



Differences in female representation in leading management and organization journals: Establishing a benchmark

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ABSTRACT

In the most prestigious journals of many disciplines, female researchers are underrepresented. To better understand this phenomenon, we compare the proportions of female authors in all leading management and organization studies (MOS) journals, explore underlying gendered publication patterns, and analyze factors explaining differences between journals. We examine the gendered distribution of authorship in these journals using a complete, original time series. The comprehensive data set includes all articles published in fourteen leading journals in the MOS field, comprising 77,472 cases (authors) and 43,673 articles. The findings show that women have been underrepresented in all leading MOS journals until now. However, our findings reveal significant differences between journals, with some journals lagging far behind their peers. We ask why some journals score much higher than others and show that gendered authorship constellations and research topic specialization consistently explain female representation differences between journals. More specifically, we find a dominance of ‘men’s clubs’ when it comes to authorship constellations and thriving ‘male islands’ when it comes to research topics. In contrast, ‘women’s clubs’ are far less prevalent and no ‘female island’ exists. Interestingly, female authorship and ‘shared islands’ play a particularly powerful role in narrowing the gender gap in leading journals. Our results provide a benchmark for female representation across leading journals and allow for the formulation of concrete research policy goals and directions for change.

1. Introduction

Publishing in leading journals has important consequences both at the individual and field levels. Academic careers are significantly determined by successful publications in highly ranked journals (see e.g. Aguinis et al., 2020; Osterloh and Frey, 2020). Promotion, salary, research grants, teaching loads, and sabbatical leave decisions are largely based on the number and quality of past publications—leading to ‘accumulative advantages’ for those who publish successfully (e.g. Viner et al., 2004) and ‘vicious circles’ for those who do not (van den Besselaar and Sandström, 2017). Moreover, which authors publish in leading journals and which ones do not has an impact on the advancement of research and knowledge in a given field (Metz and Harzing, 2009), can limit scholarly plurality (e.g., Key and Sumner, 2019; McPherson et al., 2001; Nielsen and Börjeson, 2019) and, ultimately, hamper innovation and ‘box-breaking research’ (Alvesson and Sandberg, 2014).

Given the importance of this issue, scholars have explored its relevance in fields as diverse as political science (e.g., Breuning and Sanders, 2007; Djupe et al., 2019; Key and Sumner, 2019; Teele and Thelen, 2017), sociology (Akbaritabar and Squazzoni, 2020) or the health sciences (e.g. Beaudry and Larivière, 2016), and showed that women were underrepresented as authors in the most prestigious journals of these fields. Importantly, by comparing comprehensive sets of leading journals within their given fields, these studies have shown that differences between journals do exist when it comes to female representation. However, why is it that, within one field, some journals include a larger proportion of female authors than others? So far, understanding journal differences has gained little attention. Yet identifying the gendered publication patterns that lead to more (or less) gender-diverse journals is central to furthering the scholarly understanding of publication patterns and formulating concrete avenues for narrowing the gender gap.

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This paper addresses these issues by focusing on the field of management and organization studies (MOS), where comprehensive insights into the representation of women in the field's top journals are missing. To this end, we compiled an original and extensive data set that includes fourteen leading journals in the MOS field from their first appearance until 2017, comprising 77,472 cases (authors) and 43,673 articles. We followed three objectives: (1) take stock of the representation of women as authors across all leading MOS journals to create a benchmark for female representation in top journals; (2) explore underlying structural patterns of authorship constellations and research topics; (3) analyze what demarcates gender-diverse journals from less gender-diverse ones with regard to these structural patterns, with a view to making policy recommendations on how to increase the representation of women in leading journals. The analysis is based on a panel with year-based journal averages and uses general linear squares (GLS) random effects models.

Our findings and contributions are as follows: Our unique 'big data' approach allows us to provide a systematic overview of the extent of gender disparity across leading MOS journals, revealing a persistent underrepresentation of women that goes beyond single journals (e.g., Aguinis et al., 2019; Jarema et al., 1999; McGee et al., 2003) or subfields (Joshi et al., 2015; McGee et al., 2003) and, instead, permeates the whole range of top journals. Beyond this general picture, our data reveals significant differences between journals concerning female representation. These findings are the first to highlight the structural nature of female underrepresentation in leading MOS journals and provide a benchmark against which the achievements of these journals in terms of female representation may be compared.

Moreover, we explore gendered publication patterns regarding authorship constellations and research topic specialization. The findings reveal a dominance of 'men's clubs', or papers published by several male authors, and 'male islands,' that is to say, research topics on which predominantly men publish. In contrast, 'women's clubs' are far less prevalent and no 'female islands' exist. There is only one topic on which men and women publish on a more equal footing, which constitutes a 'shared island.' These findings are important because our statistical analysis reveals that despite their scarcity, both all-female authorship and 'shared islands' play a crucial role when it comes to explaining persistent differences between leading journals concerning the representation of women.

Our findings add key insights to the literature on gendered publication patterns. We show that both authorship and research specialization are central to understanding these differences. This goes beyond extant research, which has uncovered gendered differences in how men and women collaborate (e.g., Bozeman and Corley, 2004; Bozeman and Gaughan, 2011; Djupe et al., 2019) and the topics in which they specialize (e.g., Brooks et al., 2014; Dolado et al., 2012; Key and Sumner, 2019; Nielsen and Börjeson, 2019). More specifically, these factors have been looked at in isolation (e.g., Filardo et al., 2016; Mihaljević-Brandt et al., 2016), and with an eye to explaining gendered differences in individual researchers' work performance (e.g., Brooks et al., 2014; Mihaljević-Brandt et al., 2016; Young, 1995). In contrast, by examining these patterns for a large set of journals, we add relevant insights into field-level gendered publication patterns. In particular, our results highlight the role of institutionalized norms and power structures that guide behavior, reproduce existing structures, and reinforce vicious circles at the level of the research field. By shedding light on how these factors shape journal differences, we can develop concrete policy recommendations on how to increase female representation in top journals that still demonstrate a male legacy. These findings will therefore be valuable for journal editors, research institutions, and funding bodies, as well as the MOS community as a whole.

2. Literature review

2.1. Status quo of female representation across leading MOS journals

The first aim of this paper is to take stock of the representation of women as authors across all leading MOS journals, from the latter's first appearance until today. Only fragmented research on the extent and role of female representation in MOS journals has been conducted to date. Past studies have typically focused on single journals (e.g., Aguinis et al., 2019; Jarema et al., 1999; Joshi et al., 2015) and all showed a decreasing but continuing underrepresentation of women. The most comprehensive study so far focused on the representation of women as authors in four leading journals in the subfield of organizational behavior management (*Journal of Organizational Behavior Management*, *Personnel Psychology*, *Journal of Applied Psychology*, and the *Academy of Management Journal*) between 1978 and 2000 (McGee et al., 2003); it demonstrated a varied rate of increase of papers published by women in these four journals, while female underrepresentation remained.

These studies are important since they point to gender disparity in leading MOS journals. However, they are limited in several ways: First, they do not provide a comprehensive overview of the representation of women within the field. We still lack an understanding of the extent of female representation in leading journals. Second, these studies are limited when it comes to comparing the levels of female representation in top journals. While McGee and colleagues (2003) sensitized us to the fact that the representation of women differed between these journals, they considered only four journals. Third, most studies were published several years ago. We therefore still lack insights into the *status quo* of gender disparity in leading journals. Lastly, these studies provide few insights into how journals might successfully increase female representation. Our study makes important contributions to close these gaps.

2.2. Gender representation differences between journals: the role of authorship constellations and research topics

Despite an increasing awareness of female underrepresentation in the top journals of many disciplines, what exactly leads to more (or less) gender-diverse journals has so far remained largely unexplained. Yet it is central to narrowing the gender gap. We build on the wider literature on gendered publication patterns to identify factors that may potentially explain gendered publication outcomes and provide concrete avenues for change.

A promising area for our endeavor are studies on journal article-related factors aiming to understand individual researchers' productivity differences. These studies are limited when it comes to making claims about differences between journals and therefore only allow limited insights into structural patterns in the wider field. However, given that they identify patterns linked to the research article itself rather than to individual authors, they seem a fruitful avenue for understanding differences between journals. Here, two factors stand out: authorship constellations and research topics (Leahey, 2006; Light, 2013; Whittington, 2018).

