals and 21% from 1993-1997.

Their research shows that the participation by women decreased with increases in the selectivity of the position. They defined increased selectivity as moving from Author, to First Author, to Editorial Board Member. The authors suggested that this information was consistent with the idea of a "glass ceiling" which limits the participation of women. Women were increasing their participation but only at the lower levels. McSweeney et al. (2000) suggested that finding the same trend over several journals and different areas of psychology is evidence for gender inequity.

In contrast, Odum (2000) took issue with the methodology and conclusion about selectivity in the McSweeney and Swindell (1998) article. She focused on the JEAB data and concluded that there is no compelling evidence of unfair treatment of academic work by women. She provided contradictory evidence and arguments in her article. Odum's article focused on three main issues. First was the issue of data analysis, second was the selectivity issue, and third was the rejection rate data.

Odum (2000) stated that the kind of data that McSweeney and Swindell (1998) collected, primarily percentages that were examined through visual inspection, are not the usual type of behavioral data where this type of inspection is used. The McSweeney and Swindell data require some indication of the variability in the points contributing to the percentage means. She also stated that the results that they provided should be interpreted with caution. Due to the small absolute numbers of authors, a difference of even one

author could make a difference of several percentage points. The McSweeney and Swindell data are difficult to interpret. Odum argued, in this case, for the use of inferential statistics for the analysis of these data.

Odum (2000) found that McSweeney and Swindell (1998) did not include a measure of the relative frequencies of associate editorships in their findings. This is one step higher in the level of selection, from editorial board member, in the area of behavior analysis. If there is a 'glass ceiling' women should not be found in this position often. She found that the mean percentage of associate editors who were women was 30%. The mean percentages for women found in the McSweeney and Swindell article was: all authors 20%, first authors 15%, and editorial board members 12%. When these new data (at 30%) are considered along side the previous research there is no systematic decrease. Odum does caution that the variability in her data was very large because the number of associate editors at any one time is small.

The final problem that Odum (2000) identified was that McSweeney and Swindell (1998) did not examine differential (by gender) rejection rates of the journals. Are articles submitted by women being rejected more than articles submitted by men? It may be possible that it is not gender inequity in the publication process that is preventing women from publishing but that women are not submitting articles as often as men. If women are entering and working in applied fields such as therapy and counseling, they may not be writing and submitting research for publication. If this is the case, then editors may simply be accepting and publishing articles by men and women equally, but at a lower rate for women due to lower submission rates. Odum obtained data from the years 1996-1998 for JEAB in regards to rejection and acceptance of articles submitted for

publication. She found that the overall probability of rejection was .56. For women the rejection rate was .60 and for men it was .55. This difference was not statistically significant. Odum did note that the number of submissions by women was so small that reversing the rejection by only one decision yielded a probability of .56. Of the 308 manuscripts that were submitted between 1996 and 1998 only 63 were submitted by women. This shows that women do submit fewer articles, but gives evidence that their submissions are not being treated unfairly.

Odum's (2000) arguments have merit and paint a very different picture for women in the area of behavior analysis than do those of McSweeney and Swindell (1998). She found no evidence for the unfair treatment of women in this area. Odum identified three problem areas in her article. I think that there are other issues that also need to be addressed.

One such issue is the lack of Inter-observer Reliability (IOR) estimates. The McSweeney and Swindell (1998) and McSweeney et al. (2000) articles used data, the classification of names as male or female, that were obtained by only one rater. Cone (1997) stated that ratings or observations are more accurate if two or more individuals find the same results in regards to a behavior or another kind of measurement (classification data for example). Kazdin (1982) stated that there are three major reasons that agreement needs to be assessed. Any type of observation is useful only if it can be assessed with some consistency. In this research I want to consistently identify gender on the basis of first name. The second reason is to account for any biases that an individual observer may have. In this case observers may not classify a name correctly, especially in the case of gender neutral names such as Kelly or Terry, if they assume it is a

stereotypical male or female name based on past experience. A third reason agreement between observers is important is that it will reflect whether the target behavior (or in this case name classification) is well defined. Any observer should be able to replicate the name classification without too many differences or the procedure is not accurate. Conducting IOR checks was not mentioned in either of the McSweeney and Swindell (1998) or McSweeney et al. (2000) articles and is an omission that cannot be overlooked. Accuracy checks (a hallmark of behavioral research) on the dependent variable are required.

A second issue is the seemingly arbitrary way in which names were classified as male and female in the McSweeney and Swindell (1998) and McSweeney et al. (2000) articles. Even the authors realized that their methods were troublesome stating, "As a result of our assumptions, our calculations are undoubtedly inaccurate". Again they stated that the inaccuracies are usually small and that the level of accuracy "probably" did not change systematically over time or across journals. They did not offer any percentages of cases that were questionable or offer the results, if they had excluded the unidentifiable names. Was it possible to determine the gender of the authors by using more thorough means? If it absolutely could not be determined and after exhausting all resources, these unclassifiable names may best have been eliminated.

It appeared as though the McSweeney and Swindell (1998) and McSweeney et al. (2000) research did not fully attempt to determine the gender of authors, a piece that was so key to their research. They classified all those with unisex first names like Chris or Robin as female, unless they knew for sure that they were male. They also classified all those who used initials as male unless they knew for sure that the person was a woman.

Thus there may have been errors made in the use of this classification system. This is an important improvement to be made due to the fact that Odum's (2000) research found that, due to small absolute numbers of authors, a difference of even one author could make a difference of several percentage points.

