

# Seen and not heard: A comparative case study of women on boards and process loss beyond critical mass

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## Abstract

**Research Question/Issue:** Building on a classic model of socio-cognitive board processes, we consider the behaviors of men and women directors in boardrooms. We question whether having a critical mass of women on boards, defined as three or more women, removes barriers to women's participation in the boardroom, asking “How does gender influence board processes in boards with three or more women?”

**Research Findings/Insights:** Using a comparative case study of three boards through board observation and qualitative interviews, we question the assumption that a critical mass of women delivers effective board processes. We reinterpret the need for women to collaborate supportively as process loss, defined as interaction difficulties preventing groups reaching full potential, revealing potential barriers for women non-executive directors to contribute across the whole agenda, particularly during critical debates.

**Theoretical/Academic Implications:** Critical mass theory ignores important interactions between gender and other job-related characteristics to underestimate social complexity in the boardroom. Building on an existing typology of diversity, we suggest that gender in the boardroom can operate as status diversity (disparity), as well as information-based diversity (variety) and value-based diversity (separation).

**Practitioner/Policy Implications:** Chairs and board evaluators who observe board meetings should be vigilant for patterns of participation and collaboration that indicate that women directors are experiencing restricted access to discussion, in particular if women are interrupted. Board leadership decisions should be reviewed regularly to ensure they are supporting board effectiveness, maintaining focus on the task rather than navigating complex social dynamics.

## KEYWORDS

board observations, board processes, comparative case study, critical mass, women on boards

## 1 | INTRODUCTION

Since Kanter's (1977) ground-breaking work on men and women in the workplace, research has shown that extreme demographic

minorities (less than 15% representation, described as “tokens”) can be disruptive to group dynamics and have detrimental impacts to the minority's ability to contribute. As sole women entered corporate boardrooms, the dynamics and challenges of tokenism were recorded

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(Terjesen et al., 2009). Influential research in 2008 by Konrad, Kramer, and Erkut elucidated the difference that adding one, two, or three women to an all-male boardroom made to the dynamics, discussion, and decision-making processes within the group. Critical mass theory (Kanter, 1977; Konrad et al., 2008), defined as when boards have three or more women, suggests that dynamics shift after critical mass, allowing women to collaborate with each other and be seen as individuals. This theory, among others, has been influential in encouraging governments to act to increase the representation of women on boards (WoB).

Fifteen years later, in many Western countries, including the United Kingdom, Australia, Canada, and several European countries, initiatives to shift the proportion of women on corporate boards have succeeded. Aggregated targets of more than 30% WoB have been achieved, and gender-balanced boards (40%–60% of each gender) (Kanter, 1977) are no longer unusual. Earlier work has largely confirmed that critical mass can shift dynamics for women in the boardroom (Joecks et al., 2013; Schwartz-Ziv, 2017; Torchia et al., 2011); the question remains whether increasing the numbers of WoB is enough to remove barriers to women's participation in the boardroom (Kanadli et al., 2018; Sidhu et al., 2020).

Systematic reviews show that there has been an exponential increase in research on the topic of WoB (Kirsch, 2018). Meta-reviews of these papers have shown that links between gender composition and measures of financial performance are nuanced and, based on an implicit assumption, that women have meaningful engagement in the boardroom (Post & Byron, 2015). The few studies that do focus on board processes (Kanadli et al., 2018; Nielsen & Huse, 2010a, 2010b) and the position of the women (Sidhu et al., 2020) find that they explain outcomes more fully than those simply considering the demographic composition of boards. Despite many more boards being beyond critical mass (i.e., with three or more women), theory around how women experience and contribute to gender-balanced boards remains underdeveloped. There is still much more to be understood about the “intervening mechanisms” (Pettigrew, 1992) of corporate governance.

Therefore, this study considers the behaviors of men and women directors in boardrooms beyond critical mass of women through observation and interview, asking “How does gender influence board processes in boards with three or more women?” Following the tradition of behavioral corporate governance research, it is one of the first to observe boards for gender. In their recent review of the behavioral corporate governance literature, Zattoni and Pugliese (2019) identify characteristics of these research projects as multi-theoretical and often including hand-collected qualitative data from direct observation. Access is the main barrier to observational studies of boards; however, it is not impossible (Leblanc & Schwartz, 2007), as such this study offers rare insight into actual board behaviors, responding to calls to enter the “black box” of the board (Kirsch, 2018; Terjesen et al., 2009).

The findings highlight the different ways collaborations form within boardrooms beyond critical mass. Alongside gender, our study

finds that these collaborations are influenced by role, defined as executive or non-executive director (ED/NED) (Kaczmarek et al., 2012), and functional background (Forbes & Milliken, 1999). Using Harrison and Klein's (2007) typology of diversity, the findings show that in addition to the well-established conceptualizations of gender as information based (variety) and value based (separation), gender in the boardroom should be interpreted as status based (disparity). Status here is defined as “an intragroup social resource related to prominence and respect” (Antino et al., 2019, p. 1445). Findings highlight that the process of supportive collaboration between women that underpins critical mass theory (Konrad et al., 2008), defined here as building on or reinforcing other women's contributions in order for them to be heard, is potentially explained by women's perceived low status in the group. Supportive collaboration can be reinterpreted as a barrier to women's free participation in debate. Together, these findings offer a novel explanation of process loss, defined as barriers to interaction that inhibit a group reaching full potential (Forbes & Milliken, 1999), in the boardroom through social complexity, contributing to both behavioral corporate governance theory and critical mass theory. These findings extend our understanding of how gender can cause process losses even beyond critical mass (Boivie et al., 2016; Torchia et al., 2018; Veltrop et al., 2021) and offer potential remedy.