Previous research on 'authorship constellations' has revealed that collaborations are less rewarding for women than for their male colleagues (Light, 2013; Sarsons, 2017), and that women face disadvantages through differences in collaboration strategies and the pool of available collaborators (Bozeman and Corley, 2004; Bozeman and Gaughan, 2011; Djupe et al., 2019). Given that gender homophily plays a role in choosing collaboration partners (Bozeman and Corley, 2004;

Dahlander and McFarland, 2013; Ibarra, 1992; Treviño et al., 2017; Whittington, 2018) and given the lower representation of women in many disciplines, Jordan and colleagues (2008) have argued that “women may be at a competitive disadvantage, relative to men, in finding compatible research collaborators, which could be restricting their publication opportunities” (p. 84). Some authors speak of “old boy networks” (McDowell et al., 2006, p. 153) that may exclude women owing to homophily in selecting collaboration partners, thus resulting in many all-male teams (Fox et al., 2018) and—owing to the structural lack of collaboration partners—fewer all-female teams (Young, 1995). This is relevant since the number of collaboration partners counts as a strong predictor of individual productivity (Ghosh and Liu, 2020; Lee and Bozeman, 2005) and the likelihood to be published in top journals (Light, 2013).

First (largely descriptive) insights into collaboration patterns in top journals of other disciplines than MOS point in a similar direction: Women do not profit equally from the overall increase in co-authored papers because collaborative research is dominated by male homophily (Dion and Mitchell, 2020; Fox et al., 2018; Grant and Ward, 1991; Mihajević-Brandt et al., 2016; Teele and Thelen, 2017). At the same time, these studies suggest that both authorship constellations and female representation are distributed differently between journals (Young, 1995). These insights suggest that a close examination of authorship constellations could help explain gender disparity differences between journals.

As for ‘research topics’, the second factor promising to explain journal differences, extant literature reports significant levels of gendered specialization in fields such as political science (Key and Sumner, 2019; Young, 1995), economics (Dolado et al., 2012), sociology (Leahey, 2006; Light, 2013), and MOS (Brooks et al., 2014; Nielsen and Börjeson, 2019). The work of Nielsen and Börjeson (2019) in MOS is particularly relevant. Building on a broad selection of journals published between 2007 and 2013, they demonstrate that women are “more likely to engage in social and human-centered areas of management, while men gravitate toward the more technical and operational aspects” (Nielsen and Börjeson, 2019, p. 11). This finding resonates with studies in other disciplines that highlight differences in the topics chosen most frequently by men and women, whereby topics most often chosen by women are less present in top journals (Blackburn and Heppler, 2020; Dion and Mitchell, 2020; Johnson et al., 2017; Key and Sumner, 2019; Platt, 2007).

These studies focus on the distribution of women and men between topics, showing that gender is not distributed equally across topics, that is to say, men and women most frequently choose different topics. However, we lack insights into how gender is distributed *within* specific topics. Remaining questions include whether topics are skewed toward men or women, whether this differs for those topics most often chosen by men or women, or the implications that such within-topic segregation may have on the representation of women in top journals. To address these issues, we propose to follow the sociological literature on gender segregation in occupational fields (Reskin, 1993; Reskin and Hartmann, 1986). This literature highlights the importance of looking at the gendered division of labor both *across* and *within* occupations (i.e., occupational as well as job or task segregation) (Campero, 2021; Chan and Anteby, 2016). Similarly, we suggest complementing earlier insights into the distribution of women and men *between* topics with insights into the division of labor *within* topics (similar to the issue of within-team division of labor, see Haeussler and Sauermann, 2020). We thus suggest moving the discussion from aggregate considerations of gendered research topic specialization to the implications of more

fine-grained, lower-level gendered topic segregation for female representation in top journals. So far, this has not received any attention, yet seems important given that by only focusing on topics most often chosen by men and women, underlying gendered patterns that might explain persistent gender disparities within a given occupational field are overlooked, including—as we suggest—differences in female representation in leading journals.

In sum, past research has discovered significant differences in how men and women collaborate as co-authors and in the research topics in which they specialize. However, we are yet to understand how both authorship constellations and research topics explain differences between journals as regards female representation or how they might help narrow existing gender gaps. Furthermore, given that both factors have so far only been looked at in isolation, we will also look at the role they play together. Exploring the link between these two factors will allow us to gain a more nuanced understanding of the type of authorship constellation through which women publish about certain research topics, and how that translates into their representation in leading journals. Moreover, understanding topic specialization from the perspective of gender segregation (segregation within topics) has a high potential to yield complementary insights into the role played by research specialization as regards female representation in top journals. To the best of our knowledge, this paper is the first to examine differences between journals when it comes to both these patterns.

3. Data and methods

3.1. Sampling approach

Our sample includes leading journals in the field of MOS. We focused on this group of journals because they determine who moves up or stagnates on the academic career ladder. Here, even “the difference between publishing one versus two articles in a top-tier journal can be the decisive factor with respect to whether one receives a particular grant, promotion, and other important rewards” (Aguinis et al., 2018, p. 1301). Defining the set of leading journals in MOS was therefore key to our research question. It was, however, a considerable challenge owing to the variety of existing journal ranking schemes (Vogel et al., 2017). We therefore relied both on existing schemes and on the advice of recognized field experts to identify the journals to be included in our sample.

First, we combined four relevant ranking schemes covering different geographical areas (see also Metz et al., 2016 for a similar approach): Clarivate Analytics Impact Factors (formerly Thompson Reuters Impact Factor) (USA), AJG (formerly ABS) (UK), VHB-ranking (Germany), and Australian Business Deans Council ranking (ABDC) (Australia). Since these ranking schemes maintain different lists for different subfields, we decided to include those subfields that most strongly overlapped with MOS. For instance, the ABDC ranking is divided into the following subfields: ‘accounting’, ‘finance’, ‘management’, ‘marketing/tourism/logistics’, ‘statistics’, ‘business and taxation law’, ‘other commerce, management, tourism and service’, ‘information systems’, and ‘economics’, from which we selected the ‘management’ subfield. Similarly, in the other rankings we selected the ‘management’ (Clarivate Analytics Impact Factors), ‘general management’ (AJG), and ‘organization and human resource management’ (VHB) subfields. This selection was discussed with field experts.

We then included the highest-ranked journals from these four lists (i.e., A+ and A, except for ABDC, where we only considered A+ journals because, compared with other rankings, this scheme contains a high number of A journals) and/or those with an impact factor above 3. We

Table 1
List of most important journals in the field of management and organization studies.

Journal	Number of experts' votes out of $N = 15$ experts
Academy of Management Journal	15/15
Academy of Management Perspectives	10/15
Academy of Management Review	15/15
Administrative Science Quarterly	15/15
Journal of International Business Studies	11/15
Journal of Management	13/15
Journal of Management Studies	14/15
Long Range Planning	10/15
Management Science	11/15
Organization Science	15/15
Organization Studies	13/15
Organizational Research Methods	10/15
Research Policy	12/15
Strategic Management Journal	14/15

Note: A list based on ranking schemes contained the following additional journals: International Journal of Operations & Production Management, Journal of Applied Psychology, Journal of Operations Management, Journal of Organizational Behavior, Journal of Product Innovation Management, Leadership Quarterly, Organizational Behavior and Human Decision Process, and Personnel Psychology.

Table 2
Database overview.

Journal	Sample starts	Sample ends	Number of publications	Number of authors (cases)
Academy of Management Journal	1958	2017	3,769	7,802
Academy of Management Perspectives	1987	2017	1,757	2,796
Academy of Management Review	1976	2017	2,726	4,579
Administrative Science Quarterly	1956	2017	3,064	4,372
Journal of International Business Studies	1970	2017	2,289	4,534
Journal of Management	1975	2017	1,958	4,543
Journal of Management Studies	1964	2017	2,349	4,329
Long Range Planning	1968	2017	5,244	7,043
Management Science	1954	2017	8,201	15,207
Organization Science	1990	2017	1,670	3,443
Organization Studies	1980	2017	3,256	4,993
Organizational Research Methods	1998	2017	644	1,393
Research Policy	1971	2017	3,523	6,653
Strategic Management Journal	1980	2017	3,223	5,785
			43,673	77,472

selected only those journals that, given these classifications, were included in at least two of the four schemes, thus reflecting some consensus across rankings and geographical areas. This procedure led to the selection of twenty-two journals (see footnote to Table 1 for a full list).

