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TOO UNSAFE TO MONITOR? HOW BOARD–CEO COGNITIVE CONFLICT AND CHAIR LEADERSHIP SHAPE OUTSIDE DIRECTOR MONITORING

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Research into boards of directors has provided mixed support for the view that outside directors' independence or leadership by an independent chair improves monitoring. In this study, we use a micro-level approach to provide a better understanding of why outside directors have difficulty in monitoring the CEO. We highlight that an important reason for this lies in the boardroom dynamics associated with (a) outside directors' cognitive conflict with the CEO and (b) the chair's leadership of the board. Our inductive analyses of video observations of board meetings in five Australian corporations revealed the importance of chair participative leadership during disagreement episodes in the boardroom. Follow-up in-depth interviews of board meeting participants highlighted the importance of psychological safety as a key mechanism explaining why participative board chairs appear so effective in dealing with board–CEO cognitive conflict. We corroborate these results with a second, large-scale survey study involving data on 310 outside directors from 64 Dutch boards. Whereas prior work has mostly focused on the chair's relationship with the CEO, we instead highlight the importance of the chair's role as the leader of the board and identify board psychological safety as an important element shaping director monitoring within the confines of the boardroom.

Ever since corporations separated ownership from control (e.g., Berle & Means, 1932), directors' engagement in overseeing managerial decision-making (i.e., monitoring) has been seen as crucial for curbing managerial opportunism (Fama & Jensen, 1983; Jensen & Meckling, 1976). This monitoring role is thought to be best carried out by individuals who are free from conflicts of interest and relationships that might temper their impartiality (Daily, Dalton, & Cannella, 2003; Eisenhardt, 1989a). Thus, corporate governance theory and practice have consistently emphasized the importance of boards composed of and led by outside independent directors (Finkelstein, Hambrick, & Cannella, 2009; Gulati & Westphal, 1999). Yet, despite the intuitive appeal of outside independent directors and chairs as a remedy for the agency problem, numerous empirical studies and reviews of the field have provided no—or at best, mixed—support for the view that outside directors' independence or leadership by an independent chair improves monitoring (Boivie, Bednar, Aguilera, &

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Andrus, 2016; Dalton, Daily, Ellstrand, & Johnson, 1998).

Many scholars have suggested that these mixed results may reflect unaddressed elements of boardroom dynamics (e.g., Dalton & Dalton, 2011; Roberts, McNulty, & Stiles, 2005; Veltrop, Molleman, Hooghiemstra, & van Ees, 2017). Specifically, a board's effectiveness is conjectured to depend "heavily on social-psychological processes, particularly pertaining to group participation and interaction" (Forbes & Milliken, 1999: 492). Lorsch and MacIver (1989: 95) emphasized the scale of dysfunction when they famously described the boardroom process as "a charade of productive, problem solving . . . [in which] important issues aren't discussed openly." The need for directors to be able to "surmount the prevailing social pressures [within the board]" (Hambrick, Misangyi, & Park, 2015: 335) to effectively monitor them is reflected in Boivie et al.'s (2016) multi-theoretic review of the field. They have contended that information-processing barriers, such as dysfunctional board dynamics, suggest an "implausibility" of such monitoring (Boivie et al., 2016: 319). Yet, despite this ongoing dialogue, our understanding of the link between actual boardroom dynamics and director monitoring has been largely limited to a handful of general (albeit insightful) articles on broad aspects of boardroom dysfunction (e.g., Finkelstein & Mooney, 2003; Sonnenfeld, 2002).

In this study, we built on the idea that boardroom dynamics are crucial to directors' engagement in monitoring and brought to the fore why a key element in support of having outside directors on the board may actually help to explain why such monitoring has appeared to be so difficult. As part-timers with limited exposure to the firm, outside directors invariably bring views to the table that often differ from or run contrary to those of the CEO—a phenomenon commonly referred to as cognitive conflict (e.g., Jehn, 1995).[1] The resulting divergence of perspectives in the boardroom has traditionally been characterized as a key benefit of appointing outsiders as it increases the pressure on CEOs to explain and justify their positions on important strategic issues (Finkelstein & Mooney, 2003; Forbes & Milliken, 1999; Minichilli, Zattoni, Nielsen, & Huse, 2012). While this may be true, in reality, boards are also vulnerable to process losses, particularly during episodes of conflicting ideas and diverging viewpoints (Boivie et al., 2016; Forbes & Milliken, 1999). Within the confines of the boardroom, directors may not welcome or even respond constructively to a colleague disagreeing with management (Westphal & Khanna, 2003; Westphal & Zajac, 2013; Zhu, 2013) as this behavior can "raise eyebrows . . . [and is] an act that fellow directors might see as noncollegial, time consuming, even headache inducing" (Hambrick et al., 2015: 333). Looking at this aspect more broadly, the literature on groups has suggested that any benefit from board–CEO cognitive conflict (i.e., the total level of directors' cognitive conflict with the CEO) will not be simple and direct; instead, it will largely rely on boardroom dynamics—that is, how such conflicts are handled (de Dreu & Weingart, 2003; Deutsch, 2006; Mooney, Holahan, & Amason, 2007; Xie, Wang, & Luan, 2014).

Given the importance of managing boardroom dynamics for effective monitoring, we were prompted to reconsider several aspects of current theorizing, particularly in relation to the role of the board leader: the chair. Current research into chair leadership has concentrated on examining the chair–CEO relationship; for instance, the governance literature has generally emphasized that a good chair needs to provide an effective counter-balance to the CEO (e.g., Jensen, 1993; Krause, Semadeni, & Cannella, 2014; Lorsch & MacIver, 1989). There is also an emerging research stream that has extended our understanding of this CEO–chair relationship by concentrating on the unique contribution the chair can make as a resource for the CEO and the organization (Krause, Semadeni, & Withers, 2016; Oliver, Krause, Busenbark, & Kalm, 2018; Withers & Fitza, 2017). While these are important insights, there is little documented evidence on the chair's role as leader of the board itself, particularly on their management of board–CEO cognitive conflict.

Our guiding research questions were therefore focused on these two potentially related topics: (a) How and why does board–CEO cognitive conflict impact directors' engagement in monitoring? And (b) What role does the chair of the board—as its leader—play in shaping this relationship? The nascent nature of the topic and the breadth of questions suggested employing a mixed-methods approach to address these questions in two stages (Turner, Cardinal, & Burton, 2017). First, we conducted an inductive study involving the boards of five Australian financial institutions. We analyzed real-time

[1] In the literature, this was sometimes also referred to as task-related conflict or as professional conflict (de Wit, Jehn, & Scheepers, 2013; Jehn & Mannix, 2001). In our writing and inductive analyses, we used the terms "cognitive conflict" and "task-related disagreements."

video observations of board meetings and undertook in-depth interviews with the meeting participants to develop an understanding of how chair leadership shapes the relationship between board–CEO cognitive conflict and directors' engagement in monitoring. Next, we sought to test the propositions emerging from this stage of the research in a second quantitative study that employed multisource survey data from 310 outside directors and their CEOs serving on 64 Dutch boards.

The results yielded two key insights. First, we demonstrated that outside directors' cognitive conflict with the CEO may inhibit monitoring. We highlighted that the board's level of psychological safety appears to be a central (if underexplored) component of effective board dynamics that plays into this relationship. Psychological safety, or the "sense of confidence that the team will not embarrass, reject or punish someone for speaking up" (Edmondson, 1999: 354), is a well-researched aspect of conflict research. One of the most well-established conclusions drawn in this field is that any benefits from cognitive conflict rely on the group integrating these divergent views (Deutsch, 2006; Mooney et al., 2007; Xie et al., 2014). This appears to be particularly important for groups facing complex tasks and a limited information-processing capacity, which are the precise conditions boards of directors experience (Boivie et al., 2016; Forbes & Milliken, 1999). More pointedly, our findings indicated that outside directors serving on a board with a low psychological safety climate would see their engagement in monitoring undermined by fellow directors' negative reactions to their contrary views.

Second, our research represented a step toward an improved understanding of what the board chair, as the leader of the board, can actually do to better handle these dynamics. Whereas prior research has mostly focused on how the chair operates with and through the CEO (Krause, 2017; Krause et al., 2014), we focused on how the chair leads the board and showed that adopting a participative leadership style (i.e., appreciating and soliciting contributions from colleagues) is important for effective group dynamics (Arnold, Arad, Rhoades, & Drasgow, 2000; Lam, Huang, & Chan, 2015; Somech, 2003). Chair participative leadership attenuates the negative effect of board–CEO cognitive conflict on monitoring by facilitating a psychologically safe board climate in which directors are more appreciative of one another's views. Thus, while it has been widely accepted that outside directors need to be able to bring views to the table that run contrary to those of the CEO, this study refined our understanding of how unfavorable boardroom dynamics may undermine director monitoring and what effective chairs can do about this when leading the board. As such, we expected that a psychologically unsafe board led by a nonparticipative chair would inhibit even well-qualified and independent directors from monitoring the CEO.

