

**Of journal editors and editorial boards:
Who are the trailblazers in increasing editorial
board gender equality?**

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Abstract

Female academics continue to be under-represented on the editorial boards of many, but not all, management journals. This variability is intriguing, because it is reasonable to assume that the size of the pool of female faculty available and willing to serve on editorial boards is similar for all management journals. Thus, we focus on the characteristics of the journal editors to explain this variability; journal editors or editors-in-chief are the most influential people in the selection of editorial board members. We draw on social identity and homosocial reproduction theories, and on the gender and careers literature to examine the relationship between an editor's academic performance, professional age and gender, and editorial board gender equality. We collected longitudinal data at five points in time, using five-year intervals, from 52 management journals. To account for the nested structure of the data, a 3-level multilevel model was estimated. Overall, we found that the prospects of board membership improve for women when editors are high performing, professionally young, or female. We discuss these findings and their implications for management journals with low, stagnant, or declining representation of women in their boards.

Keywords: academe; academic performance; editor; editorial board; gender equality; women.

Introduction

Gender equality in academic journal editorial boards has gradually increased (Addis and Villa, 2003; Mauleón, Hillán, Moreno, Gómez and Bordons, 2013; Metz and Harzing, 2009). This literature suggests that this increase is parallel to, but lower than, the gradual increase of female academics in various fields over time. Further, despite this upward trend in gender equality in academic journal editorial boards, there is still substantial variability in women's level of representation on editorial boards across journals in the same field of study. As the pool of female scholars from which to select editorial board members is similar for all journals in a given field, how can this variability be explained? To answer this question requires shifting attention from the supply-side (female academics) to the demand-side (journal editors) of the editorial board member selection process.

Journal editors or editors-in-chief are at the top of the editorial board hierarchy and are the most influential people in the selection of editorial board members (Feldman, 2008). Although the process of selecting the editor-in-chief has become more formalised over time at some journals (Cascio, 2008), the same does not always apply to the selection of editorial board members (e.g., Addis and Villa, 2003; Burgess and Shaw, 2010). At best, editors-in-chief have an understanding of process 'best practice' in their selection of board members (Feldman, 2008; Zedeck, 2008). Thus, it is probable that a journal editor's characteristics can explain variability in women's representation on editorial boards.

Our study examines the relationship between the editor's academic performance, professional age, and gender on the one hand and a journal's editorial board gender equality on the other. This association is important given the role of top leadership in enacting the effective utilisation of diverse talent in organisations (e.g., McCracken, 2000; Slater, Weigand and Zwirlein, 2008). Further, in terms of editorial boards, the selection of journal editorial board members affects academic careers and knowledge by determining what is published (Bedeian, Van Fleet and Hyman III, 2009; Starbuck, Aguinis, Konrad and Baruch, 2008).

In seeking to explain this relationship, we draw on social identity (Tajfel and Turner, 1986) and homosocial reproduction (Kanter, 1977) theories. Social identity theory (SIT) suggests that men and women will be attracted to, and advocate for, same sex colleagues. Similarly, homosocial reproduction theory explains individuals' preference to work with people like themselves (Kanter, 1977; Nielsen, 2009). Combined, these theories explain why individual characteristics, such as academic standing, professional age, and gender might influence the composition of editorial boards of academic journals. We focus on the gender composition of editorial boards because female and male scholars' purportedly have different research approaches and interests (Addis and Villa, 2003). For example, women scientists are more likely to follow 'a 'niche approach', creating their own area of research expertise' (Sonnert and Holton, 1996, p. 68), and are 'inclined toward more comprehensive and synthetic work' (p.69). Hence, women's under-representation on editorial boards (EBs)

potentially narrows the scope of what is published (Bedeian, 2004).

Our study responds to calls for further research into the gender equality of editorial boards of management journals in light of some, albeit slow, progress (e.g., Burgess and Shaw, 2010). Such research is important for several reasons. It can assuage fears that EB homogeneity can lead to the preferential treatment of particular topics, theories and approaches (Burgess and Shaw, 2010, p. 643), to the detriment of knowledge creation (Konrad, 2008; Tung, 2006). Gender equality in the EBs is also desirable for its signaling effects (Celani and Singh, 2011). For example, if the editor's aim is to attract paper submissions from a broader constituency, a demographically diverse EB signals to potential authors that the journal is welcoming of submissions from a variety of fields and perspectives (Feldman, 2008; Zedeck, 2008). In addition, increasing the representation of women in editorial boards is one step in recognising women's increasing presence in academia (AUCC, 2011; Bell and Bentley, 2005) and their scholarly contributions as authors (Mauleón et al., 2013). Such recognition might help address the 'startling levels of gender inequity in research-intensive universities across the world' (Grove, 2013), as editorial membership is favourably regarded in academic promotion processes (Bedeian et al., 2009; Raelin, 2008).

Literature Review and Hypotheses

The diversity management literature consistently advocates for top leadership's unwavering commitment to diversity to ensure sustainable organisational change that leads to the effective use of a diverse workforce (e.g., Gilbert, Stead and Ivancevich, 1999; Kreitz, 2008). This advocacy is in line with the change management literature for the importance of top level commitment in the successful implementation of change (Kotter, 1995). To increase the gender diversity of a journal's editorial board is to successfully implement change in the editorial board's composition. The journal editor is at the top of a journal's leadership ladder. S/he has extensive discretion on how to shape the journal's content, which includes choosing who will be on the EB (Feldman, 2008; Konrad, 2008; Hodgkinson, 2008; Zedeck, 2008). Thus, we consider the journal editor (or editor-in-chief) to be the top leader who needs to be committed to diversity to ensure change in EB gender composition.

