Gender diversity in academic publishing—comment on Galak and Kahn (2021)

Wiebke I. Y. Keller¹ · Franziska Müller¹ · Malik Stromberg¹ · Dominik Papies¹

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Abstract

Galak and Kahn (*Marketing Letters*, 2021) report that females and underrepresented minorities face a less favorable organizational climate within academic marketing as compared to their respective counterparts. We complement this perspective by assessing the extent to which a gender gap is detectable in academic journal publications in marketing. To this end, we collect a data set which covers all publications of a broad range of peer-reviewed academic journals in business, including marketing, across two decades. We then develop an algorithm that allows us to determine the authors' gender. We use these data to study a potential gender gap in academic marketing journals. Results indicate that a gender gap in academic publishing in marketing is present and substantial, although it has been declining over time. At the same time, it continues to be particularly visible in the most prestigious journals. While marketing is still far from being a role model, the gender gap is smaller in marketing compared to other fields in business. Our analysis complements the findings by Galak and Kahn (*Marketing Letters*, 2021) by showing that female scholars do not only experience an unfavorable organizational climate, but they are also underrepresented in academic marketing journals.

Keywords Gender gap · Academic publishing

✉ Dominik Papies
dominik.papies@uni-tuebingen.de

Wiebke I. Y. Keller
wiebke.keller@uni-tuebingen.de

Franziska Müller
fra.mueller@uni-tuebingen.de

Malik Stromberg
malik.stromberg@uni-tuebingen.de

¹ School of Business and Economics, University of Tübingen, Nauklerstr. 47, 72074 Tübingen, Germany

1 Introduction

Galak and Kahn (2021) report and discuss the results of the 2019 Academic Marketing Climate Survey. In their survey, they contacted faculty in marketing departments of Business Schools and surveyed them with respect to their perception of organizational climate. The questions covered general perceptions of organizational climate as well as explicit discrimination, implicit bias, and social and sexual harassment/assault. A key conclusion from their survey is that women view the organizational climate less favorable compared to men. This result is—on the one hand—very much in line with previous studies and surveys that covered similar questions in other academic fields (e.g., Allgood et al., 2019(economics); Ellemers, 2014 (behavioral and brain science); Pololi & Jones, 2010(medicine); Sabharwal & Corley, 2009 (several social science disciplines)). On the other hand, this result is particularly noteworthy because marketing should in theory—and we very much agree with Galak and Kahn (2021) in this respect—provide an ideal environment for female researchers. A main reason for that is that marketing research is intellectually close to fields like psychology or anthropology, where female researchers are well represented (e.g., American Psychological Association 2017).

Against this background, Galak and Kahn (2021) make an important contribution by providing empirical evidence that can inform the debate of how female scholars are represented in our departments and in our discipline more generally.

In their study, Galak and Kahn (2021) focus on organizational *climate*, and their survey contained only one question that referred to unfair treatment in publishing decisions. The answers to this question reveal little difference between women and men, in particular if compared to the substantial differences in response to other questions (e.g., teaching, invitations to participate in research conferences, service obligations, or compensation). Given that it was beyond the scope of Galak and Kahn's survey to analyze the perceptions or experiences that scholars face in the domain of academic publishing in detail, we believe it is important to complement their analysis in this respect. The reason is that publication success is *the* key determinant of professional success of academics, i.e., hiring and promotion decisions depend first and foremost on academic journal publications. Hence, we argue that an assessment of disadvantages that female researchers face is incomplete if not complemented with an analysis of potential hurdles that female scholars face in publishing.

Therefore, we seek to complement Galak and Kahn (2021) by providing an assessment of gender diversity and a potential gender gap in academic publishing in the field of marketing research. In particular, we will answer the following research questions:

1. What is the share of female authorships in academic marketing journals?
2. Does this share differ between the field's top tier journals compared to the rest?
3. How has this share developed in the last two decades?
4. Does this share substantially differ between marketing and other related fields?
5. What is the share of female scholars in editorial review boards?

We proceed by describing our data.

2 Data

For our analyses, we cover publications in two sets of journals across two decades. First, we compiled a list of marketing journals, which we obtain from the Scimago journal ranking (<https://www.scimagojr.com/journalrank.php>). Here, we selected marketing as a subject category, and focused on the subset of journals that are part of the Web of Science core collection. From this list, we drop journals that are not primarily marketing journals. This results in a list of 81 marketing journals (see Appendix Table 2). We use publications in these 81 journals to assess the gender gap within marketing. Secondly, we use all 24 journals that are included in the UT Dallas journal ranking.¹ Joining these two lists results in a total of 101 journals (4 marketing journals are also on the UT Dallas list), for which we collect all publications since 2000 through the Crossref API. The data capture metadata for 92,089 publications across all 101 journals from 2000 to 2020.

