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Exploring Gendered Language in Purchasing and Supply Management Job Advertisements

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Summary
This paper investigates how gendered language is used in purchasing and supply management (PSM) advertisements. In our initial exploration of this phenomenon, we examined 83 job advertisements and analysed them against gender-based agentic and communal language dictionaries to understand if, where and how gendered language is used in PSM job advertisements. Surprisingly, we did not find national culture differences across three different countries: Austria, Belgium and the UK, however, we did find that agentic language is used most prevalently at the Buyer position and could be causing the glass ceiling effect at this level.

Keywords
Job advertisements, Purchasing and supply management, Gender, Female, Women, Male, Men

Submission category: Working paper
Introduction

Fewer than one in three buyers identifies as female, 75% of category managers identify as male and only 25% of members of Purchasing and Supply Management (PSM) management committees and management teams identify as women (RSNetwork, 2021). The membership of the leading PSM academic association, shows similar patterns with approx. one third of members identifying as female (IPSERA, 2020). The disparity at the most senior level of PSM is striking, as only 12% of European Chief Purchasing Officers (CPOs) (Sharp, 2017) and only 7% in the United States identify as female, which is relatively low compared to other business disciplines and functional areas (Lawrence et al., 2018).

This lack of female representation is further compounded by gender-based stereotypes, with more than 45% of CPOs stating that rationality is a ‘masculine’ trait; risk-taking or decision-making is a ‘masculine’ strength; and activities requiring interpersonal skills are ‘feminine’ (CIPS, 2021). Gender diversity is not solely a moral issue for contemporary society, it is also of practical, operational and strategic significance for organisations (Churchman and Thompson, 2008), as diversity increases creativity and innovation (Díaz-García et al., 2013), promotes higher quality decision making (Krishnan and Park, 2005) and contributes to PSM sustainability (Ruel et al., 2020).

Although people identifying as female dominate postgraduate PSM education, 60% of the student of PSM Masters’ programmes in major European countries identify as female (Nouguès et al., 2019); beyond this point, representation of females decreases at every level and suggests that there is an issue with progression for females in the PSM field. There may be several explanations for this but approaches in other fields have explored the possibility that the language used in job advertisements may present a potential and systemic obstacle to females entering the field and also progressing from junior to more senior hierarchical levels. The need for research into this issue has been distilled into a focused research question:

**RQ1 Does the language used in PSM job advertisements at different hierarchical levels demonstrate gender bias characteristics?**

To address this research question, we use the gender-based agentic and communal language dictionaries of Gaucher et al. (2011) to explore the language used in PSM job advertisements.
These dictionaries represent reliable tools for quantifying the content in natural language (Pietraszkiewicz et al., 2019). Our exploratory analysis is based on a small sample of 54 English language job advertisements taken from www.glassdoor.com and www.monster.com for three countries representing different levels of Hofstede’s culture-based ‘masculinity-femininity’ scale: Sweden (low), Belgium (medium) and Austria (High). Our analysis also differentiates between a range of hierarchical job levels: Junior Buyer, Buyer, Strategic Buyer and Purchasing Manager (Mulder et al., 2005). These advertisements were imported into Nvivo 12, and content analysed via the text search function to identify the number and percentage coverage of the language of both dictionaries. The results were then imported into IBM SPSS Statistics software, and One-Way-ANOVA tests were run to assess whether the mean number of references (i.e., gendered-language instances) differs based on country and/or position.

Literature Review

Glass ceiling

Barriers to entry, particularly to top-level management positions, but also to different industries or organisations is known as the ‘glass ceiling’ effect (Powell and Butterfield (2003). This effect has been studied from a number of different perspectives particularly race (Wijesingha and Robson, 2022). From a gender perspective, the glass ceiling effect has been researched in government (Čičkarić, 2014), judiciary (Garcia Goldar, 2020), education (Mert, 2021), accountancy (Broadbent and Kirkham, 2008), call centres (Scholarios and Taylor, 2011), general management (Singh, 2019) and boards of management (Arfken et al., 2004). Additionally, a number of practitioner-based publications highlight the disparity in gender representation in the PSM field (as shown in the introduction) and a small body of academic literature, such as Lawrence et al. (2018), highlight the need for further research.

Different theoretical perspectives have been used to explain the glass ceiling, for example, from a risk perspective, Kanter (1977) suggests that organisations minimise risk by restricting entry to people who are ‘different’, resulting in women occupying a minority ‘token’ status and exclusion from the ‘Old Boys’ Clubs’, prevalent in senior ranks (Morrison et al., 1992).

Person-centred theories have examined gender-based differences in skills, abilities, and attitudes contributing to women’s underrepresentation (Morrison and von Glinow, 1990; Morrison et al., 1992). These include differences in education and experience, as well as attitudinal differences. This means that women are less likely to ask for advancement, are
ambivalent about success, and fear taking career risks (see Morrison et al., 1992; Tharenou, 1999).