## 2 | LITERATURE REVIEW

### 2.1 | Critical mass theory

Looking at the behavior of women (and men) in the demographic context of their organization is well established (Ely, 1995; Kanter, 1977; Konrad et al., 2008). Kanter (1977) categorized demographic contexts as skewed (with up to 15% women), tilted (20%–40%), and balanced (40%–60%), suggesting that there would be fewer stereotyping behaviors in a balanced group allowing women's individual skills and characteristics to be recognized. In a balanced group, subgroups may form on lines other than gender, such as role or expertise. Critical mass theory (Konrad et al., 2008) builds on Kanter's (1977) tilted group by specifying the number of three or more women needed to change the dynamics in a boardroom, impacting men's and women's behaviors. In particular, critical mass theory shows how collaborations improve the experience of WoB when there are two or three women, with women building on and reinforcing each other's points and supporting each other on issues (Konrad et al., 2008; Kramer et al., 2006):

One woman director described the value of having another woman during board discussions, “If she felt that people were not listening to me or there was something unfair going on, she would speak up, not necessarily directly, but would pursue the same train of thought and make sure my point got heard.” (Konrad et al., 2008, p. 148)

Critics of Kanter (1977), however, suggest that it is naïve to imagine that socially constructed gender–power differences (Ely, 1995; Ely & Padavic, 2007) will disappear in gender-balanced groups in organizations (Lewis & Simpson, 2012; Yoder, 1991). Instead, men will allow the presence of women while withholding access to power (Lewis & Simpson, 2012). Yet despite these long-standing critiques of pure demographic theories, conceptualizations of gender as power or status remain the exception in the WoB literature (Nielsen & Huse, 2010b; Sidhu et al., 2020; Triana et al., 2014).

Critical mass theory (Kanter, 1977; Konrad et al., 2008) has provided a theoretical basis for calls to increase the number of WoB, including the UK government's successful initiatives to increase the proportion of women on leading listed companies first to 25% and then to 33%.<sup>1</sup> This study does not aim to test the numeric premise of critical mass theory; other studies have done that with more appropriate methods (Joecks et al., 2013; Schwartz-Ziv, 2017; Torchia et al., 2011). Theoretically sampling (Eisenhardt, 1989) only boards with three or more women, we examine board processes through observation and interview (Kirsch, 2018; Terjesen et al., 2009), focusing on “the ways in which women's presence may alter interactional processes such as frequency of communication or intensity of conflicts” (Lewis & Simpson, 2012, p. 155). Our study finds, through patterns of participation and collaboration, that process losses (Boivie et al., 2016; Forbes & Milliken, 1999) can persist beyond critical mass.

## 2.2 | Board processes

In their foundational paper drawing from highly credible theories in the group effectiveness literature, Forbes and Milliken (1999) build a theoretical model of socio-cognitive board processes. Their model takes into account the unique characteristics of boards, as composed of executives and non-executives (NEDs) (inside and outside directors), part-time and somewhat larger than other work groups, making complex, strategic decisions (Forbes & Milliken, 1999). Crucially, their model seeks to fill the gap between composition as an input to board functioning and board effectiveness as the output, by explaining the intervening processes.

Forbes and Milliken's (1999) model identifies three socio-cognitive processes that pertain to a corporate board. These are effort norms, cognitive conflict, and use of knowledge and skills. A recent meta-analytic review of this model (Heemskerk, 2018) confirms that board processes are more influential than demographics in board task performance (Minichilli et al., 2012; Zona & Zattoni, 2007). The main debate arising from this work is around the complexity of cognitive conflict as a concept (Heemskerk, 2019). Some have attempted to disaggregate conflict into task-based and relationship-based elements (Jehn, 1995), arguing that task-based conflict increases effectiveness and relationship-based conflict lowers effectiveness. However, others have argued that any kind of conflict is detrimental to the functioning of the board as a cohesive group (de Dreu & Weingart, 2003). Forbes and Milliken's model remains influential, providing a framework for

recent studies of board processes (Brown et al., 2019; Torchia et al., 2018).

In developing their original model, Forbes and Milliken (1999) focus on job-related diversity as influencing board process, including diversity of functional background, industry background, and educational background. In 1999, they argued that there was insufficient visible diversity, either gender or ethnicity, to warrant inclusion in their model for corporate boards (Forbes & Milliken, 1999, p. 499). They argue that where visible diversity does exist, salience is likely to decrease over time as other aspects become more relevant or as board members get to know each other (Milliken & Martins, 1996). Forbes and Milliken (1999) also argue that gender is likely to function in the same way as job-related diversity, as a “double edged sword” (Milliken & Martins, 1996) for board processes, both increasing the amount of resources available through information processing and reducing the ease of communication where there are differing cognitive frames. In Harrison and Klein's (2007) typology of diversity, these conceptualizations of diversity are named diversity as variety, defined as knowledge based, and diversity as separation, defined as values based. Harrison and Klein (2007) introduce a third aspect of diversity as disparity, defined as resource based (i.e., status), which they argue is rarely used in the organizational literature, although it is particularly suitable for understanding gender. Integrating Forbes and Milliken's (1999) model with Harrison and Klein's (2007) typology (Kaczmarek, 2017) implies that only diversity operating as variety will deliver improved information processing to boards, as assumed in the business case for WoB.

In the 20 years since Forbes and Milliken (1999) published their model, there has been an explosion in the interest on the topic of WoB (Kirsch, 2018). Yet a large majority of these papers conceptualize gender as only variety or separation (Harrison & Klein, 2007). An emerging literature introduces the concept of status (Sidhu et al., 2020) borrowed from sociology to help explain some of the inconclusive findings in the extant literature. There is evidence to suggest that where women are perceived as lower status (Sidhu et al., 2020) or if they have different functional backgrounds from the men (e.g., HR or marketing) (Nielsen & Huse, 2010a), they have less influence on strategy. A small number of moderators (Martins & Sohn, 2021) for women's influence at a board process level have been identified, for example, through board leadership (Nielsen & Huse, 2010b), board openness (Torchia et al., 2018), and the role (Kanadli et al., 2018) or sex of the chair (Sidhu et al., 2020). This literature is limited by use of categories in existing survey data and reliance on a few key observable variables. This study responds to the call to identify further behavioral barriers so that they may be removed (Torchia et al., 2018) and to look at boards beyond critical mass (Sidhu et al., 2020).

Within the wider behavioral corporate governance literature, there are studies showing process losses affecting board performance occurring due to failures of group dynamics (Boivie et al., 2016). For example, there are circumstances when board members assume they are the only person who has doubts or concerns over a certain issue

and therefore fail to raise them. The implication is that the proposal goes ahead unchecked despite many of the board members privately having concerns (Westphal & Bednar, 2005). However, gender as the source of process loss has not been explicitly studied. Therefore, this study asks “How does gender influence board processes in boards with three or more women?”