The Journal Editor as a Leader of Change and Innovation

Academic journals are influenced by many factors including societal norms and expectations (Oliver, 1991). It is known that the gender equality of editorial boards of management journals has increased over time (Mauleón et al., 2013; Metz and Harzing, 2009, 2012). It is possible that this increase is partly due to changes in the population of academics, and partly due to social changes and expectations. Editors of academic journals have *high* strategic choice in how they adapt to change and innovate (Zedeck, 2008). However, we do not know which personal characteristics of the journal editor would explain his/her choices. In line with the diversity and upper echelons literatures (e.g., Bantel and Jackson, 1989; Hambrick, Cho and Chen, 1996; Nielsen, 2009), we use demographic characteristics, such as educational background and age, as proxies for 'underlying differences in cognitions, values, and perceptions ...

because these psychological constructs are unobservable' (Carpenter, Geletkanycz and Sanders, 2004, p.750).

Further, past research into editorial board diversity has shown that the existence of a female editor in a journal's history is positively related to the proportion of women on the EB (Mauleón et al., 2013; Metz and Harzing, 2009). This finding lends credence to the study of the relationship between the editor's characteristics and his/her journal's editorial board gender equality. We thus extend this body of knowledge by examining the relationship between three individual characteristics and EB gender equality: the *journal editor's* academic performance, professional age and gender. We include in our study a re-examination of a journal editor's gender because of the persistent perception that successful women might not be helpful to other women in the workplace (Adonis, 2013; Drexler, 2013; Mavin, 2008; Mavin, Grandy and Williams, 2014), including some empirical evidence in academia of female misogyny (Ellemers, van den Heuvel, de Gilder, Maass and Bonvini, 2004).

Journal editor's academic performance. What constitutes a good measure of academic performance is debatable. Nevertheless, appointments to journal editorships are partly based on one's publication record (e.g., Feldman, 2008; Zedeck, 2008). Such a criterion is widely used and accepted as a measure of performance, although increasingly recognised as imperfect (Adler and Harzing, 2009). As this study's aim is to examine how an editor's characteristics influence the gender composition of his/her editorial board, rather than to debate the advantages and disadvantages of performance evaluation criteria in academia, we use an editor's publication record as a proxy for academic performance.

High academic performance is a criterion in the selection of editors-in chief (Cascio, 2008) who, in turn, decide on the composition of their editorial boards (e.g., Feldman, 2008; Hodgkinson, 2008). Many factors weight in this selection process (Addis and Villa, 2003; Burgess and Shaw, 2010; Feldman, 2008; Mauleón et al., 2013), but sex is likely to be an important one. Social identity theory (SIT; Tajfel and Turner, 1986) proposes that people use visible personal characteristics to identify with others. In identifying with a particular group, individuals ascribe more positive attributes and evaluate more favourably individuals in their groups than individuals outside their groups (Turner, Hogg, Oakes, Reicher and Wetherell, 1987). In addition, homosocial reproduction theory suggests that people like to be with people who are like themselves and, thus, tend to select (and advance) others similar in appearance or background (Kanter, 1977; Nielsen, 2009). This tendency to select people on the basis of 'comfort' is likely to occur in the selection process of EB members. Sex is a highly visible demographic characteristic that influences the formation of gendered groups (Byrne, 1961; Turner et al., 1987). Thus, based on social identity and homosocial reproduction theories, editors are expected to identify more with, and ascribe more positive attributes to, same-gender than different-gender colleagues. In doing so, editors are naturally more inclined to select a same-gender colleague for their journal's editorial board.

However, this natural tendency may be less pronounced in high-performing

journal editors. Performance in academia is also a very visible personal characteristic, partly reflected in the number, impact and prestige of an academic's publications (Bedeian et al., 2009). Based on social identity and homosocial reproduction theories, high performing editors should identify and feel comfortable with similarly high performing academics regardless of their gender. Further, these editors plausibly feel comfortable working with members of the opposite sex, partly because they are not threatened by 'others' (due to their relative status in the scientific community) (Carpenter et al., 2004). The term 'others' refers to members outside one's social identity group, such as members of traditionally under-represented groups in organisations (Beatty, 2007). Thus, we propose that a positive direct relationship will exist between journal editors' academic performance and the gender equality of their EBs.

Hypothesis 1: A journal editor's academic performance will be positively associated with the level of gender equality of the journal's editorial board.

Journal editor's professional age. Professional age reflects the number of years that someone has been in the profession. A motivation to change the organisation's gender equality partly depends on the leader's attitudes to gender diverse others, gender stereotypes and perceptions of working men and women. Subjective selection criteria, such as level of comfort with a candidate (or potential EB member) and perceptions of the (un)suitability of women for leadership positions, are well-documented in the gender and careers literature and known to favour men over women (e.g., Eagly and Chin, 2010; Metz and Kulik, 2014). However, research on changes in attitudes over time shows that, overall, attitudes towards women working have (slowly) become more liberal (Duehr and Bono, 2006). Similarly, the 'think manager – think male' global stereotype has weakened, although more for women than for men (Schein, 2001, 2007; Schein et al., 1996). Nevertheless, there is some evidence that decision-makers' characteristics, such as age, influence their attitudes towards organisational diversity (Ng and Sears, 2012).