STUDY 1: EXPLORING BOARD–CEO COGNITIVE CONFLICT AND CHAIR LEADERSHIP

Given the limited corporate governance research around our research questions, we employed a multi-case study approach in our first study (Eisenhardt, 1989b; Gehman, Glaser, Eisenhardt, Gioia, Langley, & Corley, 2018). This case-based, inductive approach allowed us to recognize boards as "dynamic social systems" (Lorsch, 2017: 2) with activities spanning multiple levels of analysis (Dalton & Dalton, 2011). Specifically, we could compare and contrast the micro-level board dynamics that emerged as chairs sought to deal with board–CEO conflicts. We deliberately limited this investigation to the confines of the boardroom, as that is the main arena in which directors formally discharge their duties, take decisions, and hold the CEO to account (Brennan, Kirwan, & Redmond, 2016).

To reduce the risk of institutional and organizational differences affecting our findings, we purposively sampled our cases. During 2013 and 2014, five Australian-based financial institutions (i.e., three credit unions, one superannuation fund, and one health insurance provider) approached us for board performance reviews based on recommendations following previous research in the sector. All cases (labeled Bravo, Delta, Echo, Prime, and Victor) were membership-based, financial corporations[2] subject to stringent regulatory oversight by either the Australian Prudential Regulation Authority or the Private Health Insurance Administration Council. While the organizations varied in terms of the financial services provided and the value of their managed assets, the boards were relatively similar in size (ranging from seven to 10 members), composition (all were comprised of outside directors, with one exception being Board Echo), and leadership

[2] It is worth noting that directors of membership-based corporations face the same legal requirements under the Corporations Act 2001 (e.g., fiduciary, reporting, and solvency duties) as board members of large for-profit companies in Australia do.

structure (the chair and CEO positions were always separate).

Data Collection

For each corporation we gathered two principal sources of data, namely videotaped observations of board meetings and semi-structured interviews with meeting participants. Two members of the research team were allowed to attend and videotape seven board meetings across the five organizations, resulting in over 17 hours of video footage. This included a minimum of one hour of video footage for each board, including the CEO report. The observations of each board meeting involved setting up two or three video cameras in a discrete manner, depending on the layout of the boardroom. Given the well-known challenges with live and detailed coding of socially complex and dynamic phenomena such as board meetings (Machold & Farquhar, 2013; Pugliese, Nicholson, & Bezemer, 2015), we brought the cameras into the boardroom in the belief that being able to iterate between the theory and data after the event outweighed the potential risk of influencing the meeting proceedings (see Christianson, 2018; Waller & Kaplan, 2018). In order to assess the influence of filming, we probed meeting participants afterward to gauge whether they thought that the video cameras had influenced their meetings. With only one exception,[3] the directors reported that the cameras did not alter their behavior in the boardroom. We also made it clear that any participant could ask for the filming to stop at any time. This only happened once, when one of the boards discussed a sensitive legal issue (Board Bravo, Meeting 2). Two team members were present when the cameras were off, and they did not note any discernable change in the meeting dynamics.

We also interviewed regular board meeting attendees, both directors and managers. A total of 39 outside directors, four CEOs, and one chief financial officer were interviewed by two of the researchers, either face-to-face or by phone.[4] The interviews lasted between 30 and 60 minutes. The protocol of the semi-structured interviews was initially agreed with the chairs of the boards and focused on (a) the performance of the focal board during the past year, (b) uncovering aspects of the directors' relationships with the CEO and chair, (c) the functioning of board committees, and (d) boardroom dynamics. As part of every interview, we asked probing questions around the individual director's monitoring of the CEO; that is, we asked for an evaluation of the CEO's performance by each director. Given that the interviews touched upon highly sensitive and personal issues referring to other individual directors (e.g., "To what extent did director *X* contribute to the board?" and "Are you intending to leave the board?"), we chose not to audiotape these conversations.[5] Instead, one of the interviewers acted as a scribe to record what was said. After each interview, the notes were digitized and crosschecked with the notes of the lead interviewer.

Data Analysis

We used an inductive approach that involved a series of iterations between our thick, rich data and the existing literature to develop overarching themes to drive our inquiry and generate propositions (Gehman et al., 2018; Langley, 1999). We began our analysis by reviewing the videotaped meetings to discern how directors generally engaged and interacted with the CEO and how the chairs behaved during meetings. As expected, board members generally appeared to be engaged in their monitoring activities (e.g., seeking information or clarification from the CEO). For every board, clear instances of board–CEO cognitive conflict were also apparent, typically around strategically important issues or the financial bottom line. Interestingly, there also appeared to be marked differences across the boards in terms of how chairs typically managed these conflict episodes. While several of the chairs became actively involved in neutralizing the tension and seeking the input of all the directors, others inserted themselves into the argument or remained silent. As a result, in some boards, task-related disagreements[6]

[3] On one board, a single director reported that they thought the CEO in a given meeting was quieter than usual—an observation that was not shared by their fellow directors.

[4] In each organization, at least seven meeting participants were interviewed to make sure we obtained a comprehensive overview of the dynamics for every board.

[5] At times, throughout the interviews, the directors asked us to put down our pens and not take any notes. While confidentiality agreements do not allow us to disclose any of the content, these narratives helped us to understand boardroom realities better. Instances in which directors described governance incidents, conflicts, and their thoughts and emotions during board meetings particularly helped us to interpret that board's social context.

[6] For clarity of writing, we also used the term (task-related) "disagreement" to refer to cognitive conflict in our inductive analysis.

with the CEO appeared to unfold in a relatively productive and open way, while in others, the exchanges were tense and heated, resulting in quarreling among directors and oftentimes no clear resolution.

As a next step in the analysis, we isolated and focused on the episodes of conflict in the boardroom. First, we reexamined the video footage, flagging all significant instances in which one or more directors had a task-related disagreement with the CEO. Across the boards, we identified 16 episodes of substantial disagreement (i.e., incidents that lasted at least 60 seconds). Each substantial episode lasted an average of eight minutes and 20 seconds.[7] We then mapped out how each episode had unfolded by creating narratives around (a) what the disagreement was about, (b) who was involved in the discussion, (c) what particular behaviors were displayed by the CEO and chair, and (d) the extent to which it triggered other directors to become involved and seek further information from the CEO. Open coding of the narratives highlighted that the disagreement episodes not only varied in intensity, but that the boardroom behaviors did as well. What was most noticeable was the wide variation in chair responses and the extent to which directors sought further information from the CEO during these episodes. We therefore inductively and iteratively developed coding classifications around these differences (see the Appendix, Table A1, for details on the codes and examples from the observations). Finally, pattern matching (Langley, 1999) was used to generate our first proposition around the combined influence of board–CEO cognitive conflict and board chair leadership on director monitoring.

Since process data are not always able to identify specific underlying mechanisms (Langley, 1999), we next analyzed the individual interview data to compare our insights with the participants' experiences of their board meetings (Gioia, Corley, & Hamilton, 2013). First, we flagged all quotes depicting instances of either (a) directors' disagreements with the CEO, (b) board chair leadership, or (c) director monitoring. The general tone of the participant quotes was neutral to positive (e.g., "There is good robust debate" [Board Echo, D2] and "I am impressed by the contribution of other directors; everyone participates and asks questions" [Board Bravo, D3]). There were, however, a noticeable number of references highlighting that the boardroom can be a challenging context for individual directors raising issues. Participants used visceral words such as "intimidating," "bruised," "sharpness," "uncomfortable," "tension," "heated," and "spanking" to describe their experiences. Second, in an attempt to understand these experiences better, we then focused our analysis on the social context in which board–CEO disagreement and director monitoring occurred and used open coding techniques to assign first-order categories to statements with similar themes. For example, a quote explaining that "the process of presenting papers is very collaborative, allowing each director to have a say" (Board Prime, D1) was grouped with a statement highlighting that "no one is scared to ask something or to challenge . . . [because] there is a no-dumb-question approach" (Board Bravo, D7). After several iterations, we identified aggregate codes that captured how a board's safety climate appeared to play a key mediating role in the earlier proposed relationship, resulting in a refinement of our original proposition (further detailed in the following sections).

Finding 1: The Role of Chair Leadership in Handling Board–CEO Disagreement Episodes

Consistent with prior corporate governance research and recommendations from practice (Dalton, Hitt, Certo, & Dalton, 2007; Fama & Jensen, 1983; Finkelstein et al., 2009), the analysis of the video data highlighted substantial task-related disagreements between the CEOs and outside directors. Across the five boards, the topics raising disagreement varied widely, ranging from differences around the strategic direction of the organization and drivers of financial (under)performance to the organizing of the board–management interface and operational issues. As one would expect, the intensity of these disagreements varied from implicit to explicit continuous dissension with the CEO. The overall pattern emerging from the disagreement episodes indicated that (a) board–CEO disagreement can undermine director information seeking from the CEO and (b) this is more likely when participative chair leadership is low (see the Appendix, Table A2, for a detailed overview of the observed patterns).

A clear pattern that emerged from the data was that quite a number of the more intense disagreements appeared to foster unproductive boardroom dynamics; that is, board members visibly withdrew from the conversation, criticized each other, talked

[7] An episode of board–CEO disagreement was considered finished once the board moved on either to the next topic or next item on the agenda. Each of the boards had at least two such episodes.

over each other, and did not engage with or seek any further information from the CEO. Directors on Boards Delta and Echo appeared particularly susceptible to these negative dynamics. Episode E2 at Board Echo provided a good example. In this case, the chair disagreed with the CEO's explanation of the disappointing financial results. The resulting discussion was chaotic, with substantial arguing taking place among the directors and limited engagement with the CEO. Toward the end of the episode, the CEO and directors were still misaligned; two directors visibly withdrew from the discussion, and the issue remained undecided after nearly 30 minutes of debate. In contrast, directors on Boards Bravo, Prime, and Victor appeared to discuss and work through disagreements with their CEOs in a more constructive manner; that is, the directors continued to engage with their CEOs in attempts to assess and understand the matter at hand. Episode B3 at Board Bravo provided an example of positive boardroom dynamics. In this case, board–CEO disagreement arose from the CEO's controversial endorsement of appointing consultant *X* for an important future strategic decision. All directors participated in the 24-minute episode, and the discussion iterated between the directors and the CEO, with both sides listening to each other before the board and the CEO finally agreed on a course of action.

