GENDER DIVERSITY IN EDITORIAL BOARDS OF MANAGEMENT JOURNALS

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ABSTRACT

Our study examines women's representation in editorial boards in Management over a 15-year period viz à viz their representation as authors. It uses secondary data from 57 journals covering approximately 10,000 editorial board members and nearly 10,000 articles. The results show that women continue to be under-represented in editorial boards in relation to their representation as first authors of articles published in those journals. Three factors explain the under-representation of women in editorial boards: the field of study, the journal's prestige and the editor's gender. The persistent gender imbalance in the editorial boards of many Management journals in the last 15 years hinders women's ability to attain scholarly recognition and advancement, and carries the risk of narrowing the nature and scope of the enquiry in Management.

Keywords: publishing; management education; politics in academic organizations.

GENDER DIVERSITY IN EDITORIAL BOARDS OF MANAGEMENT JOURNALS

Editorial board members of management journals are the gatekeepers of management knowledge because of their pivotal role in deciding what is published (e.g., Raelin, 2008). Many of the articles that the editorial board members accept for publication are then used by teaching faculty in management education. It is desirable, therefore, that our discipline publishes diverse rather than homogeneous perspectives (Bedeian, 2004), that inform our professoriate and management teachings and, in turn, the actions of practicing managers (Bailey, 2004; Offermann, 2007). Based on the business case for diversity in organizations literature (e.g., Cox & Blake, 1991; Robinson & Dechant, 1997), demographically heterogeneous groups (such as those composed of men and women, rather than of only men or of only women) may be best placed to provide a diversity of perspectives that might enhance the development and creation of knowledge. As men and women are members of different groups based on their sex, they might differ somewhat in research interests and methodologies (Addis & Villa, 2003). We need to know, therefore, the gender composition of the editorial boards of management journals and understand the determinants of that composition. This awareness is needed because of the undeniable influence of editorial board members on how the management field develops and, hence, on what we teach and research (e.g, Jacobs, 2008; Starbuck, Aguinis, Konrad, & Baruch, 2008). The influence of editorial board members is evidenced in the ongoing debate on the "gatekeepers of knowledge" in management (e.g., Baruch, Konrad, Aguinis, & Starbuck, 2008; Tsui & Hollenbeck, 2008). As reviewers, editorial board members express accept/reject decisions. Although they do not usually know the gender of the author/s of the papers they review, editorial board members of each gender might recognize and be more favorable towards their field of interest / perspectives. Hence, the focus on editorial board composition recognizes the powerful influence (on authors'

careers, the evolution of knowledge, and the teaching and learning of management) that editorial board members exercise as reviewers (e.g., Bedeian, 2008).

However, we know very little about the gender composition, and the determinants of the gender composition, of the editorial boards of management journals. Based on the extant women in management and women in editorial boards literatures, we know that women's increased workforce participation and education credentials (Wirth, 2001) have not resulted in a comparable increase in women's representation on company boards (Catalyst, 2007; EOWA, 2006; Wirth, 2001) or on the editorial boards of academic journals (e.g., Addis & Villa, 2003; Kennedy, Lin, & Dickstein, 2001; McGee, Bucklin, Dickinson & McSweeney, 2003). Even the increase of women's representation in high level positions that may lead to company and editorial board membership, such as of Executive or Professor, has lagged behind their workforce participation and education achievements (e.g., Catalyst, 2007; EOWA, 2006; Ward, 2001; White, 2003; Wirth, 2001). Many individual and non-individual (e.g., organizational) reasons have been put forward to explain women's persistent under-representation in higher levels of management and company board membership, such as different work experiences (e.g., Lyness & Thompson, 2000), family responsibilities (e.g., Hochschild, 1997; Mainiero & Sullivan, 2005), exclusion from influential internal networks (e.g., Kanter, 1977; Portes, 1998) and inhospitable organizational cultures (e.g., Jandeska & Kraimer, 2005; Rutherford, 2001). In contrast, most of what we know about women's representation in editorial boards of academic journals is descriptive in nature and focuses primarily on the individual (e.g., McGee et al. 2003; McSweeney, Donahoe & Swindell, 2000; White, 1985) instead of on a combination of individual and non-individual factors. We address this gap by examining the composition of editorial boards over time to determine if a link exists between individual and non-individual factors and editorial board composition.

The under-representation of women in editorial boards of academic journals is harder to comprehend than their under-representation in non-academic settings. Higher education institutions might be expected to be at the forefront in providing women with equitable career opportunities. Although academic environments are not devoid of politics or gender discrimination (Baruch & Hall, 2004; Knights & Richards, 2003), the inequitable treatment of women might be less pronounced in academic environments than in non-academic ones. The fairer treatment of women academics could be attributed to, for example, quantifiable measures of scholarly contribution, such as publications, and a blind peer-review system of one's scholarship (Baruch & Hall, 2004; Probert, 2005). Academic evaluation (partly based on a blind-peer review system and quantifiable measures of scholarly contribution) thus reduces barriers commonly linked to women's advancement in non-academic settings, such as the devaluation of women's work and differential evaluation of women's capabilities (Baruch & Hall, 2004; Eagly & Karau, 2002).

It is important to understand the under-representation of women in editorial boards (WIEB) for several reasons. First, women's under-representation in editorial boards deprives journals of women's intellectual contribution. Addis and Villa (2003) suggested the under-representation of women in positions of power to decide on acceptance of articles might lead to an under-representation of women's perspectives because of differences between research interests and methodologies used by men and women in some disciplines. As management journals spread the knowledge that informs research and teaching, a lack of diversity in the management literature is likely to affect the ability of higher education institutions, such as business schools, to meet the diverse needs of current practicing managers (Bedeian, 2004; Offermann, 2007). In particular, if women's perspectives are poorly represented in management journals, the information that flows to practicing managers is partial, which may potentially hinder their knowledge and actions.

Second, some of the reasons for the under-representation of WIEB may lie with the characteristics of academic journals and, thus, would be unique to the academic setting. Third, the exclusion from editorial boards is likely to have a cumulative negative effect for women's development and career advancement, because board meetings are an excellent opportunity to socialize, exchange information, and generally increase awareness for one's own position and research (Addis & Villa, 2003). Further, networks are important for an academic career (Bedeian, 2004; Gersick, Bartunek, & Dutton, 2000; Raelin, 2008) and membership of editorial boards means membership of high-level academic networks. Editorial board membership is also a key indicator of peer recognition in the promotion processes of most universities (Raelin, 2008).

Yet, research into the representation of women in editorial boards of management journals is scarce. Past studies have examined women's representation on the board of academic journals in the fields of psychology, economics, accounting, and medicine (e.g., Addis & Villa, 2003; Carnegie, McWatters, & Potter, 2003; Jarema, Snycerski, Bagge, Austin, & Poling, 1999; Kennedy et al. , 2001; McSweeney et al., 2000; White, 1985), but not of management. To our best knowledge, only McGee et al. (2003) included a journal in the field of management when examining women's representation in editorial boards. Like other studies in the field, McGee et al.'s study comprised a small sample size (4 journals), was descriptive, and did not offer a theoretical rationale for their findings. Further, past research into the publication process has uncovered greater challenges and potential biases in the publication process in the area of social sciences (and in particular in the management field) than in other scientific areas, such as chemistry (e.g., Beyer, 1978). Biased processes have often been identified as the reason for women's under-representation in the senior ranks of academia, such as at the rank of Professor (e.g., Ginther & Hayes, 2003; Park & Gordon, 1996; Ward, 2001). It is important to examine the representation of women in editorial boards in the field of management as potential biases in the

publication processes in this area mean that incumbent editorial board members and journal editors have more power as gatekeepers than in most other disciplines.