While the data set contains the full names of all authors, it does not indicate their gender. We therefore implemented the following approach to determine the authors' gender. First, we obtain the US Social Security Card Applicants dataset² containing the 1000 most frequent names of applicants for every year from 1880 to 2018. For each name, this data set contains the information of how often it appeared in a female vs. male application. To determine the most likely gender for a given name, we then implemented a Naïve Bayes approach and calculated the conditional probability of the authors' gender. In the first step, we examined the authors' given name. If the conditional probability exceeded the threshold of 0.6 for either class, we assigned the respective label "female" or "male" (Zhao & Kamareddine, 2017). For probabilities between these thresholds, we classified the authors' names as "unisex". For those names for which we could not calculate a conditional probability with the available data, we repeated the procedure considering the last three letters of the first names. If the algorithm again assigned "unknown", we sent the remaining names to a gender classification API (gender-api.com). To assess the accuracy of our approach, we randomly selected 500 author names from the list of marketing journals. Two research assistants manually identified the respective author's gender (e.g., by visiting author homepages). We then compared the manual classifications with the classifications produced by the algorithm and find a classification accuracy for the algorithm of 0.90. Finally, we manually screened a sample of the 1000 most productive author names to correct remaining misclassifications.

Across all 101 journals, this approach led to a label distribution of 66.3% male, 33.1% female, 0.51% unknown, and 2.06% unisex names for a total of 90,392 unique author names. In the following, we will focus our analysis on author names that were either classified as male or as female.

3 Analysis

Before we proceed with our analysis, we have to clarify how we measure a potential gender gap. Is a gender gap present if women account for less than 50% of authorships,

¹ <https://jindal.utdallas.edu/the-utd-top-100-business-school-research-rankings/list-of-journals>

² <https://www.ssa.gov/oact/babynames/limits.html>, preprocessed data available here: <https://data.world/dpieski/namesgender/>

or is a gender gap present if the share of female authorships is below the share of female marketing faculty? It is probably not realistic to expect that women account for 50% of publications if they constitute substantially less than half of marketing faculty. That is the reason why we will benchmark our data with the female share of marketing faculty. Galak and Kahn (2021) report that approximately 39.6% of marketing faculty in Business Schools is female, and we will use this number as a point of reference.

3.1 What is the share of female authorships in academic marketing journals?

In total, our marketing data set contains 63,301 publications (unique DOI) from the field of marketing with 62,112 unique author names³ that were either classified as female or male, published across 81 different journals that we identified as marketing journals between 2000 and 2020. Of the unique author names, we classify 24,781 as female, which is a share of 39.90%. This number indicates that close to 40% of all scholars who published in one of the marketing journals at least once are female. This number corresponds well with the female share of marketing faculty in Business Schools (39.6%) reported in Galak and Kahn (2021). Looking at author-publication combinations, we find that of all 150,783 authorships, 54,484 are female authorships, which is a share of 36.13%. This number, which differs significantly from 39.6% reported by Galak and Kahn ($p < 0.01$), assessed with a one-sample proportions z-test indicates that men publish more frequently, i.e., the gender gap widens if we take the number of publications into account. Indeed, we find that female authors on average have 2.20 publications while male authors on average have 2.58 publications, and the difference is significant ($t = -12.06$, $p < 0.01$). Of the 100 most productive researchers in the field, only 18 are female.

3.2 Does the share of female authorships differ between the field's top tier journals compared to the rest?

We define the marketing journals that are listed in the UT Dallas journal list as the field's top tier journals: *Journal of Consumer Research*, *Journal of Marketing*, *Journal of Marketing Research*, and *Marketing Science*.⁴ Table 1 shows the share of articles (co-) authored by female and male scholars in the top tier journals compared to all other marketing journals. The numbers clearly show that the female share is substantially lower in the top tier journals. The female share is just 29.5% in the top-tier journals whereas it is 36.7% in all other marketing journals (difference is significant in a two-sample test for equality of proportions with $p < 0.01$). This means that in the four top journals, 2.4 times as many articles are authored by male scholars than by female scholars. This gap does not only arise because female marketing scholars are underrepresented in the field in general. Of all male marketing scholars, 7.93% have published at least once in the top journals. In contrast, of all female marketing scholars in our data, only 5.84% have published in a top journal (difference is significant with $p < 0.01$).