Further, as women comprise an increasing proportion of PhD candidates and doctorates (AUCC, 2011; Dobson, 2012), younger men and women are more likely than their older counterparts to have female colleagues in their networks. The effects of surface-level (dis)similarity (such as sex) diminish with time as individuals become familiar with one another (e.g., Harrison et al., 1998; Lankau et al., 2005). Based on social identity and homosocial reproduction theories, individuals are then likely to identify with their PhD cohorts and feel comfortable working with cohort members (who they perceived to be like themselves in terms of academic expertise and competence), regardless of their gender. This assumption is supported by empirical evidence of linkages between doctoral institution, editorial board membership and professional networks (e.g., Burgess and Shaw, 2010). As a result, it is reasonable to assume that young editors are more likely than their older counterparts to select and advocate for female colleagues for editorial board memberships.

Hypothesis 2: A journal editor's professional age will be negatively associated with the level of gender equality of the journal's editorial board.

Journal editor's gender. From the extant literature on editorial boards of

management journals, we know that having a female editor in a journal's history is positively associated with the proportion of women on the journal's EB (Mauleón et al., 2013; Metz and Harzing, 2009). In line with the EB literature, the diversity literature indicates that having women at higher levels increases the representation of women at lower organisational levels (Gould, Kulik and Sardeshmukh, 2014; Kurtulus and Tomaskovic-Devey, 2012; Matsa and Miller, 2011). Thus, empirical evidence from the editorial boards and diversity literatures suggests a positive relationship between female editor and editorial board gender diversity. But why would such relationship exist?

One reason for proposing that a female editor should increase the gender equality of the editorial board is women's greater likelihood to network with other women than with men (Chow and Ng, 2007). Based on SIT (Tajfel and Turner, 1986), people use sex to identify with others and make assumptions of shared experiences, similarity, and ability to work well together (Guillaume et al., 2012). As a result, women network more with women for social support (Chow and Ng, 2007) than with their male colleagues. Women also feel excluded from male-dominated work informal networks (Kanter, 1977; Murray and Syed, 2010). Thus, female editors are likely to have a wider network of female academics to choose from for EB positions than male editors.

Editors are also likely to use the recommendations of past editors, current EB members and colleagues in their networks to select their editorial boards (Feldman, 2008; Zedeck, 2008). For female editors, such behaviour is still more likely to lead to an increase in the representation of women in the EB, because of the gender homogeneity in academic networks (Burgess and Shaw, 2010).

Nevertheless, a positive relationship between female editor and editorial board gender equality is not a sure thing; the popular media and some academic literature lead us to believe that women are unlikely allies of other women (Adonis, 2013; Drexler, 2013; Ellemers et al., 2004; Mavin et al., 2014). As the appointment of female editors 'is still a relatively rare and recent phenomenon' (Metz and Harzing, 2009, p.552), it warrants re-examining this relationship in our study. Based on the extant empirical evidence and theoretical rationale above, we propose that having a female editor increases the number of women lower down the EB hierarchy (or the number of female EB members).

Hypothesis 3: Having a female editor will be positively related to the level of gender equality of the EB.

Method

Data

Data on editors and editorial board members were gathered for 52 journals (see Appendix) in five broad areas of Business & Management: Operations Management, International Business, Marketing, General Management & Strategy and HRM/Organisational Behaviour/Industrial Relations. For each field included, we

selected approximately 10 journals. In doing so, we used two main criteria. First, we focused mainly on top journals in the respective fields, as defined by citation based metrics as journal impact factors and journal rankings such as the British ABS (Association of Business Schools) list and the Australian ABDC (Australian Business Deans Council) list, which have been shown to correlate fairly strongly (Mingers and Harzing, 2007). In using this definition we are not advocating a single-minded focus on journal rankings or suggesting that only publications in top-ranked journals 'count'. We are simply using this measure to limit our sample of journals to a manageable sub-set. Second, we ensured that we included a spread of North American and European journals. We collected longitudinal data at five points in time, using five-year intervals: 1989, 1994, 1999, 2004, and 2009. Five-year intervals were seen as the best compromise between allowing enough time for changes to occur, but also offering a sufficient number of data points.

The total number of journals used for analysis was 52 (Level-3 in our multilevel model). The total number of journal-year observations for each journal at each year was 247 (Level-2 in our multilevel model) rather than $52 \text{ (journals)} \times 5 \text{ (years)} = 260$, because some journals did not have data for 1989 and/or 1994, as they were established after those years. The total number of individual board members across all journals and all years was 15,128 (Level-1 in our multilevel model).

Measures

The gender of all individual editorial board members at each year was dichotomously coded 0 for males and 1 for females. As such, a positive effect of a predictor indicates that an increase in the predictor increases the probability that board members are female. Alternatively, a negative effect indicates that an increase in the predictor decreases the probability that board members are female.

Editor *academic performance* was measured as the number of journal articles an editor had published up to the date of observation, which was the end of the year in question, i.e. 1989, 1994, 1999, 2004 or 2009. We sourced publication data from the Web of Knowledge. Although not all journals are included in this database, the database generally includes the (currently recognised) top journals in every academic field. Hence we believe that the number of journal articles an editor had published up to the date of observation is a reasonable operationalisation of academic performance. Editor *professional age* was measured in years as the length of time between when the editor's first article appeared and the year of observation. *Gender* of editors at each year was dichotomously coded 0 for males and 1 for females. The implication is that a positive effect of editor gender means that having a female as a journal's editor increases the probability that editorial board members are female.