### 3 | COMPARATIVE CASE STUDY METHOD

This study employs a comparative case study research design (Eisenhardt, 1989, 2021; Yin, 2003) using observations of three board meetings each of three case study boards (nine meetings in total) and interviews of 28 out of 31 board members and company secretaries from across the three boards. The board observations and interviews occurred within a 5-month period, from July to November 2018. The design of this study has been influenced by studies that compare two or more boards (Watson et al., 2021). It focuses on board processes and their underlying behaviors (Forbes & Milliken, 1999; Maitlis, 2004) at the level of the agenda item (Machold & Farquhar, 2013) and on turn-taking as a way of tracking dynamics in the boardroom more closely (Pugliese et al., 2015). Turn-taking is defined as “the number of times (in turns) a participant speaks during the discussion” (Pugliese et al., 2015, p. 7). That is, the meeting is composed of a series of turns from the various people in the room. The key question of the interview schedule was “How do you decide when to speak in a meeting?” aimed at getting an understanding of the observed behaviors of turn-taking. Alongside, the key question when analyzing the turn-taking data from the board observations was “What happens after women speak?”

#### 3.1 | Case study selection

The three case study boards are companies operating within the United Kingdom and owned by the state. There is a history of using state-owned companies as case studies in the WoB literature as they tend to have higher proportions of women and access to multiple companies is facilitated through contact with a single shareholder representative body (Schwartz-Ziv, 2017; Tremblay et al., 2016). Recent evidence from Italy indicates that state-owned companies are likely to be examples of good practice in corporate governance through higher attendance (Bonini & Lagasio, 2022). In the United Kingdom, the state

has a portfolio of around 20 companies of which it is the major shareholder, sitting on the border between the private and public sectors. These companies predominantly run key infrastructure of national importance across energy, media, finance, and transport sectors. The three case study boards were purposefully sampled for having three or more women on the board, in order to study dynamics in boards beyond critical mass. Of the 20 state-owned boards, only five met the criteria of having three or more women, of these two declined to take part in the study with the remaining three forming the sample of boards. Beyond ownership structure and gender balance, these boards have similar size of formal board membership and tenure; however, the insider–outsider ratio varied. At a company level, they were different across other indicators including sector, size, lifecycle, and prior performance. The board directors comprise a mix of corporate professionals and civil servants, with most NEDs (outside directors) coming from a corporate professional background and executives with a mix of corporate and civil service backgrounds. In each case, the chair is prominent in the private sector, having chaired a public listed company on the Financial Times Stock Exchange (FTSE) in London or the equivalent privately owned company. However, individually negotiated Non-Disclosure Agreements (NDAs) prohibit identifying the case study boards. In many cases, the NEDs on the boards are also chairs of smaller listed companies. The chair is directly accountable to the state as shareholder for the running of the board and the company and was expected to adhere to national standards in corporate governance. All three boards followed the best practice in setting agendas, circulating a full board pack of papers a week in advance, minuting decisions, agreeing the minutes at a subsequent meeting, and engaging in board development, evaluation, and reflexivity.

Within the three cases, there is a range of women's representation (see Table 1). Board 1 has the fewest women members, with three NEDs. None of the executive team in Board 1 are women; however, women senior leaders frequently appear at the board to provide updates on agenda items, giving wider visibility to women in the boardroom than these numbers on official board membership suggest. Boards 2 and 3 both have women CEOs, with high representation of women in their senior leadership team. In these boards, there are fewer women NEDs; however, the overall gender balance sitting around the table in the boardroom tends to 50:50 in these boards. The status of the women executives in Board 3 was “in attendance,” whereas in Board 2, the women executives were full members of the board. Board 2 also has a female chair. As noted with Board 1, the number of women in the room is determined by the agenda and also

**TABLE 1** Board membership by gender and role.

Board	Chair	NEDs	Chief executive	Executives on board	Total board members	Interviews	Average tenure (years)
Board 1	1 man	3 women 3 men	1 man	0 women 2 men	10 (30% women)	10	3
Board 2	1 woman	2 women 3 men	1 woman	3 women 2 men	12 (58% women)	9	2.7
Board 3	1 man	2 women 3 men	1 woman	0 women 2 men	9 (33% women)	9	3.3

attendance. Each board meeting observed therefore has a different mix of NEDs and executive members, senior leaders speaking to items and apologies for non-attendance. Due to these differences, there were not enough data within the case study boards to compare the position of ED women, necessitating a focus on NED women. However, there was always a critical mass of women board members present at each meeting.

Board dynamics at the group level were operationalized using Pugliese et al.'s (2015) approach to turn-taking using a template to record the order in which each board member spoke (took a turn) and notes of what they said. The field notes recorded in the template were transcribed line by line into Excel for anonymization and analysis. During the same period, 28 interviews were conducted by the lead author using a semi-structured template based on Forbes and Milliken's (1999) board processes. The proximity of interviews to the board meeting provided opportunity for the interviewees to give their interpretations of observed behaviors. This enabled explicit follow-up questions about specific observed behaviors and gave a richness of triangulation, with a sharing of interpretations of observed behaviors. This also increased trustworthiness (Lincoln & Guba, 1985) with an inbuilt and real-time member check for interpretation. The interviews were transcribed in vivo by the lead author in the 2 months following the fieldwork and uploaded into a software package (NVivo) for thematic analysis. Across both sources of data, a within-case analysis (Eisenhardt, 1989; Yin, 2003) was conducted to establish the patterns of participation, collaboration, and underlying meanings in each of the three boards through triangulation. The second step of the analysis was to bring cross-case comparison to support or contradict initial findings on the role of gender in board processes. The cross-case comparisons act as a replication to develop theory through the use of categorization.

### 3.2 | Data analysis

After familiarization (Braun & Clarke, 2006), the process of analysis started with coding the 28 interview transcripts developing first-order

codes in vivo (Silverman, 1993), before aggregating these codes into wider themes, providing an overarching view of the interview data. Initial thematic analysis confirmed existing theory (Forbes & Milliken, 1999) on relevant aspects of context, for example, board size, reinforcing the applicability of existing models. Novel themes included the importance of role (NED, ED, CEO, and chair) and the interactions of different characteristics, such as functional background and differences in behaviors and experiences by gender. The board observations were then analyzed in Excel, with turns categorized by role and sex. The analysis of observations was guided by the question "What happens after a woman speaks?" to examine patterns of collaboration within the boardroom. Finally, the observation findings were triangulated against theoretically selected themes in the interview data, underpinned by data tables of quotes by case, to emphasize the differing accounts of behaviors in each of the boards (Cloutier & Ravasi, 2021).