³ This is likely an overestimate because some authors publish under slight variations of their names, which we cannot distinguish. Additional measurement error may arise because scholars may get married and adopt the partner's name. This may lead to a slight overestimation of the share of female scholars.

⁴ We omit *Management Science* from our analysis because only a fraction of its articles are in its marketing department.

Table 1 Female vs. male share in marketing journals by UT Dallas journal list

	Female	Male
Journal on UT Dallas list	29.5% (3427)	70.5% (8198)
Journal <i>not</i> on UT Dallas list	36.7% (51,057)	63.3% (88,555)

We note the female share of authors in the top journals would be lower if the *Journal of Consumer Research* did not have a female share of 41.7%. Without the *Journal of Consumer Research*, the female share in the remaining top tier journals is only 24.6%. Comparing this value to the 39.6% female marketing faculty, we see that women are on average less successful in publishing in top tier journals than their male counterparts.

3.3 How has this share developed in the last two decades?

Figure 1 displays the development of the share of female authors over the last two decades, separately for marketing journals on the UT Dallas list and for marketing journals not on this list. A first insight from this graph is that there is a clear upward trend in the share of female publications in marketing journals. During our observation period, it has improved by about 10 percentage points, reaching the percentage of females working in marketing departments. However, while this might be a positive development, there are still two important issues remaining.⁵ First, it appears to have reached a plateau since 2015, with no clear trend visible since then. This means that the graph suggests that we cannot be optimistic that the share of female publications will reach parity any time soon.

Second, this graph shows that there continues to be a constant gap between the field's most prestigious journals that are listed on the UT Dallas journal list and all other marketing journals. The magnitude of this gap (approximately 5 percentage points) has not substantially changed over the last two decades. This can be taken as evidence for the continued presence of a glass ceiling.

3.4 Does the share of female publications substantially differ between marketing and other related fields?

Yes, it does. Figure 2 displays the gender distribution for all journals from the UT Dallas journal list, with each square representing one journal-year combination. Darker blue colors indicate a higher share of male authors, and red colors indicate a higher share of female authors. The four marketing journals are listed in the top block, followed by management/strategy, operations, information systems, finance, and accounting.

The plot shows that marketing's darker blue squares are turning to a lighter blue, with the *Journal of Consumer Research* even turning red. This suggests that some progress is being made in terms of reducing the gender gap. When we compare marketing to other fields, we can conclude that marketing is similar to management and strategy, while

⁵ The solid black horizontal line represents the share of female scholars in marketing departments that is reported in Galak and Kahn (2021).

Fig. 1 Development of female share over time. Note: Grey area indicates the mean value of all marketing journals plus/minus one standard deviation

operations management and information systems are clearly more dominated by male authors. Finance is dark blue, indicating a very high share of male authors.

3.5 What is the share of female scholars in editorial review boards?

In the preceding sections, we discussed some aspects of female underrepresentation in academic journals. However, these are not the only ways that we can think about female representation in academic journals. Another channel through which scholars can have an impact in academic journals is through reviewing activities. To measure a potential gender gap in this domain, we would ideally have access to a data set that measures how often female and male authors are invited to review. Unfortunately, we do not have this type of data. As a substitute, we therefore study the composition of the editorial review boards (ERBs) of the four marketing journals from the UT Dallas list. The composition of these ERBs likely reflects the pool of qualified reviewers that a journal has built and invites to review. Across the four leading marketing journals, we identified 622 person-journal combinations (April 2021). A person serving on multiple ERBs is counted multiple times. A total of 235 (37%) of these ERB positions are taken by female scholars. Again, the *Journal of Consumer Research* has the highest female

Fig. 2 Comparison of female share across journals on UTD journal list. Note: Grey squares are journal-year combinations for which no full author names were available

share (47%), followed by the *Journal of Marketing* (41%). On the one hand, these numbers are much better than what is reported for other fields. Across all journals on the UT Dallas list, we compute a female share of 33%, and Lundine et al. (2018), for instance, report female shares on editorial boards in some medical disciplines as low as 15%. On the other hand, these numbers also reinforce our assessment that a glass ceiling continues to be present in marketing.