We fill this gap in our understanding of women's representation in editorial boards of academic journals by examining women's representation in editorial boards in management over time viz à viz their representation as authors. Specifically, we examine the relationships between women's authorship (an individual factor), the field of study, the journal's prestige and the editor's gender (three non-individual factors) and women's representation in editorial boards of management journals. Hence, we contribute to the literature on WIEB of academic journals by going beyond descriptive statistics to explain women's representation on the board of management journals, an understudied area. In particular, major contributions of our study are the analysis of the differences between management journals in female editorial board membership, and the test of individual and non-individual explanations for those differences. The understanding of the under-representation of WIEB may not only enhance women's careers in academia and knowledge sharing of diverse perspectives, but also influence our management teachings in higher education.

Literature Review and Hypotheses

The Representation of Women in Editorial Boards over Time

According to the "pipeline" argument, women's representation at high levels in a field of work should grow with their increased representation in the pipeline that leads to those high levels. As women progress up the pipeline, they acquire the skills and knowledge necessary to be eligible to apply for the top jobs. Workforce participation rates show a steady increase over the last three decades in the proportion of women of all age brackets in the workforce (Wirth, 2001). So, all things being equal, we should see more women at high levels over time because the increasing

representation of women in the pool of candidates for top positions increases the probability that a woman will be selected.

Similarly, one can argue that women's representation in editorial boards should increase over time as their representation as authors increases. Publications in peer-reviewed journals reflect an academic's scholarly contribution and scientific influence and assists academic career advancement (e.g., Baruch & Hall, 2004; Bedeian, 2004; Park & Gordon, 1996; Raelin, 2008). Scientific contributions are important criteria in the selection of editors and editorial members of peer-reviewed journals (Hitt, 2008; Miller, 2006; Rynes, 2006). In particular, publication in the journal in question is likely to carry much weight (Miller, 2006). The pool of women in the pipeline eligible for editorial board positions must have increased because female authorship in peer-review management journals (e.g., Jarema et al., 1999; McGee et al., 2003) and the proportion of women Professors (Toutkoushian, 1999) have increased. Thus, we propose:

Hypothesis 1. Women's representation in editorial boards of management journals will have increased over time with the increase in female authorship.

The women in management (WIM) literature shows that women are better represented at low than at high management levels and their representation on boards of organizations is at or below 15% (Catalyst, 2007; EOWA, 2006; Wirth, 2001). Similarly, the proportion of female editorial membership in management journals is expected to lag behind female authorship. This lag has been found in fields such as accounting (e.g., Carnegie et al., 2003), medicine (Kennedy et al., 2001), applied behavior analysis (McSweeney et al., 2000), psychology (e.g., White, 1985) and economics (Addis & Villa, 2003). A lag was also found for some journals in the management field, such as the *Journal of Organizational Behavior Management* (Jarema et al., 1999; McGee et al., 2003) and *Personnel Psychology*, but not for the *Journal of Applied Psychology* and the

Academy of Management Journal (McGee et al., 2003). The lag between female authorship and editorial membership might be partly due to "leaks" or "blockages" in the pipeline. Leaks refer to women's choices not to enter or to exit academic careers early. These choices can be due to women's greater parental responsibilities than men's (e.g., Probert, 2005) and perceived systemic barriers related to parenthood (e.g., van Anders, 2004). So, leaks affect the lag between female authorship and editorial membership because of female academics' interrupted careers. Career breaks arguably slow the career advancement of women in management (Mainiero & Sullivan, 2005). Blockages are systemic barriers that prevent women academics from advancing at the same rate as their male colleagues, such as the type (research led or not) of department and the prestige of the university one works in (e.g., Ginther & Hayes, 2003; Park & Gordon, 1996). Given findings of lags between female authorship and editorial membership in fields such as accounting, medicine, applied behavior analysis, psychology and economics, we believe it is warranted to test this hypothesis for management. Thus, we propose:

Hypothesis 2. Women's representation in editorial boards of management journals will be significantly lower than their representation in authorship in the same journals.

Many of the explanations offered to date for women's lower representation in academic journals than as authors of articles published in those journals have focused on the individual. For instance, McGee et al. (2003) suggested that males may publish more than females or publish articles that are more highly valued than those published by females (e.g., empirical rather than conceptual pieces), and that more females than males with doctorates accept applied rather than academic positions or decline invitations to serve in editorial boards. However, these suggestions have not been tested and McGee et al. (2003) acknowledged that none of these conjectures explained the variation in WIEB between the four journals in their study. Further, multivariate studies controlling for individual and other factors suggest that gender inequity in academia

cannot be solely attributed to women being in some way deficient in human capital (e.g., Ginther & Hayes, 2003; Miller, Glick & Cardinal, 2005; Park & Gordon, 1996; Toutkoushian, 1999), such as low productivity and employment in non-research led institutions. So, we examine three non-individual factors that may explain female academics' representation in editorial boards such as management area of study, journal's prestige and editor's gender.

The Representation of Women in Different Areas of Management

We included five different subject areas within management[i] and expect that the variation in WIEB might be explained by women's different representation as authors in different areas of study. For example, in 2006/07 female students' representation in higher education in the UK was significantly greater in the Human Resources Management (HRM) area of study (76%) than in the area of Management studies (47%) in general, and of Marketing (56.6%) or Finance (37.4%) in particular. Further, the representation of female students in 2005 in "Social Sciences, Business and Law" was higher than in "Engineering, Manufacturing and Construction" in Australia (55% vs 21%), in the UK (55% vs 19%), and in the US (56% vs 16%) (UNESCO_UIS database_Sep2007). In line with the representation of female students in the various areas of study in higher education, women's representation at executive level in staff areas, such as in HRM roles, is better than in line areas responsible for generating revenue (e.g., Catalyst, 2002, 2007). Further, women executives are more likely to work in female dominated industries, such as Diversified Financials, than in male dominated ones, such as Automobiles or Mining/Crude-oil production (e.g., EOWA, 2006; Catalyst, 2002; Wirth, 2001).

Based on the representation of female students in higher education in the various areas of study and on the WIM literature (e.g., Catalyst, 2002; Wirth, 2001), we envisage that women's representation as authors and editorial board members may be greater in management areas traditionally seen as "soft" or feminine, such as HRM, than in areas of study perceived as "hard"

or masculine, such as Operations Management (Knights & Richards, 2003). However, we cannot provide a clear ordering of women's representation as authors and editorial board members by the five subject areas examined in this study, because we did not find enrolment or completion statistics in higher education by gender in exactly those five areas. Instead, we predict that women's representation in the areas of Marketing, International Business, and General Management & Strategy will fall in between their representation in HRM and Operations Management as the former three areas are not characterized by a similarly strong male/female emphasis.[ii]

> *Hypothesis 3. Women's representation as authors and editorial board members will be highest in the area of HRM/OB/IR and lowest in the area of Operations Management, with the representation of women as authors and editorial board members in Marketing, International Business, and General Management & Strategy falling in between these two extremes.*

Journal Prestige

In addition to the management area that a journal publishes in, a journal's prestige might contribute to the explanation of women's representation in editorial boards. We define prestigious journals as those journals in the field that maintain the highest standards both in terms of the rigour and novelty of the articles they publish and in terms of the quality of their reviewing process. Anecdotal evidence of the relationship between journal prestige and women's representation on editorial boards is provided by McGee et al. (2003) who report that in the Academy of Management Journal (AMJ) and the Journal of Applied Psychology (JAP) - generally acknowledged as two of the most prestigious journals in management and applied psychology (Podsakoff, Mackenzie, Bachrach, & Podsakoff, 2005) - women's representation as editorial board members is equal to or greater than their representation as authors.