In my research I examined publication trends of women in two behavioral psychology journals, one applied and one experimental, as well as trends in the membership of women on editorial boards (including positions as associate editors) of these journals. The results were compared to those for two similar journals in developmental psychology, an area generally thought to attract more female psychologists than the analysis of behavior. Both the relative percentage of women authors of the articles as well as the relative percentage of female positions of editor, associate editor, and places on the editorial boards were examined to determine if women are publishing more, less, or in equal proportions at various times throughout the last 20 years, and if they were taking more positions of prestige in publishing such as editorial board member, associate editor, or editor. My research extended the time period covered in previous research, exhaustively examined all the articles in each of the years, and addressed the problematic areas described above. Areas that were improved were: including the measure of associate editor, including IOR checks, using a more thorough classification method in regards to author's names, and attempting to obtain differential rejection rates by gender from the journals used in this research.

Method

Materials

In my research author names from four journals, two in the area of behavior analysis (applied and experimental) and two in developmental psychology (applied and experimental) as control comparisons, were examined. The four journals were: *JABA*, *JEAB*, *Journal of Applied Developmental Psychology (JADP)* and *The Journal of Experimental Child Psychology (JECP)*.

Procedure

In order to assess longitudinal change in the publications of women over time comprehensively, the research included all articles from 1982 to 2004. Each article was reviewed and classified on a number of variables. The variables are: a) number of authors b) number of male and female authors and c) number of male and female first authors. In order to determine the change over time of editorial membership the following data were collected by examining the first issue each year; d) number of male and female editors e) number of male and female associate editors and f) number of male and female editorial board members (editorial membership could not be obtained for the developmental control journals). Gender was coded for the authors and editorial staff based on the first name. Typically female names and stereotypically female spellings of names were coded as female. Typically male names and stereotypically male spellings of names were coded as male. Ambiguous first names were excluded from the study unless gender could be determined from another source (internet, contacting first or corresponding author). Authors who used initials also were excluded unless gender could be determined.

IOR checks were conducted to check the agreement of the data collectors and thereby to enhance the validity of the findings. Preliminary data collection checks were conducted to ensure that the classification system of the authors' names was working.

Two years from each journal (approximately 10% of total data collected) were randomly selected for the preliminary checks. The procedure for these checks included a second observer (an undergraduate psychology student) coding the authors using the same criteria as the primary researcher to determine the gender of the authors and the editorial board members, associate editors, and editors (see Appendix B for classification procedures). IOR was then calculated by dividing the number of agreements on the gender of the authors by the number of agreements plus disagreements and multiplying by 100. If these preliminary checks determined an adequate IOR rating, the classification method would continue to be used. Throughout the data gathering phase a second researcher (an undergraduate psychology student) randomly selected 4 years per journal that were originally scored and completed IOR checks to continue to ensure accuracy of the classification of gender.

The preliminary IOR checks produced an average agreement rating of 85%, with a range of 74-92%. This average IOR rating of 85% was lower than expected. Further clarification was made to the data collection procedure. This consisted of more clearly outlining the procedure and ensuring that the raters knew the importance of not guessing on the gender of the names of the authors and editorial members. The average rating for the on-going IOR checks was 98%, with a range of 95-100%. Approximately 4% of all articles were excluded from the study due to the inability to determine the gender of one or more authors.

Results

For each year the frequency data within each journal were summed and used to calculate the six variables (see Appendix C for frequency data). For example, for each

year the percentage of female authors was calculated by dividing the total number of female authors by the total number of male and female authors and multiplying by 100. Each one of the other variables was measured in a similar fashion.

The percentages for each of the six variables were calculated and were graphed for visual inspection to show changes over time. The data were blocked in four year intervals (the last interval included only three years) to provide more stable data.

The participation by women in behavioral and developmental psychology journals was first measured by examining their percentage of total authorship in the four journals. Figure 1 shows the percentage of female authors for each journal across each of the six time periods. Participation by women in JADP was the highest of all the journals examined. It rose from 50% in 1982-1985 to 66% in 2002-2004. Participation by women in JECP was second highest of the four journals. It rose from 43% in 1982-1985 to 60% in 2002-2004. Participation by women as authors in the applied area of behavioral analysis in JABA rose from 36% in 1982-1985 to 52% in 2002-2004. Women's participation in JEAB was the lowest of all the journals and rose only slightly from 19% in 1982-1985 to 23% in 2002-2004.

Figure 1 demonstrates the separation between behavioral and developmental journals as well as the greater participation by women in the applied journals in both areas. Women's participation in the experimental area was much lower for the behavioral journal than for the developmental journal to begin with (19% compared to 43%), but there also was less of an increase over the years studied. Women's overall participation increased by only 4% in JEAB and by 17% in JECP. Women's overall participation in the applied area also was lower for the behavioral journal (JABA) than for the

developmental journal (JADP), but it increased at the identical rate of 16%. Women also were participating at a higher level in the early years from 1982-1985 in JABA (36%) as compared to JEAB (19%).

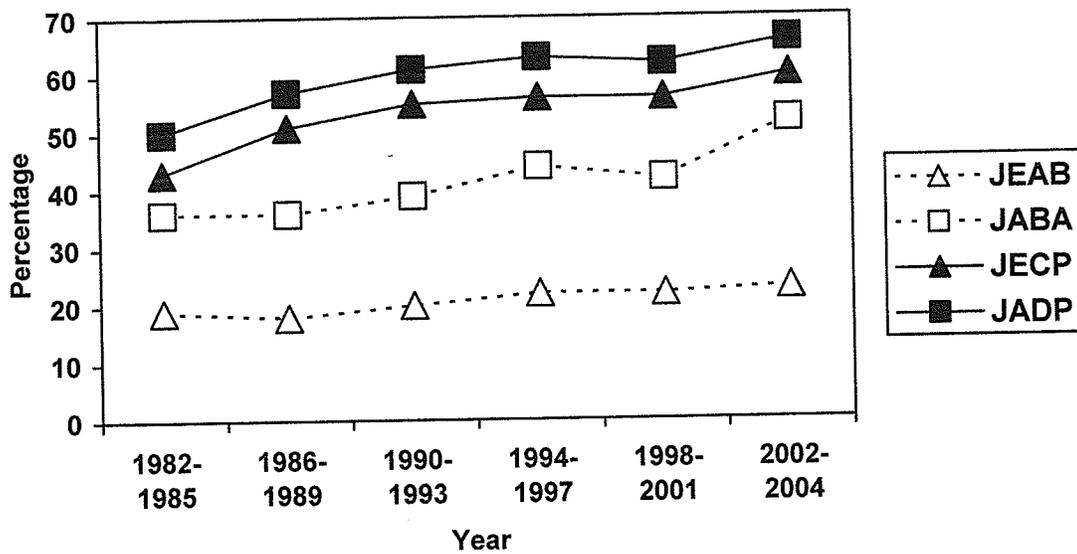


Figure 1. The percentage of all female authors in the four journals examined.