The governance literature has generally suggested that cognitive conflict aids monitoring by requiring CEOs to explain and justify their positions on strategic and operational issues (Finkelstein & Mooney, 2003; Forbes & Milliken, 1999). In contrast, the evidence from these episodes suggests that board–CEO cognitive conflict may, under certain conditions, actually impede directors from having a rigorous discussion with the CEO. In some instances, board–CEO cognitive conflict appeared to spiral into boardroom dysfunction with multiple directors disagreeing with the CEO and generally finding it difficult to actually engage with the CEO. While we agree that outside directors may be more likely to challenge CEO decision-making (McDonald, Westphal, & Graebner, 2008), our initial findings tentatively suggested that this may not necessarily translate into more effective monitoring. While this might, in part, have been because directors find it hard to compromise on their oftentimes strongly held views (Amason, 1996; Samba, Van Knippenberg, & Miller, 2018), the evidence from these boardroom observations also suggested that boards comprised of outside directors appear to be quite susceptible to process losses (Boivie et al., 2016; Forbes & Milliken, 1999).

While we recognize the danger in assuming a generalized relationship based on episodic process data (Langley, 1999), research into small groups has similarly suggested that cognitive conflict can be harmful if it obstructs communication and the group's ability to act collectively (Amason & Sapienza, 1997; de Wit, Greer, & Jehn, 2012; de Wit, Jehn, & Scheepers, 2013). In particular, cognitive conflict does not necessarily lead to in-depth discussions for groups engaged in complex decision-making tasks; instead, the contestation over ideas can actually divert cognitive resources away from productive problem solving (de Dreu & Weingart, 2003). At its worst, this diversion can deteriorate into dysfunctional dynamics that obstruct information processing and prevent reaching a consensus on the issue (Amason & Schweiger, 1994; Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012; de Wit et al., 2013). As boards recurrently face these conditions, it is not surprising that we did see a number of these conflicts result in difficult boardroom dynamics.

The subsequent analysis aimed at exploring why and when such dysfunctional dynamics occurred pointed to differences across the five boards in how chairs responded to and managed board–CEO disagreement. In the cases with lower CEO monitoring, the board chair either provided limited guidance when working through board disagreements with the CEO (Board Delta) or took center stage and dominated the discussion by interrupting, shutting down, or ignoring the contributions of other directors (Board Echo). In both instances, the chair's lack of facilitation appeared to exacerbate the negative dynamics unfolding (i.e., directors were less engaged in seeking information or clarification from the CEO and withdrew from boardroom deliberations). In contrast, in the positive cases (i.e., Boards Bravo, Prime, and Victor), the chair actively solicited contributions from fellow directors and summarized the various views while initially withholding their own view. The directors not only responded more constructively toward one another but were also more engaged with the CEO in trying to gather information to understand the issue at hand. As such, the chairs of Boards Bravo, Prime, and Victor appeared to "neutralize" the negative impact of board–CEO disagreement by setting the stage for directors to participate in a joint, collaborative, and more pointed discussion with the CEO.

The interviews corroborated this pattern. A Board Bravo director, for instance, made the following remark

> what I have experienced is that [in our board] people will speak up, particularly when it comes to substantial

> issues. Everyone can contribute. The chair goes "round" if necessary. Particularly when there is disagreement or tension, [the chair] makes a round. Typical way of dealing with it. (Board Bravo, D8)

A director from Board Victor hinted at similar dynamics by noting that "none of us [the directors] are wallflowers, but it is the chairing that makes a difference. People are looking for or sensing comments. Chair engages specific individuals by name" (Board Victor, D5). In Board Prime, a director highlighted that theirs "is a very good chair. Facilitates without trying to dominate" (Board Prime, D9). The directors' experiences on Boards Delta and Echo (the boards that had the most intense disagreements with the CEO) pointed to a very different dynamic. A director on Board Delta remarked that "the chair does not tend to engage a lot. Never quite sure what [they are] thinking. Quiet chair. Have seen better ones" (Board Delta, D3). This seemed to signal the importance of the chair actively facilitating the board rather than simply remaining in the background—a behavior that appeared to be as detrimental as a chair taking over the discussion. On Board Echo, the directors were most explicit about the lack of facilitative leadership they had experienced, with one board member opining that "the chair is a bulldozer. Have an affection for [them], but [they are] a bulldozer. The chair talks until [they get their] own way" (Board Echo, D7).

While we again need to be careful about the generalizability of the insights emerging from our episodic and interview evidence, these observations suggested that the board chair's facilitative leadership is an important boundary condition regarding the expectation in the governance literature that cognitive conflict will result in higher levels of monitoring (e.g., Finkelstein & Mooney, 2003; Forbes & Milliken, 1999; Minichilli et al., 2012). While there may be clear advantages to having an independent chair taking center stage vis-à-vis the CEO (Jensen, 1993; Tuggle, Sirmon, Reutzel, & Bierman, 2010), our inductive analysis suggested that such an approach may result in a boardroom environment that can actually limit directors' engagement in monitoring CEO decision-making because it undermines their engagement in terms of seeking information from the CEO. Instead, chairs taking a step back, soliciting contributions, and supporting other directors who speak up would appear to be a more effective style when leading boardroom discussions. These chair behaviors closely align with the concept of participative leadership, which has generally been defined as the active sharing of influence in decision-making by soliciting contributions (Arnold et al., 2000; Lam et al., 2015; Somech, 2003) and involves considering group members' suggestions and solving problems through consultation and joint discussion (Buengeler, Homan, & Voelpel, 2016). Indeed, group research has demonstrated that leaders play an important role in effectively managing conflict (Bradley, Anderson, Baur, & Klotz, 2015; Bradley et al., 2012) and that more dominant discussion-management tactics may undermine a group's ability to work together effectively (Simons & Peterson, 2000; Weingart, Behfar, Bendersky, Todorova & Jehn, 2015).

The observation that chair participative leadership is important for effective monitoring supports emerging research that has emphasized the role of the chair as the leader of the board. Interestingly, Krause (2017) hinted at the importance of this leadership role when he referred to insights from boards themselves. For instance, Margaret Whitman, CEO of Hewlett-Packard Inc. and chair of Hewlett-Packard Enterprise, explains that "the chairman is not there to run the company. The chairman [role] is to help the *board be productive*" (Whitman, 2015, as cited in Krause, 2017: 697, emphasis added). Similarly, in his study of directors and board chairs from 31 countries, Shekshnia (2018) noted that most successful chairs have learned not to jump in with answers or to try to call the shots. When asked to describe chair behaviors that led to productive board sessions, those surveyed offered answers such as "restrained," "nondomineering," and "leaving room for others." As one director quoted by Shekshnia (2018: 98) put it: "If you want to occupy center-stage, look for another job. Great chairs create conditions that allow other people to shine." Similarly, a chair explained: "Initially, I would always try to look for the best solution to the problem myself . . . rather than organizing a group discussion. Later I realized that it puts some directors off and limits opportunities for collective exploration" (Shekshnia, 2018: 98). Although facilitative board chairs are common in practice, this view is not reflected in the longstanding research on what exactly constitutes effective chair leadership.

This is an important issue as it fundamentally recasts what constitutes effective chair leadership during board meetings. It appears that effective chair leadership is more nuanced than the extant governance literature would suggest. While independent board chairs face the challenge of counterbalancing the CEO, they simultaneously have to foster an environment that engages the full potential of all outside directors on the board. The pattern of board

dynamics emerging from observation and interview data suggests that effective chair leadership mitigates the negative effects of cognitive conflict with the CEO. Specifically, when faced with high levels of board–CEO cognitive conflict, the participative leadership actions of the board chair play an important role in providing a context that facilitates directors' continued engagement in monitoring the CEO. We therefore propose that:

Proposition 1. Chair participative leadership moderates the relationship between board–CEO cognitive conflict and directors' engagement in monitoring such that the relationship is less negative at higher values of chair participative leadership.

Finding 2: Exploring the Mechanisms Underlying the Influence of Board Chair Leadership

We next sought to explore the mechanisms by which the chair participative leadership style relieves the negative effects of board–CEO cognitive conflict on directors' engagement in monitoring. The analysis of the recorded interview data highlighted strong differences across the five boards in terms of how directors experienced their boardroom's climate. The directors of Boards Bravo, Prime, and Victor often described their climate in positive terms, highlighting that there was "great comradery, banter, and a bit [of] fun" (Board Bravo, D2), where "disagreements are constructive . . . [and] there is no censure of views" (Board Prime, D4), and "no one is scared to ask something or to challenge" (Board Bravo, D7). In contrast, the directors of Boards Delta and Echo were more critical of the atmosphere in their boardrooms, highlighting that "invariably [meetings] disintegrate into something nasty; at least we've stopped swearing in meetings" (Board Echo, D1), "directors should not feel intimidated" (Board Echo, D2), and "no one wants to really raise things" (Board Delta, D1). The directors of these two boards more often used terms such as "intimidating," "bruised," "sharpness," and "uncomfortable" to illustrate the difficulties they faced while executing their director role.