Controls

We controlled for many variables, such as editorial board size, year of observation, and journal rotation. We control for editorial board size, because it has been found in the EB literature to be positively associated with the proportion of women in EBs (Metz and Harzing, 2009). In addition, in the case of EBs, the larger the size of the EB the more opportunities there are to add a new member of a different gender from the

majority. Moreover, top management team scholars recommend that team size is controlled for (e.g., Carpenter et al., 2004), because of empirical evidence of the positive association between team size and team heterogeneity (e.g., Nielsen, 2009). As the size of the editorial board varies from year to year, size is a Level-2 variable.

As gender equality has increased over the years (e.g., Burgess and Shaw, 2010; Harzing and Metz, 2009, 2012), we controlled for year-specific effects by including four dummy coded variables for years 1989, 1994, 1999, and 2004, allowing the 2009 effect to be captured by the grand intercept in our statistical model. Finally, we controlled for whether journal editors had just rotated into their position with a dichotomously coded variable where 0 indicated no rotation and 1 indicated an editor had rotated. The rationale for this is new editors generally change the editorial board composition and hence every rotation provides another chance for the journal to align with changing social expectations and external institutional pressures.

Statistical Model and Estimation

To account for the nested structure of the data, a 3-level multilevel model was estimated using Mplus version 7.1 (Muthén and Muthén 1998-2012). A probit linking function was used to appropriately scale the dichotomous dependent variable (see Agresti, 2002). The Level-2 random effect captures variation from year to year in the average probability that editorial board members were female. Because our interest is in studying editorial board member composition in any given year, this is the level of analysis at which we included our predictors.

We included a Level-3 random intercept that was estimated like a fixed effect (similar to Bollen and Brand, 2010) in order to capture variation across journals in the overall probability that a journal's editorial board was composed of females. This random intercept automatically accounts for any journal-level characteristics that would normally act as confounds, such as the field of the journal, its location (e.g. U.S., UK, Europe, and Australia), and any other characteristics specific to a journal. Removing such 'heterogeneity' across journals is a classic method in econometrics for removing confounds and increasing the validity of causal inferences because, by removing journal effects, all effects we estimate capture *changes* in our dependent variable from year to year (see Woolridge, 2010).

Model estimation employed a Bayes estimator using a Markov Chain Monte Carlo technique with a Gibbs sampler (see description of the 'PX1' estimator in Asparouhov and Muthén, 2010). This procedure was used not merely because Bayes estimation leads to very intuitive inferences when testing hypotheses, but also because the complexity of our estimated model—3 levels and a non-continuous variable—made other forms of estimation intractable (see discussion in Asparouhov and Muthén, 2010). Bayes estimation generates estimates of the probability of each parameter value, called 'posterior probabilities', which allow direct probability statements for inferences about parameters of interest (for discussion, see Zyphur and Oswald, 2015). In order to estimate posteriors, the model must first be parameterised with 'prior probabilities' that index knowledge or hypotheses before data analysis. As is standard in Bayesian modeling, we used 'diffuse' or 'uninformative

priors', which allow observed data to drive results (Asparouhov and Muthén, 2010).

Iterations to estimate model parameters were independently conducted across four Markov Chains with 100,000 iterations in each chain. Removing the first 50,000 iterations from each chain in a 'burn-in' phase, leaving the second half of the iterations to populate posterior distributions and, therefore, resulting in 200,000 final posterior estimates for each parameter (for discussion see Asparouhov and Muthén, 2010). The distribution of these estimates is the posterior distribution. For point values for each parameter we report the median value of the posterior distribution, which at the limit are equivalent to the estimated value obtained via maximum likelihood (Zyphur and Oswald, 2015).

Model convergence was assessed in two ways. First, the potential scale reduction (*PSR*) was examined to assess the ratio of between chain variation to within and between chain variation, where values below 1.05 are generally considered acceptable (Gelman et al., 2013). The *PSR* statistic showed excellent model convergence, with values ranging between 1.005 and 1.029 across the final 50,000th and 100,000th iterations, indicating substantial agreement in posterior estimates across the four chains (Zyphur and Oswald, 2015).

While the *PSR* values are helpful for determining overall model convergence, they do not offer convergence information for individual parameters. This was examined using a series of Kolmogorov-Smirnov tests to evaluate the difference in the posterior distributions across chains along all parameters (see Wilcox, 2005). These tests take a sample of posterior estimates for each parameter from each chain and compare the values across chains in a pair-wise fashion, with a null hypothesis that all estimates are from the same population or distribution (larger *p*-values indicate good convergence). In all of these 72 tests no *p*-values were smaller than .05, with average *p*-values near .90, indicating no rejections of the null hypothesis that all posteriors were generated from the same underlying distributions.

Results

Descriptive statistics are shown in Table 1 and model results are shown in Table 2 (descriptive statistics were model-estimated from Level-2 of our statistical model to reflect the level of analysis of interest in the variables). On average only 19% of the editorial board members in our sample are female. Rotation is the norm in our sample, with nearly two thirds of our editors being new to the position. On average editorial boards have just over 60 members. With regard to editor characteristics, 15% of the editors are female; on average, they have been publishing for just over two decades and in that time have published nearly 25 articles in ISI listed journals.