Second, to make sure that we had included all journals relevant for MOS, but only those considered to be high impact, we asked fifteen leading MOS scholars to evaluate our list of twenty-two journals. These experts cover different national contexts, were or are currently on the board of the Academy of Management (AOM) or European Group of Organization Studies (EGOS), are editors of highly ranked journals and/or have published widely in the field of MOS. We sent them our list, asking them to indicate whether they would consider the named journals to be highly relevant for the MOS community or not. Additionally, we asked them to mention journals that they felt were missing from our list. We then restricted our sample to only those journals that were considered to be leading by two-thirds or more of the consulted experts. Although we had asked the experts to name any journal that we might have overlooked, no additional journal was named by more than two-thirds. This evaluation resulted in a selection of fourteen journals considered highly relevant for the field of MOS (see Table 1). Overall, our final sample broadly overlaps with samples used by other studies in this field (Acedo et al., 2006; Tahai and Meyer, 1999).

3.2. Data collection and description of the data set

We collected metadata on all articles published in these fourteen journals from the year of the journal's first appearance until the end of 2017, using web-scraping techniques (see also Teele and Thelen, 2017). This procedure offered a significant advantage, namely, it compiled an original, comprehensive data set going beyond previous research, which was restricted to a certain period and relied on bibliometric databases (e.g., Nielsen and Börjeson, 2019; Vogel et al., 2017).² Although the level of information provided by journals differs, for each article we were largely able to collect metadata both at the article and author levels (for more details, see Online Appendix A).

For each article, the data set contains the following information: title, abstract, journal, year, volume, issue, page numbers, DOI, keywords, and publication date. Moreover, we retrieved data regarding author name(s) and the number of authors involved. Table 2 shows the time span during which each of the journals included in our sample was published, the number of articles published over this time span, and the

² There is an ongoing debate about the completeness and reliability of bibliometric databases and web pages (e.g., Gusenbauer, 2019; Gusenbauer and Haddaway, 2020).

total number of cases (authors); in total, our database contains data on 77,472 cases and 43,673 articles. We did not restrict our sample to research articles, since including other forms of journal publication, such as editorials or book reviews, might yield interesting insights (e.g., a gendered division of labor might exist with regard to specific types of publication).

In addition to the metadata, we generated a set of variables relevant for the questions at hand. These concern gender, authorship constellation, research focus, and gender segregation.

Gender. First, we determined each author's gender (female or male). Employing a data set-based algorithm (for a similar approach, see also [Dion et al., 2018](#); [Nielsen and Börjeson, 2019](#)), we used the author's first name and, if this did not yield reliable results, the author's middle name (s) to assign a gender to all authors in our sample. We used algorithms available on Gender API, which scored high when benchmarked against other name-to-gender inference services in general, as well as with regard to Asian names ([Mihaljević-Brandt et al., 2016](#)), and genderize.io. Both services predict gender based on large sets of data collected from the internet and present a probability estimate for the accuracy of each gender prediction. More specifically, we first determined gender on the basis of the first name by using genderize.io. If this yielded inconclusive results, an additional query using Gender API was performed. If conclusive results still could not be achieved, these steps were repeated for the middle name. This sequential approach allowed us to determine the gender of 93 percent of all author names. The combination of the two name-to-gender inference services and the inclusion of middle names, if necessary and possible, goes beyond most similar studies, which employed only one service (e.g., [Nielsen and Börjeson, 2019](#); [Teele and Thelen, 2017](#)), and helped us increase the reliability of our results.³

Next, given that complete and accurate gender information was crucial for our research question, we employed research assistants to check the results of the automatized procedure (e.g., looking up the authors' web pages; see also [Nielsen and Börjeson, 2019](#), who conducted a comprehensive check that confirmed the accuracy of Gender API, and [Teele and Thelen, 2017](#), who did the same with genderize.io) and hand-code any missing values. All missing values were double-checked by at least two research assistants. Because many missing values were read as Asian names, these were checked by a research assistant whose first language is Chinese. Thanks to this approach, only 1.3 percent of names could not be linked to a specific gender.

Authorship constellation. We created a (co-)authorship metric for each author of each publication indicating whether she or he had written a given publication alone or with co-authors. Additionally, we included gender into that classification. This enabled us to distinguish between five different authorship constellations: female single author, male single author, all-female team, all-male team, and mixed team (i.e., including both men and women).

Research topic. To determine the research topic of each article, we used topic modeling. This enabled us to classify the most prevalent content of each publication (for a similar approach, see [Key and Sumner, 2019](#); [Nielsen and Börjeson, 2019](#)). Topic modeling is a "process of rendering constructs and conceptual relationships from textual data" using computer-driven algorithms to "reveal phenomenon-based constructs and grounded conceptual relationships in textual data" ([Hannigan et al., 2019](#), p. 586). In addition to revealing the constructs (the 'topics') underlying a textual corpus, the result also links disclosed constructs to underlying cases by expressing the probability of fit for each revealed construct for each case (here: each publication). To reveal

³ The automated process proved to be very accurate. For 90 percent of all author names, we achieved rates of gender prediction accuracy of over 0.75, for 89 percent rates were over 0.8, and for 86 percent they were over 0.9. This is a very reliable result, since a value of 0.5 indicates that the name-to-gender inference service is inconclusive (i.e., cannot ascertain whether the name is female or male).

the meaningful topics within our overall sample, we used the Machine Learning for Language Toolkit (Mallet) software application of the Latent Dirichlet Allocation (LDA) algorithm ([McCallum, 2002](#)), which analyzed the abstracts of all selected publications.

After several data-cleaning steps, the topic modeling process began. We started broadly with models containing 150 topics, of which 30 topics demarcated the boundaries of what appeared to be an appropriate range of topics for our data set (please see Online Appendix B for a detailed description of all steps). After several iterations, we identified a model with 65 topics as the lens that allowed the most accurate view of the data. We then checked all topics manually by going through a number of abstracts for each and then labeled all topics. During this process, we excluded 21 topics that were not consistent when comparing different abstracts (e.g., one topic focused on 'models' and contained rather random topics that different types of model were applied to). After this procedure, 44 topics remained for the subsequent analysis of research topics (see Online Appendix C). Finally, we created a variable that displays the research focus of each publication in our sample.

Gender segregation. To pinpoint a potential gender disparity within a given journal, we relied on the established measure of 'gender segregation'—also referred to as Index of Dissimilarity ([Gross, 1968](#); [Reskin, 1993](#)). Here, complete segregation excludes members of a given group from certain categories whereas complete integration distributes group members proportionally across categories. In our case, this Index helped us understand whether certain topics were primarily covered by men or women; it defines gender segregation as the extent to which one gender is (disproportionately) distributed within specific groups. If both groups are represented equally, the value is 0. If not, the value indicates the gap between the two groups. To calculate the value, we used the following formula ([Gross, 1968](#); also, see Online Appendix C):

$$\text{gender segregation} = |\text{percentage of women} - \text{percentage of men}|$$

3.3. Data analysis

Our analysis was twofold: The first part was based on descriptive analysis to take stock of female representation and explore gendered publication patterns. The second part used statistical methods to explain journal differences and develop suggestions to narrow the gender gap.

Descriptive Analysis. To start with, and since our sample represents the whole population of articles in leading MOS journals, we wished to disclose underlying structural patterns within the data set. The aim was to take stock of, and benchmark leading MOS journals in terms of female representation. We mapped developments and patterns related to the representation of women in single journals, our dependent variable, by focusing on the following four issues: a) development over time, b) the role of authorship constellations, c) the existence of gender segregation across research topics and, d) the interaction between authorship constellations and research topics. For all these descriptive findings, we tested the association between the variables of interest (with a Chi-square test) to see whether differences between groups were significant. We only report results where differences are significant at the 0.01 level ($P < 0.01$).

We restricted most of our analysis to a shorter time period than our whole sample would allow. Since not all journals started publishing in the same year, we decided to focus on the period during which all journals were published: 2000–2017. Moreover, more women were publishing in the field during this recent period than, for instance, in the 1960s. Therefore, this period yields insights that are more relevant for current professional practice.

Regression Analysis. Second, our analysis aimed to explain what demarcates gender-diverse journals from less gender-diverse ones by

focusing on authorship constellations and research topics. To investigate this issue, we used our large author-based data set to create a journal year-based panel. The panel consists of year-based journal averages. We restricted the panel to the period between 2000 and 2017 (see above). In total, the panel consists of 256 journal-year observations and is completely balanced.

The panel includes the following journal-year variables: the proportion of female authors according to author's gender (i.e., female representation in a given journal in a given year) as the dependent variable; the key independent variables are the proportions of each of five authorship constellations (male single author, female single author, all-male team, all-female team, and mixed team), and the proportion of research topics gender-segregated to different degrees on the basis of the formula presented above. As regards research topic gender segregation, we looked at three groups (see Online Appendix C): 'marginal (or low) segregation', referring to those research topics where differences between women and men <10 percent; 'moderate segregation', referring to research topics where differences between women and men <50 percent; and 'high segregation', referring to research topics where differences between women and men >50 percent.