Such a positive relationship is somewhat surprising because female faculty are under-represented in the professoriate, particularly at high levels (West & Curtis, 2006) and highly prestigious journals are as constrained by the size of the pool of eligible female faculty as less prestigious journals. McGee et al. (2003) do not offer any rationale for this positive relationship, nor do they provide formal tests for the relationship between journal prestige and women's representation in editorial boards. Although there may be many explanations for this relationship, we suggest the following are most likely. First, prestigious journals are often sponsored by a professional group (Podsakoff et al., 2005) and are highly regarded among academics. As a result, prestigious journals attract a large readership. The large readership, in turn, places pressure on the journal editor to select editorial board members that reflect the diversity of its readership's scholarly methods, research interests and points of view (Rynes, 2006). In sum, the membership of professional organisations influence editorial board selection, in so far as editors of these journals are subject to higher scrutiny. In addition, Tsui and Hollenbeck (2008) affirm that "the requisite variety of the reviewing mission that confronts an association journal such as AMJ and AMR needs to be matched by a requisite variety on the editorial board. Diversity … is not just a political issue but rather is a true demand of the task" (p. 13). As there may be gender differences in scholarly interests and perspectives (e.g., Addis & Villa, 2003), prestigious journals with diverse readership are likely to have a higher representation of women in their editorial boards than less prestigious journals. Second, to increase and maintain its influence, a prestigious journal will seek to balance research quality and innovation (Rynes, 2006; Tsui & Hollenbeck, 2008). This balance can be achieved by appointing scholars to the editorial board that are in some way different (e.g., in professional age; Rynes, 2006) to existing members (Tsui & Hollenbeck, 2008). Third, prestigious management journals might be more likely than less prestigious ones to use objective criteria to select and evaluate the performance of editorial board members, in order to

sustain the quality and influence of the articles published and to instil confidence in its peer review system (Miller, 2006). Objective criteria are transparent, and can be scrutinized and improved upon. In sum, despite the fact that highly prestigious journals choose editorial board members from the same pool of female faculty as less prestigious journals, the wide and diverse readership might have influenced the editors of highly prestigious journals to diversify their editorial boards. Thus, we propose:

Hypothesis 4. Women's representation in editorial boards will be higher for journals with a higher level of prestige.

Editor's Characteristics

Women's differential representation in editorial boards across journals might not be fully explained by management area and journal's prestige. The WIM literature shows that promotions to high levels are often based on subjective criteria such as the comfort level of the decision maker with the applicant (Ruderman, Ohlott, & Kram, 1995). Promotions to high levels can be influenced by the decision maker's gender (Ruderman et al., 1995), because individuals are more comfortable dealing with others who are like themselves (e.g., Kanter, 1977; Eagly & Karau, 2002). Therefore, we examine the journal editor's gender, because s/he is likely to have the final say in the selection of editorial board members (Starbuck et al., 2008).

The traditional predominance of men as editors of management journals may partly explain women's low representation in many boards of academic journals. Based on Kanter's (1977) homosocial theory, we argue that men may prefer to work with other men. Gender is a very salient personal characteristic, often used to categorize and evaluate individuals (Eagly & Karau, 2002). Journal editors may rely heavily on gender when evaluating candidates with similar or equivalent credentials, resulting in the selection of journal board members who are like themselves in terms of gender (Kanter, 1977; Ruderman et al., 1995).

In addition, the editor's gender might explain the representation of women in editorial boards, because male journal editors are likely to have a social and professional network made up predominantly of other men (Burt, 1998; Kanter, 1977; Portes, 1998). Networks help individuals advance in management (e.g., Portes, 1998; Powell, 1999; Wirth, 2001) and in academia (Gersick et al., 2000; Raelin, 2008). Some editorial board members might be selected partly because of good relationships with the editor (Addis & Villa, 2003; Raelin, 2008). As women are less likely than men to be part of a male editor's social and professional networks (Burt, 1998; Gersick et al., 2000; Kanter, 1977; Portes, 1998), they are also less likely to have a professional relationship with the male editor and to be appointed to his journal's editorial board.

In sum, journal editors may rely heavily on gender when selecting candidates with similar or equivalent credentials. This propensity for individuals to reproduce themselves socially and at work suggests that if a journal has a female editor at some point in the 15-year time span, the representation of women in the journal's editorial board is likely to be higher than in journals that have not had a female editor in that time span.[iii]

Hypothesis 5. Women's representation in editorial boards will be higher for journals that have had a female editor at some stage in the 15-year time span.

Method

Sample and Data Collection Procedures

Our study was based on archival data. Information on female editorial board membership, female first authors as well as a range of other variables (see measures below) was collected for a total of 57 academic journals[iv]. Hence, the unit of analysis for our study was the individual journal. Journals in five areas were included: Operations Management, International Business, General Management & Strategy[v], Human Resource Management/Organizational Behavior/Industrial Relations (HRM/OB/IR), and Marketing. We therefore follow a broad definition of management

by including the related discipline area of marketing. Taking Harzing's collated Journal Quality List as our basis, we selected around 10-12 journals for each area of management. In doing so we ensured a spread of North American and European journals as well as a range of journals of different standing. If there was a choice, we favored journals that had complete data for the four time periods in question, and preferably had been in operation for a while, so that first year idiosyncrasies would not distort our data. It was more difficult to find journals with complete data for Operations Management and International Business than for other areas. As a result, our sample comprises eight Operations Management and 10 International Business journals as opposed to 13/14 for the other areas.[vi]

As we wanted to test if female editorial board representation increased over time, we collected data at four points in time: 1989, 1994, 1999 and 2004[vii]. Five-year gaps are sufficiently long for changes to occur while generating enough data points over the 15 year period studied. We originally included 1984 as a fifth data point, but due to the high proportion of journals that were not yet operational in this year, we eventually excluded 1984 from our data set. For each journal, editorial board pages were accessed for the first issue of each of the four years, while pages of contents were accessed for *each* issue for all of the four years. A multilingual research assistant coded the editorial board/editor/first author data for gender. The gender was determined based on the editorial board member's/editor's/first author's first/given name. If first/given names were gender neutral, we were usually able to ascertain gender through an Internet search. For the few non-Western names we also sought assistance from PhD students representing the countries in question. If we were still unable to resolve the gender, the name was coded as missing. This procedure was necessary for fewer than 5% of the editorial board members for most of the journals and between 5 and 10% of the editorial board members for five journals in

Operations Management that had a high proportion of Chinese authors and/or listed only initials rather than full names. Hence, missing data are unlikely to have distorted our analyses.

Although we have complete records for 57 journals in 2004 and 1999, our data are incomplete for 1994 and 1989 as 5 (13) journals were either established after 1994 (1989) or did not have an editorial board in 1994 (1989). Large differences exist in the size of the editorial boards across areas, with Marketing and Operations Management journals having significantly larger boards (on average 67 and 69 members, respectively) than journals in the area of International Business (36), HRM/OB/IR (40) and General Management & Strategy (46). The average size of the editorial board has increased from 40 academics in 1989 to 64 in 2004. However, as we used the *proportion* of female editorial board members for each journal, these differences do not distort our results. In total, more than 10,000 editorial board members were coded.