Figure 2 shows the percentages of female first authors in the four journals. Women’s participation as first authors in JADP was highest over all four journals. In 1982-1985 women were publishing at 50% as first authors. There was a peak of female first authors in 1990-1993, during which women were first authors 68% of the time. This number dropped in 1994-1997 but rose again to 68% in 2002-2004. Women’s participation as first authors in JECP rose consistently from 44% to 61%. Participation as first authors in JABA was fairly stable with a mean of 33% for the first 5 blocks of years examined, but in 2002-2004 there was a large jump to 48%. JEAB, which had the lowest

participation by women as first authors, increased but only from 13% to 19% from 1982-1985 to 2002-2004. There was a peak in 1998-2001 to just over 20%, but this increase did not continue. Again it appears that women are publishing as first authors at a much higher rate in the developmental control journals than in the behavioral journals. Women are also appearing as first authors more often in the applied than the experimental journals.

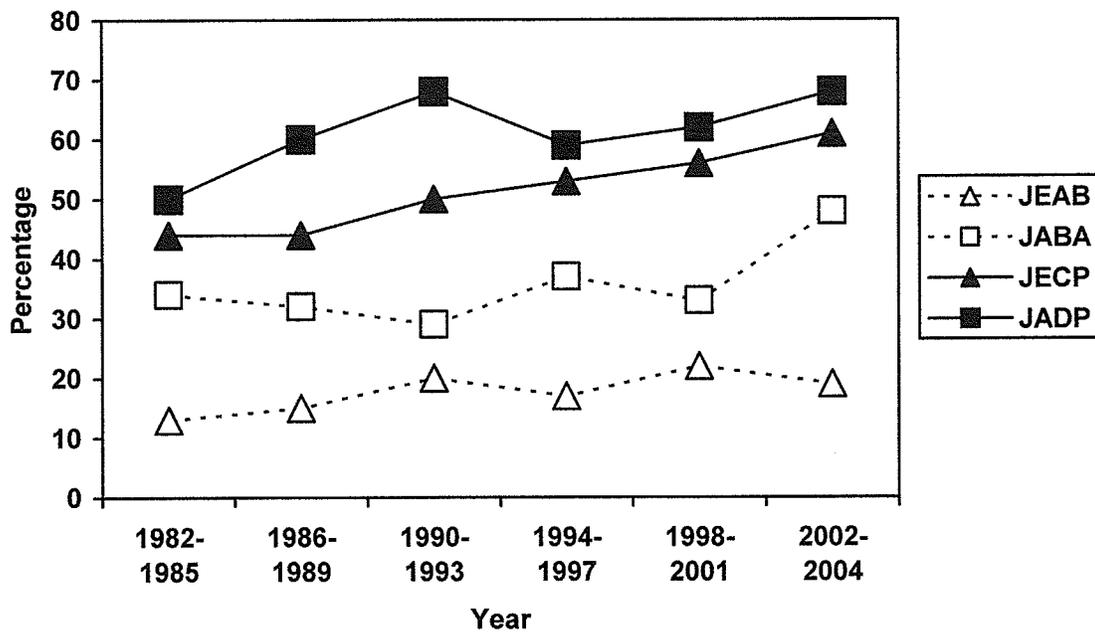


Figure 2. The percentage of female first authors in the four journals examined.

Figure 3 shows the percentages of female editorial board members for JEAB and JABA. The results indicate that more women were members of the editorial boards for JABA than for JEAB. For JABA the percentage decreased from 31% to 25%. For JEAB after five data points of relative stability around 15%, an increase occurred to 22% in 2002-2004.