Moreover, we included several control variables at the journal level. First, we included both the number of articles and the number of authors in a given journal in each year to control for potential effects related to journal size. In particular, the review process of journals with many articles (and/or authors) might differ from the review process of slimmer journals. Next, we included the proportion of non-research articles in each journal. These articles may include, for instance,

editorials or book reviews; they too could display diverging gender patterns (e.g., [Djupe et al., 2019](#)). Moreover, we included a proxy accounting for different team sizes, since previous research indicates that on average women have fewer collaboration partners than their male peers ([Davis and Patterson, 2001](#); [Grant and Ward, 1991](#)).

Next, we controlled for the proportion of topics that were still missing (topic missing) to capture potential effects resulting from our topic modeling procedure and their unproportional relevance to different journals. Similarly, we controlled for the share of authors with unknown gender (gender missing). Names from some regions are better covered by the name-to-gender inference services that we consulted, which might cause differences between journals. Finally, we also controlled for the accuracy of gender identification (gender accuracy). To take into account potential weaknesses (e.g., unisex names) of the name-to-gender inference services, we created a proxy for the share of names that were genderized with an accuracy lower than 0.9 (similarly, see [Nielsen, 2017](#)).

For the main analyses, we adopted general linear squares (GLS) random effects models. We employed random effects linear regression models using the xtreg option in STATA. This type of model was able to account for the potential interdependence of observations concerning the same journals and thereby took care of our particular data structure. Since we aimed to explain differences between journals, random effects models were appropriate, a choice supported by the Durbin-Wu-Hausman specification test ([Cameron and Trivedi, 2005](#); [Wooldridge, 2010](#)). All models include year fixed effects to control for time trends and the random part of the model captures dependencies caused by unexplained journal differences. All models were run using a robust variance estimator ('sandwich' estimator) to address the issue of within-cluster correlation. We set the year 2000 and ASQ (as the most gender-diverse journal) as our two reference groups. Additional models were run to check for the robustness of our results (please see robustness checks in the results section). All estimations were carried out using STATA 15.1.

4. Results

4.1. Benchmarking gender representation in leading MOS journals over time

When looking at the more than sixty-year publication history of all journals, we can see that the number of female authors in leading MOS journals has risen continuously. [Fig. 1](#) illustrates that the number of women was very low in the first volumes, published in the 1950s (*Management Science*, *Administrative Science Quarterly*, and *Academy of*

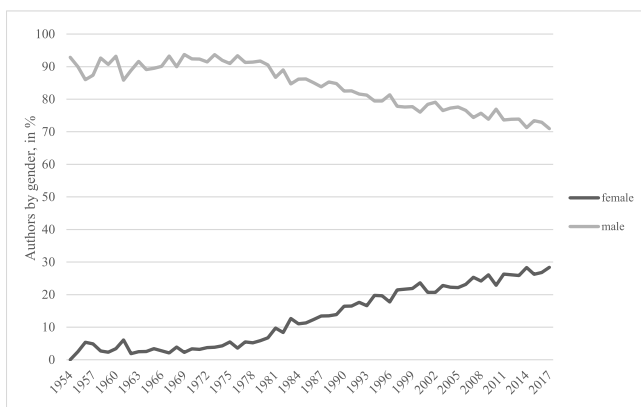


Fig. 1. Development of authorship by gender across all journals, in percent.

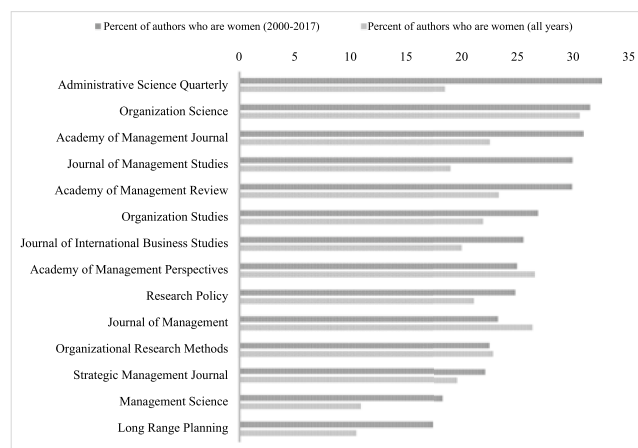


Fig. 2. Women and men as a share of all authors in the fourteen most relevant management and organization journals. Note: Online Appendix F shows the historical development of authorship by women and men for each journal separately.

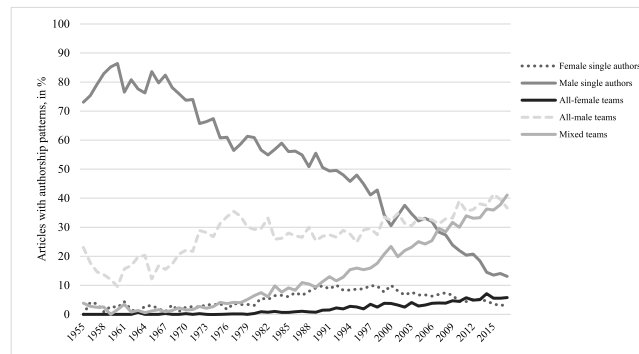


Fig. 3. Authorship constellations and gender across all journals.

Note: Although Management Science was first published in 1954, the table starts in 1955 because in its first year this journal published only eight articles.

Management Journal only), and that it increased slowly but steadily in the following years, reaching an average of 30 percent in 2017 among all journals.

Given this male legacy in leading journals, even today the proportion of women authors in leading MOS journals lies below their proportion in the field. Given the lack of data on the representation of women in the MOS field, we followed others and used the number of women in professional associations as a benchmark (Edwards et al., 2018; Teele and Thelen, 2017) while being fully aware of the fact that this benchmark needs to be interpreted with caution. For instance, in 2017, the average proportion of women in three leading associations—namely, the Academy of Management (AOM), Strategic Management Society (SMS), and European Group of Organization Studies (EGOS) (see Online Appendix D for more information)—was 41 percent compared with 30 percent in MOS journals.

Despite an overall increase in female representation in top MOS journals, our data point out that the percentage of female authors considerably differs between journals. Fig. 2 provides an overview of the share held by female authors in each journal both over the full time span and between 2000 and 2017—a time period closer to today's academic landscape. It illustrates the fact that significant journal differences existed during the entire period covered by our sample and persisted during the most recent period. It reveals a clear demarcation between a group of more gender-diverse top journals that have published many (over 30 percent) female authors (*Academy of Management Journal*, *Administrative Science Quarterly*, and *Organization Science*) and a group of less gender-diverse journals featuring few (around 20 percent) female authors (*Long Range Planning*, *Management Science* and *Strategic Management Journal*). The remaining journals boast neither many nor few female authors.

Differences between journals are intriguing for we can assume that the pool of women able and willing to publish in these journals is more or less the same for all management journals (Metz et al., 2016). By pointing to these differences, our data allows us to benchmark female representation in different journals.

4.2. Exploring gendered publication patterns: authorship constellations and research topics

In the following, we will explore the gendered publication patterns underlying these field-level developments through descriptive analysis. We focus on co-authorship constellations and research topics.

Authorship constellations. When looking at the historical development of authorship constellations (Fig. 3), our data reveal a clear trend toward collaboration. Whereas single-authored papers written by men were the predominant form of publication among leading MOS journals for many years, since the early 2000s, the majority of works have been authored by all-male research teams. In contrast, the number of papers published and

written by teams of women has increased only marginally during that time and has stagnated at a low level of barely over 5 percent—despite the increasing share held by female authors. Instead, the number of mixed-gender teams has been gaining importance in recent years.

Looking at all the works published by researchers between 2000 and 2017, we can detect that women and men take different pathways to publication. Women are most often present in mixed-gender teams (71 percent of all publications by women), whereas men are predominantly found in all-male teams (53 percent of all publications by men) and, to a much lesser extent, in mixed-gender teams (32 percent of all publications by men). This shows that the increase in co-authored papers offers greater opportunities to male authors working either in mixed-gender or all-male teams. Women, however, predominantly work in mixed teams, while all-female co-authored papers remain the exception. This reveals an empirical dominance of 'men's clubs'—all-male authored papers—whereas 'women's clubs' remain the exception.

Research topics. Past research has established that men and women choose dissimilar research topics (Nielsen and Börjeson, 2019). In particular, it reveals clear differences between women and men concerning the frequency with which given topics are chosen. We argue that it is also relevant to acknowledge the extent to which each single topic tends to be dominated by either men or women. Thus, instead of looking at the distribution of topics separately within the female group and within the male group, we must look at the distribution of women and men within each topic, using the metric of gender segregation.