In coding the articles we excluded book reviews, editorials, conference reports and commentaries. The average number of articles published per year differed substantially by journal (ranging from 15 for the Australasian Marketing journal to over 300 for the European Journal of Operations Management) and by area (ranging between 28 for International Business, 37-38 for General Management & Strategy, Marketing and HRM/OB/IR to 84 for Operations Management).[viii] As we used the *proportion* of female authors for each journal, these differences do not distort our results. We coded almost 10,000 articles and 20,000 authors in total.[ix]

Measures

The *proportion of female editorial board members* was calculated by dividing the number of female editorial board members by the total number of board members in each of the four years. The *proportion of female first authors* was calculated likewise. First authorship commonly reflects the largest individual contribution within the authorship team and, hence, was used as a

measure of authorship in our study. This approach to the authorship measure is in line with past accepted measures of research success (e.g., Miller et al., 2005). In counting female first authors only, we used a very conservative measure of authorship, thus overstating women's representation in editorial boards in relation to their representation in authorship. Female first authors in a particular journal are the best approximation of the pool of editorial board members for the journal in question. Of course, academics will normally be invited to become board members based on their total publication record (e.g., Miller, 2006). However, as previously mentioned, publication in the journal in question is likely to carry much weight (Miller, 2006). *Cumulative female editorship* was used to assess the impact of the editor's gender on the representation of WIEB and it was coded 0 if the journal did not have a female editor. In the year the journal had its first female editor it was coded 1. As we argue that the impact of a female editor will be enduring, any subsequent years were also coded 1 even if the journal no longer had a female editor. If the journal had a female editor at a second point in time this variable was subsequently coded 2. No journals had a female editor for more than two points in time.[x]

Measuring the prestige of academic journals is fraught with problems. Thomson ISI impact factors are often used to assess *journal prestige*. However, many of the journals in our sample are not ISI listed. Moreover, the use of impact factors suffer from serious drawbacks (see e.g. Yeung, 2002). Hence, we used Harzing's collated Journal Quality List as the basis for our measure of journal prestige. As even this list has many missing values and it is difficult to summarize a multitude of rankings, we used the summary scores as provided by Mingers and Harzing (2007). They performed an extensive statistical analysis to classify journals into four groups, using both a wide range of rankings in the Harzing Journal Quality List and Thomson ISI impact factors for 2004.[xi] In their classification 1 stands for the lowest ranked journals and 4 stands for the highest ranked journals.

Control Variables

In addition to the prestige of the journal and the gender of the editor, there might be several other non-individual / journal characteristics that might impact on the proportion of women in editorial boards. We included three of these as control variables: size of the editorial board, age of the journal, and academic or commercial publisher. Past research in gender and careers has shown that the representation of women in management positions increases when management pools and vacancies increase (Blum, Fields & Goodman, 1994). Hence, larger editorial boards might have a higher proportion of women. The *size of the editorial board* was measured by the total number of editorial board members in each of the four years. In addition, journals that have been established more recently might have a higher representation of women in their editorial boards than long-established journals for two reasons. The first is women's increased contribution as authors and, therefore, the larger pool of female faculty with an established research standing among their peers than before. The second is women's opportunities to serve as editorial members increase as new journals are established. The *age of the journal* was calculated by subtracting the year the journal was established from the year of data collection (1989, 1994, 1999 and 2004). Finally, academic publishers might be more likely to monitor the diversity of editorial board composition than commercial publishers, because academia might be expected to be at the forefront of providing women with equitable career opportunities, as previously argued. Hence, journals published by academic organizations might have a higher representation of women in their editorial boards than journals published by commercial publishers. The type of publisher was named *academic publisher* and coded 0 for a commercial publisher and 1 for an academic organization or a commercial publisher affiliated with an academic organization. An example of the latter is the *Journal of International Business Studies*, which is published by Palgrave-Macmillan but is the official journal of the Academy of International Business. In our

regression analyses, we also included the proportion of female first authors in each journal as a control variable in order to control for the available pool of editorial members.

Results

Table 1 ranks the journals in our sample in descending order of the proportion of female editorial board members. With the proportion of female editorial board members ranging from 0% to near gender equality (44%), the variation is substantial. Nearly 80% of the journals included in our study have 20% or fewer women on their editorial boards, and 40% of the journals have 10% or fewer women on their boards. Half of the journals with more than 20% female editorial board members are in the HRM/OB/IR area. There are two IB journals near the top in terms of their proportion of women on the editorial boards, both of which are in the area of cross-cultural/international management, the "softest" area of research in IB. The three General Management & Strategy journals that have more than 20% female editorial board members (*The Academy of Management Review*, *Administrative Science Quarterly* and *The Academy of Management Journal*) are generally recognized as the most prestigious in General Management (Mingers & Harzing, 2007).

(Insert Table 1 about here)

Tables 2 show the means, standard deviations (SDs), and correlations for the variables in our study. Some predictor variables are significantly correlated. However, all Variance Inflation Factors (VIFs) were under 2.00 except for journal prestige, which reached values between 2.00 and 2.55 in half of the regression analyses. These VIF results suggest that multicollinearity is not an issue (Hair, Black, Babin, Anderson & Tatham, 2006).

Several interesting observations can be made from these tables. As expected, out of the control variables, female first authorship shows the strongest correlation with the proportion of

female editorial board membership. Further, the size of the editorial board and the age of the journal show modest positive correlations with the proportion of female editorial board membership. Both of our independent variables (journal prestige and cumulative number of female editors) are significantly correlated with the proportion of female editorial board membership ($r=0.348$, $p < .001$ for journal prestige and $r=0.469$, $p < .001$ for the cumulative number of female editors). In addition, there are a number of significant intercorrelations between the control and the independent variables. The proportion of female first authors at present and with the 5 and 10 year time lags is significantly positively correlated to the cumulative number of female editors. Three of the control variables show a consistent and significant relationship with journal prestige, with higher-ranked journals being older ($r=0.458$, $p < .001$), having larger editorial boards ($r=0.427$, $p < .001$), and being more likely to be published by academic organizations than commercial publishers ($r=0.329$, $p < .001$). These relationships provide evidence of the predictive validity of the measures used in our study.

(Insert Table 2 about here)

Hypothesis 1 proposed that women's representation in editorial boards of management journals would have increased over time with the increase in female authorship. The representation of WIEB has increased from 8.9% in 1989, to 13.6% in 1994, 16.1% in 1999 and 17.9% in 2004. A one-way repeated measures ANOVA showed that the proportion of female editorial board members increased significantly over time [$F(3, 42) = 30.99$, $p < .001$]. So, Hypothesis 1 is fully supported as we see a gradual and significant increase in female editorial board membership over the entire period.

As proposed in Hypothesis 2, we found women's representation in editorial boards of a specific group of journals to be significantly ($p < .001$ for 1989, 1994, 1999 and 2004) lower than their representation in authorship in the same group of journals for all four time periods. A one-

way repeated measures ANOVA showed that the difference between female first authorship and female editorial board membership has not changed significantly over time [$F(3, 42) = .34$, $p = .800$]. Although the proportion of female editorial board members has increased, the proportion of female first authors has increased at least at the same rate. Therefore, Hypothesis 2 was fully supported because women's representation in editorial boards in relation to their representation as first authors has not improved in the last 15 years.