Other theories have begun to examine structural and systemic discrimination, including policies and practices that perpetuate discrimination (Morrison and von Glinow, 1990). It is the potential for systemic barriers that forms the focus of this research.

Gendered language as systemic discrimination

Most countries have legislated against gender discrimination in the workplace and explicit references to, for example, gender or years of experience tends to contravene these laws. However, more subtle and pervasive means of discrimination still exist, and we draw on social dominance theory (Sidanius and Pratto, 1999), which contends that institutional-level mechanisms reinforce and perpetuate existing group-based inequalities.

A number of factors or explanations could be causing group-based inequalities, but we follow a recent stream of literature (Gaucher et al., 2011) that proposes that gendered wording, i.e., masculine- and feminine-themed words, may be an unacknowledged, institutional-level mechanism of inequality maintenance. Such an approach distinguishes between masculine-themed agentic (e.g., ambition, status, achievement, and independence) and feminine-themed communal (e.g., caring, connection, and sharing) wording of job advertisements.

The first point of contact between an employer and a job seeker is very often the job advertisement (Rynes and Cable, 2003), and previous research has shown that the specificity and type of information communicated in the form of the language used can influence an applicant’s decision to apply (Lievens and Chapman, 2010) and establish goal congruency between the applicant and the organisation (Askehave and Zethsen, 2014; Böhm et al., 2020).

The problematic nature of the language used has been shown to discourage women from applying for positions (Askehave and Zethsen, 2014; Gaucher et al., 2011). This language-focused analysis has been used to evaluate the presence of gendered text in the job advertisements of different fields, e.g., start-up funding (Kanze et al., 2018), finance internships (Oldford and Fiset, 2021), psychology (Fatfouta, 2021), and leadership (Eichenauer et al., 2021). This paper, therefore, aims to establish the possibility of systemic barriers in the PSM
by using a language-based research method to explore the extent of gendered language in PSM advertisements.

**Methodology**

*Data collection and sample*

83 PSM job advertisements were collected from November 2021 to February 2022 from the [www.glassdoor.com](http://www.glassdoor.com) and [www.monster.com](http://www.monster.com) job board websites. To investigate national culture differences, advertisements from three countries were collected that have different scores on Hofstede’s masculinity-femininity dimensions (on a 1 (feminine)-100 (masculine) scale): Austria (High – 79), Belgium (Medium – 54) and Sweden (Low – 5) (Hofstede Insights, 2022). We also identified the hierarchical level for which the advertisement was posted, using the four job levels discussed in Mulder et al. (2005): Assistant Buyer, Buyer, Senior Buyer and Purchasing Manager. See Table 1 for sample characteristics.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number (%)</th>
<th>Job Level</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>21 (25%)</td>
<td>Assistant Buyer</td>
<td>19 (23.46%)</td>
</tr>
<tr>
<td>Belgium</td>
<td>31 (37.35%)</td>
<td>Buyer</td>
<td>23 (28.4%)</td>
</tr>
<tr>
<td>Sweden</td>
<td>31 (37.35%)</td>
<td>Senior Buyer</td>
<td>25 (30.86%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchasing Manager</td>
<td>16 (19.75%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>83 (100%)</strong></td>
<td></td>
<td><strong>83 (100%)</strong></td>
</tr>
</tbody>
</table>

*Data analysis*

The individual advertisements were imported into the qualitative analysis NVivo 12 software, and content analysed via the text search function to identify the instances and percentage coverage (number of references divided by the total number of words in the advertisements) of the language of both dictionaries. The resulting data with advertisements, their characteristics (country and job level) number and percentage references were imported into IBM SPSS Statistics software, and One-Way-ANOVA tests were run to assess whether the mean number of references differs based on country and position.

**Findings and Discussion**

Our initial findings are somewhat counterintuitive as there is a much higher average number of communal references (21.84 per advertisement, 4.51% of all words) than agentic references (4.30 per advertisement, 0.82% of all words). There is a statistical difference in the average number of agentic references per country (see Table 2), measured by One-Way-ANOVA
(F(2,82)=3.21, p<0.05, η²=0.07). According to a Post Hoc Tests (Tukey’s HSD), there is a difference between the Austrian and the Swedish advertisements (p<0.05). The results were not significant for the communal references across countries F(2,82)=1.07, p=0.35. This result is surprising, as Austria scores very high on Hofstede’s masculinity dimension (79), while Sweden has one of the lowest scores on the same dimension (5). Our preliminary results therefore suggest that culture does not play a significant role in differentiating PSM job advertisements.