The nine observed meetings were divided into agenda items retrospectively, determined by the opening and closing remarks of the chair, when a particular executive's turn finished, and also by the topics discussed (Nicholson et al., 2017). In total, 76 agenda items were identified across the nine meetings (see Table 2). All 76 agenda items were included for analysis of participation behavior, which was conducted at a meeting level, to include every turn taken in the observed meetings. For analysis of collaboration behaviors, 25 agenda items were selected for closer analysis as either cases of cognitive conflict (10 items) (Forbes & Milliken, 1999) or cases of women's collaboration (15 items).

### 3.3 | Coding

Existing theory was taken as the starting point to code the observational data (Braun & Clarke, 2006; Locke et al., 2020). Categories of analysis were informed by the behaviors underpinning each of the three board processes: effort norms, cognitive conflict, and use of knowledge and skills (Forbes & Milliken, 1999), matched to the turn-taking data collected through board observation. In order to code the

**TABLE 2** Board meeting characteristics.

Board	Meeting	Attendance of non-executives	Agenda items	Selected items	Length of meeting (h)	Month (2018)
Board 1	1	0 absent	9	3	3.30	July
	2	2 absent 1 telecon	11	1	3.40	September
	3	0 absent	11	4	3.45	November
Board 2	1	0 absent	6	2	2.30	July
	2	1 absent	9	1	2	September
	3	0 absent	6	2	3	November
Board 3	1	0 absent	10	4	-	July
	2	0 absent	6	4	4	September
	3	0 absent	8	4	-	October
			<b>76</b>	<b>25</b>		

Note: - means no record was made for the duration of these meetings.

meeting transcripts, within the format of the template, each turn was highlighted as taken by role, either a NED, CEO, executive, or chair, and by sex, as man or woman. These turns were then grouped and sorted in Excel to reveal patterns in the data.

The first of the board processes analyzed is effort norms. Effort norms are underpinned by three behaviors: preparation, participation, and analysis (Forbes & Milliken, 1999). Participation is taken as a key observable behavior underlying the board process of effort norms. It is theorized that increased effort leads to improved decision-making. In order to code for effort norms, the number of turns taken by NEDs by sex was analyzed for each meeting of each board. These gross figures were then divided by the number of NEDs of each sex present at each meeting to give a rate of turn-taking for each group at each meeting. These rates were then averaged to find the average participation rate of each sex for each board.

The second of the board processes examined is cognitive conflict, part of the board's control function encouraging the consideration of alternative options (Forbes & Milliken, 1999). This is a particularly important process for gender since the argument for greater diversity on boards stems largely from women being able to put forward different perspectives (Konrad et al., 2008; Kramer et al., 2006) or gender operating as variety (Harrison & Klein, 2007). Forbes and Milliken (1999) also note that high levels of cognitive conflict have an emotional cost and are likely to lead to disengagement from the board.

There were ten items within the observations that were categorized as cognitive conflict: three in Board 1, two in Board 2, and five in Board 3. Items of cognitive conflict were identified by the NEDs opposing the executive recommendations, for example, where the NEDs are arguing that an activity should not be started or be stopped or where the executive proposal generated some general frustration among the NEDs. Such topics included the business model, forecasting, or targets. NED women's turns in these items were coded as either leading, supporting, or silent. A turn was coded as leading if it initiated a new topic within the debate. A turn was coded as supporting if either it built on a previously initiated topic or it contributed to debate of NEDs. Silence was coded where a NED did not take a turn during an entire item.

The third board process is use of knowledge and skills, defined as how the contributions to the meeting are brought together to form a decision (Forbes & Milliken, 1999). This process recognizes the distinction between the presence of knowledge and skills, usually measured by composition, and their use in the board. It also distinguishes between the content of the contributions, as cognitive conflict, and "the process by which those contributions are co-ordinated" (Forbes & Milliken, 1999, p. 495). Boards as groups can face coordination issues and therefore experience process losses. Use of knowledge and skills aims to reduce process loss to increase the effectiveness of decision-making. The key behaviors linked to this process are for board members to understand and listen to each other's expertise, to build on each other's contributions, and to seek creative solutions (Forbes & Milliken, 1999).

The use of knowledge and skills is coded through the patterns of NEDs building on each other's points. Building on each other's points

within debate demonstrates a number of behaviors, including listening and understanding and collaborating and, in some cases, creativity. Building behaviors demonstrate *who* is listening and *who* is collaborating. In particular, in this study, are the women collaborating to get their point heard? The coding for "building on" looks at what happens after a woman NED speaks, specifically where a NED woman has initiated a new topic within an item by asking a question or sharing expertise and another woman or a man has built on the NED woman's point in debate. Where the NED woman herself builds on her own point, this is coded as repetition: where the NED woman repeats a point she introduces earlier in the debate. Where another NED woman makes the same point made earlier in debate, this behavior is defined as "reinforcing" as opposed to "building on" another NED woman's contribution. These behaviors were counted and then taken as a percentage of the overall turns in these items to account for the differing lengths of items selected from three boards.

Harrison and Klein's (2007) typology of diversity is invoked to explain the data from observations and interviews examining the processes of participation and collaboration in the boardroom, specifically, to explain status differences (disparity) in Board 1 and functional background differences (separation) in Board 3 (Harrison & Klein, 2007) that have potentially led to process loss.

## 4 | FINDINGS

The intention of this study is to look at group dynamics in the boardroom at the process level to examine the impact of gender in context where there are three or more women board members. In particular, the intention is to look beyond the individual to the group for behaviors. This is achieved by coding turns taken by sex and role in each of the three case boards before establishing patterns of participation and collaboration to compare NED men and women within and across the boards. The findings from observations are then triangulated against relevant themes from the interview data on participation, how a debate unfolds, and on alliances.

While the critical mass literature emphasizes the demographic aspects of having three or more women on the board, the social reality on these boards was much more complex. Sex sits alongside other characteristics such as role, functional background, industry background, and industry experiences to present highly dynamic social contexts. This complex social reality is often not recognized in studies that look only at composition through the formal membership of the board in panel data based on a single characteristic.

The importance of role in analyzing behavior in the boardroom was clear from the initial thematic analysis of the interviews. Overall, the dynamic of "them and us" between the EDs and NEDs common to the British unitary board system (Kaczmarek et al., 2012) was found to hold true in these boards, explaining differences in turn-taking behaviors. The contributions from the EDs and NEDs, chairs, and CEO are fundamentally different in nature and therefore for the purposes of this study are taken to be non-comparable at a behavioral level. For example, the critical mass literature would not distinguish between

having a woman NED and chair, despite literature indicating the importance of the chair (Banerjee et al., 2020). That is, using “woman” and “man” as the only category for analysis would not produce a meaningful result, and therefore, the combination of sex and role was found to be necessary.