Consistent with our previous insights, the directors regularly pointed out the important role of the board chair in facilitating a positive boardroom climate, particularly when directors brought views to the table that diverged with those of the CEO. In Boards Bravo, Prime, and Victor, the directors often used terms such as "collaboration," "encouragement," and "appreciating differences" to characterize the chair's leadership, resulting in a context in which "everyone can have a say, no one gets shut down. There are strong characters, but they don't try and take over. There is an overarching sense of humility, they listen, they ask the hard questions, but there is no one-upmanship" (Board Bravo, D6). Similarly, a director from Board Prime described the role the board chair played in encouraging balanced contributions and developing an atmosphere in which all views were welcomed as follows:

> Our first chair after the restructuring brought proprietary to all. (S)he set up a succession plan and was very careful in terms of the operation of the board. His/her focus was on good governance, practice, and policies, and getting everyone's views at the board table. [Name] has now taken over. (S)he understands the character of the board, has been very disciplined, and has continued this set of practices. (Board Prime, D10)

In contrast, the directors on Boards Delta and Echo were less enamored with how their chairs led boardroom discussions, in the sense that on these boards, the chairs often failed to create an environment that facilitated constructive disagreement. In Board Delta, one director, for example, commented that learning "how to defuse conflict would be beneficial . . . [as there is] not a lot of confidence to deal with thorny issues" (Board Delta, D1). Another board member noted that directors "could do more probing, delving" (Board Delta, D2), reiterating concerns with the chair's leadership and the board's atmosphere since it was difficult for individual directors to seek information and monitor the CEO. Board Echo's directors similarly highlighted how the absence of a clear, chair-led mechanism to include the views of all meeting participants created a difficult context for them to effectively monitor the CEO. One director commented that

> trying to get a word [in] is sometimes difficult. We have some very strong personalities on the board. And I had to throw my pen in the air at some point and had to lift my hand, I want to say something. We are good at interrupting other people, and I find that really quite frustrating. (Board Echo, D6)

Another board member worried "about the emotional toll" of the board's climate (Board Echo, D1), and several other directors indicated their intention to leave at the end of their current term.

Whereas the interview data generally reinforced the important role the chair plays when directors disagree with the CEO, they also provided a more

in-depth understanding of how directors themselves experience these dynamics. Interestingly, when the chair engages in participative leadership, it helps to structure the discussions but also signals that each director's contribution and views will be taken seriously and will not be rejected out of hand. As such, in dealing with board–CEO disagreement, these participative chair behaviors appear to create an environment in which directors are more likely to see merit in and appreciate one another's views. This notion closely mirrors the construct of a psychological safety climate derived from group research, which has generally been defined as "the sense of confidence that the team will not embarrass, reject or punish someone for speaking up," thereby capturing the shared belief that group members respond constructively to the issues that are raised (Edmondson, 1999: 354). It is important to note that psychological safety is distinct from more commonly studied board properties such as cohesion (Forbes & Milliken, 1999), defined as team members' commitment to the task and each other (Beal, Cohen, Burke, & McLendon, 2003), in that it welcomes rather than discourages cognitive conflict (Bradley et al., 2012).

Thus, the analysis of the qualitative data aligned with one of the most well-founded research insights from the group conflict literature: cognitive conflict undermines decision-making when the group is incapable of adequately reflecting on and integrating divergent views brought to the table (de Dreu & Weingart, 2003; de Wit et al., 2012; Gamero, González-Romá, & Peiró, 2008; Gardner, Gino, & Staats, 2012; Mooney et al., 2007). It is then important to realize that in a psychologically unsafe environment, group members are generally less open to considering alternative views (Bradley et al., 2012; Li, Li, Guo, Li, & Harris, 2018; Salazar, Lant, Fiore, & Salas, 2012). Our boardroom observations showed that if left unfacilitated, board–CEO cognitive conflict resulted in discussions in which the directors spent their time critiquing and reacting to fellow directors' critiques rather than using the divergence to explore the issue at hand (Jiang, Hu, Wang, & Jiang, 2019; Nembhard & Edmondson, 2006; Siemsen, Roth, Balasubramanian, & Anand, 2009). In demonstrating this effect, the findings resonated with the work of Hambrick, Werder, and Zajac (2008: 384), who noted that "although . . . barriers [within boards] to open discussion are known to occur, there is a lack of insight as to how these barriers can be overcome and how open discussion cultures can be fostered." Similarly, Boivie et al. (2016) indicated the importance of information-processing barriers within boards. Thus, the inductive analyses pointed us in the direction of board psychological safety as a core, but underexplored, mechanism that explains why it appears to be so difficult for outside directors to engage in forthright dialogue with and monitor the CEO.

Interestingly, when Edmondson (1999: 356) first coined the phrase "psychological safety," she noted that "if the leader is supportive . . . and has nondefensive responses to questions and challenges, members are likely to conclude that the team constitutes a safe environment." Since then, group research has generally corroborated this connection between supportive leadership and psychological safety (Nembhard & Edmondson, 2006; Walumbwa & Schaubroeck, 2009). Studies have highlighted that individuals within teams are very much attuned to the behaviors of team leaders and look to them for information about what is acceptable in group interactions (Liu, Hu, Li, Wang, & Lin, 2014; see also Bandura, 1977). By observing how leaders recognize the importance of others' ideas, members come to appreciate divergent views and show appreciation and support when fellow members contribute to discussions (Owens & Hekman, 2016). Thus, particularly when dealing with CEO cognitive conflict, chairs who engage in participative leadership do more than simply structure the boardroom discussion; they signal that the boardroom environment is open to directors' divergent views and that fellow directors should pay respectful consideration to such views. This can be contrasted with a domineering chair who either ignores or rejects individual directors or signals the irrelevancy of views brought to the table within the board. This explains why a board led by a participative chair appears better equipped to deal constructively with board–CEO cognitive conflict by ensuring that it does not undermine board psychological safety (Edmondson, 2004; Kark & Carmeli, 2009; Walumbwa & Schaubroeck, 2009). Arguably, these effects may even be more profound within boards with directors that are subject to higher scrutiny and performance expectations (Harrison, Boivie, Sharp, & Gentry, 2018). Therefore, we propose the following:

Proposition 2. Chair participative leadership moderates the relationship between board–CEO cognitive conflict and board psychological safety climate such that the relationship is less negative at higher values of chair participative leadership.

While we could not fully rule out other mechanisms at play that may explain why participative chairs appear so effective in dealing with board–CEO

cognitive conflict, especially in complex social systems such as boards (Lorsch, 2017), our inductive analyses pointed to the psychological safety climate as a key mechanism for directors' engagement in monitoring. As noted, a board with a psychologically unsafe climate would be one in which directors neither tolerate error nor constructively respond to one another when disagreeing with CEO decision-making (Edmondson, 1999; Roussin, MacLean, & Rudolph, 2016). It is hard to imagine how such a board dynamic would facilitate directors' engagement in monitoring the CEO. Then, if board psychological safety indeed acts as the mechanism that explains why participative chair leadership mitigates the negative impact of board–CEO cognitive conflict on directors' engagement in monitoring, we can also postulate the following:

Proposition 3. Chair participative leadership moderates the indirect effect of board–CEO cognitive conflict on directors' engagement in monitoring through board psychological safety climate such that this indirect effect is less negative when chair participative leadership is high.

Summary of Qualitative Findings and Limitations

In conclusion, these qualitative findings suggested that directors are influenced by the boardroom climate in which they carry out their monitoring duties. Specifically, high levels of board–CEO cognitive conflict appeared to undermine directors' monitoring when the board was led by a nonparticipative chair. Although these results were strongly grounded in observations from videotaped board meetings and interviews, our investigation was subject to several limitations, making our qualitative findings better suited to theory building than to empirical validation (Parker & Northcott, 2016). First, given the presence of video cameras and members of the research team during the board meetings, we could not rule out the possibility that our presence affected the directors' behaviors and board dynamics, notwithstanding our best efforts to limit any potential interference. Second, our findings relied (in part) on the directors' own recollections and sensemaking of board dynamics and fellow directors' behaviors, thus raising the need to further test the emerging relationships with alternative sources of data. Third, given that our focus was on specific episodes of board–CEO disagreement, the inductive analyses were unable to show to what extent the observed relationships are generalizable beyond these observed episodes (Langley, 1999). While the literature has suggested that the insights emerging from our episode analysis were likely generalizable, further quantitative testing is needed to corroborate this. Fourth, given our participants were all from Australian-based financial institutions, we wanted to examine whether our results would hold in a different setting. Thus, we sought to strengthen these conclusions with a second large-scale quantitative study to formally test the proposed relationships with alternative data drawn from a different institutional context.