Fig. 4, based on the period 2000–2017, illustrates the continuum of gender segregation across all topics in leading MOS journals. Our analysis shows that most research topics are highly gender-segregated within the overall field of leading MOS journals, only differing in the degree to which this is the case. Fig. 4 illustrates this range of variously skewed topics, from topics with a modest surplus of men (e.g., *team management*, with women: 38 percent, and men: 62 percent, gender segregation 25 percent) to those with a high surplus of men (e.g., *quantitative business research methods*,⁴ with women: 14 percent, and men: 86 percent, gender segregation: 72 percent). A rare exception is the topic *gender and diversity*; here, women make up a marginally larger share of authors (women: 54 percent, and men: 45 percent, gender segregation: 9 percent), that is to say, this topic constitutes a 'shared island'. The almost equal gender representation in this topic is indicated by a low level of gender segregation of about 9 percent. For all other topics, male authors clearly dominate. In sum, these findings show that men publish on research topic 'male islands' where female authors provide almost no competition. In contrast, unlike men, women do not have any topic 'islands' of their own.

⁴ Please note that this refers to papers that aim to contribute to the advancement of statistical methods and do not 'simply' employ them.

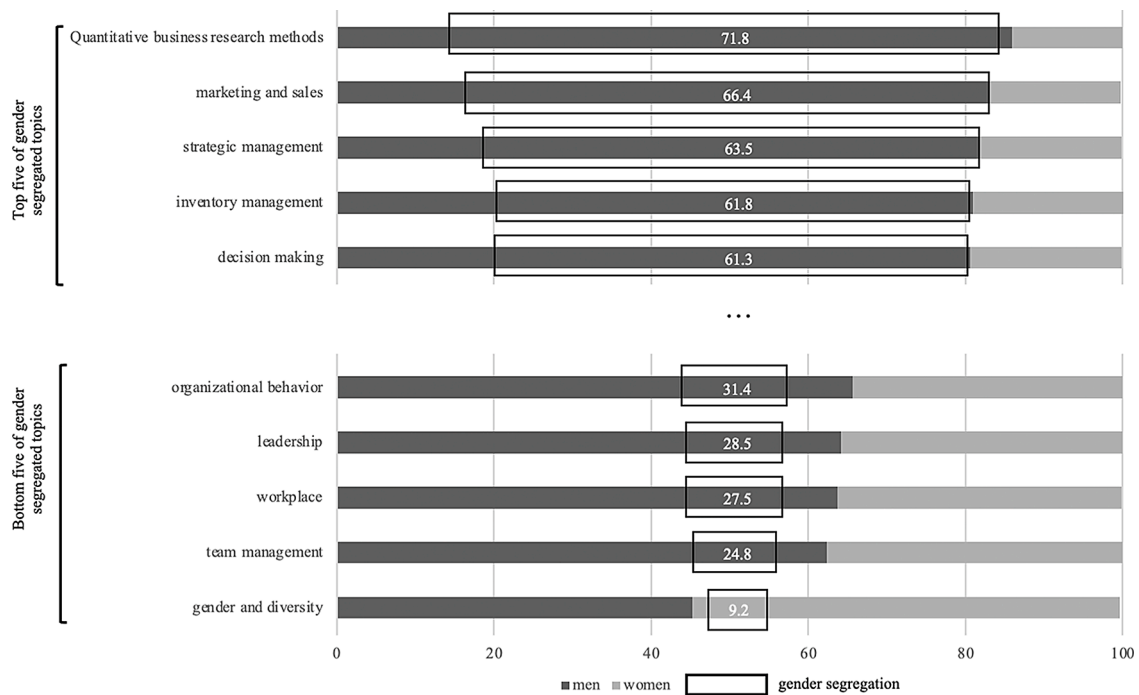


Fig. 4. Most strongly gender-segregated topics—differences in degree (2000–2017). Note: Online Appendix C presents gender segregation for all topics.

Linking authorship constellations and research topics. Table 3 combines gender segregation of research topics with authorship constellations, using the most recent time period covered by our data (2000–2017). The investigation of authorship constellations for the topics at the bottom of the gender-segregated topics continuum (illustrated by the bottom five segregated topics in the lower part of Table 3) yields surprising results. Women do indeed publish on these topics without men, but here the dominant type of authorship is the mixed-gender team. In contrast, men predominantly publish alone on topics exhibiting a high degree of segregation, illustrated by the top five segregated topics (see the upper part of Table 3). Women in author teams are almost irrelevant for these topics and only publish on them if they join men. This table provides a fine-grained understanding of male domination across topics. On the one hand, it confirms the existence of ‘male islands’ where women only rarely ‘visit’. On the other hand, it supports the notion that the part of the least gender segregated topic islands where women publish alone is fairly small (all-female research teams) and, to a large extent, women publish on this island with men in mixed-gender teams. As discussed already, there is no gender-segregated topic that drastically leans toward women.

4.3. Explaining journal differences: the roles of authorship constellations and research topics

So far, our data has revealed that both authorship constellations and research topics were highly gendered. The pressing question then is: To what extent do topic islands, along with men’s and women’s clubs, explain persistent differences between journals in terms of female representation? On the basis of GLS regression analyses for the most recent period (2000–2017), Table 4 presents the effects of these two independent variables, ‘authorship constellation’ and ‘gendered topic segregation’, on the dependent variable, ‘female representation in journals’ (basic descriptive statistics and correlations are provided in Online Appendix E). Importantly, these models capture dependencies caused by potentially unobserved journal differences and a potential time trend.

As regards authorship constellations (Model 1), the results show a clear picture. The proportions of female single authors and all-female teams positively and consistently lead to higher representation of female authors across top journals. In contrast, the proportions of male single authors and all-male teams significantly and negatively affect the representation of female authors in top journals. All effects are highly

Table 3 Interplay of authorship constellations and research specialization, illustrated by the top and bottom topics in terms of gender segregation (2000–2017).

	Top five topics in terms of segregation					Mean
	Quantitative business research methods	Marketing and sales	Decision making	Strategic management	Inventory management	
Male-only (single authors and teams)	66.4	69.9	70.97	72.07	84.47	73.7
Female-only (single authors and teams)	1.25	3.04	3.14	5.48	1.93	3.27
Mixed teams	32.35	27.06	25.90	22.44	13.60	23.03
	Bottom five topics in terms of segregation					Mean
	Gender and diversity	Team management	Workplace	Leadership	Organizational behavior	
Male-only (single authors and teams)	27.89	36.46	50.49	42.39	31.36	40.82
Female-only (single authors and teams)	25.2	11.25	9.43	7.22	8.02	10.59
Mixed teams	46.90	52.30	40.08	50.40	60.61	48.59

significant and reach a similar magnitude. These results have an important implication: Although ‘women’s clubs’ are far less prevalent than ‘men’s clubs’ across leading MOS journals, their share is an equally relevant factor explaining persistent differences between journals as regards levels of female representation among authors. That is, despite their low prevalence, ‘women’s clubs’ have a profound impact on the gender diversity of leading journals.

Fig. 5 exemplifies these patterns for the three least and three most gender-diverse journals, illustrating the extent to which authorship constellations vary between the most (filled line) and least (dotted line) gender-diverse journals. The three most gender-diverse journals feature an above-average proportion of women publishing either with other women or alone; but, strikingly, the three least gender-diverse journals are clearly dominated by purely male authorship, featuring an above-

average proportion of all-male teams or male single authors ranging between 59 and 63 percent. This is exceptional compared with all-male teams or single authors across all journals, where the average is 50 percent. This finding goes hand in hand with the fact that the most gender-diverse journals have an above-average proportion of mixed-gender teams.

Model 2 presents the results concerning research topics. Topics were operationalized as the proportion of marginally, moderately, and highly segregated topics across journals. Both the proportion of marginally segregated topics and moderately segregated topics significantly increase female representation in top journals. In contrast, the proportion of highly segregated topics indicates no effect. This refines our understanding of the significant role played by less gender segregated topics: Whereas ‘male islands’ are empirically dominant across leading MOS

Table 4
Effects of authorship constellations and research topics on female representation in journals (2000–2017).