As descriptive statistics show, journal rotation ($r = .24$) and size ($r = .49$) are positive correlated with editorial board members being female. Further, the dummy coded year variables show a powerful trend of increasing females on editorial boards as time progresses ($r = -.56, -.21, .05, .23$). Average female editorial board membership has increased from 9.4% in 1989 to 23.1% in 2009. As predicted, it appears that editors being female has a positive relationship to females on editorial

boards ($r = .27$) and it appears that better performing editors had more females on an editorial board ($r = .22$). It also appears that older editors have more females on an editorial board ($r = .13$). However, by examining the correlations among gender, age, and performance, it is clear that gender's positive correlation with editorial board gender composition is probably masking the true negative effect of editor age on editorial board gender composition and partially reducing the magnitude of performance's relationship. Accounting for such inter-correlations is the point of regression analysis, to which we now turn.

To draw inferences about our effects of interest we used a Bayesian version of null hypothesis significance testing first described by Jeffreys as a Bayesian response to Fisher's significance testing logic (see Jeffreys, 1939/1998, Chs. 5-7). This procedure gives Bayesian p -values that offer direct evidence against a composite null hypothesis that a parameter is zero or more different from zero than a reported effect (Zyphur and Oswald, 2015). This is like a traditional p -value that marshals evidence in favour of a parameter estimate when p -values are small, but the Bayesian p -value is more intuitive because it directly gives the probability that a parameter has a value of zero or the opposite sign of the reported effect. An implication is that subtracting a Bayesian p -value from 1 indicates the probability that an effect is different from zero (similar in logic to, but more intuitive than, null hypothesis significance testing).

Beginning with p -values, results in Table 2 show that the effects of editor academic performance ($b = .006$, $p = .021$) and gender ($b = -.113$, $p = .004$) are statistically significant, thus supporting Hypotheses 1 and 3. The academic performance effect only has a 2.1% chance of being zero or negative, meaning that this effect has a 97.9% chance of being positive. The p -value indicates that the gender effect only has a 0.4% chance of being zero or positive, meaning that this effect has a 99.6% chance of being negative. Editor age had a less clear negative effect ($b = -.005$, $p = .137$), but still showed only a 13.7% chance of being zero or positive, meaning the effect has an 86.3% chance of being negative, which we interpret as a meaningfully large chance of being negative. Hence, we report partial support for Hypothesis 2.

To better understand these effects, we computed the average probability of board members being female at different levels of the predictors. From the threshold parameter of .848, the regression model obtains an intercept of $-.848$ (which can be thought of as a z -score). Because all predictors were centered, this $-.848$ translates into an overall model-estimated average probability of female board membership at 19.82%. However, when journal editors were female the average probability of female board membership increased to 22.60% while for male editors it dropped to 19.34%. Alternatively, editors that were younger by one standard deviation increased the average probability of female board membership to 20.75%, while editors one standard deviation older decreased it to 18.92%. Finally, editors that performed better with one standard deviation increase in publications also increased the average probability of female board membership to 22.08%, while editors one standard deviation below the mean in performance decreased it to 17.71%.

In sum, these effects show that while females are generally underrepresented on editorial boards, certain editor characteristics have important implications for

whether or not females are chosen to sit on editorial boards. Specifically, male editors tended to be associated with a reduced chance of female board members, as did older and lower performing editors. Indeed, from our results, we can contrast the predicted average probability of female editorial board membership for a female editor who is younger and higher performing, which is 26.08%, versus a male editor who is older and lower performing, which is 16.43%. This near 10% difference in the gender makeup of editorial boards as a function of an editor's characteristics shows the *profound* impact that a journal editor's characteristics can have on gender in editorial boards.

Discussion

We focused in this study on three individual factors that might influence an editor's selection of editorial board members and, thus, the gender composition of his/her journal's editorial board. Specifically, we examined the links between an editor's academic performance, age and gender and EB gender equality. Academic performance is operationalised as the number of journal articles an editor had published, which is usually a key selection criterion for the position of journal editor (Bedeian et al., 2009; Feldman, 2008). So, in trying to understand the antecedents of change in the gender composition of editorial boards of academic journals, it is essential to include this prominent credential. Further, professional age and gender shape individuals' life experiences, values and attitudes, including their views and behaviour towards diverse others. Overall, it makes sense to spotlight journal editors, because they play a key role in the selection of journal EB members (Feldman, 2008; Zedeck, 2008). This selection responsibility influences academic careers and knowledge directly (through who is selected and who is not; Bedeian et al., 2009) and indirectly (through what is published; Starbuck et al., 2008).

We found that journal editors who achieve high academic performance tend to have a higher proportion of women in the EBs of their journals, suggesting that they are 'trailblazers' in increasing EB gender equality. One reason for trailblazing such change is 'level of comfort'. As high academic performers, these editors are unlikely to feel threatened by high performing others, regardless of their sex. Thus, their level of comfort with working with female editorial board members is likely higher than that of journal editors of lower academic performance, because identification based on academic performance prevails over same-gender identification.

Social identification on the basis of academic performance rather than gender, may also explain the higher gender equality on the editorial boards of higher than lower performing editors. Colleagues and students of both sexes likely seek the acquaintance and mentorship of high performing editors for benefits such as information and career opportunities (Portes, 1998). In turn, high performing editors are likely to include colleagues and students of both genders in their professional network because, for them, current or potential performance is a salient basis of identification with professional others. This shift in the basis of social identification should result in more gender diverse professional networks for high performing editors. Incoming editors select EB members from their professional networks or on

the advice of current network members (Zedeck, 2008). Thus, having a gender diverse professional network increases the high performing editor's pool of gender diverse colleagues to choose from for his/her EB.