STUDY 2: THEORY TESTING

To close the loop in this full-cycle research (Chatman & Flynn, 2005; Grant, Berg, & Cable, 2014) and address the limitations of Study 1, we designed a second study to test the propositions developed from the boardroom observations and in-depth interviews. As part of an ongoing research project, we used a web-based tool developed for boards of Dutch corporations to participate in research and receive feedback on their functioning. This allowed us to test the three propositions in a different institutional setting, thus alleviating concerns regarding the external validity of our conceptual model and findings derived from an Australian context. In general, Dutch corporations have a two-tier structure in which the management board (which includes the CEO) is formally separated from the supervisory board (comprising of outside directors). The tasks of the members of a supervisory board are, however, very similar to the tasks of outside directors within a one-tier structure (e.g., Bezemer, Peij, de Kruijs, & Maassen, 2014; Veltrop, Molleman, Hooghiemstra, & van Ees, 2018). For the sake of parsimony, we refer to supervisory board members as outside directors because they are independent of management and are not full-time employees of the firm (further details on the procedure and the sample are included below).

Sample and Data Gathering

Gaining access to directors is one of the most challenging aspects of researching boards (Leblanc & Schwartz, 2007; Westphal & Stern, 2007). We stimulated participation by offering boards feedback that could be used as input for their annual board self-evaluations. Boards voluntarily enrolled in a web-based tool to participate in the research and receive feedback on their functioning. To achieve this, we were supported by a number of prominent governance experts in the Netherlands, including the

chair of the Dutch Corporate Governance Code Committee, journalists from a Dutch financial newspaper (*Het Financieele Dagblad*), and several Dutch executive and nonexecutive director associations (e.g., VTW, NVTZ, Het Nationaal Register, and NCD), who brought the tool to the attention of directors via newsletters or on their websites.

We took three key steps to maximize the CEOs' and directors' participation. First, when a board enrolled in the research, we set a participation deadline. Second, we asked each board to appoint an individual (usually the company secretary or the secretary of the board) to coordinate the research response by sending out individual reminders to directors via the web-based tool. Finally, in the week preceding the deadline, we sent a reminder via email to each director. The participation agreement ensured the participants that we would maintain the confidentiality of their responses and that only the researchers would be able to match the responses to individual directors (Westphal & Stern, 2007). The CEOs and outside directors received a unique personal access code to complete the survey and to log in to a secure website through which respondents rated their fellow directors and answered questions about themselves. All CEOs (who were asked to rate aspects of individual directors' behaviors) were also assured of absolute confidentiality; their specific answers would not be made available to outside directors under any circumstances.[8] In total, 70 organizations, each with one CEO, and 367 outside directors agreed to participate.

From this initial sample, 352 outside directors (96%) and 66 CEOs (94%) completed the survey. To limit common source bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003),[9] we utilized two rating sources: outside directors provided ratings on their cognitive conflict with the CEO, the board's psychological safety climate, and chair participative leadership; and the CEOs were asked to rate individual directors' engagement in CEO monitoring. We retained outside directors and CEOs in the sample if they provided valid responses (e.g., no missing data for any relevant dimension of the main constructs). This resulted in a final sample of 64 organizations (91%) in which (a) at least two outside directors provided valid responses on CEO cognitive conflict, psychological safety, and chair participative leadership; and (b) the CEO rated monitoring engagement for 310 outside directors (84%) at the individual level. For these 64 organizations, an average of 5.11 outside directors responded per organization.[10]

Of the 310 participating outside directors, 31.6% were female, their average age was 55.5 years old (SD = 9.0), their average board tenure was 3.5 years (SD = 2.3), and 11% held a formal certified public accountant (CPA) or certified financial controller (CFC) qualification. To assess the representativeness of the directors included in the final sample, we compared the characteristics of the responding outside directors (n = 310 respondents) to the nonresponding directors who were not included in the final sample (n = 57 nonresponding). Consistent with Westphal and Bednar (2005), for instance, we used the Kolmogorov–Smirnov two-sample test alongside standard F-test statistics. Neither the F-test nor the Kolmogorov–Smirnov test indicated any statistically significant differences between the subsets of directors in terms of director age, gender, tenure, or chair position.

[8] In the Dutch two-tier structure in which the management board is formally separated from the supervisory board, executives are generally present during (supervisory) board meetings, with the exception of the formal yearly evaluation of the management board as highlighted in the Dutch Corporate Governance Code (2016, Principle 2.2.7).

[9] It is important to note that Siemsen, Roth, and Oliveira (2010) formally derived that common source variance can only deflate, but not inflate, estimated interaction effects (see also Podsakoff, MacKenzie, & Podsakoff, 2012).

[10] In our study, boards signed themselves up to participate in the research. This made it very difficult to compare responding to nonresponding firms or boards. As we did not have access to the full underlying population data, we could not absolutely determine whether the participating corporations were representative of the population of Dutch organizations. However, we carried out additional analyses to reduce this concern. First, we compared the participating corporations with a stratified sample of Dutch corporations. We randomly selected 500 corporations across the different industries (based on the two-digit SBI industry codes, which is the Dutch equivalent to the SIC industry classification), ensuring that the weights of the separate industries were proportionate to the industries in our sample (i.e., proportionate stratified sampling). This allowed us to test whether corporations in our sample were representative across the industries. We used the Kolmogorov–Smirnov two-sample test alongside standard F-test statistics. Neither the F-test nor the Kolmogorov–Smirnov test indicated any statistically significant differences between the participating and nonparticipating corporations for our sample in terms of size (measured as total assets), operating performance (measured as return on assets [ROA]), and overall profitability (measured as net income).

Measures

Director monitoring. To assess the directors' engagement in monitoring, we employed three items from McDonald, Khanna, and Westphal (2008) that specifically reflect directors' monitoring behaviors (see also McDonald & Westphal, 2010; Westphal, 1999) and adapted these items to the individual director level. The CEOs rated the dimensions of director monitoring for each director. The following items were used to capture directors' engagement in monitoring: "To what extent does [name of the director] seek information from top management for the purpose of evaluating the performance of top management?", "To what extent does [name of the director] monitor top management strategic decision-making?" and "To what extent is [name of the director] involved in formally evaluating top management?" For these items, the "name of the director" was replaced by the name and surname of the focal director to be rated. These three items were measured on a seven-point scale (1 = *minimally*; 7 = *very much so*). The Cronbach's α score was .76.

Board–CEO cognitive conflict. Board–CEO cognitive conflict reflects the overall level of cognitive conflict between directors and the CEO; it has its origin at individual director's level of cognitive conflict with the CEO. We adapted two items from Jehn (1995) and Jehn and Mannix (2001) to reflect directors' cognitive conflict with the CEO. Specifically, directors rated the following items: "How often do you have conflict of ideas with the CEO?" and "How often do you have task-related disagreements with the CEO?" (1 = *never*; 7 = *always*). The Cronbach's α score was .76.

Chair participative leadership. The directors rated the participative leadership of the chair through six survey items following Arnold et al. (2000). These items were adapted by Huang, Iun, Liu, and Gong (2010) and used to measure leaders' participative leadership (see also Lam et al., 2015), for example: "The chair listens to directors' ideas and suggestions" and "The chair gives all directors a chance to voice their opinions" (1 = *strongly disagree*; 7 = *strongly agree*). The Cronbach's α score was .85.

Board psychological safety. Directors also provided ratings on board psychological safety using an adapted version of Edmondson's (1999) measure of team psychological safety. We modified the original referent category for the five items by replacing the word "team" with "supervisory board," for example: "If you make a mistake on this supervisory board, it is often held against you" (reverse scored), "Members of this supervisory board are able to bring up problems and tough issues," and "It is safe to express views within this supervisory board" (1 = *strongly disagree*; 7 = *strongly agree*). The Cronbach's α score was .78.

Next, we conducted confirmatory factor analyses to establish whether board–CEO cognitive conflict, chair participative leadership, and board psychological safety captured distinct concepts. The results showed that the hypothesized measurement model in which the items loaded separately onto board–CEO cognitive conflict, chair participative leadership, and board psychological safety provided an adequate fit ($\chi^2 = 131.32$, $p < .01$, CFI = 0.96, RMSEA = 0.06) and a significantly better fit than any alternative two-factor or one-factor models.

Ratings for CEO cognitive conflict, psychological safety, and chair participative leadership were then aggregated to the board level.[11] To assess whether the director ratings within a particular board were more similar to one another in comparison to ratings from directors from other boards, we calculated the intraclass correlation coefficients (Bliese, 2000). A one-way analysis of variance suggested that the ratings differed significantly between boards for board–CEO cognitive conflict (ICC1 = 0.18, $p < .01$), chair participative leadership (ICC1 = 0.13, $p < .01$), and board psychological safety (ICC1 = 0.17, $p < .01$). Furthermore, to assess the extent to which aggregation was justified, we calculated James, Demaree, and Wolf's (1984, 1993) average interagreement coefficient for multi-item indices (rwg [j]). Compared with a heavily skewed distribution (cf. LeBreton & Senter, 2008), the median rwg (j) values for board–CEO cognitive conflict (0.86), chair participative leadership (0.81), and board psychological safety (0.94) were indicative of sufficient agreement to justify aggregation of individual-level ratings to the board level.[12]

[11] When aggregating to the board level, we excluded the chair's rating, because the chair would otherwise be rating their own leadership behavior.

[12] Whereas board psychological safety climate and chair participative leadership are compositional constructs that emerge from directors' shared perceptions on a board-level property, board–CEO cognitive conflict is a "compilation" construct (cf. Kozlowski & Klein, 2000) that emerges "bottom-up" from individual directors' cognitive conflict with the CEO. Whereas convergence is not required for compilation-based emergence (e.g., individual directors do not necessarily have the same level of cognitive conflict with the CEO), individual directors within the same board do experience similar levels of cognitive conflict with a focal CEO.