	Model 1 Authorship constellations (mixed teams omitted)	Model 2 Topic orientation	Model 3 Complete (mixed teams and moderately segregated topics omitted)
Female single authors	0.4*** (0.1)		0.4*** (0.1)
All-female teams	0.5*** (0.04)		0.5*** (0.04)
Male single authors	−0.4*** (0.03)		−0.4*** (0.04)
All-male teams	−0.4*** (0.01)		−0.4*** (0.02)
Marginally segregated topics		0.6*** (0.2)	0.2*** (0.06)
Moderately segregated topics		0.3* (0.1)	
Highly segregated topics		0.2 (0.2)	−0.02** (0.009)
Number of authors	−0.02** (0.006)	−0.006 (0.01)	−0.02*** (0.005)
Number of articles	0.03* (0.02)	0.01 (0.03)	0.03*** (0.01)
Number of non-research articles	−1.2*** (0.3)	−0.4 (0.3)	−1.0*** (0.1)
Team size	−1.9 (1.4)	−1.2 (1.7)	−1.9 (1.2)
Topic missing	1.2*** (0.3)	0.4 (0.3)	1.0*** (0.2)
Gender missing	−0.4*** (0.1)	−0.9*** (0.3)	−0.4*** (0.1)
Gender accuracy	−0.01 (0.02)	−0.05 (0.03)	−0.01 (0.03)
Year	included	included	included
Constant	47.4*** (3.5)	5.8 (16.2)	47.1*** (3.1)
N	252	252	252

Note: Models were estimated using general linear squares (GLS) random effects models with robust standard errors clustered at the journal level; standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; all models include year dummies (not displayed); reference groups are: the year 2000 and ASQ as the most gender-diverse journal.

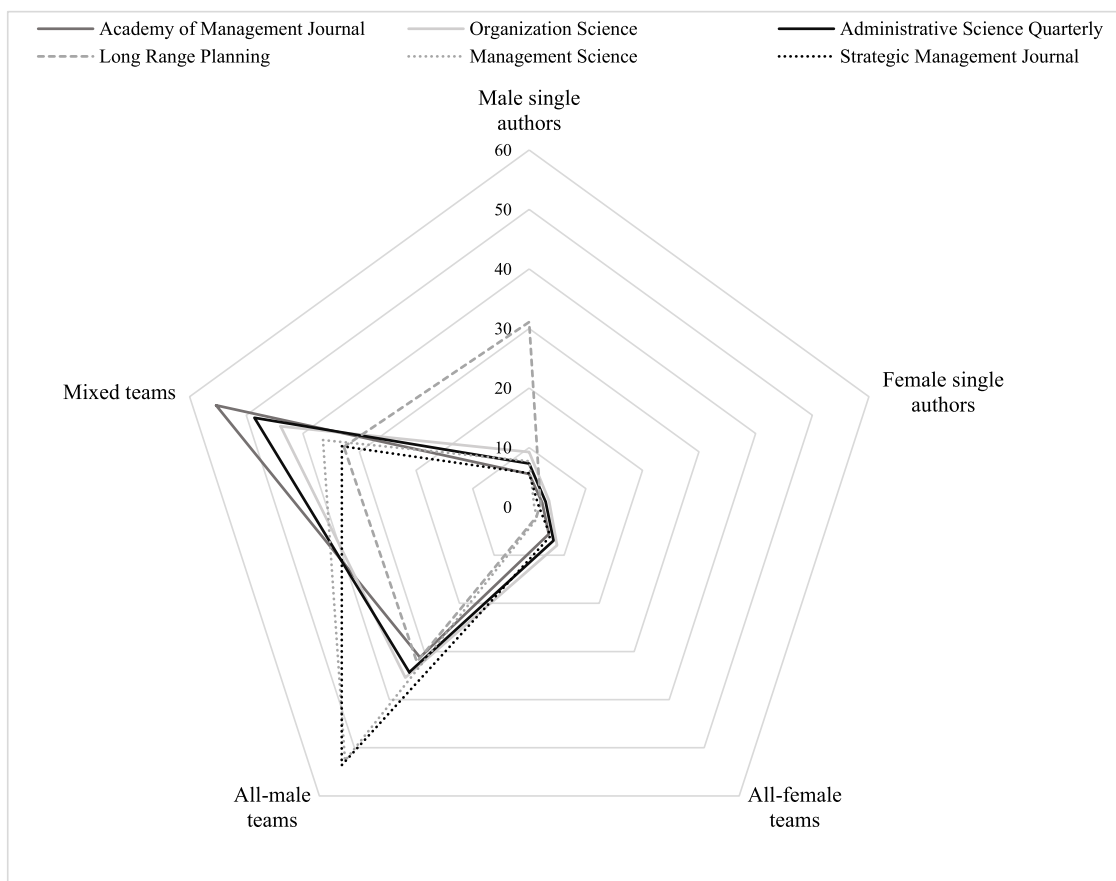


Fig. 5. Share held by various authorship constellations (in percent) across groups of most and least gender-diverse journals, 2000–2017. Note: Online Appendix G shows the distribution of authorship constellations across all fourteen journals.

journals, less gender segregated topics—especially the only ‘shared island’ (i.e., *gender and diversity*)—play a particularly important role in explaining differences in female representation among top journals.

Fig. 6 exemplifies these patterns for the three least and three most gender-diverse journals. It shows the extent to which gender segregation concerning topics varies between the most (on the left) and least (in the middle) gender-diverse journals, compared with the across-journal average (last column on the right). In particular, the three most gender-diverse journals in our sample include an above-average proportion of topics that do not display a large discrepancy between female and male authors (bottom five gender-segregated topics). Importantly, the proportion of those topics that men clearly dominate (top five gender-segregated topics) is much smaller in these journals. In contrast, the least gender-diverse journals feature a high percentage of those topics. Indeed, some show a clear deviation from the journal average (particularly *Management Science*).

Model 3 includes both factors, thereby controlling for the effect of the other factor and vice versa. Here, mixed teams and moderately segregated topics are the reference groups. The model allows us to demonstrate, for instance, the role of female single authors in a given journal while controlling for that journal’s topic specialization at the same time. First, Model 3 confirms the relevance of authorship constellations. Second, Model 3 confirms the relevance of the research topic and also refines our understanding of its role. It shows that only marginally segregated topics are significantly associated with journal differences. While controlling for the proportions of the various authorship constellations, the role of highly segregated topics is almost zero.

This is a relevant finding since both men and women work in almost equal proportions on marginally segregated topics. In the field of MOS, however, this only concerns a single topic (*gender and diversity*), where women make up a marginally larger share of authors (women: 54

percent, and men: 45 percent).⁵ In contrast, the largest share of research topics is usually either moderately or highly segregated in most journals. The results demonstrate that only a clear deviation from this situation—a relevant proportion of marginally segregated topics—makes a difference between journals. That refines our understanding of topic islands. Our descriptive results pointed to an empirical dominance of ‘male islands’ when it comes to research topics. In contrast, the ‘shared island’ is very small and only includes one single topic. What we can take from the statistical analysis is that when it comes to the proportion of female authors among top journals, this very small island achieves leverage quite out of proportion to its size.

Robustness checks. To test the robustness of our results, we ran several additional analyses. First, we split the journal-year panel into time periods to investigate patterns of change over time. We tested this assumption for four different time periods, splitting the sample into two time periods (2000–2009 and 2010–2017) as well as comparing earlier with later years (2000–2004 and 2013–2017). These analyses showed no differences over time despite small changes in significance levels that are likely due to the small number of cases in these models. This suggests that the patterns found in our main models are rather stable.

Second, we ran our analysis using fixed effects instead of random effects. Although this was intended to investigate differences within journals, we felt that such a complementary analysis would be highly

⁵ This topic made up 1.2 percent of all topics in the years 2000–2017, with the median across topics in that period being 1.9. The *gender and diversity* topic is by far not the topic with the smallest share among all topics (e.g., ‘industrial relations’ is much smaller). However, compared with moderately and highly segregated topics, which combine all other topics depending on their gender segregation level, this topic is fairly small.