However, the pipeline argument suggests that women are under-represented because it takes a while for women to climb up to high-level positions after entering a field of study. Hence, one could argue that female first authors are an inadequate representation of the pool of editorial board members. Even though these female academics have published in the journal in question as senior authors, they might not yet have the overall academic standing that qualifies them as editorial board members. Therefore, we also calculated a difference score with a 5-year and 10-year time difference. For instance, we compared the proportion of female editorial board membership in 2004 with the proportion of female first authors in 1999 or 1994. The results still show a negative gender balance with the 5-year time lag (2004: -.0544, 1999: -.0313, 1994: -.0193) but this virtually disappears with the 10-year time lag (2004: -.0115, 1999: .0034). If we accept that it could take up to ten years between publishing in a journal and being eligible to be on the editorial board of that journal, then we have to accept the pipeline argument. Note, however, that this conclusion rests on the assumption that on average female academics publishing as first authors in academic journals are less senior academics than male academics publishing in the same journal. Otherwise, the pipeline argument also applies to male academics. As we cannot test this assumption with the data available in our study, we conduct our analyses both with and without time lags in the remainder of this article.

Hypothesis 3 proposed that women's representation as senior authors and editorial board members would be highest in the area of HRM/OB/IR and lowest in the area of Operations Management, with the representation of women as senior authors and editorial boards members in Marketing, International Business, and General Management & Strategy journals falling in between these two extremes. An ANOVA analysis for the four data points combined showed significant differences between the proportion of female first authors across the five management areas ($F = 7.32$, $df = 4$, $p < .001$). A post-hoc test showed that the proportion of female first authors in Operations Management (12.3%) is significantly lower than that of all other sub-disciplines, whereas the proportion of female first authors in HRM/OB/IR (28.0%) is significantly higher than that of all other sub-disciplines. The proportion of female first authors in International Business (19.5%), Marketing (20.8%) and General Management & Strategy (21.0%) did not differ significantly from each other. Differences in female editorial board membership generally follow the differences in female first authors, with Operations Management showing the lowest (8.8%) and HRM/OB/IR the highest (22%) proportion of female editorial board members and General Management & Strategy (14.9%) and Marketing (12.6%) and International Business (10.8%) scoring in between. Hence, Hypothesis 3 is fully supported. Given the strong differences in female first authorships between disciplines, we include this variable as a control variable in our subsequent analyses that test explanations for the proportion of female editorial board members.

Table 3 provides the results of the fixed-effect panel regression analyses testing Hypotheses 4 and 5. In each case, the first step (models 1, 3 and 5) includes the control variables (female first authors, journal age, size of the editorial board, and academic publisher). The second step (models 2, 4 and 6) includes the independent variables: journal prestige and cumulative number of female editors. As indicated above, we ran the regression analyses without a time lag, and with

5 and 10-year time lags. Of the four control variables, only the proportion of female first authors showed a consistent and significantly positive relationship to the proportion of female editorial board members. Of the three remaining control variables, the total number of editorial board members showed a modest significant correlation with the proportion of female editorial board membership, but only in the models with control variables (models 1, 3 and 5). In each of the three models, the -2 Restricted Log Likelihood for the model with the control and independent variables was lower than for the model with control variables only, suggesting that the independent variables explain a substantial proportion of the variance over and above that explained by the control variables.

(Insert Table 3 about here)

Hypothesis 4 proposed that women's representation in editorial boards would be higher for higher-ranked journals. Hypothesis 4 was fully supported with strong and highly significant ($p < .001$ for all models) relationships, both with and without time lags for the proportion of female first authors. For each of the four points in time, journals ranked 1 had the lowest proportion of female editorial board membership, while journals ranked 4 had the highest proportion of female editorial board membership, with journals ranked 2 and 3 having the second and the third highest, respectively. However, there seems to a clear split between journals ranked 3 or 4 and journals ranked 1 or 2. In 2004, journals ranked 3 or 4 had 21.1% and 22.8% female editorial board membership respectively, while journals ranked 1 or 2 had 10.2% and 13.3% respectively.

Hypothesis 5 proposed that women's representation in editorial boards would be higher for journals that have had a female editor at some stage in the 15-year time span. Hypothesis 5 was fully supported with strong and highly significant ($p < .001$ for all models) relationships, both with and without time lags for the proportion of female first authors. The proportion of female editors in the four years is similar to the proportion of female editorial board members at 17%

(2004), 15% (1999), 8% (1994) and 9% (1989). In 2004, the proportion of women in editorial boards of journals that have only had male editors was on average 14% compared to 26% for journals that have had a female editor at some stage in their history.

Having a female editor is still a relatively rare and recent phenomenon. Only just over a third of the journals in this study's sample have ever had a female editor and only seven (out of 57) journals had a female editor for two time periods. Four of these seven journals were HRM journals. No journal has had a female editor for more than two time periods. Nineteen out of the cumulative total of twenty-seven female editors over the four time periods served in 2004 or 1999.

Discussion

We examined women's representation in editorial boards in five areas of management over time viz à viz their representation as authors. This examination is important because, collectively, editors and editorial board members are the gatekeepers of management knowledge that permeates the halls of our schools and influences management learning and education. Therefore, it is important to ensure that our gatekeepers represent the full spectrum of perspectives in management theory and research. In addition, we examined the relationship between the prestige of the journal and the gender of the journal editor (measured by the "cumulative number of female editors" variable), and women's representation in editorial boards of management journals. Our study's findings contribute to current knowledge in four ways. First, we now know that although women's increasing contribution to management as authors over the last 15 years was matched by a similar increase in their representation in editorial boards, the gap in these representations has persisted in most journals. Second, we provide empirical evidence supporting the pipeline argument with at least a 10-year time lag between senior authorship in a journal and editorial board membership in that journal for female academics. To our knowledge this is the

first study in the WIM and WIEB literatures that has quantified the time lag implicit in the pipeline argument. Third, our study is also the first to explain differences in the representation of WIEB between five areas of management. Fourth, we now have empirical evidence of three non-individual factors that contribute to the under-representation of WIEB; namely, the field of study (or management area), the journal's prestige and the editor's gender. In sum, the current study contributes to management learning and education, by providing an insight into the current gender diversity of editorial boards of management journals and the predictors of that composition. This knowledge might enable us to enhance women's representation in editorial boards of management journals and, thus, the diversity of perspectives that flow to education.

We showed that the prestige of a journal is positively related to the representation of WIEB. Organizations with formalized HR practices (such as selection and performance evaluation criteria) tend to have higher representations of WIM (e.g., Reskin & McBrier, 2000). It is possible that prestigious journals have more formalized processes for selecting and evaluating the performance of editorial board members than less prestigious ones, partly due to their large readership and partly due to their aim to attract and retain the very best editorial board. Although what constitutes the "best" editorial board is subjective and debatable, there is some agreement that it encompasses a combination of high academic standing, and timely and constructive reviews to authors (e.g., Miller, 2006; Podsakoff et al., 2005; Rynes, 2006). A large readership has a lot of power because they read, cite and supply the articles that the journal publishes and, thus, can affect its impact factor. In turn, the editorial board has enormous influence on the quality and novelty of what is published (e.g Miller, 2006; Rynes, 2006). Hence, prestigious journals have much to lose in terms of ranking and readership credibility if they allow subjectivity in the selection and evaluation criteria of editorial members.