The chair decides many aspects of the context that are relevant for board processes and gender. These are both the tangible, such as composition and size, and the intangible, such as chair leadership style, defined as facilitation (Machold et al., 2011). The composition of the board is determined by the appointment process, usually led by the chair. The composition of the board responds to the skills requirements and gaps in the board, including at functional background and industry background alongside other demographic characteristics, including sex. The presence of women NEDs on the board is likely to be a deliberate choice of the chair during the appointment process. The chair may be responsible for appointing the NEDs and CEO but is likely to have less control over the gender balance at a senior leadership level. The chair would however choose how many of those senior leaders are full members of the board and those who attend the board.

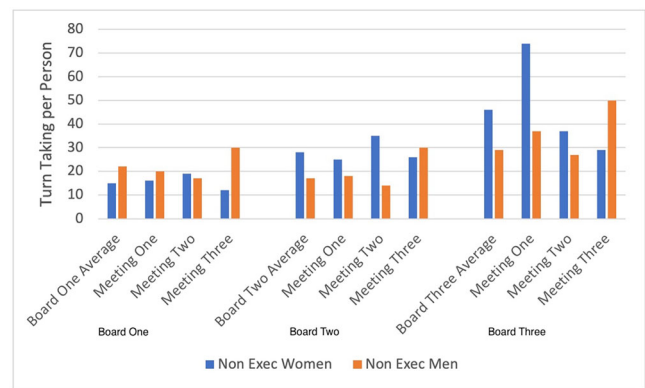
Despite differences across the boards in terms of other aspects of context and composition, the percentage of turns taken by chairs was consistent across the three boards at around 20%. The difference between the board chairs operates through their leadership style (Machold et al., 2011). Differences in facilitation are illuminated in the following section on effort norms where women NEDs from Board 1 describe their challenges in getting into debate. In this board, the chair has chosen to have executive men in attendance at the meeting, sometimes doubling the number of attendees to 25 in the room. However, it was not the size per se, but it was chair's leadership style (Machold et al., 2011) that created competition for the NEDs airtime, as executives on this board were invited to speak and to question alongside NED contributions. The leadership style in the other boards meant the executives tended not to speak unless they were spoken to, providing more space for NED contributions.

The following section sets out the evidence from observation of turn-taking and themes from interview analysis along the three board processes of effort norms, cognitive conflict, and use of knowledge and skills (Forbes & Milliken, 1999).

#### 4.1 | Effort norms

The participation data across all 76 items are calculated at board and meeting levels (see Figure 1). In Board 1, the NED women took on average about a third less turns than the NED men overall, 15 compared with 22. Board 1 was the only board with an equal number of NED men and women. In Boards 2 and 3, NED women can be seen to be overrepresented by participating on average about a third more than the NED men.

Drawing from the interview data, two of the three NED women in Board 1 described how difficult it is to speak in meetings. One described it as an “ordeal” and the second described it as “surprisingly



**FIGURE 1** Participation rate for each board and each meeting (turns per person). [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/cope.12524)]

difficult.” Specifically, the behavior of women being interrupted by men was mentioned, which is recognized as a feature of power play in gendered dialogue (Baxter, 2010). None of the NED men mentioned interruptions or difficulty in participation, nor did the third NED woman, who rejected gender as relevant at all.

There are some people in the board who will speak over other people, broadly they are men, there are more men than women, yeah and they interrupt people and I find that completely unacceptable. (Interview 3, Board 1, NED woman)

By contrast, NEDs in Boards 2 and 3 specifically mention that in general people do not interrupt each other.

Speaking over each other doesn't happen very much. (Interview 6, Board 2, Company secretary woman)

I don't think we talk over each other that much. (Interview 2, Board 3, NED man)

I don't think there is anything hindering us. (Interview 7, Board 2, ED woman)

I don't see anyone holding back. (Interview 9, Board 3, Company secretary man)

Together, these findings indicate that there is a dynamic of interruption and speaking over each other that the women NEDs in Board 1 attribute to their gender that is not present in the other two boards.

#### 4.2 | Cognitive conflict

The patterns of behavior during items of cognitive conflict within the meetings of all three boards are complex. Incidents of cognitive

conflict were least frequent and intense at Board 2. These incidents can be characterized as disagreements between the NEDs and the executives, with the NEDs in agreement. In Board 1, there were only three incidents of cognitive conflict, but they were more intense, with a greater range of views between the NEDs, with more of a lively debate taking place in the boardroom. Board 3 had the most incidents of cognitive conflict and there was a palpable frustration among the NEDs with the executive team. Board 3 tended to have issue-based alliances among the NEDs, with all five NEDs aligning on certain key issues. In this board, the chair was prepared to overrule all the NEDs in favor of the newly appointed woman CEO.

Across all the boards, conflict was more likely to be led by a NED man, with a NED woman in a supporting role (see Table 3). Only rarely did a NED woman take the leading role. This could be interpreted as stereotypical behavior, with the NED women avoiding direct conflict. It also could constrain NED women's ability to contribute new information, if they are following the topic introduced by a NED man.

The pattern of men speaking first during cognitive conflict was not explicitly mentioned in the interviews. However, data from the interviews provide meaning to the importance of speaking first in critical issues and suggest meanings for the order of speaking is shared across the three boards and between the men and women. Speaking first or early in an item is necessary to be influential in a debate and set the tone.

If you think, this isn't right then you've ... got to get in early and influence that conversation. (Interview 2, Board 3, NED man)

If you really don't agree with the direction of travel it's important you say something reasonably early. (Interview 1, Board 2, NED woman)

A woman NED on Board 1 stayed silent across all three items of cognitive conflict. There was a tendency noted in Board 1 for women NEDs to hang back in debate.

There is a very slight difference between the women who wait to be invited for their contributions and the men who will speak to make their point, even if that means talking over someone else. (Interview 5, Board 1, Company secretary man)

Although differences may be slight, perhaps this is enough in a room full of loud voices to allow men to lead on issues of cognitive conflict.

You might get two people trying to talk at once and its who goes first. (Interview 10, Board 3, NED man)

In this competitive environment, it is perhaps unsurprising that even successful, competent NED women sometimes lose out.