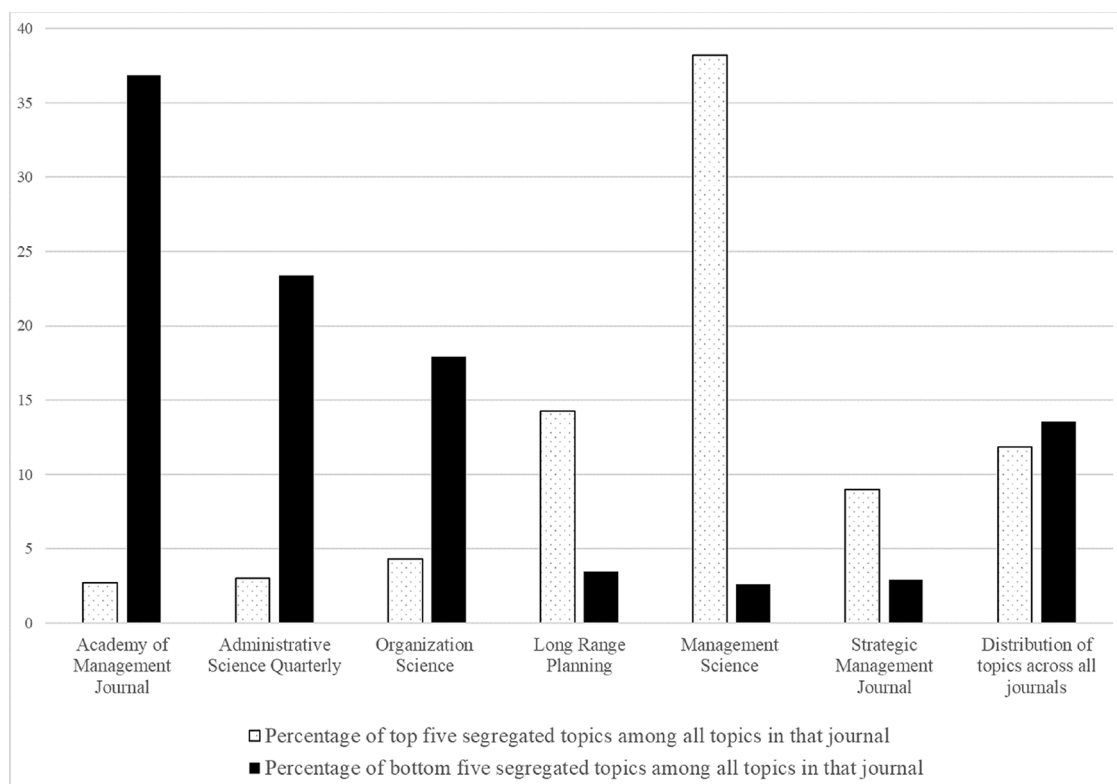


Fig. 6. Share held by gender-segregated topics (in percent) across groups of most and least gender-diverse journals, 2000–2017.

relevant to support the results of our main models because of reduced levels of endogeneity (Wooldridge, 2010). Importantly, very stable results were obtained. Only the effect of highly segregated topics, which was rather small in the main models, was no longer significant when using fixed effects. All other effects are stable.

Third, we wished to know if the patterns found in our main models diverged between those journals where the representation of female authors is high and those where it is low. We split the sample into two groups according to their average share of female authors in the years 2000–2017. Again, the results showed rather stable effects. Only small differences in significance levels were found; they are likely due to the low number of cases in these models.

5. Concluding discussion

5.1. Theoretical contribution and relevance for gender diversity in leading journals

As a first step, this paper took stock of female representation in leading MOS journals over approximately the past sixty years. Our study is the first to provide a comprehensive overview and complete time series of the underrepresentation of women in all leading MOS journals. We show that although the share of female authors has been increasing, women are still underrepresented in all leading MOS journals compared with their actual presence in the research field. In contrast to prior studies of the MOS field, our findings demonstrate that female underrepresentation is not limited to single journals (e.g., Aguinis et al., 2019) or subfields (e.g., McGee et al., 2003), or confined to the past (e.g., Jarema et al., 1999), but has been an enduring structural issue until today. Beyond this general observation, we detected significant differences between journals, with some journals lagging far behind their peers. This creates a benchmark against which the achievements of leading MOS journals in terms of female representation may be assessed.

Our exploration of underlying publication patterns adds an interesting nuance to the above findings. Both our results concerning

authorship constellations and research specialization underline a male legacy in the MOS field. More specifically, when it comes to research topics, our findings reveal a dominance of ‘male islands’—highly gender-segregated topics on which men publish without any competition from women. At the same time, we found a complete lack of ‘female islands’. More concretely, there is only one topic where men do not dominate (*gender and diversity*), but here the proportion of women is only marginally higher than that of men, making it a ‘shared island’. Previous studies mostly focused on examining the topics most often chosen by men or women (e.g. Key and Sumner, 2019; Nielsen and Börjeson, 2019). Using the theoretical lens of gender segregation (Gross, 1968; Reskin, 1993), in contrast, demonstrated the extent to which gender is disproportionately distributed within specific topics. In the MOS field, applying the notion of gender segregation showed that topics favored by women could only be topics shared with (in the case of *gender and diversity*) or dominated by men (in all other cases). Women in MOS, thus, have no ‘island’ of their own. This more fine-grained understanding of gendered research specialization is noteworthy; this is further underlined by the fact that our findings consistently explain persistent gender disparities within given fields (see discussion below).

Similarly, our findings on authorship constellations show that ‘men’s clubs’—male single authors and all-male teams—are most prevalent. Men, thus, mostly collaborate with each other, and, to a much lesser extent, in mixed-gender teams. In contrast, all-female teams and female single authors are rare. When women publish, they mostly do so in mixed teams. These patterns are similar to those found in other research fields (e.g., Djupe et al., 2019; Teele and Thelen, 2017). They show that the increase in co-authored papers offers greater opportunities to male authors working either in mixed-gender or all-male teams.

The relevance of this finding becomes even clearer when looking at research topics and authorship constellations in concert. Our findings show that the part of the ‘shared island’ where women publish alone is fairly small and, to a large extent, the island is shared with men in mixed teams. Previous research that highlighted the importance of homophily in choosing research partners (Bozeman and Corley, 2004; Dahlander

and McFarland, 2013; Ibarra, 1992; Treviño et al., 2017; Whittington, 2018) could help contextualize our findings by suggesting the persistence of homophilic structures in a field initially mostly inhabited by men.

Finally, we asked how these gendered publication patterns could explain persistent differences between leading journals, thereby adding robust insights to the yet underexplored question of what demarcates gender-diverse journals from less gender-diverse ones. This is relevant for developing concrete policy recommendations on how to narrow the gender gap in journals. Moreover, this contributes to the literature on gendered publication patterns. Building on prior research on gendered differences in research collaboration (e.g., Bozeman and Corley, 2004; Bozeman and Gaughan, 2011; Djupe et al., 2019) and specialization (e.g., Brooks et al., 2014; Dolado et al., 2012; Key and Sumner, 2019; Nielsen and Börjeson, 2019), we examined their interrelated role. Prior research had foremost looked at gendered differences at the level of individual researchers' work performance (e.g., Brooks et al., 2014; Mihaljević-Brandt et al., 2016; Young, 1995). In contrast, we add relevant insights into gendered patterns of institutionalized norms and power structures that guide behavior, reproduce existing structures, and reinforce vicious circles at the level of a complete research field. Our statistical analysis robustly supports the argument that the only 'shared island' along with 'men's' and 'women's clubs' consistently explain persistent journal differences in female representation. These are important phenomena that could be availed of to help narrow the gender gap within single journals. Interestingly, in spite of their scarcity in the overall sample—as compared with the strong presence of 'men's clubs' and 'male islands'—female-only authorship and 'shared islands' play a crucial role as regards differences in the representation of women in leading journals; indeed, their high degree of leverage is out of proportion to their size. To the best of our knowledge, our study is the first to examine differences between journals in relation to these patterns.

Taken together, our findings allow journal benchmarking as well as learning from differences between top journals within a given field, and suggest concrete avenues for narrowing the gender gap. Beyond these theoretical contributions, our findings are of great importance for the future development of the MOS field itself. Successful publications in leading journals heavily influence who is successful in applying for research grants (Bukstein and Gandelman, 2019) or academic positions (van den Brink and Benschop, 2014), in research evaluations (Jappelli et al., 2017) and promotion (Lerchenmueller and Sorenson, 2018; Pezzoni et al., 2012); thus, they are likely to contribute to 'leaky pipelines' in women's academic careers and to help determine who is representing the MOS field (Blickenstaff, 2005; Frietsch et al., 2009). The underrepresentation of women can be expected to lead to material inequalities (e.g., Leahey, 2007), with publishing performance increasingly affecting salary and benefits (Aguinis et al., 2020). Moreover, the dominance of 'male islands' and 'men's clubs' is a crucial aspect of the advancement of MOS research and knowledge, since this male legacy most likely promotes and reproduces areas of isolated specialization. This hinders the emergence of diverse views on certain topics (Alvesson and Sandberg, 2014; McPherson et al., 2001) as well as 'box-breaking' research (Alvesson and Sandberg, 2014). This not only has consequences for participation opportunities for women but also for the diversity of topics viewed as being relevant for further research and business education.