In addition, we showed that journals that have had a female editor have a higher proportion of women on their editorial boards than journals that have never had one. Many incoming editors aim to innovate and improve a journal's direction and management during their terms (e.g., Starbuck et al., 2008). For instance, Sara Rynes conducted a survey within the first month as an incoming editor "to tap board members' views of AMJ's major strengths and suggested improvements" (2006:1099). Similarly, "among [his] first acts as an editor", James Bailey appointed "a task force to examine AMLE's mission" (2006:5). One way to attain innovation and improvement is to appoint an editorial board reflecting the gender diversity of the journal's authorship. In doing so, it is possible that an incoming female editor will end up with a more gender diverse editorial board than a male editor. Based on network and homosocial theories, women are more likely to belong to female than male networks and, once on editorial boards, women are likely to recommend other women in their social and professional networks (who are like themselves) for editorial board positions. The presence of a women editor in a journal's history is, thus, likely to have lasting and positive effects in terms of opportunities for women as members of that journal's editorial board. Even if a male editor succeeds a female one, it is unlikely that he will replace all women with men. In addition, the outgoing female editor is likely to have a say in the selection of her replacement (Starbuck et al., 2008). It is possible that she would choose someone like herself, including in terms of diversity values, leading to the perpetuation (if not expansion) of her imprint in the gender diversity of the journal's editorial board composition.

Study's Strengths and Limitations

Our study is innovative in that it potentially contributes to management learning and education by examining the gender diversity of the gatekeepers of the very knowledge that informs our teachings. The focus on editorial board members recognizes the powerful influence (on authors'

careers, the evolution of knowledge, and the teaching and learning of management) that editorial board members exercise as reviewers (e.g., Bedeian, 2008). More specifically, strengths of our study are the number of journals included in the study and the number of data points, its examination of non-individual explanatory factors, and the use of both inferential and descriptive statistics in the data analyses. Past studies have examined a small number of journals (e.g., McGee et al., 2003; Jarema et al., 1999), focussed on individual explanatory factors for the under-representation of women senior authors and in editorial boards (e.g., McGee et al., 2003), or only provided information on their representation (e.g., Jarema et al., 1999), and only used descriptive statistics in the data analyses (e.g., Jarema et al., 1999; McGee et al., 2003). We also focused on examining the differences in the representation of women in editorial boards across journals of management, a previously understudied field.

An additional strength of this study is the use of archival data because the data were collected "at source," i.e. close to the phenomenon we are interested in. Collection of data at source enables us to measure constructs (e.g., the composition of the editorial board) fairly directly. Nevertheless, a complementary future line of enquiry into the representation of WIEB might involve non-archival data sources, such as directly asking a representative sample of the academic body about the opportunities that they have had to join editorial boards, the difficulties (if any) that they have experienced, and the sex of the colleagues that they have recommended as reviewers or as editorial board members in the last 12 months (say). It would also be beneficial to examine information that may be available from the journals, such as gender differences in rejection rates of invitations to be an ad-hoc reviewer, a member of the editorial board, and a journal editor. We included the gender of a journal editor in its analyses. The standing of the editor, measured as the number and quality of his/her publications, is another possible explanatory factor currently being examined in a separate study.

Hopefully every study raises questions that fuel future research. Some of the questions that might emanate from our findings fall in the realm of individual predictors such as the human capital (e.g., education and years of work experience; Becker, 1993) of women academics. Many individual characteristics (e.g., university attended and "professional age" [Rynes, 2006]) and information on career achievements (e.g., quality and quantity of publications) of the individuals considered for or on editorial boards can be examined. Due to time and methodological considerations, however, it is unlikely that all potential individual and non-individual predictors of editorial board membership can be examined in one study. Further, human capital factors cannot be examined in a study with a very large sample of authors/editorial board members and journals (such as ours, which includes approximately 20,000 authors, 10,000 editorial board members and 57 journals) because the collection of human capital data would be too onerous. Studies that investigate the scholarly records of editorial board members use much smaller samples than ours in terms of the number of journals and authors (in the low hundreds rather than in the thousands) included in their analyses (e.g., Bedeian, Van Fleet, & Hyman III (2007); Tsui & Hollenbeck, 2008). The primary objective of our study was to contribute to knowledge by examining non-individual factors, because "it may be tempting to infer that time allocation and productivity differences between men and women account for differences in observed career outcomes, but results of multivariate studies controlling for these and other factors suggest otherwise" (Toutkoushian, 1999: 695). We encourage future research in WIEB that uses a mixture of individual and non-individual factors.

Further, as being an editorial board member is likely to be a "stepping stone" for associate editor (where applicable) and that, in turn, a stepping stone for editor (Starbuck et al., 2008), we consciously focused on the *first* level in the hierarchy: from senior author to board member. But as an anonymous reviewer insightfully opined, "the antecedents of the choice of women or men

as editors are even more [interesting].” Thus, future research can benefit from an examination of higher levels in the hierarchy of editorial boards; that is, an examination of the likelihood of the associate editors and of the main editor being female.

Theoretical Implications

Our findings challenge some current theoretical explanations for women’s under-representation in top management positions in general and on management journals’ editorial boards in particular. We found that non-individual factors explain these gender imbalances as much as or more than individual ones. This finding supports past WIM studies (e.g., Metz & Tharenou, 2001) and injects substance to conclusions in the WIEB literature of widespread gender inequity (Addis & Villa, 2003; McSweeney et al., 2000). Our empirical findings also ameliorate the need to conjure explanations for the under-representation of WIEB, which tended to focus on the individual and risked perpetuating beliefs that women are somehow deficient in their capabilities or credentials (e.g., McGee et al., 2003).

Further, our results change theoretical explanations for women’s representation in management, in general, and editorial boards of academic journals, in particular, by conditionally supporting the pipeline argument. The well-developed WIM literature has all but dismissed the pipeline argument in light of abundant support for other explanations (e.g., Mainiero & Sullivan, 2005; Metz & Tharenou, 2001; Powell, 1999). In contrast, the focus on the individual that characterizes the sparse WIEB literature suggests reliance on the pipeline to address the gender imbalance in editorial boards of academic journals. Based on our findings, that reliance needs to be exercised with care because it takes one decade for female senior authors to become editorial board members; a decade is a long time in one’s career.

Nevertheless, contrary to what many past studies have found (e.g., Jarema et al., 1999; Kennedy et al., 2001; McSweeney et al., 2000), the increase in the representation of WIEB in

management journals is in line with the increase of female first authors. Further, McSweeney et al. (2000) found that women's representation in the four journals in applied behaviour analysis decreased between 1993 and 1997 even though the editorial boards were quite large. In contrast, we hypothesize that the rather substantial increase in the size of the editorial boards in 2004 of the journals in our study increased the chances for female academics. More female academics in the "pipeline" have indeed resulted in more women in editorial board positions in management journals, but more needs to be done because the results uncover a gender imbalance that has remained intact since 1989.

In addition, differences exist in the magnitude of women's under-representation across the five areas of management. As a general rule, HRM/OB/IR journals have a significantly higher proportion of women in their editorial boards than Operations Management and International Business journals. These differences support the pipeline argument, because the representation of WIEB in the five areas of management reflect, to a certain extent, women's contributions in those areas. Specifically, the representation of WIEB is lower in male dominated areas of study than in female dominated ones. This new insight can be used to put in place specific strategies to address the opportunities and representation of WIEB in male dominated areas. In contrast, the differences that exist across journals within the same area of management cannot be explained by the pipeline argument. Hence, our support for mindful theoretical explanations of the representation of WIM and WIEB that combine a time-bound pipeline argument with non-individual factors.