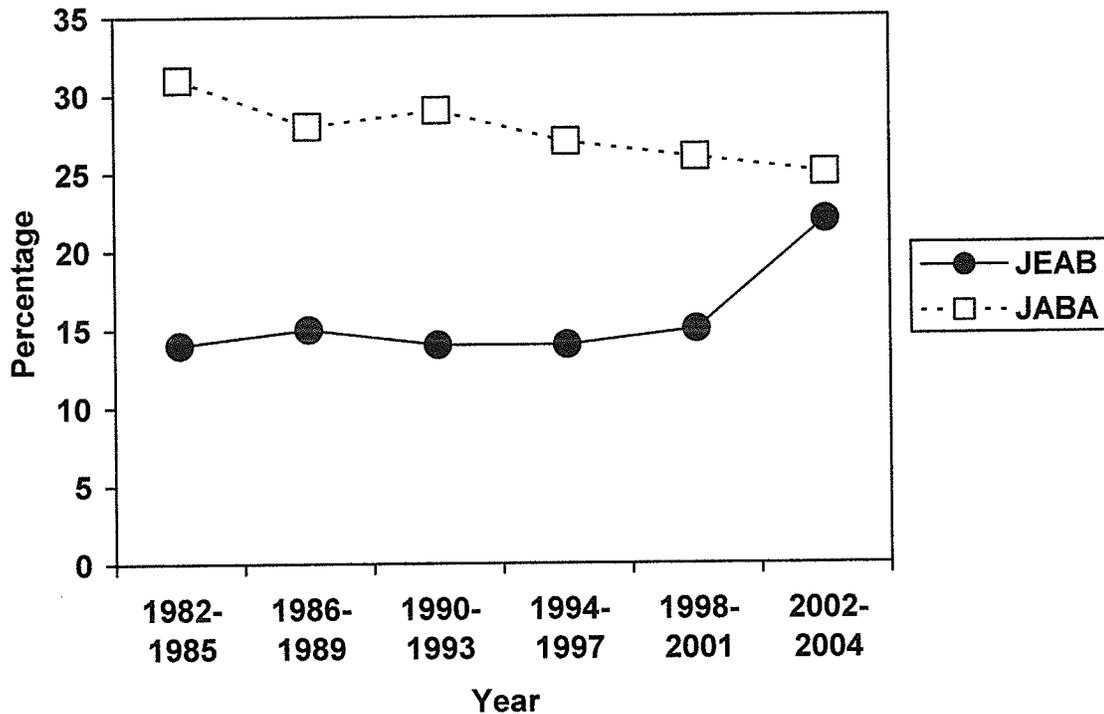


Figure 3. The percentage of female editorial board members in JEAB and JABA.

Figure 4 shows the data for the position of associate editor. In JABA women's overall participation as associate editors increased from 17% to 33% from 1982-85 to 2002-2004 but there was a great deal of variability in the years studied, with a large drop in 1994-1997 to 0%. In JEAB women also had variable participation as associate editors throughout the years studied. They had 0% participation in the earliest and latest years and anywhere from 6-44% participation in between. Due to the small absolute numbers of associate editors (3-6 per year) this information must be interpreted with caution as a difference of only one person can cause a difference of several percentage points. When examining the position of editor, the results are as follows; In JEAB there were no

women editors across all years studied. In JABA there were only 3 of the 22 years studied during which there was a female editor.

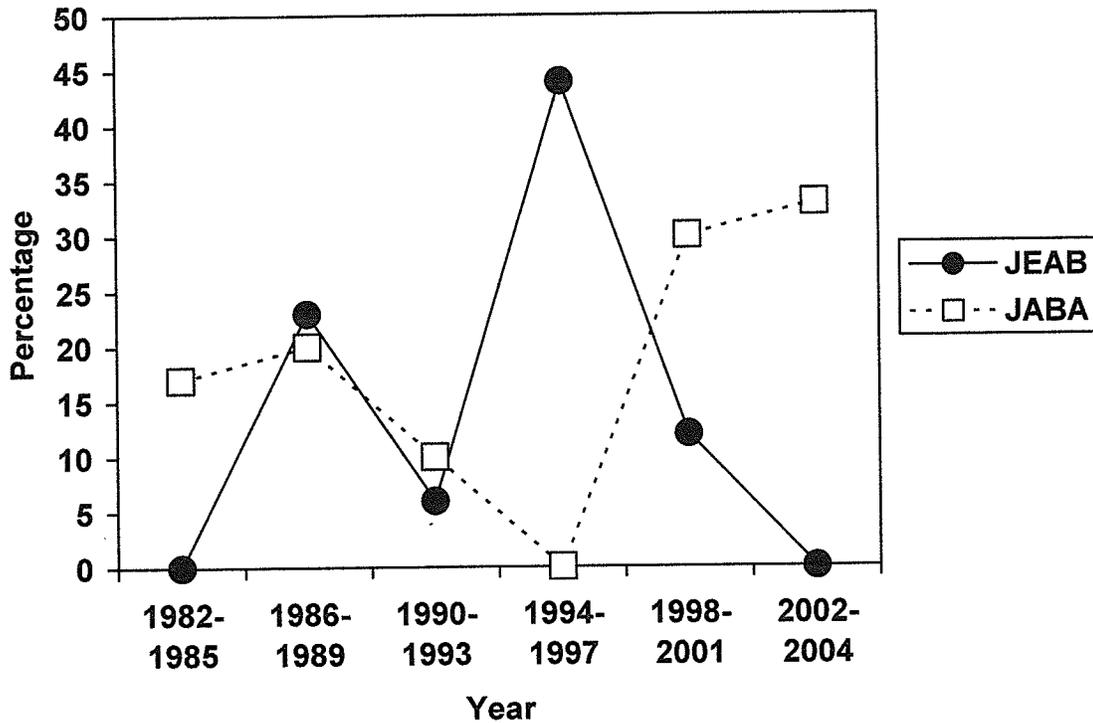


Figure 4. The percentage of female associate editors in JEAB and JABA.

I was unable to gather data regarding rejection rates from the journals. The response from the editor of JABA indicated that this type of information was not recorded. Thus, it would be a very large project to go back and determine how many male and female first authored articles were rejected for publication.

Discussion

Women’s participation in psychology has greatly increased over the last few decades. Women have quickly become the majority in psychology training programs around the world. This increase has been titled the “feminization of psychology”. Some

authors have expressed concern that this trend will have adverse effects for psychology in general as a science. This fear comes from the fact that women tend to work in applied fields, with a lesser chance of publishing. There is concern that if women continue to enter psychology at a higher rate than men, but do not publish, there will be a decline in the scientific knowledge base of psychology.

I examined four psychology journals in both the experimental and applied areas. The previous research conducted by McSweeney and Swindell (1998) and McSweeney et al. (2000) was updated by a total of seven years, a more accurate classification method for determining gender of the authors was undertaken, IOR checks were included, and measures for associate editor were obtained (Odum, 2000). My research was conducted to determine if the trends found by previous researchers were continuing. Were women increasing their rates of publication; were they starting to publish at a rate that was more comparable to their current participation in the field of psychology?