If you don't get in at the point you were going to ... the conversation has then moved on ... the point you were going to make is no longer really relevant, which is very irritating. (Interview 6, Board 1, NED woman)

**TABLE 3** Analysis of NED women's contributions to cognitive conflict.

Role	Board 1	Board 2	Board 3
Leading		-NED woman asks question that initiates debate of all 4 NEDs working together to holding exec to account. (Board 2, Item 3)	-NED women question the development of a new service backed by all NEDs. (Board 3, Item 3) -NED women go back and forth building on each other on an area of expertise. (Board 3, Item 1)
Supporting	-NED woman invited to speak and influences debate with incisive last word. (Board 1, Item 8) -NED women contribute to debate on controversial new project, unsupported woman repeats comments and is ignored. (Board 1, Item 3) -NED women contribute to debate but are outnumbered by NED men's contributions. (Board 1, Item 6)	-NED woman backs up NED man leading on a controversial topic. (Board 2, Item 3) -NED man challenges ED. NED women involved in ensuing debate, eventually NED woman backs up FD on area of expertise, supported by chair of audit. (Board 2, Item 2) -NED woman directly supports point introduced by NED man. (Board 2, Item 3) -NED woman introduces new topic, is unsupported and point is dropped. (Board 2, Item 3)	-NED woman backs chair of audit to dispute the record of a decision in the minutes of a previous meeting. (Board 3, Item 10) -All NEDs collaborate to extract information from exec on new proposition by asking good questions. (Board 3, Item 9) -NED woman contributes to debate by changing topic, CEO then responds to the point made by the man before her. (Board 1, Item 8)
Silent	-One NED woman silent across all three items of cognitive conflict. (Board 1, Items 3, 6, 8)		



### 4.3 | Use of knowledge and skills

The following section focuses on NED women's collaboration behavior. To examine what happens after a NED woman speaks, it focuses on the behaviors of building on, repetition and reinforcing, each other's contribution in debates, in the 25 items of cognitive conflict and collaboration identified in the analysis section. The key figures in Table 4 are the comparison between the relatively higher frequency of NED women building on each other in Board 1 (27%) and Board 3 (22%) compared to the low level in Board 2 (4%). This shows that Boards 1 and 3 women spend more time engaged in the same topics than in Board 2.

Another behavior linked to use of knowledge and skills is where a point made in discussion is revisited by the NED woman who made it (repetition) or another NED woman (reinforcing). The turn is coded as repetition or reinforcing where the point made in discussion is the same as the previous point, rather than building on where the point is developed. In Board 1, 12% of turns were points being repeated by the same NED woman who made them, compared to 5% in Board 2 and 2% in Board 3. This highlights something about the difficulty of getting a point heard within debate in Board 1. In both Board 1 and Board 3, 3% of turns are a NED woman reinforcing a point made by another NED woman. In Board 2, there are no turns where a NED woman reinforces another NED woman. Overall, this suggests that there is less collaboration between NED women in Board 2.

These patterns are corroborated by data from the interviews. NED women working together to reinforce each other were most conscious and organized in Board 1 where one NED woman described the "club" of women who call out women being talked over by men.

In Board 3, the two NED women shared expertise and were aware of their tendency to build on each other's points, but not consciously.

By virtue of the fact that there is a common thread of experience through branding and marketing, Alice and I are pretty much on the same wavelength, when we're

discussing those sorts of issues because of the disciplines that we've come from ... positive reinforcement. (Interview 3, Board 3, NED woman)

In this Board 3, the NED women did not ascribe their collaborations to gender purely but to the combination of gender and functional background, with lower status attached to certain backgrounds than others.

If you're the accountant yes you're the most loved person in the room ... if you're the marketing board member you're down here. It's quite funny. So, the skills are different and there are different ways of thinking of things, so they should all be valued equally. (Interview 4, Board 3, NED woman)

These combinations of characteristics, of role, gender, and functional background, indicate the level of social complexity for women operating in the boardroom.

### 4.4 | Summary of findings

Bringing the evidence from observations and interviews together into Table 5 shows patterns of participation and collaboration behaviors from across the three case study boards. The interviews with women NEDs in Board 1 suggest that collaboration behaviors are related to access to airtime in the board meeting, a scarce resource. Interruption is understood to be power play (Baxter, 2010) and can be explained by status conflict playing out in the boardroom, probably caused by gender. This status conflict explains the collaboration process described in interviews of "calling out" behaviors where the women are prevented from speaking by men and supporting each other in debate. These collaborations based on status can be conceived as gender operating as disparity (Harrison & Klein, 2007). Collaborations based on stereotypical functional backgrounds operate through

**TABLE 4** Collaboration behavior by NED women<sup>a</sup>.

Building behaviors	Board 1	Board 2	Board 3
1. NED woman builds on the same topic as another NED woman	27% <sup>b</sup>	4%	22%
2. NED woman builds on the same topic as another NED man	2%	4%	5%
3. NED woman reinforces a point made by another NED woman	3%	0	3%
4. NED woman repeats a point she herself made in debate	12%	5%	2%

<sup>a</sup>Percentage of turns taken. Turn-taking is defined as the number of times, in turns, a participant speaks in discussion (Pugliese et al., 2015). These percentages represent turns coded by behaviors of building or repetition out of all the turns NED women take in these items. This analysis was conducted on 25 agenda items selected for the behaviors of cognitive conflict and women's collaboration.

<sup>b</sup>The figure of 27% is calculated as the frequency (16 turns) a NED woman speaks in the meeting (takes a turn) to develop a topic initiated by another NED woman, divided by the total number of turns taken by NED women in these agenda items (60 turns), multiplied by 100 to get a percentage.

**TABLE 5** Summary of findings.

	Board 1	Board 2	Board 3
Effort norms	NED women participate less than NED men	NED women participate more than NED men	NED women participate more than NED men
Cognitive conflict	NED women supporting or silent	NED women mainly supporting	NED women supporting or leading
Use of knowledge and skills	NED women collaborate to get airtime	NED women do not collaborate	NED women collaborate to get their points heard
Roles	Women NEDs. No women EDs as formal member	Mix of women NEDs and EDs, CEO, and chair	Women NEDs and CEO. No women EDs as formal members
Functional background	NED women mainly share the same background as men	Women NEDs and EDs across all functions	Women NEDs and EDs in marketing and HR functions

shared cognitive frames and can be conceived as operating as separation (Harrison & Klein, 2007). While these patterns do not directly necessarily relate to gender, they do point to the interaction of characteristics, in this case with role and functional background as the primary characteristics and gender as a secondary factor in the collaboration patterns. Board 2 provides a case of a demographically gender-balanced (Kanter, 1977) board, with majority women board members, including a woman CEO and chair. In Board 2, men and women are found to participate and collaborate freely, with no speaking over and no need for women's contributions to be reinforced. Board 2 provides a case of gender operating as variety (knowledge based).