Practical Implications for Editorial Boards

We show that the gender imbalance in editorial boards of management journals is persistent and prevalent. In addition, we show for the first time that the pipeline by itself does not address historical gender inequities in editorships. We believe that these results justify a call for more

proactive steps for increasing the representativeness of women on the editorial boards of academic journals than most authors have recommended to date. Recommendations issued to date have included the monitoring of journals (Kennedy et al., 2001), the reporting of participant gender (Jarema et al., 1999; McSweeney et al., 2000), the monitoring of selection procedures (White, 1985) and the review of the selection processes of new editorial board members (McGee et al., 2003; McSweeney et al., 2000). Based on our sample of 57 journals across five areas of management, most management journals can improve the representation of WIEB to align it with women's representation as contributors (or senior authors). This alignment can be achieved by appointing a female editor. Alternatively or additionally, searches can be broadened by making direct calls to past authors for expressions of interest in reviewing, by asking ad-hoc reviewers for expressions of interest to join the editorial board, or by asking incumbent editorial board members to specifically recommend a female academic to review, join the editorial board, or be a guest editor of a special edition.

Further, we recommend that in male dominated fields of study, journals closely monitor the representation of women in their editorial boards and take assertive steps to counteract the natural tendency for incumbents to recommend and select people like themselves. Assertive steps may include using targets of gender diversity for their editorial boards.

These recommendations require commitment by incumbent editors and editorial board members to more gender diverse editorial boards. Only a felt need for such a change can lead to commitment to change (Kotter, 1996; Starbuck et al., 2008). Raising the awareness of the persistent gender imbalance in the editorial boards of many management journals in the last 15 years, particularly in the Operations Management and International Business fields, is one way of generating a felt need for change. Another way is the understanding that the exclusion of women's contributions, both as authors and as reviewers, might narrow the nature and scope of

the enquiry in management and, ultimately, a journal's prestige. From a fairness and moral perspective, the exclusion of women's contributions might hinder their ability to attain scholarly recognition and advancement.

Practical Implications for Management Education

As female editors appear to have a positive influence in the proportion of women in editorial boards, so might female editorial members have a positive influence on the number of articles published by female faculty (McSweeney et al., 2000; Wennerås & Wold, 1997). An increased representation of women's perspectives in management journals might, in turn, assist teaching faculty to provide impartial information to practicing managers that might enhance managerial knowledge and action. Indeed, "the lack of diversity … could prove antithetical to spurring the kind of innovation and revolutionary breakthroughs that are the hallmark of a healthy science. … thus, innovative thinking … is served by creating a more diverse board" (Tsui & Hollenbeck, 2008, p.13). Hence, more gender diverse editorial boards and consequent increase in articles published by female faculty may widen the areas of interest in management research, enabling the professoriate to positively influence the proportion of female students who relate to and feel inspired by management teachings (Offermann, 2007).

In conclusion, our findings alert teaching faculty that a greater diversity of perspectives can be used in imparting management knowledge. Faculty are encouraged to search for and offer (thereby increasing the demand and supply of) diverse points of view in their management teachings to better meet the needs of the current student body of management (Offermann, 2007).

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TABLE 1

Journals Ordered by Average Proportion of Female Editorial Board Members, 1989-2004, With 2004 as Secondary Ordering

	Journal title	*Average*	*2004*	*1999*	*1994*	*1989*	*Founded*	*Research Area*
1.	Journal of Vocational Behavior	.44	.47	.43	.54	.32	1971	HRM/OB/IR
2.	International Journal of Cross-Cultural Management[1]	.32	.32	.32	---	---	2001	International Business
3.	Group & Organization Management	.31	.46	.36	.24	.18	1976	HRM/OB/IR
4.	Journal of Organizational Behavior	.31	.36	.42	.30	.17	1980	HRM/OB/IR
5.	The Academy of Management Journal	.31	.29	.35	.39	.22	1958	General Management & Strategy
6.	Journal of Consumer Research	.28	.36	.28	.28	.19	1974	Marketing
7.	Administrative Science Quarterly	.28	.29	.28	.32	.21	1956	General Management & Strategy
8.	Journal of Applied Psychology	.27	.33	.34	.21	.22	1917	HRM/OB/IR
9.	European Journal of Industrial Relations	.27	.29	.25	---	---	1995	HRM/OB/IR
10.	The Academy of Management Review	.26	.37	.30	.20	.18	1976	General Management & Strategy
11.	Organizational Behavior and Human Decision Processes	.24	.25	.26	.26	.18	1951	HRM/OB/IR
12.	Journal of International Management	.21	.17	.24	---	---	1995	International Business
13.	Journal of Management	.20	.26	.26	.19	.10	1975	General Management & Strategy
14.	The Journal of Advertising	.20	.25	.22	.14	NEB	1972	Marketing
15.	Asia Pacific Journal of Human Resources	.20	.24	.20	.21	.14	1963	HRM/OB/IR
16.	Industrial Relations	.20	.22	.17	.29	.13	1961	HRM/OB/IR
17.	Journal of World Business	.20	.13	.14	.32	.22	1966	International Business
18.	Human Resource Management	.18	.33	.13	.11	.15	1962	HRM/OB/IR
19.	The Academy of Management Executive	.18	.13	.18	.22	.19	1987	General Management & Strategy
20.	Journal of Marketing	.17	.17	.22	.25	.05	1936	Marketing
21.	Organization Studies	.16	.24	.24	.10	.05	1980	HRM/OB/IR
22.	International Journal of Human Resource Management	.16	.18	.17	.14	---	1990	HRM/OB/IR
23.	MIT Sloan Management Review	.15	.12	.22	.20	.07	1959	General Management & Strategy
24.	Journal of Retailing	.14	.16	.15	.14	.12	1925	Marketing
25.	Journal of Business Research	.14	.14	.14	.14	.11	1973	Marketing
26.	Journal of International Business Studies	.13	.24	.10	.04	.13	1970	International Business
27.	Journal of Occupational and Organizational Psychology	.13	.20	.21	.12	.00	1928	HRM/OB/IR
28.	Production and Operations Management	.13	.20	.11	.09	---	1992	Operations Management
29.	Personnel Psychology	.13	.18	.13	.11	.10	1948	HRM/OB/IR

[1] As IJCCM was only established in 2001, we used 2001 data for 1999.