4 Discussion and conclusion

So what do these numbers tell us? An optimistic view would be that the female share in academic publishing in marketing is higher than in other fields of business and economics, and higher than in many other areas of research (Larivière et al., 2013). A less optimistic view is that—even in marketing—there is a long way to go until we achieve gender equality in academic publishing. Although the gap has become smaller over time, it appears that the development has stalled, and with the current pace, it is unlikely that we will reach parity any time soon. An area of particular concern is the difference between the most prestigious journals and the rest of the field. The fact that the female share is lower in the leading journals compared to the rest suggests that there is a glass ceiling. We believe that this is a problem that has to be tackled.

Galak and Kahn (2021) conclude that their empirical evidence allows decision-makers to “see evidence that illustrates that the systemic discrimination that is prevalent in much of the working world is also strikingly present within academic marketing.” With our analysis, we seek to complement their assessment with the goal of informing

decision-makers. In line with their findings, we have to conclude that female scholars appear to be facing hurdles in academic publishing that male scholars only face to a lesser extent, and that academic publishing in marketing in many journals continues to be dominated by male scholars.

So why do we see a lower share of female publications? We now discuss potential explanations.

As mentioned earlier, Galak and Kahn (2021) find that the organizational climate is perceived as less favorable by female scholars. Other research (Offermann & Malamut, 2002; Seibert et al., 2004) argues that inferior organizational climate reduces work performance. Although we cannot draw a direct causal link here, it is possible that an unfavorable organizational climate for women is at least partially responsible for the gender gap in academic publications.

Galak and Kahn (2021) report that female scholars feel a stronger burden in terms of internal service and teaching. A potential implication from this observation is that female researchers have less time for research and publications.

An alternative explanation is that—because of the unfavorable organizational climate—women choose not to enter academia, which leads to less female authored publications. This explanation would also be in line with the “leaky pipeline” that can be observed in many academic areas and in marketing as well (e.g., Sato et al., 2020). However, this explanation cannot account for the glass ceiling that we described above. Its presence suggests that the female scholars face hurdles in their professional work that male authors do not face to the same extent.

Another area of concern is that female participation is especially low in quantitative marketing research (publication share below 20% in these types of journals; similarly, Bravo-Hermesdorff et al. (2019) find female publication share in INFORMS journals below 20%). This low share of female scholars in the field of quantitative marketing may give rise to a self-enforcing mechanism because Krishna and Orhun (2020) find that there is a gender performance difference in quantitative business school courses. One way that they identify to mitigate this lower performance of female students in quantitative courses is through a female instructor, which is a difficult thing to implement if the share of female scholars is particularly low in this domain of marketing. So we need to break this mechanism to achieve the goal of more equal share within the departments and more female publications in this field.

Lastly, previous research has discussed a lack of networks for female scholars that their male counterparts rely on in their research as a source for differences in research productivity (Casad et al., 2021). A lack of networks may both contribute to a less favorable perception of the organizational climate as well as a lower research output of female scholars. A very rough measure for network size and strength could be the publication activity as single authors. However, these numbers suggest that male authors are more likely to publish as single authors, i.e., 9.9% of all male authorships are single authorships compared to 8.4% of all female authorships (difference is significant with $p < 0.01$). Clearly, these considerations call for a more nuanced measurement of the role of research networks, which is an interesting area for future research.

We believe our findings on the publication gap and the potential reasons mentioned above warrant a discussion about appropriate countermeasures.⁶ Assuming that the

⁶ An extensive discussion of potential reasons is beyond the scope of this comment, see, e.g., Ceci and Williams (2011) for a more detailed discussion.

underrepresentation of female scholars in academic publishing creates additional obstacles for women in academia, the situation cannot be improved without active steps from journals and societies, as well as marketing departments to improve the climate especially for female scholars. What can be done? Galak and Kahn (2021) discuss a number of actions, which we very much support. In addition, we want to highlight a few aspects specifically related to empowering women in publishing. First, supportive social networks are important to be successful in academia. Schools and professional associations (e.g., AMA or INFORMS) are suitable places to host and further strengthen initiatives in this domain (see also Casad et al., 2021). Second, professional association, journals, and other leaders in the field should take an even more active role in advancing female scholarship. Invitations to conferences and keynotes, invitations to review and to serve in the leadership of journals (e.g., ERB), and invitation to seminar presentations are direct measures that can be adapted right away.

While the results that we present suggest that the field of marketing is in a somewhat better position than many other disciplines, we are still far from closing the gender gap and should therefore strive to further improve the work environment for female scholars.