This conceptualization develops the literature in two ways. First, it moves beyond the focus on single characteristics, to look at gender, role, and functional background together to generate understandings of turn-taking behavior. Second, it moves beyond the conceptualization of gender as variety and separation (Harrison & Klein, 2007) used in much of the WoB literature to acknowledge disparity through the status aspects of gender.

## 5 | DISCUSSION

Looking beyond demography to behavior enables this study to explain how gender influences board processes in boards with three or more women (Konrad et al., 2008). It identifies the processes of participation and collaboration as key mechanisms linking characteristics to decisions. It recognizes that collaborations are influenced by combinations of characteristics, both visible and job related. It does so by proposing that gender can operate as knowledge based, increasing the resources available to the board (variety), and as cognitive frame based (separation), causing information silos between those with different expertise (Forbes & Milliken, 1999). However, it also proposes status (disparity) as a third way gender can operate, where women have to collaborate to gain access to airtime in the meeting. This typology explains how process loss can occur in boards beyond critical mass.

### 5.1 | WoB and critical mass

At the level of demographics, this study confirms the findings of critical mass theory; however, the lens it takes provides a different set of insights. Critical mass theory (Konrad et al., 2008) compares having one woman director, a token, with two or three, arguing that there is a positive change in dynamics with three directors because they can build on each other's contributions. This study finds firstly that the role of the woman director is important and secondly that in the United Kingdom with a single-tier board with executives and NEDs, ignoring these differences reduces the explanatory power of demographic theories. There are multiple characteristics at play in the boardroom and role is a strong predictor of board behavior given the different expectations on the board (Kaczmarek et al., 2012). Contributions of the executives are longer information sharing turns and the contributions of the NEDs are shorter, questioning or challenging opinion sharing turns (Pugliese et al., 2015). From this perspective, the role is a barrier to the collaboration between women in the board. In Kramer et al.'s (2006) original study, there is one example of a board with four women, two are executives and two are NEDs, with the women "dividing into two camps" (p. 37). This split was taken by Kramer et al. (2006) as evidence of the normalization of gender in a board with four women, rather than a call to look at gender in combination with other characteristics to explore dynamics (Adams et al., 2015). Critical mass theory (Kramer et al., 2006) frames women's collaboration as a positive result, compared to token women, in a context where few boards had three or more women. Fifteen years later, this study reinterprets women's need to collaborate supportively as process loss, explained by perceived low status.

Alongside role, this study finds that functional background can also reinforce gender divides in the group, particularly where the women NEDs and EDs come from stereotypical functional backgrounds. Nielsen and Huse (2010b) find that in Norway, women from stereotypical functional backgrounds are less likely to be influential in the boardroom than those that share the same functional backgrounds as the men. Theoretically, Nielsen and Huse (2010b) propose that this could be evidence of a strong faultline (Lau & Murnighan, 1998) where characteristics align to create a schism in the

group that prevents collaborations and information flows across the group. Together, these findings reassert the need for future research to take into account combinations of characteristics and the potential of faultline theory (Lau & Murnighan, 1998) to achieve this aim.

## 5.2 | Board processes

By introducing critical mass theory to Forbes and Milliken's (1999) model of board processes, this study aims to shed light on the mechanisms that lead to process loss in boardrooms with three or more women and suggest some potential remedies. The findings around patterns of participation and collaboration are supportive of theories that suggest where diversity operates as either separation or disparity process loss leads to sub-optimal decision-making, compared to where diversity operates as variety (Harrison & Klein, 2007). These findings demonstrate that, contrary to Forbes and Milliken's (1999) assumptions, even after some time sitting on a board together (see Table 1 for tenure data), gender has potential to remain a source of process loss among NED directors. This finding also provides an explanation for the conflicting findings from previous studies that aim to link composition to firm-level outcomes.

The role of gender in cognitive conflict is an interesting question in itself, and this study points to the complexity of this issue (de Dreu & Weingart, 2003; Heemskerck, 2019; Minichilli et al., 2012; Veltrop et al., 2021). The finding that women tend to take the supporting role on issues of cognitive conflict suggests that where women feel "unsafe," they withhold and do not participate in items of cognitive conflict (Veltrop et al., 2021). It seems that women are less likely to initiate cognitive conflict and if they do participate, they do so in the supporting role. This is potentially stereotyped gendered behavior (Baxter, 2010) that supports the withholding of perspectives that bring benefits to diversity. Beyond this, there is tentative evidence that there is simply less conflict in gender-balanced boards in terms of frequency and intensity. However, this could also be down to gendered styles, as women are more likely to ask questions to get the executive to change their mind and men are more likely to oppose executive propositions (Baxter, 2010). Torchia et al. (2018) found that women increase cognitive conflict with a positive influence on firm innovation. As the value of cognitive conflict is current and contested in the literature (Veltrop et al., 2021), further research on the impact of gender on cognitive conflict would be beneficial.

Introducing the concept of status from recent research on group behavior opens up novel explanations for gender and process loss in the boardroom. Antino et al. (2019) argue that status conflict is a distinct process that sits alongside cognitive conflict and relationship conflict in groups (Jehn, 1995). Behaviors such as interruption and supportive collaboration can be interpreted as evidence of status conflict in the boardroom, as examples of actions focused on "maintaining or enhancing status positions, rather than focusing on the team task" (Antino et al., 2019, p. 1449). Beyond status conflict, Antino et al. (2019) suggest that combinations of high- and low-status characteristics, such as gender and role, can create status ambiguity, which in

itself is a barrier to the smooth operating of a group as individuals are required to make complex cognitive assessments about how the group should operate. Our findings indicate that the chair's facilitation style (Machold et al., 2011) for turn-taking impacts on whether women experience gender as status in the boardroom.