One by-product of having higher levels of gender equality in the EB might be more submissions from a wider section of the academic community and increased readership. More submissions allow for greater choice of quality papers for publication; increased readership potentially raises citations, which is a criterion of journal quality (Hodgkinson, 2008). In both instances, the composition of the EB signals to potential authors and readers the caliber and type of manuscripts that might be accepted and published, as well as the breath of perspectives, research interests and quality of the EB members.

We also found some evidence that professionally younger editors are more likely than their professionally older counterparts to have higher levels of gender equality in the EBs of the academic journals under their leadership. This finding is encouraging. It suggests that the 'glaring gender inequities' that persist in academia worldwide (Grove, 2013) could diminish over time as men work in an increasingly gender-mixed academic milieu from an early age (AUCC, 2011; Dobson, 2012).

Further, as with high performing editors, professionally younger male editors likely feel more comfortable working with female colleagues than their professionally older counterparts, albeit possibly for a different reason. This enhanced comfort level should result in higher proportions of female academics in the professional networks of younger than older male editors. Having a higher proportion of women in one's professional network provides professionally younger editors a larger pool of female candidates to choose from for their journals' editorial boards.

In addition, the finding that a female editor is associated with higher proportions of women in editorial boards supports past findings and is similarly encouraging. First, it shows that female misogyny is more a myth than a fact, at least in the realm of editorial boards of management journals. Second, gender is a key determinant of one's network gender composition (Portes, 1998) and networks are critical in the identification of potential EB members (Burgess and Shaw, 2010; Raelin, 2008). This finding thus shows that female editors partly rely on their own networks to appoint new EB members. As their professional networks are likely composed of more women than the professional networks of male editors, female editors' appointees have a higher chance of being female than male editors' appointees. Thus, as the instances of female journal editors increase, so should the proportion of female EB members. This increase should outlast the female editor, at least in part, as a new editor is unlikely to replace EB members on the basis of gender alone. Hence, having a female editor should increase the representation of women in editorial boards of management journals in the short- and medium-term.

Study's Contributions

The theoretical contribution of this paper lies in its use of social identity (Tajfel and Turner, 1986) and homosocial reproduction (Kanter, 1977) theories to hypothesise the impact of individual level factors on EB gender equality. Identification

and social reproduction are central tenets of relational demography theories that influence the supply and demand sides of the selection process. We took on a novel approach by focusing on the demand side of EB member selection to enhance our understanding of female academics' under-representation in EBs of management journals. Our study showed that editors' characteristics, which are arguably irrelevant selection criteria, influence the gender composition of their journals' editorial boards.

We note other strengths of our study. First, in focusing on the journal editor's demographic characteristics as predictors of women's representation in EBs of management journals, we shifted the attention from the supply-side (female academics) to the demand-side (journal editors) of the selection process. Thus far, popular explanations for women's under-representation in academic leadership have been their lower productivity levels and higher family responsibilities than their male colleagues (e.g., Bell and Bentley, 2005). These explanations tell only part of the story and an emerging body of literature shows that they are simplistic. For example, demand-side factors such as 'gender-stereotyped perceptions and the unequal opportunities embedded in social networks appear to explain some of the [gender] gap' in scientists' rate of joining scientific advisory boards (e.g., Ding et al., 2013, p.1443). Contributing to this shift in attention to the demand-side, this study focused for the first time on the journal editor's characteristics as predictors of EB gender composition.

Second, we contribute to the conversation on the black box of editorship (e.g., Baruch et al., 2008) by broadening past explanations of EB member selection to include personal characteristics that influence who we identify with and assess favourably. Specifically, we show that arguably irrelevant factors in the selection of EB members, such as editors' professional age and gender, influence the level of representation of women in the editorial boards of management journals.

Third, this study's findings provide empirical evidence that the EB member selection process is not as meritocratic and formal as it could be. Specifically, the study's findings support understandings that the EB member selection process is partly influenced by editors' personal characteristics (e.g., Bedeian et al., 2009) and is, thus, opaque (e.g., Feldman, 2008). In doing so, this study supports past evidence of inequitable representation of women in EBs (e.g., Addis and Villa, 2003; Metz and Harzing, 2008), and assumptions of biased selection processes (e.g., Bedeian et al., 2009; Burgess and Shaw, 2010).

Further, in testing for associations between editor's characteristics and women's representation in EBs, we used a 3-level modeling framework that allowed accounting for the nested structure of the complex data we collected. Because the data were longitudinal in nature, this allowed us to control for undesirable heterogeneity associated with each journal, removing key potential confounds like the specific focus of each journal, its location, and any other journal-specific factors. Conveniently, what remains after controlling for this heterogeneity are year-on-year changes in editorial board gender composition, meaning that the effects we report indicate how editors' characteristics influence *changes* in editorial board gender composition. However, this step towards making valid causal inferences about editor effects does not mean that

our observed effects are directionally causal in nature. Yet, although it is difficult to conclusively determine cause and effect between two variables with correlational rather than experimental data, in the case of journal editors and editorial boards it is more plausible to suggest that an editor's characteristics influence the gender equality of the editorial board than vice versa.

Practical Implications

What do these findings mean for management journals with low, stagnant or declining representation of women in their EBs? The business case for aligning the representation of women in editorial boards with their representation in academe and as authors is predicated on the broadening of perspectives that inform knowledge and management practice (e.g., Bedeian, 2009; Burgess and Shaw, 2010). Further, there is a moral case for removing insidious obstacles to women's advancement in academia. The absence of, or fewer, EB positions on female than male academics' promotion cases might be interpreted by university committees as weak recognition of women's scholarship, thus becoming an obstacle to their advancement (Baruch and Hall, 2004; Diezmann and Grieshaber, 2010; Ding et al., 2013). Therefore, one practical implication from this study's findings is that the traditional selection criterion of high academic performance for the position of journal editor should remain, or even be reinforced (Bedeian et al., 2009), for journals aiming to increase the proportion of female EB members.