Control variables. We included a number of control variables both at the board and individual director level to increase estimation precision and minimize the risk of omitted correlated variables. Board size (*board size*) was expected to jointly affect director monitoring behaviors by reducing directors' participation opportunities (cf. Lam et al., 2015) as well as psychological safety because both are based on group contextual characteristics such as group size (Edmondson & Lei, 2014). We controlled for company performance by using return on assets (*ROA*) computed in the fiscal year ending just before the completion of the survey; low performance may increase the directors' proclivity to monitor their CEO (Bushman & Smith, 2001). Consistent with prior board research, we controlled for the size of the company by employing total assets (*tot_assets)* in the fiscal year ending before the survey. Last, we controlled for the availability of information (*board_info)* by employing three survey items: "Directors *timely* receive the information prior to the board meeting," "The right information is available to make informed decisions," and "The agenda is provided with the necessary underlying documents" (1 = *strongly disagree*; 7 = *strongly agree*). The Cronbach's α score was .77. A one-way analysis of variance suggested that the ratings differed significantly between boards (ICC1 = 0.18, $p < .01$) and the median rwg (j) compared with a highly skewed distribution was 0.92.

We also included a series of covariates capturing director-level characteristics and controls for both personal and professional characteristics of the board members (e.g., director's position as the chair of the board, gender, tenure, age, education, and skills) because these may influence individual-level engagement in monitoring (Van der Vegt & Bunderson, 2005; Veltrop et al., 2018). Information on director tenure and age was obtained from the annual reports of the corporation in combination with additional information from the Dutch Chamber of Commerce. Tenure (*tenure)* and age (*age)* were both measured in years. Information on director gender was provided by the organizations themselves since this information was necessary to enable the CEO to rate each focal director by name. We inferred whether the director was female by the name (*female)*. We also collected information on the directors' backgrounds from the annual reports and online sources (e.g., company websites, press releases, and LinkedIn). Specifically, we coded directors as financially literate (1) if they had obtained a CPA or CFC diploma or not (0) (*fin_expert*). The descriptive statistics and the correlation analysis are presented in Table 1.

Analyses and Model Estimation

We employed multilevel analyses to test our propositions (Koopmann, Lanaj, Wang, Zhou & Shi, 2016; Pollack, Vanepps, & Hayes, 2012; Yu & Zellmer-Bruhn, 2018). The hypothesized relationships were tested in a regression-based framework using Stata 15.[13] Specifically, our empirical model featured a board-level predictor—board–CEO cognitive conflict (level 2), a board-level mediator—board psychological safety climate (level 2), a board-level moderator—chair participative leadership (level 2), and a director-level dependent variable—director monitoring (level 1). Our propositions could be empirically examined as a multilevel 2–2–1 model (i.e., a first-stage moderation model) (Edwards & Lambert, 2007; Preacher, Rucker, & Hayes, 2007). This approach allowed for an estimation of variation in average outside directors' behaviors due to changes in board-level variables, accounting for individual-level covariates (LoPilato & Vandenberg, 2015). To estimate and probe confidence intervals for the coefficients, we used a bootstrapping technique with 10,000 replications to infer the stability of the direct, indirect, and conditional indirect effects. Following Aiken and West's (1991) recommendations, we mean-centered the variables before computing the interaction terms. A representation of the analytical approach employed—using path modeling (Pollack et al., 2012)—is shown in Figure 1.

STUDY 2: FINDINGS

Our first proposition suggested a moderation effect of chair participative leadership on the relationship between board–CEO cognitive conflict and director monitoring. Model 1 (Table 2) revealed that the relationship was indeed moderated by chair participative leadership, with the interaction term (a3) being positive and statistically significant (β = 1.25;

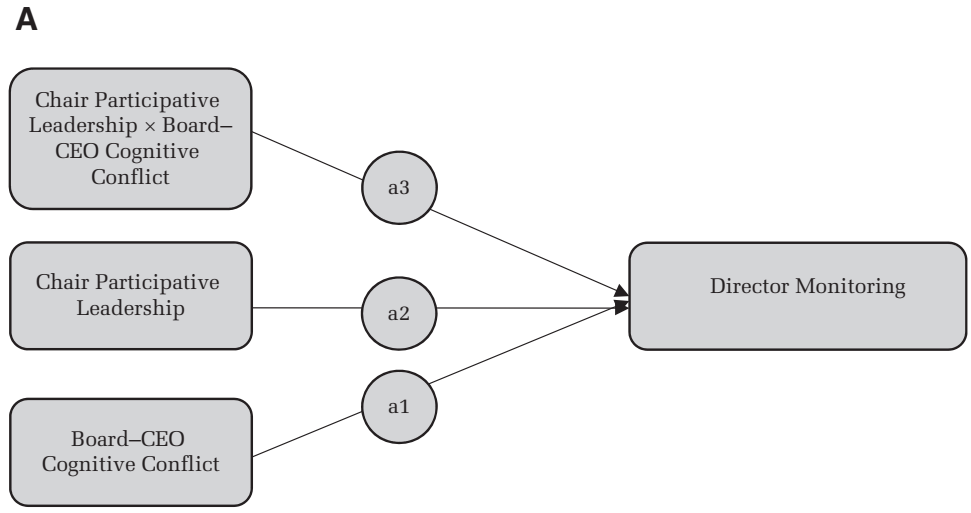
[13] The Stata command was *gsem* (*gsem* (MV < - IV + Controls) (DV < - MV + IV + Controls M1[org_id]) together with the *nlcom* and *bootstrap* routines to test for indirect effects. Identical results are obtained when estimating the models as separate standalone models using the *xtmixed* command (e.g., xtmixed DV MV + Controls || cluster_id: IDENTIFIER, ml vce(robust)). The latest routine also provides a general model fit—differently from *gsem* (Wald-χ^2)—that we report in Table 2.

TABLE 1
Descriptive Statistics and Correlation Matrix (Study 2)

	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
Individual Level														
1. Chair	0.20	0.40	—											
2. Female	0.32	0.47	**−.16**	—										
3. Tenure	3.55	2.31	**.14**	**−.15**	—									
4. Age	55.68	9.02	**.26**	**−.23**	**.27**	—								
5. Financial Literacy	0.11	0.31	−.09	**−.12**	.07	**−.17**	—							
6. Director Monitoring	5.10	0.88	**.23**	*−.10*	**.26**	**.19**	−.02	—						
Board Level														
7. Board Size	5.23	1.14	—	−.20	*.24*	.15	**−.28**	.04	—					
8. ROA	0.03	0.04	—	−.16	**.27**	.19	.03	−.13	.04	—				
9. Total Assets (log)	17.57	1.87	—	−.17	.08	.05	−.02	*.22*	.03	**.31**	—			
10. Board Info	5.98	0.43	—	−.14	.09	.04	.04	−.04	.02	**.26**	**.27**	—		
11. Board Psychological Safety	6.19	0.40	—	.04	.02	−.10	.09	.20	−.17	.16	.12	**.25**	—	
12. Chair Participative Leadership	5.69	0.42	—	−.03	**.30**	.04	**.33**	**.40**	−.06	.07	.14	**.27**	**.64**	—
13. Board–CEO Cognitive Conflict	2.61	0.37	—	.10	−.15	−.17	−.08	−.13	−.06	−.06	.10	**−.28**	*−.22*	−.08

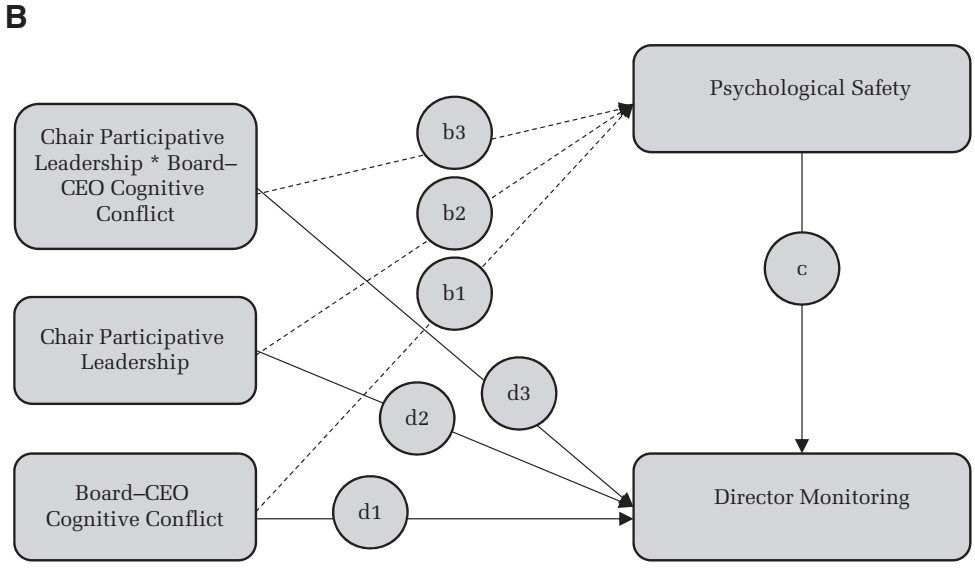
Notes: The coefficients that are statistically significant at $p < .05$ are in **bold**. The coefficients that are significant at $p < .10$ are in *italics*. We report on the Pearson correlation coefficients estimated using all directors ($n = 310$) when the variables are represented at the individual level (e.g., variables 1–6), whereas we report on the correlation coefficients estimated at the board level ($n = 64$) from among the variables that are constructed at the board level (e.g., variables 7–13). When estimating the correlation coefficients involving both board- and individual-level variables, we aggregate all individual-level constructs as a mean of the board. We do not report on the correlation coefficients for the variable *Chair* (indicating a director holding the chair position) and other board-level variables, given that every board has only one chairperson by definition.