5.2. Policy implications

Our findings have a number of research policy implications that might be taken into account by editorial boards, mentors and designers of doctoral programs, recruitment and promotion committees, and academic colleagues seeking to narrow the gender gap within single journals or the overall field.

In terms of concrete research policy implications, our benchmark for the representation of women in top journals may be of interest to journal editors. It may help them learn from the strategies of more gender-

diverse journals or provide a motivation to set concrete goals regarding numbers and timelines for increasing female representation in less gender-diverse journals. However, when it comes to setting concrete goals regarding the representation of women in leading journals, we suggest that, first, a more general conversation needs to take place within academic communities: Should the aim of editorial policy be *gender equity*, that is to say, striving for a representation of women in journals that matches women's representation in the field, or should it emulate the 'best-in-class journal', or should it adopt a more transformative role in the MOS field and contribute to promoting *gender equality*, in other words working toward an equal representation of men and women? The latter approach might be justified by the existence of a vicious circle whereby women holding lower academic positions receive fewer research funds, which leads them to publish less in leading journals; this prevents them from gaining visibility and impact, in turn maintaining their lower academic positions (van den Besselaar and Sandström, 2017). Gender equality in the field might thus be difficult to achieve without a higher representation of women in leading journals and vice versa, putting journal editors in a powerful position when it comes to promoting gender equality in the field more generally.

Our findings suggest concrete avenues toward narrowing the gender gap in leading journals. For instance, it would be especially important for editorial boards to critically reflect on whether their journals are biased against those topics where women are more frequently represented (i.e., marginally segregated topics). Journal editors could, for instance, select topics for special issues strategically so as to feature topics that are only marginally gender-segregated. This might not only influence female representation but also adjust the diversity of topics discussed in the journal with regard to the overall field (see also Anderson et al., 2021). Given that homophily can feature in editors' choices of reviewers (Helmer et al., 2017; Murray et al., 2019) and that gendered research topics of authors (and thus reviewers) do exist, increasing the proportion of women on editorial boards could be an important driver to increase the likelihood of female authors and their research topics becoming more fairly represented in journals.

Furthermore, our study indicates that an individual researcher's academic specialization influences their opportunity to publish in top journals (see also Brooks et al., 2014; Djupe et al., 2019; Nielsen and Börjeson, 2019; Teele and Thelen, 2017). Given that socialization through PhD training sensitizes junior scholars to certain topics (Hasrati and Street, 2009; Hottenrott and Lawson, 2017), mentors and designers of doctoral programs and professional development initiatives could offer broader training to women, which would encourage them to tackle topics that we identified as predominantly covered by men. Ultimately, this could help diminish the segregation of research topics leaning toward men and create more 'shared islands' which, according to our findings, considerably matter when tackling the gender gap.

A further important takeaway from our findings is that men and women publishing in leading MOS journals benefit differently from author constellations, suggesting a research policy recommendation for, inter alia, mentors and colleagues. We pointed out that while men tend to work primarily with male co-authors (see also Bozeman and Corley, 2004; Jordan et al., 2008; Teele and Thelen, 2017), women in MOS seem to miss out on collaborating with each other. This is problematic given that our findings show that if we are to see more women publish in leading journals, increasing the proportion of female single authors and all-female teams is promising. This, however, presents a challenge. First, publishing alone more often might put women at a disadvantage, since collaboration intensity has been shown to correlate with productivity in terms of number and quality of publications as well as citations (Abramo et al., 2009; Lee and Bozeman, 2005). Second, women might have difficulties finding experienced female co-authors, given the continued underrepresentation of women at higher levels within many academic institutions (Gaule and Piacentini, 2018; Treviño et al., 2017). To overcome these persistent structures rooted in homophily, it is important to further increase the share of higher academic positions

held by female researchers to widen the ‘pool’ from which female collaborators can be drawn.

Our findings suggest that a greater number of both female single authors and all-female teams may lead to a rise in the level of female representation in journals; hence a more radical way to achieve this would be for editorial boards to steer the proportion of female authors in invited articles, editorials, and special issues. For instance, editorial boards could ensure that a representative number of women are involved in invited articles. Also, although our data showed that increasing the proportion of mixed-gender teams was less promising, male invited authors might consider collaborating with women. Moreover, editors of special issues could check the proportion of included women during the review process (see Clark and Horton, 2019 for a similar approach to invited and commissioned articles in *The Lancet*). Such measures could also help break vicious circles since publication of these types of article is often accompanied by high reputational gains.

Lastly, the systemic and persistent gender gap that our findings uncovered lends further credence to the skepticism of earlier work with regard to the use of journal rating lists for the evaluation of scholarly quality (e.g., Brooks et al., 2014; Bryce et al., 2020; Osterloh and Frey, 2020). While some have highlighted the “actual and perceived fairness” of such performance measurements (see e.g. Aguinis et al., 2020, p. 140), our findings point to the potential biases that the composition of specific journal rankings might imply for the evaluation of individual or departmental research performance (see also Brooks et al., 2014, pp. 998–999). Here, a selection of journals in which female authors are poorly represented might, for instance, disadvantage departments with a larger proportion of female researchers, as well as handicap the evaluation of female academics. Being aware of such biases is of relevance for those involved in the evaluation and creation of journal rankings as well as for those responsible for recruitment and tenure evaluations. Alternative approaches to research evaluation have already been suggested: “hiring policies, pay and promotions (sic) decisions should not rely upon journal rating lists but employ evaluations by specialists within the specific sub-discipline” (Brooks et al., 2014, p. 1000).

5.3. Limitations and avenues for future research

First, our data is limited when it comes to explaining the gender-specific composition of research teams. Hence further examination of behavior by academics in the field of MOS is required, answering questions, such as: Why is it that men seem to prefer working with other men, while women seem to prefer working in mixed teams? Or, how do women and men choose their co-authors (Liu et al., 2017; see e.g., Ou et al., 2012)? In further examining these patterns, care must be taken not to assume that co-authorship strategies that work well for men will also be beneficial to women and conversely, for a given strategy might benefit women and men differently (see e.g., Sarsons, 2017; Brooks et al., 2014).

Second, since we were only able to consider published papers rather than all papers submitted to a journal (see also Vogel et al., 2017), our study may suffer from a submission-publication bias. Studies in other fields have identified a ‘submission gap’ for top journals (Djupe et al., 2019), suggesting that women submit their work less often than men to such journals, for example owing to a mismatched methodological orientation or a higher inclination to avoid risk (see also Breuning and Sanders, 2007; Cikara et al., 2012; Østby et al., 2013). Future research might ask whether this is also the case for leading MOS journals; it could, for instance, compare data on publications with data on submissions.

Third, and relatedly, our data cannot provide any insights into whether women’s work is rejected more often during the peer review process. While most studies in other fields have not found any evidence for divergent rejection rates for men and women (see e.g., Breuning and Sanders, 2007; Østby et al., 2013 for political science; Primack et al., 2009 for biology), others have shown that the representation of women increased after the introduction of double-blind peer review (Budden

et al., 2008)—a practice that, incidentally, is common among MOS journals. Siler and Strang (2014), however, have shown that men and women submitting to *Administrative Science Quarterly* differed in their perceptions of the peer review process, with women reporting higher levels of criticism and changes undertaken throughout the process. Understanding whether these (or other) dynamics hold more generally for leading MOS journals may provide a fruitful avenue for future research.

Fourth, while the underrepresentation of women in *leading* journals is relevant—given these journals’ critical impact on one’s career and the development of the field—this does not necessarily mean that women publish less in general (see also Nielsen and Börjeson, 2019), although some studies in other fields have shown that while women do publish less, they do not publish research of lower quality (Cikara et al., 2012; Lynn et al., 2019; van den Besselaar and Sandström, 2017). Future research could replicate our study focusing on lower-ranked journals to evaluate whether women publish more than, less than, or just as much as men in these journals.

Finally, this paper focused on gender, which is only one of many diversity-related characteristics. Future studies could focus on other features of academics, such as first language, class, or nationality (e.g. Avery et al., 2021 for a discussion of racial biases in MOS). It would be important to also look at the co-occurrence of several characteristics, for this has been shown to exacerbate diversity-related biases (e.g., Reskin and Cassirer, 1996), which might be the case in scientific publishing as well.

CRedit authorship contribution statement

Carolyn Auschra: Conceptualization, Methodology, Validation, Investigation, Data curation, Writing – original draft, Writing – review & editing, Project administration, Funding acquisition. **Julia Bartosch:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition. **Nora Lohmeyer:** Conceptualization, Methodology, Validation, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition.

Declaration of Competing Interest

None.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.respol.2021.104410](https://doi.org/10.1016/j.respol.2021.104410).

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