Another implication for journals wishing to boost gender equality in EBs is to use less conventional selection criteria, such as professional age and gender, *in conjunction with* academic performance. Using other selection criteria in conjunction with academic standing is already practiced by some journal editors pursuing a mixture of members' skills, knowledge and approaches that may result in the publication of high quality innovative articles (Feldman, 2008; Zedek, 2008). In particular, appointing a female editor can signal change in an academic journal, in the same way as the appointment of a female CEO signals to stakeholders a commitment to change in an organisation (e.g., Martin, Nishikawa and Williams, 2009; Metz and Kulik, 2008; Ryan and Haslam, 2005). Appointing a professionally younger (rather than older) editor might have similar signaling effects. Holding journal editorships traditionally reflects professional seniority, as it takes time to build one's contribution to knowledge. Although we would only recommend the appointment of a professionally younger editor who is a recognised leader in his/her field, such appointment would also signal change.

However, more may need to be done. In reflecting on gender and management research in the past 25 years, Broadbridge and Simpson (2011) point to inaccurate perceptions that gender problems in management have been addressed. Metz and Kulik (2014) similarly identify employees' denial of gender discrimination as a new barrier to women's advancement (in addition to the well-documented barrier of persistent employers' denial of gender discrimination). They explain that, collectively, decision-makers and employees 'prefer to view their workplaces as gender egalitarian' (Metz and Kulik, 2014, p. 184). Members of the academic fraternity are unlikely to be immune to this deeply-rooted preference. Thus, it is possible that

without institutional pressures on academia to address gender inequities, women's representation on editorial boards may continue to lag their proportion as authors for quite some time. This supposition is based on persistent and stable gender *gaps* in EB membership over the years despite increased women's authorship (Mauleón et al., 2013; Metz and Harzing, 2012). Institutional pressure could be in the form of guidelines provided by selection committees of editors-in-chief, presidents of academic associations, and publishers encouraging incoming editors to increase the gender equality in their editorial boards. Such guidelines need not be in place for all journals or forever; only while gaps persist between women's representation on editorial boards and their proportion as authors.

Nevertheless, it is possible that simply raising awareness of editors' characteristics associated with the better representation of female academics on the editorial boards of management journals will incentivise many editors to reflect on (and redress if necessary) the gender composition of their editorial boards. Management journals, such as the British Journal of Management, can raise such awareness by publishing and publicising gender and management research (Broadbridge and Simpson, 2011). Through what they publish, journals can also start a conversation (Wood and Budhwar, 2014) in the context of the changing academic milieu (AUCC, 2011; Dobson, 2012), on the contributory role of journal editors in addressing gender inequities in academia (e.g., Grove, 2013; Karataş-Özkan and Chell, 2013; Morley, 2014) through their selection of editorial board members. After all, appointment to editorial boards and to the position of editor-in-chief reflects peer-recognition (Raelin, 2008) and is considered a step up the academic ladder (Haak, 2002). Management journals can also contribute to addressing gender inequities in academia by increasing the transparency of the EB member selection process.

Implications for Future Research

Implications for future research emerged from conducting this study and in the course of the literature review in preparation for it. For example, during the literature review stage it became clear that little is known of the impact of demographic characteristics of CEOs and/or leaders on diversity outcomes (e.g., implementation of organisational diversity practices). Thus, overall the upper echelons literature would benefit from more research in this area.

We drew on social psychology based theories to develop the study's theoretical rationale. However, other theories may prove useful in enhancing our understanding of gender equality in editorial boards of academic journals; institutional theory is one of them. Institutions, such as government agencies, laws, and regulatory structures are sources of standards and pressure to conform (Oliver, 1991). Academic journals are not directly affected by legislative or regulatory institutional pressures, but are likely to be indirectly affected by them (Bedeian et al., 2009). For example, media coverage of legislative changes is often subject to public debate that increases general awareness of social and employment issues. Thus, current social awareness, and government and regulatory focus in Western societies on the gender equality of boards of directors, heads of companies and executives (e.g., Hausmann, Bekhouche, Tyson and Zahidi, 2014) likely influence journal editors in their choice of editorial

board members.

For some academic journals, the 'direct reports' of journal editors are the associate editors. Associate editors may help editors choose EB members by making suggestions (Feldman, 2008). Thus, future research would benefit from examining the influence of associate editors' characteristics (such as gender) on the gender composition of the EB members.

Further, we used academic performance in this study as a reflection of a journal editor's cognitive ability and found a positive association between academic performance and women's representation in EBs. However, there may be other explanatory editor characteristics. For example, we know that individuals high on cognitive ability and openness to experience perform better in changing environments (Le Pine, Colquitt and Erez, 2000). In addition, the diversity literature has shown that openness is positively associated with being comfortable with diversity (Sawyer, Strauss and Yan, 2005). Thus, future research will benefit from examining the link between personality traits, such as openness to experience, and the gender composition of the EB by surveying a sample of journal editors.

Other demographic dimensions of diversity, such as being a scholar from the U.S. or not, are increasingly relevant in the selection of editorial board members (Feldman, 2008; Zedeck, 2008). Thus, future research will benefit from building on this study by examining the association between a journal editor's characteristics (e.g., academic performance) and diversity (e.g., geographic diversity) of EB members.