FIGURE 1
Model Specification in the Form of a Path Model (Study 2)
Panel A. Test of Proposition 1 (Model 1): Moderation of Chair Participative Leadership on the Board–CEO Cognitive Conflict–Director Monitoring Relationship



Note: The coefficient of interest is a3.

Panel B. Test of Proposition 2 (Model 2): Moderation Effect of Chair Participative Leadership on the Board–CEO Cognitive Conflict–Psychological Safety Relationship. [a] Test of Proposition 3 (Model 3): Conditional Indirect Effect of Chair Participative Leadership on the board–CEO Cognitive Conflict–Director Monitoring Relationship, via Psychological Safety.[b]



[a] Dashed arrows; the coefficient of interest is b3.
[b] The coefficient of interest is b3 × c.

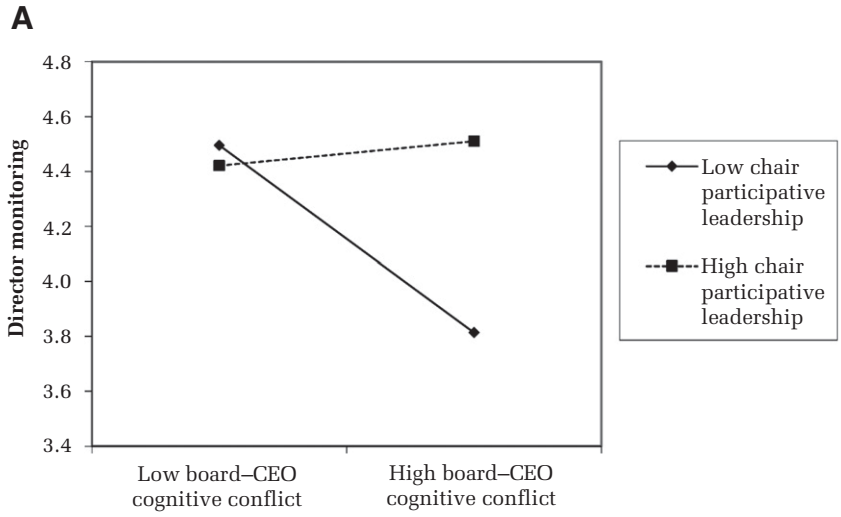
$p < .01$). We further probed this interaction effect on the basis of 10,000 bootstrap samples, confirming that the interaction coefficient (a3) was positive and significant ($\beta = 1.25$; $p < .01$). See Table A3 in the Appendix for an overview of all bootstrapped path coefficients. To ease interpretation, this interaction effect is depicted graphically in Figure 2 (Panel A), which plots the conditional effects of board–CEO

TABLE 2
Results from the Moderated-Mediation Analyses (Study 2)

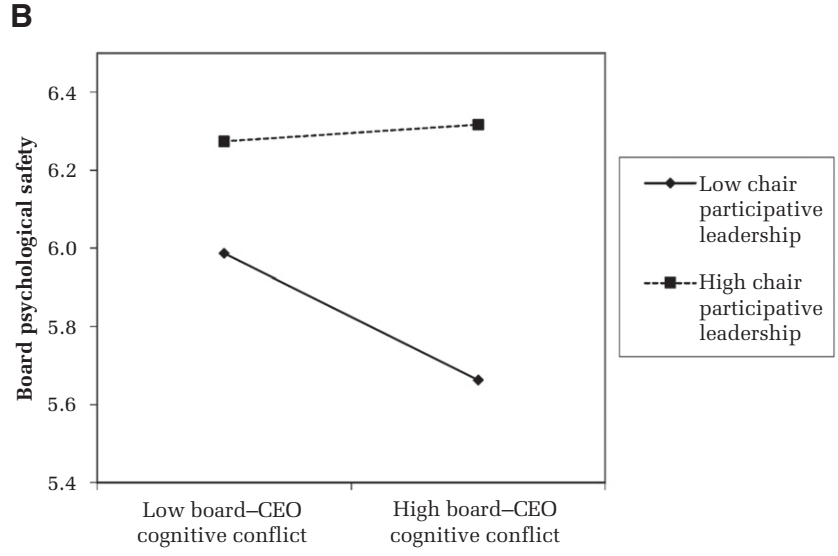
		Model 1 (DV: Director Monitoring)				Model 2 (DV: Psychological Safety)				Model 3 (DV: Director Monitoring)		
		β (SE)	*z (P > |z|)*	[95% CI]		*β (SE)*	*z (P > |z|)*	[95% CI]		*β (SE)*	*z (P > |z|)*	[95% CI]
Intercept		4.31 (1.33)	3.24 (< .001)	[1.70, 6.92]		6.06 (.06)	9.85 (< .001)	[4.86, 7.27]		−.36 (2.24)	.16 (.87)	[−4.75, 4.04]
Covariates												
Board Size		.02 (.08)	.29 (.77)	[−.13, .18]		**−.06** (.03)	−2.31 (.02)	[−.11, −.01]		.07 (.07)	.95 (.34)	[−.07, .21]
ROA		**−4.35** (1.89)	−2.30 (.02)	[−8.05, −6.51]		.64 (.72)	.89 (.37)	[−.76, 2.04]		**−5.00** (1.92)	−2.61 (< .01)	[−8.76, −1.24]
Total Assets (log)		**.15** (.05)	3.10 (< .01)	[.05, .24]		.01 (.02)	.31 (.76)	[−.04, .06]		**.14** (.04)	3.35 (< .001)	[.06, .22]
Board Info		**−.38** (.19)	−2.01 (.04)	[−.75, −.01]		.03 (.13)	.22 (.83)	[−.23, .29]		**−.37** (.17)	−2.20 (.03)	[−.71, −.04]
Chair		**.46** (.07)	6.21 (< .001)	[.31, .60]		−.01 (.02)	−.66 (.51)	[−.04, .02]		**.46** (.07)	6.48 (< .001)	[.32, .60]
Female		.02 (.06)	.32 (.75)	[−.11, .15]		.03 (.02)	1.45 (.15)	[−.01, .08]		.02 (.06)	.26 (.80)	[−.11, .14]
Tenure		.03 (.02)	1.28 (.20)	[−.02, .07]		**.02** (.01)	2.23 (.03)	[.01, .04]		.03 (.02)	1.12 (.26)	[−.02, .07]
Age		.01 (.00)	1.54 (.12)	[−.00, .01]		.00 (.00)	.33 (.74)	[−.00, .00]		.01 (.00)	1.55 (.12)	[−.00, .01]
Financial Literacy		.01 (.10)	.12 (.90)	[−.19, .22]		**.09** (.04)	2.00 (.05)	[.002, .17]		−.00 (.10)	−.02 (.99)	[−.21, .20]
Main Predictors												
Board–CEO Cognitive Conflict	a1	*−.40* (.21)	−1.90 (.06)	[−.80, .01]	b1	**−.19** (.08)	−2.35 (.02)	[−.35, −.03]	d1	−.26 (.22)	−1.19 (.24)	[−.69, .17]
Board Psychological Safety									c	**.74** (.27)	2.69 (< .01)	[.20, 1.27]
Chair Participative Leadership	a2	**.37** (.15)	2.53 (.01)	[.08, .66]	b2	**.56** (.07)	7.57 (< .001)	[.42, .71]	d2	−.05 (.22)	−.24 (.81)	[−.48, .38]
Board–CEO Cognitive Conflict × Chair Participative Leadership	a3	**1.25** (.39)	3.19 (< .001)	[.48, 2.01]	b3	**.59** (.19)	3.13 (< .01)	[.22, .96]	d3	.75 (.46)	1.63 (.10)	[−.15, 1.65]
Model Fit												
Wald−χ^2 (Prob > χ^2)		**95.83** (12) ($p < .001$)				**77.90** (12) ($p < .001$)				**82.02** (13) ($p < .001$)		
N Directors		310				310				310		
N Boards		64				64				64		

Notes: The coefficients that are statistically significant at $p < .05$ are in **bold**. The coefficients that are significant at $p < .10$ are in *italics*. The standard errors are clustered by board ($n = 64$), and we used the *robust* option in Stata.

FIGURE 2
Interaction Plots (Study 2)
Panel A: Two-Way Interaction for Director Monitoring



Panel B: Two-Way Interaction for Board Psychological Safety



cognitive conflict on director monitoring at low (−1 *SD*) and high (+1 *SD*) levels of chair participative leadership (Aiken & West, 1991; Dawson, 2014). In boards characterized by lower levels of chair participative leadership, board–CEO cognitive conflict was negatively associated with director monitoring, while this negative relationship was attenuated at higher levels of chair participative leadership. These results support Proposition 1.