Generally it was found that women are increasing their rates of publication and participation overall in all journals and across almost all measures. It was also found that there was a greater frequency of publication and participation in the applied areas than in the basic research areas. Women are also more active in developmental psychology (both applied and basic) than in behavioral psychology.

It appears as though the trends discovered by McSweeney and Swindell (1998) and McSweeney et al. (2000) have continued in more recent years. Women are increasing their publication rates in the area of behavioral psychology. This increase is much more evident in the area of applied behavior analysis than in the experimental analysis of behavior. Women are still publishing at a low rate in JEAB. Only 23% of all authors were

female and only 19% of first authors were female in the most recent years studied, 2002-2004. Women were publishing at approximately the same rate as men, 52%, as authors in JABA, and at 48% as first authors. This is a much higher rate than for the experimental area, and appears to be more in line with the rate of participation of women in psychology in general. Women have increased their publication rates by only 3% in the last seven years in the experimental area when comparing the current research data to those compiled by McSweeney et al. This is not a large increase particularly when considering women's participation in and graduation from, psychology programs across North America. When comparing these data to those for the control journals in developmental psychology, women are publishing at a much higher rate as both authors and first authors in JADP and JECP. In the most recent years studied women's participation as authors and as first authors for JECP was 60% and 61% respectively. Women's participation as authors and as first authors for JADP was 66% and 68%. This information is interesting in that it indicates that it is possible for women to be participating at a rate comparable to or exceeding that of men in basic psychology journals. In fact women have been publishing almost consistently at a rate of more than 50% in both JADP and JECP since 1986.

The results for the editorial board members, associate editors and editors still indicate that women are not yet filling these positions at a rate comparable to that of men. In JEAB women's participation on the editorial boards had only a slight increase from 14% in 1982-85 to 22% in 2002-04. This is comparable to their participation as authors in this journal. On the other hand, participation by women on the editorial boards in JABA actually decreased. In addition they are participating at a much lower rate (25%) when

compared to their authorships (52%) and first authorships (48%) in the journal. It has been hypothesized that individuals need to gain expertise and experience before reaching the higher levels of publication. It does seem that women should be increasing their rates of participation in this area, especially in the applied areas considering their rates of publication.

Women's participation as associate editors for both journals was much more variable and a pattern was hard to find. Women's rate of associate editorship in JABA increased from 17% in 1982-85 to 33% in 2002-04. There was a large drop in 1994-97 but this may have been due to a former associate editor moving up to the position of editor. These data are in contrast to those of Odum (2000). Odum examined the position of associate editor for JEAB from 1993-1997. She found that in those years there was a high number of female associate editors and stated that this was contradictory evidence for the McSweeney and Swindell (1998) theory that there was decreasing participation by women as the selectivity of the position increased (from author to first author, to editorial board member to editor). But Odum only examined four years in total to reach her conclusion and this particular measure has been found to be variable. Odum, it seems, went against her own advice and made an interpretation of the data based on a measure that required a great deal of caution due to the low absolute number of associate editors. My data indicate that there are no stable patterns of participation by women across the 22 years studied for the position of associate editor in JEAB and JABA. There were only 3 years during which a woman acted as editor for JABA. In JEAB there were no female associate editors in the early and later years and some participation (up to 44% in 1994-1997) in between. There were no female editors in JEAB for all 22 years of the study.

Some authors have argued that the reason women are not participating in the publishing aspect of psychology at a rate comparable to men is due to discrimination [McSweeney et al. (2000)]. Other authors have argued that it is not discrimination that is keeping women away, and that previous rejection rate data has demonstrated that women are not discriminated against in publishing (Odum, 2000). My research has demonstrated that it is possible for women to be publishing at a rate comparable to that of men. In the developmental areas women are exceeding men in the number of publications and authorships. Women also are publishing at an equal rate in the applied area of behavior analysis. Why is it that women are not publishing at a higher rate in the experimental analysis of behavior?

A few hypotheses have been suggested. Women do tend to work in applied fields and therefore would be more likely to publish in applied areas. JABA publishes a lot of articles that are based on data collected in naturalistic settings. JEAB on the other hand, still tends to publish a lot of articles with data collected in laboratory settings, often using animals as participants. This type of research may not interest women as much as men. Also, these labs are usually associated with universities. If women are not choosing to pursue an academic career path, then they would be removed from these laboratory settings. Therefore the experimental analysis of behavior may be less visible to women and women may not be recruited as easily. The developmental area (both applied and experimental) may be more attractive to women for several reasons. This research often focuses on children and education, and women have traditionally been more closely connected to these areas. Women also may have been more heavily recruited to this area than behavioral analysis. Women may be initially recruited into developmental

psychology and then may be exposed to basic research in this area and be attracted to it. It can be hypothesized that it is women's choices that keep them from the experimental analysis of behavior, and not any kind of gender discrimination. If only a small number of women are choosing to work in the experimental analysis of behavior, then it makes sense that women are publishing at a lower rate there than in other, more attractive areas. Although women are only publishing at 23% in JEAB, there is a possibility that only 23% of the field of experimental analysis of behavior is female. These hypotheses need to be examined and we need to ask women about their choice of career path and what may be keeping them away from the experimental area of behavioral psychology.

More research needs to be completed on the topic of women in psychology, their career choices, and their academic paths and experiences. Potential future research could examine male and female undergraduate and graduate students in psychology programs and determine their career interests, how they differ, how they believe that they are recruited to different areas, and how attractive certain areas are for males and females. Research also could be completed with psychologists working in the field to examine how they made their choices in career path and area of interest.