Conclusion

The persistent under-representation of women in EBs of academic journals (e.g., economics [Addis and Villa, 2003]; science [Mauleón et al., 2013]; management [Metz and Harzing, 2009]) is puzzling in light of their increased representation in doctoral degrees (AUCC, 2011) and in academia (Dobson, 2012) over the last few decades. In particular, the gradual and variable levels of success in increasing women's representation in EBs across journals suggest that this change is difficult. Thus, the profession can benefit from a greater understanding of what journal editor's characteristics influence the gender composition of his / her editorial board. The current study contributes to this understanding by showing that editors' higher academic performance, younger professional age, and gender (being female) are associated with more gender-equal editorial boards. Further, the current study strengthens claims that top leadership's commitment to gender equality is essential for sustainable organisational change. Finally, this study raises awareness of editors-in-chief's individual level factors as 'influencers' of their strategic decision-making. Specifically, this study's results show an almost 10% difference in the gender makeup of editorial boards as a function of an editor's characteristics. This influence is far-reaching, as it potentially expands the scope of what is published and helps address one possible obstacle to women's promotion prospects: their under-representation in editorial boards of academic journals.

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Table 1*Descriptive Statistics for Study Variables*

<i>Variable</i>	<i>M</i>	<i>SD</i>									
Board	0.19	0.25									
Rotation	0.62	0.34	0.24								
Size	61.31	27.12	0.49	0.12							
1989	0.17	0.38	-0.56	-0.12	-0.35						
1994	0.19	0.40	-0.21	-0.07	-0.23	-0.22					
1999	0.21	0.41	0.05	0.08	-0.07	-0.23	-0.25				
2004	0.21	0.41	0.23	-0.04	0.13	-0.23	-0.25	-0.26			
Editor Gender	0.15	0.30	0.27	0.19	0.18	-0.10	-0.13	-0.00	0.10		
Editor Prof Age	20.78	6.57	0.13	-0.32	0.23	-0.32	-0.10	0.01	0.21	0.22	
Editor Perf	24.88	13.11	0.22	-0.17	0.18	-0.24	-0.10	-0.04	0.10	0.13	0.39

Note. Board = female editorial board membership, where 0 = male and 1 = female; Rotation = whether or not the editor was new in a given year; Size = the size of the editorial board in a given year; 1989 – 2004 = dummy coded year variables; Editor Gender = gender of the journal's editor, where 0 = male, 1 = female; Editor Prof Age = the professional age of the journal editor; Editor perf = the total number of journal articles published by the editor in a given year. All descriptive statistics are at the year level of analysis (Level-2 in our multilevel model) using proportions of males versus females on editorial boards.

Table 2*Effects on Editorial Board Gender from 3-Level Model*

<i>Parameter</i>	<i>Estimate</i>	<i>Bayesian p-value</i>	<i>Credibility Interval</i>	
			-2.5%	+2.5%
Level-2				
Rotation	0.065	0.175	-0.071	0.199
Size	0.001	0.258	-0.001	0.002
1989	-0.549	< 0.001*	-0.722	-0.377
1994	-0.298	< 0.001*	-0.449	-0.152
1999	-0.196	< 0.001*	-0.323	-0.070
2004	-0.088	0.053	-0.196	0.019
Editor Gender	0.113	0.004*	0.200	0.026
Editor Prof Age	-0.005	0.137	-0.013	0.002
Editor Perf	0.006	0.021*	0.000	0.012
Variance	0.004	---	0.001	0.015
Level-3				
Intercept	-0.848	<0.001*	0.704	0.998
Variance	0.187	---	0.121	0.301

Note. Rotation = whether or not the editor was new in a given year; Size = the size of the editorial board in a given year; 1989 – 2004 = dummy coded year variables; Editor Gender = gender of the journal's editor, where 0 = male, 1 = female; Editor Prof Age = the professional age of the journal editor; Editor perf = the total number of journal articles published by the editor in a given year; Variance = amount of variation in dependent variable at each level of analysis; no parameters were estimated at Level-1.

Appendix

List of the 52 academic journals used in this study

Academy of Management Executive (Perspectives)
Academy of Management Journal
Academy of Management Review
Administrative Science Quarterly
British Journal of Management
California Management Review
Decision Sciences Journal
European Journal of Industrial Relations
European Journal of Marketing
European Journal of Operational Research
European Management Journal
Group & Organization Management
Human Resource Management
Industrial and Labor Relations Review
Industrial Marketing Management
Industrial Relations
International Business Review
International Journal of Business Performance Management
International Journal of Cross-Cultural Management
International Journal of Human Resource Management
International Journal of Research in Marketing
International Studies of Management & Organization
Journal of Advertising
Journal of Applied Psychology
Journal of Business Research
Journal of Consumer Research
Journal of International Business Studies
Journal of International Management
Journal of Management
Journal of Marketing
Journal of Marketing Management

Journal of Marketing Research
Journal of Occupational and Organizational Psychology
Journal of Operations Management
Journal of Organizational Behavior
Journal of Retailing
Journal of the Academy of Marketing Science
Journal of Vocational Behavior
Journal of World Business
Long Range Planning
Management International Review
Management Science
Marketing Science
Operations Research
Organization Science
Organization Studies
Organizational Behavior and Human Decision
Process
Personnel Psychology
Production and Operations Management
Strategic Management Journal
Technovation
Thunderbird International Business Review