30.	California Management Review	.12	.21	.17	.04	.05	1958	General Management & Strategy
31.	Journal of Marketing Research	.12	.18	.19	.12	.00	1964	Marketing
32.	Decision Sciences Journal	.12	.18	.14	.11	.06	1970	Operations Management
33.	Strategic Management Journal	.11	.17	.13	.07	.06	1980	General Management & Strategy
34.	Australasian Marketing Journal	.11	.15	.06	NEB	---	1993	Marketing
35.	Journal of Marketing Management	.10	.18	.16	.05	.00	1985	Marketing
36.	Journal of Operations Management	.10	.16	.12	.08	.02	1980	Operations Management
37.	Journal of the Academy of Marketing Science	.10	.13	.12	.07	.08	1972	Marketing
38.	International Journal of Business Performance Mgmt	.10	.11	.10	---	---	1999	Operations Management
39.	Management Science	.09	.12	.10	.08	.06	1954	Operations Management
40.	International Journal of Research in Marketing	.09	.09	.14	.13	.03	1984	Marketing
41.	Technovation	.08	.11	.11	.05	.06	1981	Operations Management
42.	British Journal of Management	.08	.10	.07	.07	---	1990	General Management & Strategy
43.	Industrial and Labor Relations Review	.07	.17	.11	.00	.00	1947	HRM/OB/IR
44.	European Journal of Marketing	.07	.14	.06	.10	.00	1971	Marketing
45.	Marketing Science	.07	.11	.07	.06	.03	1982	Marketing
46.	International Studies of Management & Organization	.07	.07	.06	.10	.05	1971	International Business
47.	Thunderbird International Business Review	.07	.07	.11	.12	.00	1959	International Business
48.	Industrial Marketing Management	.06	.10	.06	.03	.03	1971	Marketing
49.	Operations Research	.06	.08	.10	.03	.01	1952	Operations Management
50.	Asia Pacific Journal of Management	.06	.03	.06	.08	NEB	1984	General Management & Strategy
51.	Multinational Business Review	.05	.06	.07	.03	---	1993	International Business
52.	Long Range Planning	.04	.05	.00	.06	.05	1968	General Management & Strategy
53.	International Business Review	.02	.00	.02	.02	---	1992	International Business
54.	European Journal of Operational Research	.01	.03	.00	.02	.00	1977	Operations Management
55.	Management International Review	.01	.02	.02	.00	.00	1961	International Business
56.	European Management Journal	.00	.00	.00	.00	.00	1983	General Management & Strategy
57.	International Journal of Management	.00	.00	.00	.00	.00	1984	International Business

--- = journal did not exist yet in this year

NEB = journal did not have an editorial board in this year

TABLE 2: Descriptive Statistics

		Mean	S.D	1	2	3	4	6	7	8	9
1	Proportion of female EB members (1989-2004)	.14	.11	1.000							
2	Proportion of female first authors (present)	.21	.12	.548***	1.000						
3	Proportion of female first authors (- 5 years)	.20	.11	.510***	.318***	1.000					
4	Proportion of female first authors (- 10 years)	.18	.11	.525***	.380***	.247*	1.000				
6	Size of the editorial board	50.80	29.66	.206**	.018	.028	-.049	1.000			
7	Age of the journal	27.32	17.98	.213**	.156*	.188*	.126	.117	1.000		
8	Academic publisher	.51	.50	.045	-.085	-.047	-.091	.193**	.095	1.000	
9	Journal prestige	2.68	.99	.348***	.091	.193*	.161	.427***	.458***	.329***	1.000
10	Cumulative number of female editors	.25	.53	.469***	.302***	.319***	.401***	-.004	.114	-.084	.037

N = 100 – 211, † = p<.10, * = p<.05, **=p<.01, ***=p<.001, all 2-tailed

TABLE 3: Factors influencing female editorial board composition

Dependent variable: Female editorial board composition (1989, 1994, 1999, 2004, n= 57), parameter estimates on the first line, t-values and significance levels in brackets

	Hypothesized effect	Model 1	Model 2	Model 3 5yr lag	Model 4 5yr lag	Model 5 10yr lag	Model 6 10yr lag
Intercept		-.014038 (t = -.812)	-.055422 (t=-2.981 **)	.012400 (t=.571)	-.030864 (t=-1.429)	-.009596 (t=-.345)	-.043261 (t=-1.555)
Control variables							
Proportion of female first authors	(+)	.490017 (t=9.350 ***)	.393968 (t=8.157 ***)	.475248 (t=7.316 ***)	.330977 (t=5.460 ***)	.538825 (t=6.788 ***)	.370386 (t=4.576 ***)
Size of the editorial board		.000181 (t=3.218 **)	.000281 (t=1.622)	.000434 (t=2.033 *)	.000078 (t=.371)	.000603 (t=2.467 *)	.000199 (t=.777)
Age of the journal		.000673 (t=1.940 †)	-.000074 (t= -.219)	.000648 (t=1.498)	-.000217 (t= -.512)	.000790 (t=1.507)	-.000047 (t=-.089)
Academic publisher		.007381 (t=.598)	-.003001 (t=-.258)	.020363 (t=1.345)	.004354 (t=.312)	.042377 (t=2.360 *)	.019962 (t=1.154)
Independent variables							
Journal prestige	H4 (+)		.031254 (t=4.313 ***)		.038454 (t=4.152 ***)		.038619 (t=3.302 ***)
Cumulative number of female editors	H5 (+)		.069430 (t=6.429 ***)		.063795 (t=5.513 ***)		.048909 (t=3.597 ***)
-2 Restricted Log Likelihood		-384.277	-421.811	-258.293	-285.481	-163.676	-171.329

† = p<.10, * = p<.05, **=p<.01, ***=p<.001, all 2-tailed

Endnotes

[i] Journals in five areas were included: Operations Management, International Business, General Management & Strategy, Human Resource Management/Organizational Behavior/Industrial Relations (HRM/OB/IR), and Marketing. We therefore follow a broad definition of management that includes the related discipline area of Marketing.

[ii] This prediction is supported by an analysis that we conducted on the Academy of Management (AoM) membership data, by gender and by division. Similarly, we analyzed the Academy of International Business (AIB) membership data. As AIB is more oriented towards International *Business* and AoM-IM more oriented towards International *Management* and our journals include a mix of both, we used the average of AIB and AoM-IM data for International Business. The analyses are available from the first author upon request. We thank the AOM and AIB for making the membership data available for the purposes of our study. Unfortunately, we were unable to source similar data from the Academy of Marketing.

[iii] Originally, we did consider editorial rotation (the extent to which editorship in a journal changed across the four periods of time) as an additional explanatory variable. However, this variable showed a very strong collinearity with the number of female editors. This finding is not surprising as the number of female editors can only increase through editorial rotation. When including editorial rotation in our regression models, its standardized beta values hardly deviated from zero. The beta values and significance levels for other explanatory variables respectively showed minuscule or no changes when editorial rotation was included. In addition, the editorial variable was not available for our 1989 models as we would have no base of comparison to establish rotation. Therefore, we decided to keep our models parsimonious and did not include editorial rotation.

[iv] This selection included a number of applied journals with an academic focus such as *Sloan Management Review*, *California Management Review* and *Long Range Planning*.

[v] Although one could argue that Strategy and General Management are separate fields, we decided to follow the categorization in Harzing's Journal Quality List that combines the two. Given the relative paucity of journals focusing specifically on Strategy, it would have been difficult to incorporate this as a separate category.

[vi] Our original sample included *The Australian Journal of Management* and *Business Horizons*, but these journals had to be deleted as they did not have editorial boards for three or more periods.

[vii] In a handful of cases we were not able to access the editorial board or table of contents for a particular year. In that case we used data from either the year before or the year after, depending on availability.

[viii] The average number of articles published per journal per year has increased from 39 in 1989 to 47 in 2004.

[ix] In order to reduce the coding work to manageable proportions, we excluded fifth and further authors from articles with more than four authors. As on average each of the remaining articles had two authors, we coded nearly 20,000 authors. Data on the gender distribution for second, and third/fourth authors were not used in this paper.

[x] We also conducted the analysis with female editorship measured as a dummy variable at each point in time (rather than looking at the cumulative effect). This change did not substantially influence our findings.

[xi] Although we would have preferred to measure journal prestige separately for each of the four time periods, this was not feasible as rankings for previous years are not available. Moreover, journal rankings are generally relatively stable over time (see e.g. Podsakoff, MacKenzie, Bachrach & Podsakoff, 2005).