How does all of this information relate to the idea of a glass ceiling for women? It does appear that women are making strides in authorships, but that these gains have been slower in reaching the higher levels of publishing such as editorial board member, associate editor and editor. There appears to be an increase in the editorial board membership of women in JEAB that is in accordance with their overall increase in authorships, but in JABA women are decreasing their editorial board membership, which is in contrast to their increase in authorship. Is this representative of a glass ceiling? Will

it still take some time for women to reach these higher positions in greater numbers, as they are just now reaching higher levels of participation? Is there a problem with a "temporal gap" in that there has not been enough time for women to have reached these higher positions? Or will women continue to not make much gain in higher levels due to some invisible barrier? Only time and future research will tell.

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Appendix A

Is the “feminization of psychology” good or bad? It has been shown that occupations with larger numbers of females than males have been seen as less prestigious and have been associated with less pay than is the case with traditionally male occupations (Rider, 2000). Some authors have suggested that the increase in the relative proportion of women is a sign that the status of the occupation has decreased, as women are allowed to enter fields after jobs have become less attractive to men, for example, for occupations such as bank tellers, teachers, civil servants and hotel managers (Rider, 2000). These jobs may also require less training which could account for the decreased pay and prestige.

Outside of the United States and Canada psychology tends to be a female-majority occupation. To illustrate, in the Dominican Republic over 95% of the new psychologists are female. In countries where there are more men working in psychology (e.g., in the US and Canada) female students are the majority, which is a sign of future changes in the gender composition of the profession (Sexton & Hogan, 1992). Boatswain et al. (2001) provided their feminist perspective on the issue, commenting on the decline in prestige of the field of psychology due to the increasing number of women psychologists. They stated that, in general, whatever females do tends to be devalued in relation to whatever males do; this is apparent in the school system where courses and programs dominated by women (e.g. Human Ecology, Social Work) are treated differently and are seen as less prestigious than those dominated by men (e.g. Medicine, Dentistry). Boatswain et. al (2001) also state that this increase of women in psychology has resulted in a loss of interest by taxpayers and government in the profession. As

women continue to enter psychology programs at a higher rate than men, will the prestige of psychology continue to drop?

Research has shown that women have reported experiencing biases in many aspects of their education and careers in psychology (Rider, 2000). Women have reported that they struggle to gain equality in traditional academic settings. Gender-based discrepancies are still reported to exist despite the increasing number of female faculty members in Psychology Departments. In 1998-99 there were twice as many men as women in full-time faculty positions in almost all subfields in psychology. In addition women accounted for 63% of low level, often temporary positions, and only 25% of top level positions (Rider, 2000). The full-time male faculty reported higher salaries than their female counterparts at almost all ranks and men were more than twice as likely to be tenured (Williams et al., 2000).

However, the reported gender discrimination appears to be even more far reaching. Women report less mentoring during their PhD programs than men report, and have expressed less confidence in their writing and research skills (Skinner et al., 1999). Research has shown that inequalities in pay and job promotion are not likely due to differences in productivity and thus cannot be explained by seniority or experience (Williams et al., 2000). Is this gender discrimination?

In a review of women in the history of psychology, Rider (2000) states that women are relatively absent. McKenna and Kessler (1976) found that, in studies of sex roles, females were mostly omitted or ignored in early research. Females have been seen as "noise or error" when they deviate from the "male norm". Weisstein (1968) stated that psychologists had nothing to say about women because they knew nothing of their

behavior and attitudes. Kahn & Jean (1983) found: a) that women were infrequently studied; b) that theories were constructed from a male perspective as the normative point of view, and that any difference in women's behavior was seen as a deviation (e.g., Kohlberg's theory of moral development was developed and based on the lives of males but is thought to apply to both genders equally despite the possibility that females may develop differently than males.); c) that female stereotypes were considered accurate and that women who fulfilled them were seen as healthy and happy; d) that differences were attributed to anatomy and physiology; e) and that social context was ignored. In many cases researchers have found that women's experiences and contributions are minimized, ignored, distorted and misinterpreted (Boatswain et al., 2001). Some improvements have been made such as a decrease in sexist language in publications (Rider, 2000). However many advocates for women and female psychologists believe that there is still a long way to go.

In Canada the CPA's Status of Women Committee, which was formed in 1977, was dissolved in 1996, during a reorganization of the Board of Directors, due to financial concerns and inactivity (disinterest) before 1996. The CPA's Section on Women in Psychology (SWAP) made only episodic appearances at conferences. The membership in SWAP is declining (Boatswain et al., 2001). The first Psychology of Women course in Canada was taught at York University in 1988 and it was not a regular course until 1991. The University of Regina and Acadia University did not have a course until 1996, and Mount Allison University until 2000. From 1994-97 only 40% of Canadian schools offered a course on the Psychology of Women. These courses were not offered consistently and were often special topics courses. McGill offered no courses during this

time on any topic relating to women (gender and sex differences for example), York University, only one, the University of British Columbia, one, and the University of Guelph, one. The University of Manitoba first offered a Psychology of Women course in 1995 and has done so every year since that time.

Williams et al. (2000) examined the change over time in the status of women in psychology. They picked the years 1977 and 1997 with which to compare the prevalence of women in psychological research. In 1977 only 33% of PhD recipients in psychology were women. This figure jumped to 67% in 1997. Women employed with PhD's in psychology rose from 20% in 1977 to 42% in 1997. Women psychologists registered with APA rose from one quarter to one-half of the members. These figures show an increasing prevalence of women in psychology. In 1969 the APA convened a Task Force on the Status of Women which led to Division 35-The Psychology of Women. The goal of the Task Force and Division 35 was to increase efforts to improve women's parity within psychology. Opinions on whether this initiative was effective are mixed (Williams et al., 2000).