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Appendix

Table 2 List of all marketing journals considered in the main analysis (alphabetical order)

Number	Journal name
1	<i>Asia Pacific Journal of Marketing and Logistics</i>
2	<i>Australasian Marketing Journal</i>
3	<i>Communication Research and Practice</i>
4	<i>Consumption Markets and Culture</i>
5	<i>Electronic Commerce Research and Applications</i>
6	<i>Electronic Markets</i>
7	<i>European Journal of Marketing</i>
8	<i>Foundations and Trends in Marketing</i>
9	<i>Industrial Marketing Management</i>
10	<i>International Journal of Advertising</i>
11	<i>International Journal of Bank Marketing</i>
12	<i>International Journal of Consumer Studies</i>
13	<i>International Journal of Market Research</i>
14	<i>International Journal of Nonprofit and Voluntary Sector Marketing</i>
15	<i>International Journal of Pharmaceutical and Healthcare Marketing</i>
16	<i>International Journal of Research in Marketing</i>
17	<i>International Journal of Retail and Distribution Management</i>

Table 2 (continued)

Number	Journal name
18	<i>International Journal of Sports Marketing and Sponsorship</i>
19	<i>International Marketing Review</i>
20	<i>International Review of Retail, Distribution and Consumer Research</i>
21	<i>International Review on Public and Nonprofit Marketing</i>
22	<i>Journal of Advertising</i>
23	<i>Journal of Advertising Research</i>
24	<i>Journal of Brand Management</i>
25	<i>Journal of Business and Industrial Marketing</i>
26	<i>Journal of Business Research</i>
27	<i>Journal of Business-to-Business Marketing</i>
28	<i>Journal of Consumer Culture</i>
29	<i>Journal of Consumer Marketing</i>
30	<i>Journal of Consumer Psychology</i>
31	<i>Journal of Consumer Research</i>
32	<i>Journal of Destination Marketing and Management</i>
33	<i>Journal of Fashion Marketing and Management</i>
34	<i>Journal of Financial Services Marketing</i>
35	<i>Journal of Food Products Marketing</i>
36	<i>Journal of Global Fashion Marketing</i>
37	<i>Journal of Historical Research in Marketing</i>
38	<i>Journal of Hospitality Marketing and Management</i>
39	<i>Journal of Innovation and Knowledge</i>
40	<i>Journal of Interactive Marketing</i>
41	<i>Journal of International Consumer Marketing</i>
42	<i>Journal of International Marketing</i>
43	<i>Journal of Islamic Marketing</i>
44	<i>Journal of Macromarketing</i>
45	<i>Journal of Marketing</i>
46	<i>Journal of Marketing Analytics</i>
47	<i>Journal of Marketing Channels</i>
48	<i>Journal of Marketing Education</i>
49	<i>Journal of Marketing for Higher Education</i>
50	<i>Journal of Marketing Management</i>
51	<i>Journal of Marketing Research</i>
52	<i>Journal of Marketing Theory and Practice</i>
53	<i>Journal of Nonprofit and Public Sector Marketing</i>
54	<i>Journal of Personal Selling and Sales Management</i>
55	<i>Journal of Place Management and Development</i>
56	<i>Journal of Political Marketing</i>
57	<i>Journal of Product and Brand Management</i>
58	<i>Journal of Public Policy and Marketing</i>
59	<i>Journal of Research in Interactive Marketing</i>

Table 2 (continued)

Number	Journal name
60	<i>Journal of Research in Marketing and Entrepreneurship</i>
61	<i>Journal of Retailing</i>
62	<i>Journal of Retailing and Consumer Services</i>
63	<i>Journal of Services Marketing</i>
64	<i>Journal of Social Marketing</i>
65	<i>Journal of Strategic Marketing</i>
66	<i>Journal of the Academy of Marketing Science</i>
67	<i>Journal of Travel and Tourism Marketing</i>
68	<i>Marketing Intelligence and Planning</i>
69	<i>Marketing Letters</i>
70	<i>Marketing Science</i>
71	<i>Marketing Theory</i>
72	<i>Place Branding and Public Diplomacy</i>
73	<i>Psychology and Marketing</i>
74	<i>Public Relations Inquiry</i>
75	<i>Public Relations Review</i>
76	<i>Qualitative Market Research</i>
77	<i>Quantitative Marketing and Economics</i>
78	<i>Recherche et Applications en Marketing</i>
79	<i>Service Science</i>
80	<i>Social Marketing Quarterly</i>
81	<i>Sport Marketing Quarterly</i>

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