Individuals ... may differ on several dimensions that may include both high- and low-status characteristics, generating a sense of ambiguity. Such ambiguity complicates employees efforts to use salient dimensions (e.g. demographic characteristics) to classify and systemise their work context. (Antino et al., 2019, p. 1449)

Within this analysis of gender, the focus has been on the NED women's behavior compared to NED men. It is important to recognize that the boardroom is a difficult arena to have influence for men and women (e.g., Veltrop et al., 2021; Westphal & Bednar, 2005). It is also important to recognize that gender can be constructed in more ways than just man and woman and is only one minority characteristic out of many (Lau & Murnighan, 1998; Westphal & Milton, 2000). However, it also questions the ability for demographics alone to explain the gender dynamics in the boardroom. Perhaps we are asking too much of these women (Adams, 2016) and should be looking for factors that moderate for gender.

Some literature suggests that it is the gender of the board leaders that matters (Arnaboldi et al., 2020; Banerjee et al., 2020; Kanadli et al., 2018), be that the chair, the chairs of committees, or the senior independent director. However, by looking inside the black box of the board, our study suggests that leadership style is also important (Bezemer et al., 2018; Machold et al., 2011), regardless of the gender of the chair critical given how few women chairs there are. Extant literature points to a link between participative leadership styles and psychological safety that must in turn play a part in gendered dynamics in the boardroom (Veltrop et al., 2021), particularly at times of cognitive conflict. Further research would be well placed to investigate gender and the moderating role of the chair's style of facilitation in the boardroom.

## 5.3 | Implications for practice

There are practical implications for chairs and for board evaluators from this study, as even within boards operating at high standards, "human frailties" (Pye & Pettigrew, 2005, p. S36) caused by social complexity can be found. Chairs themselves need to be self-reflexive not only about who speaks and when but also about whether some voices are heard more than others and why. Holding an awareness of the different ways gender can operate in the boardroom can alert the chair to unhelpful dynamics, particularly if the women are being interrupted, as evidence of gender operating as status or diverse characteristics making it difficult for the group to function easily. In configuring the boardroom, chairs should consider the informal size of

the board, alongside the formal size, the sex of EDs appointed, as well as senior executives invited to attend the board, and the dynamics between the EDs and NEDs. Decisions on board facilitation style should be discussed and reviewed regularly as part of ongoing reflexivity to ensure they are supportive of board effectiveness. The chair and CEO together should be aware of the functional backgrounds of the men and women appointed to the board to avoid the emergence of a schism along the lines of functional background, which might be detrimental to information flows and influence. Finally, board evaluators who observe meetings and interview board directors should consider participation, access to key debates, and the need to collaborate as evidence of women being excluded from their full role, with the process loss that entails. The solution lies not only with the women themselves being more forthright but also with chair leadership responding to increased social complexity in the boardroom by creating a more inclusive board experience.

## 5.4 | Limitations

In the process of negotiating access to three boards for the purposes of this study, we acknowledge that there was an element of convenience sampling. While the boards were matched with ownership structure and being more gender balanced, other aspects of their characteristics were different, including size (Forbes & Milliken, 1999), sector (Pugliese et al., 2015), and firm lifecycle (Huse & Zattoni, 2008). It will be for others to test the findings of this study against these variables drawing from a wider dataset. The choice of state-owned firms has precedence in the literature (Schwartz-Ziv, 2017; Tremblay et al., 2016). Recent research on board minutes in Italy (Bonini & Lagasio, 2022) has shown that state-owned firms are similar to other firms in all ways, apart from having higher attendance, concluding that they are likely to be exemplars of good governance. Therefore, in terms of generalizability, we might expect these boards to be exemplars of corporate governance in having high proportions of women, adherence to corporate governance codes, and high levels of effort norms compared to boards as a whole. While we might expect generalizability to UK listed firms and countries such as Canada, Australia, and New Zealand, with similar governance systems, the different cultures or board structures might limit generalizability to other contexts such as the United States, continental Europe, and Asia.

Only three meetings each of three boards were observed and this is clearly a limitation to the data; more meetings of more boards could be compared (Machold & Farquhar, 2013). However, through the comparison of the three sampled boards, some clear patterns emerged that were strong enough to develop theory around participation and collaboration behaviors. Access is notoriously difficult to negotiate (Leblanc & Schwartz, 2007); permission was secured for this study through the chair to study dynamics. This permission did not extend to making any audio or video recordings of the meetings. Instead, the decision was taken to develop a structured observation framework to focus on turn-taking (Pugliese et al., 2015). The advantage of this was

to capture a consistent set of data across the three boardrooms that focused on actual turn-taking behavior, without getting drawn into the substance of the debate. This approach did not allow for a micro level of analysis, for example, of emotions (Brundin & Nordqvist, 2008; Liu & Maitlis, 2014), or conversational analysis (Samra-Fredericks, 2000). A video recording can be rewound and replayed countless times to ensure a consistent, clear understanding of the observed behaviors in the boardroom. Several investigators can watch the tape back together to confer and discuss the meaning of the behaviors. The data for this study were collected by the first author in the meeting, with field notes and interviews to triangulate understanding, but it is possible for errors to be present in the data. However, across the 9 board meetings, 76 agenda items, and 28 interviews, these errors should be minimized.

## 6 | CONCLUSION

Using observations and interviews of three boards beyond critical mass, this study finds important interactions between sex and job-related characteristics that add new dimensions to theory around how gender can operate on the board. It suggests that the powerful heuristic of critical mass theory has limits when you look at actual behaviors in boards, developing critical mass theory in two important ways. It suggests the need to look at the role and functional background of the women on the board, as both characteristics can affect the behavioral patterns of men and women on the board. It also suggests that a board being beyond critical mass does not ensure that gender is operating as variety and therefore delivering a diversity dividend. Where gender operates as disparity, through status, or separation, through functional background, women are not able to increase optimally the information available to the board. Also, where gender operates as combinations of high- and low-status characteristics, this can generate status ambiguity, further inhibiting the smooth functioning of the board (Antino et al., 2019). This study suggests that while demography does play an important role in shifting dynamics in the boardroom, understanding board processes in their behavioral context provides more explanatory power than relying solely on the proportion or number of women.

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### CONFLICT OF INTEREST STATEMENT

The authors declare no known conflict of interest.

### DATA AVAILABILITY STATEMENT

Data are available on request due to privacy/ethical restrictions.

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## ENDNOTE

<sup>1</sup> [www.ftsewomenleaders.com](http://www.ftsewomenleaders.com).

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