Boatswain et al. (2001) examined two Canadian journals in order to determine how much of contemporary research relates to women and women's issues. They found that content relating to women in general was apparent in approximately 25% of the articles in the *Canadian Journal of Behavioral Science*. *Canadian Psychology* had decreased its coverage of topics relating to women from 17% in 1985-89 to 6% in 1992-96. Only about 7% of the articles came from a feminist perspective. (Boatswain et al., 2001). In the late 1980's, of all the conference presentations of CPA, only 9% were women focused, meaning that they dealt specifically with topics related to women. This

figure increased to 14% in the 1990's. The types of issues were similar across the time span but they reported that women's views and experiences tended to be homogenized in that rarely were experiences of minority or marginalized women expressed in research. Of the 790 dissertations from 1985-89, 68 (8.6%) were women focused and only 9 (1.1%) were feminist. From 1992-96, of 867 dissertations, 103 (11.9%) were women focused and 16 (1.85%) were feminist. These findings indicate that, although Canadian psychology is increasingly dominated by women, the psychology of women content is still not highly salient (Boatswain et al., 2001).

Williams et al. (2000) examined medical school psychologists in doctoral level programs. Surveys were mailed to respondents, with rate of return at 50%. The respondents were 56% male and 92% Caucasian which may have affected the data obtained. They found that the median number of years at a job was higher for men than for women (10 vs. 6 years). Men were the majority of full professors (77 vs. 23%) and associate professors (58 vs. 42%). Men reported higher median salaries in all academic ranks even when their female colleagues had similar years of experience. Is this same picture evident for educational psychology settings as well?

McSweeney et al. (2000) examined different hypotheses as to why a "glass ceiling" has developed. The authors do not believe that it is due to a lack of skill, intelligence or motivation. Although research has shown that even women with University educations who work full time are still responsible for most of the family and household responsibilities, does this mean that a greater percentage of these women still are not devoting time and energy to get ahead in their careers? Many women are delaying marriage and childbirth to focus on education. McSweeney et al. (2000) also believe that

it seems unlikely that women tend to decline invitations to join editorial boards more often than men. Do women fail to work hard enough to become editorial board members because they are distracted by other responsibilities, families for example? McSweeney et al. (2000) do think that the glass ceiling is a factor of gender discrimination.

Appendix B

Publication Patterns of Women in Behavioral Psychology
Classification of Names

Scoring Procedures and Rules

Journal of Applied Behavior Analysis (JABA)
 Journal of the Experimental Analysis of Behavior (JEAB)
 Journal of Applied Developmental Psychology (JADP)
 The Journal of Experimental Child Psychology (JECP)

Score all articles including:

- empirical articles
- theoretical articles
- book reviews
- commentaries
- "editorials" by someone other than current editor

Do not score:

- editorials by editor of current issue
- editorial comments, introduction, call for papers ect.
- extras in journal such as "Quotations" in JEAB

1. Using the scoring sheets enter the journal name, volume(s), and year.
2. Obtain the editor's name(s), associate editors, and editorial board by consulting the first issue (usually January) of each year. Record this on scoring sheet. If there are any unknowns record in space under editorial board members to checked later (see name classification method).
3. Score each article starting with the first for each journal in each year. That will be "Article #1". This is important especially for volumes that might be split into two different bound books. Score all articles in order.
4. Enter the total number of authors.
5. Enter the total number of male authors.
6. Enter the total number of female authors.
7. Record the gender of the first author.
8. Record any unknown [gender ambiguous (e.g. Kelly, Terry), foreign, initials] names to be checked later in the unknown column.

- ✓ Gender can be classified by first names. Typically female names (e.g. Jennifer, Tiffany, Anne) and stereotypically female spellings of names (e.g. Frances) will be coded as female. Typically male names (e.g. John, William) and stereotypically male spellings of names (e.g. Francis) will be coded as male.
- ✓ If gender cannot be determined by first name use the following steps to try and determine gender of the author.
 - Check footnotes at the bottom of the first page of the article, they sometimes will give the gender of the author in this information.
 - Record email addresses of the unknown author or the first author if available. Emails can be sent out to obtain the gender of the authors.
 - Check a search engine on the Internet (Yahoo, Google, ect.). If an individual has an appointment at a university they will usually have a web page or some information available on them at that university's site.
 - Mail first author to determine gender of unknown authors.
 - Check sites such as www.findaschool.org/
 - APA Website
 - CPA Website
 - PsychINFO- author affiliates
 - General Education Online

Keep a list of “unknowns” that you are able to classify as they may come up more than once.

Keep your eye open in articles and pictures that may mention the “unknown” authors. There may be clues to gender.

Ask a colleague or professor if they have heard of a specific author, especially if they appear often.

Appendix C

Data Sets

Journal: JEAB												
Year	# of Arts.	# Exc.	# of M	# of F	M 1st	F 1st	Ed.	M EB	F EB	EB Exc.	M AE	F AE
1982	74	6	100	25	55	13	1m	25	4	0	3	0
1983	72	2	114	25	62	8	1m	26	4	0	3	0
1984	79	0	109	25	71	8	1m	25	3	0	3	0
1985	63	3	96	25	53	7	1m	25	6	0	4	0
1986	59	4	98	29	45	10	1m	27	5	0	3	0
1987	87	4	132	23	70	13	1m	27	4	0	2	1
1988	75	3	124	31	61	11	1m	29	4	0	2	1
1989	68	2	117	23	58	8	1m	29	6	0	3	1
1990	57	0	102	27	47	10	1m	36	7	0	3	1
1991	69	2	106	32	52	15	1m	42	7	0	5	0
1992	73	3	123	23	63	7	1m	36	6	0	4	0
1993	81	5	123	28	65	11	1m	33	4	0	4	0
1994	72	2	128	32	63	7	1m	27	4	0	3	1
1995	50	3	70	30	35	12	1m	26	6	0	2	2
1996	84	2	130	33	60	22	1m	29	5	0	2	2
1997	60	1	100	23	55	4	1m	32	3	0	2	2
1998	44	2	77	19	32	10	1m	34	2	0	3	1
1999	68	0	91	24	59	9	1m	35	7	0	3	1
2000	42	1	74	23	28	13	1m	36	9	0	4	0
2001	45	1	71	20	33	11	1m	37	8	0	4	0
2002	69	0	112	39	56	13	1m	32	7	0	4	0
2003	47	0	78	22	37	10	1m	28	8	0	4	0
2004	44	0	69	16	37	7	1m	27	10	0	4	0