Table 2: Descriptive statistics and ANOVA test results for references and country

<table>
<thead>
<tr>
<th>Variable</th>
<th>Country</th>
<th>Descriptive statistics</th>
<th>ANOVA test results</th>
<th>df.</th>
<th>F</th>
<th>Sig.</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>2</td>
<td></td>
<td>0.05</td>
</tr>
<tr>
<td>Agentic references</td>
<td>Austria</td>
<td>21</td>
<td>0.59%</td>
<td>0.45%</td>
<td>3.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Belgium</td>
<td>31</td>
<td>0.85%</td>
<td>0.52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweden</td>
<td>31</td>
<td>0.96%</td>
<td>0.55%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>83</td>
<td>0.82%</td>
<td>0.53%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communal references</td>
<td>Austria</td>
<td>21</td>
<td>4.36%</td>
<td>1.37%</td>
<td>1.07</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Belgium</td>
<td>31</td>
<td>4.79%</td>
<td>1.14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweden</td>
<td>31</td>
<td>4.34%</td>
<td>1.44%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>83</td>
<td>4.51%</td>
<td>1.32%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the different positions across hierarchy (see Table 3), we find significant differences in agentic references (F(3,82)=3.87, p=0.01, η²=0.13. According to a Post Hoc Tests (Tukey’s HSD), the difference is between the Buyer (M=1.13%) and the other positions, i.e., Assistant Buyer (M=0.7%), Senior Buyer (M=0.71%) and Purchasing Manager (M=0.72%). The results were not significant for the communal references across positions F(3,82)=1.53, p=0.21. Despite this, we see a decreasing use of communal references (see Table 3) across the job levels hierarchy. This is in line with previous research (Klezl et al. 2022; Stek and Schiele, 2021), which suggests that companies tend to hire based on personal traits for junior positions. The increase in agentic references for Buyer positions could help explain the lower proportion of women in higher positions in PSM (Sharp, 2017). This potentially creates a barrier for women to be promoted from Assistant Buyer to more senior positions. This also expands the results of previous research on PSM job ads across hierarchy (Klezl et al. 2022), by adding a gender perspective.
Table 3: Descriptive statistics and ANOVA test results for references and hierarchy

<table>
<thead>
<tr>
<th>Variable</th>
<th>Position</th>
<th>Descriptive statistics</th>
<th>ANOVA test results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Agentic references</td>
<td>Assistant Buyer</td>
<td>19</td>
<td>0.70%</td>
</tr>
<tr>
<td></td>
<td>Buyer</td>
<td>23</td>
<td>1.13%</td>
</tr>
<tr>
<td></td>
<td>Senior Buyer</td>
<td>25</td>
<td>0.71%</td>
</tr>
<tr>
<td></td>
<td>Purchasing Manager</td>
<td>16</td>
<td>0.72%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>83</td>
<td>0.82%</td>
</tr>
<tr>
<td>Communal</td>
<td>Assistant buyer</td>
<td>19</td>
<td>4.92%</td>
</tr>
<tr>
<td>references</td>
<td>Buyer</td>
<td>23</td>
<td>4.68%</td>
</tr>
<tr>
<td></td>
<td>Senior buyer</td>
<td>25</td>
<td>4.33%</td>
</tr>
<tr>
<td></td>
<td>Purchasing manager</td>
<td>16</td>
<td>4.07%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>83</td>
<td>4.51%</td>
</tr>
</tbody>
</table>

In summary, there is no statistical difference in the average number of communal or agentic references, measured by One-Way-ANOVA, despite the differences of the countries on Hofstede’s masculinity-femininity scale. At the Buyer level, the wording of job advertisements use more masculine, agentic words potentially excluding women, who may not identify with the language used, from applying. This suggests the existence of a glass ceiling, and one that is in place at a lower hierarchical level than in other fields where the glass ceiling is usually reported at the managerial or leadership level.

Conclusions and Future Research

Overall, there is more communal (female-oriented) then agentic (male-oriented) language used in PSM job advertisements, and this is a somewhat counterintuitive finding. However, a more nuanced analysis reveals that there is a significant effect of gendered language in the transition from Assistant Buyer to Buyer progression and that this role is representative of the glass ceiling effect found in other research areas. However, the glass ceiling effect it is often associated with more senior hierarchical levels, therefore, this finding in the PSM field is a tangible contribution to the theoretical and practical development of this field. From our exploratory study, there seems to be little impact of national cultural differences suggested by Hofstede’s masculinity-femininity scale, therefore, future research will extend the number of
advertisements to allow for a fuller focus on if there are differences between other national cultures, and also the differences between hierarchical levels and potential industry characteristics. This rescoping will allow for the collection from a wider pool of potential job advertisements (e.g., United States, United Kingdom, New Zealand, Australia and Ireland), with considerably more English language opportunities available. Further research will also involve comparisons to other professional fields to see if the higher amount of communal language identified in these findings is specific to the PSM field.

References