Legend for Data Charts

# of Arts.	Number of Articles
# Exc.	Number of Articles Excluded
# of M.	Number of Male Authors
# of F	Number of Female Authors
M 1st	Number of Male First Authors
F 1st	Number of Female First Authors
Ed.	Editor(s)
M EB	Number of Male Editorial Board Members
F EB	Number of Female Editorial Board Members
EB Exc.	Number of Editorial Board Members Excluded
M AE	Number of Male Associate Editors
F AE	Number of Female Associate Editors

Journal: JABA												
Year	# of Arts.	# Exc.	# of M	# of F	M 1st	F 1st	Ed.	M EB	F EB	EB Exc.	M AE	F AE
1982	48	3	94	50	29	16	1m	35	17	0	5	1
1983	37	1	68	33	27	9	1m	33	17	0	5	1
1984	52	2	90	53	27	23	1m	33	16	0	5	0
1985	37	1	66	43	27	9	1m	37	13	0	4	1
1986	49	2	87	58	31	16	1m	38	12	0	4	1
1987	46	5	80	28	31	10	1m	36	15	0	4	1
1988	43	4	83	50	25	14	1m	34	15	0	4	1
1989	44	1	81	49	28	15	1m	36	13	0	4	1
1990	50	2	99	57	30	18	1m	36	13	1	5	1
1991	88	2	132	74	66	20	1m	31	15	1	5	1
1992	88	1	139	96	62	25	1m	35	14	0	4	0
1993	70	3	111	75	46	21	1f	36	14	0	4	0
1994	76	1	142	112	47	28	1f	35	14	0	4	0
1995	67	4	109	83	38	25	1f	33	12	0	5	0
1996	62	2	98	80	38	22	1m	37	13	0	5	0
1997	74	2	129	97	46	26	1m	36	14	0	5	0
1998	75	1	137	116	49	25	1m	33	17	0	4	1
1999	61	0	114	75	39	22	1m	38	11	1	4	1
2000	73	1	149	108	48	24	1m	38	11	1	3	2
2001	64	2	114	81	45	17	1m	33	12	0	3	2
2002	57	0	94	95	34	23	1m	37	13	0	3	2
2003	63	4	95	105	31	28	1m	36	14	0	3	2
2004	63	1	105	114	28	34	1m	41	11	0	4	1

Journal: JECF												
Year	# of Arts.	# Exc.	# of M	# of F	M 1st	F 1st	Ed.	M EB	F EB	EB Exc.	M AE	F AE
1982	70	1	80	55	35	34	1m	24	4	0	1	0
1983	67	5	78	58	31	31	1m	21	4	0	1	0
1984	73	1	77	66	45	27	1m	20	4	0	1	0
1985	64	2	73	51	38	24	1m	16	3	0	0	1
1986	52	3	54	56	30	19	1m	15	4	0	0	1
1987	50	2	40	67	18	30	1m	15	4	0	0	1
1988	48	4	50	44	27	17	1m	13	5	0	0	1
1989	53	0	68	56	33	20	1m	13	5	0	0	1
1990	49	4	39	59	21	24	1m	16	6	0	0	1
1991	46	4	44	52	24	18	1m	13	5	0	0	1
1992	37	1	40	32	20	16	1m	12	6	0	0	1
1993	42	2	45	63	16	24	1m	12	9	0	0	1
1994	45	0	51	49	25	20	1m	12	9	0	0	1
1995	46	2	34	66	16	28	1m	10	6	0	0	1
1996	56	2	60	74	28	26	1m	10	8	0	0	1
1997	76	6	77	94	31	39	1m	10	8	0	0	1
1998	50	1	60	54	30	19						
1999	42	5	32	48	16	21						
2000	45	4	39	68	13	28						
2001	65	2	67	78	25	38						
2002	54	1	55	96	20	33						
2003	49	3	53	82	18	28						
2004	49	1	63	75	19	29						

Journal: JADP												
Year	# of Arts.	# Exc.	# of M	# of F	M 1st	F 1st	Ed.	M EB	F EB	EB Exc.	M AE	F AE
1982	30	3	36	24	16	11	1m	30	13	0		
1983	29	2	23	28	13	14	2m	35	17	0		
1984	24	4	21	22	9	11	2m	35	17	0		
1985	23	3	19	25	9	11	2m	33	17	0		
1986	31	4	24	30	12	15	2m	38	15	0		
1987	34	1	41	40	15	18	2m	38	15	0		
1988	31	5	28	39	10	16	2m	40	17	0		
1989	33	0	26	46	11	22	2m	39	17	0		
1990	30	2	19	36	6	22	2m	39	17	0		
1991	33	1	28	48	11	21	2m	38	23	0		
1992	33	1	28	34	14	18	2m	37	20	0		
1993	33	2	31	47	8	23	2m	39	28	0		
1994	38	0	31	56	13	25	2m	40	28	0		
1995	35	3	35	57	14	18	2m	31	32	0		
1996	33	3	31	52	11	19	2m	32	32	0		
1997	41	4	36	57	18	19	2m	32	30	0		
1998	38	0	29	65	13	25	2m	32	30	0		
1999	32	0	30	56	10	22	2m	34	34	0		
2000	40	1	41	55	17	22	2m	34	34	0		
2001	35	1	43	61	14	20	2m	37	34	0		
2002	22	1	24	47	7	14	1m, 1f	31	35	1		
2003	49	2	35	84	13	35	2f	31	34	1		
2004	43	0	38	60	15	28	2f	32	34	1		