Our second proposition suggests a similar moderating effect of chair participative leadership on the relationship between board–CEO cognitive conflict and board psychological safety climate. The results from Model 2 (Table 2) showed that this interaction effect (the coefficient of interest is b3) was positive and significant ($\beta = .59$; $p < .01$). The bootstrapped results corroborated that the interaction coefficient (b3) was positive and significant ($\beta = .59$; $p < .01$). Additionally, to further ease interpretation, we plotted this interaction in Figure 2 (Panel B). In addition to showing the direct effect of chair participative leadership on board psychological safety,

when chair participative leadership was high (+1 *SD*), the pattern showed that board–CEO cognitive conflict did not negatively impact board psychological safety. When chair participative leadership was low (−1 *SD*), board–CEO cognitive conflict was negatively related to board psychological safety. All in all, these results provide support for Proposition 2.

Finally, the third proposition suggests that the effect of board–CEO cognitive conflict on director monitoring of CEOs operates through board psychological safety and that this is conditional on chair participative leadership. While previous analyses established that chair participative leadership moderates the relationship between board–CEO cognitive conflict and director monitoring as well as board psychological safety, Model 3 (Table 2) showed that the moderating effect for monitoring was no longer significant when board psychological safety was added to the model. To formally test the conditional indirect effect of board–CEO cognitive conflict on director monitoring via board psychological safety, we tested the joint effect of the interaction term on the proposed mediator in conjunction with the effect of the proposed mediator on the outcome (Morgan-Lopez & Mackinnon, 2006). Of interest here was the product of the effect of the interaction on the proposed mediator (b3) and the effect of the proposed mediator on the outcome, controlling for the same interaction term (c). The bootstrapped results showed that the product of these coefficients (b3 and c) was positive and significant ($\beta = .43$; $p < .05$). Furthermore, in addition to all the underlying paths of the conditional indirect effect being significant, the bootstrapped 95% confidence interval (CI) excluded zero [.01, .86].[14] Taken together, these results provide support for our third proposition on the existence of a conditional indirect effect operating through board psychological safety.

[14] Additional analyses comparing the coefficients for the interaction between board–CEO cognitive conflict and chair participative leadership on director monitoring revealed that the coefficient (d3) was significantly smaller in Model 3 than in Model 1 (a3), thus indicating that upon partitioning the full moderated effect (d3) of chair participative leadership on the board–CEO cognitive conflict–monitoring relationship, the indirect component of the moderation (e.g., b3*c) effect explained most of the observed total effect (d3). The difference between the total effect of the interaction (a3) and the direct effect of the interaction after controlling for the mediation of board psychological safety (d3) revealed the indirect effect of the product of chair participative leadership and board–CEO cognitive conflict on monitoring through board psychological safety. The results of these bootstrapped paths are available upon request.

DISCUSSION

There is an intuitive logic in appointing outside directors to improve management monitoring and reduce agency costs. Empirical studies and reviews of the field, however, have provided no (or at best, mixed) support for this near ubiquitous governance guidance (Boivie et al., 2016; Dalton et al., 1998). We contend that an explanation for this inconsistency lies in the important reason that these directors are appointed in the first place; namely, their "outsider status." Outside directors invariably bring divergent views to the table such that their input will differ from or even run contrary to those of the CEO (Hambrick et al., 2015). If not well managed, the resulting board–CEO cognitive conflicts have the potential to undermine dynamics in the boardroom. To better understand how this unfolds, we immersed ourselves in the reality of the boardroom. The inductive analysis of videotaped board observations and semi-structured interviews revealed that board–CEO cognitive conflict can have a detrimental impact on directors' monitoring. If not adequately managed by the chair, this conflict appears to result in a psychologically unsafe board climate. It became apparent that in these situations, a participative chair can play an important role in facilitating effective discussions within the boardroom. Our second study, based on large-scale multisource survey data in a different institutional setting, confirmed these qualitative insights.

We believe these insights have two key implications. First, the findings respond to recent calls in the literature to better understand board leadership behavior as a distinct phenomenon (Krause, 2017; Krause, Li, Ma, & Bruton, 2019; Oliver et al., 2018; Withers & Fitza, 2017). Extant theorizing generally positions the board chair's key role as one of counterbalancing the CEO (Jensen, 1993; Krause et al., 2014; Lorsch & MacIver, 1989). This has led the field to concentrate its research on the impact of a chair's independence (Boivie et al., 2016; Tuggle et al., 2010) or technical competence as a counterbalance and, more recently, a resource for the CEO (Krause et al., 2014; Krause et al., 2019; Withers & Fitza, 2017).

Instead, we highlight how a chair's leadership style has significant implications for board-governance effectiveness through its indirect effect on individual director monitoring. Our findings point to the importance of the chair not taking center stage vis-à-vis the

CEO but rather facilitating boardroom discussions that involve board–CEO conflict. While these are nonconventional findings, we do not believe they overturn current theory per se. We see our insights as complementary to extant theorizing because different leadership styles might be appropriate for different aspects of the chairing role. For instance, in terms of work within the boardroom, it would seem difficult for any chair to simultaneously foster participation and be directive. Instead, directive chairing behaviors might be more appropriate during the preparation and follow-up for board meetings, while an inclusive, participative chairing approach may be more effective during boardroom decision-making episodes (Brennan et al., 2016; Kakabadse & Kakabadse, 2007; Krause et al., 2014; Withers & Fitza, 2017). We are hopeful that this is a first important step in better understanding how the chair can stimulate monitoring via harnessing the potential of their board colleagues over and above attempting to directly control (adverse) management behavior.

Second, our finding that the board psychological safety climate features prominently in ensuring director monitoring within boards resonates with recent theoretical work examining boards as information-processing groups. Boivie et al. (2016: 322–323) highlighted that there are "a number of barriers . . . [that] ultimately inhibit directors from providing effective oversight on an ongoing basis; . . . barriers that arise from group factors (e.g. the relational dynamics that emerge in board interactions)." By focusing on the psychological safety climate, we have demonstrated a specific inhibiting factor distinct from other socio-psychological mechanisms recorded in the literature such as the fear of losing current or future board seats (Zhu & Westphal, 2011), group polarization (Zhu, 2013), or pluralistic ignorance (Westphal & Bednar, 2005). In so doing, our work complements extant research by aligning with a growing body of literature that demonstrates how specific psycho-social phenomena may affect a director's engagement in monitoring (e.g., Hambrick et al., 2015; Veltrop et al., 2018; Westphal & Zajac, 2013; Zhu, 2013).

By demonstrating this pattern of results between a board climate of psychological safety, chair leadership style, and director monitoring, we also point to a group-process effect that is subtly but importantly different from those found in studies exploring the individual-level effects of motivation on director monitoring. For example, an agency theory logic suggests that the intrinsic motivation associated with the fear of social sanctioning may constitute a form of self-interest and thus undermine a director's willingness to show dissent toward the CEO (e.g., Park, Westphal, & Stern, 2011; Westphal & Khanna, 2003). In addition, our results suggest a deeper, group-level impact; a detrimental board climate associated with not taking colleagues seriously appears to lead to a broader detachment from the entire monitoring process across the group. Put simply, our findings indicate that it is not a simple issue of self-censorship that inhibits monitoring but rather directors being thwarted in their monitoring by a boardroom climate characterized by rejecting one another's views out of hand.

Relatedly, the negative relationship between board–CEO conflict and director monitoring suggests that emerging trends in board composition, such as the growth in activist-nominated directors may potentially act as double-edged swords. The appointment of these "super directors" to reduce agency costs (Christie, 2019; Coffee, Jackson, Mitts & Bishop, 2018; Kastiel & Nili, 2017; Nili, 2015) will arguably give rise to greater cognitive conflict and in so doing may unwittingly undermine boardroom monitoring. Similarly, the ongoing promotion of board diversity and boards with balanced skillsets (Tasheva & Hillman, 2019) designed to offer divergent ideas and raise critical challenges will also yield a board dynamic that may more easily spiral into dysfunction. While we agree with the view that a board's "most critical need is for an environment in which effective challenge of the executive is expected" (Walker, 2009: 12), our results point to how difficult and complex it is to develop this attribute of effective governance. While we did not directly study the impact of changes in board composition, our results suggest that the chair's leadership style is important to ensuring the dissent associated with these changes does not create dysfunctional boardroom dynamics.

Methodologically, the complexity we observe also underscores the need to understand better the board-level psycho-social mechanisms that enable or deter director monitoring (see also Kroll, Walters, & Wright, 2008; Tuggle et al., 2010). For example, in our study, we provide insights into the process of monitoring, linking director behavior (in this case, directors' disagreement with the CEO) with an emergent group state (psychological safety) and a propensity to engage in an important board task (director monitoring). The importance of this processual insight lies in the nonlinear and counterintuitive effects it may have on the relationship between individual directors' characteristics and board or firm outcomes (see Dalton & Dalton, 2011). For

instance, it allows for the (untested) possibility that a single outside director in a "psychologically safe" boardroom climate may be more effective at mitigating managerial self-interest than an entire board of independent, skilled directors situated in a "psychologically unsafe" boardroom climate (see Hambrick et al., 2015). Such dynamics are not evident in the current operationalization of agency theory, although they have been positioned as a key avenue for further development (see Dalton & Dalton, 2011; Hambrick et al., 2015).

LIMITATIONS AND FUTURE DIRECTIONS

Our study has some important limitations and offers potential avenues for future research. First, we did not study whether higher levels of director engagement in monitoring actually reduced agency costs. The required level of director monitoring may very well differ for other corporate governance configurations (e.g., Misangyi & Acharya, 2014), or director-level monitoring may not linearly translate to board-level monitoring. In addition, we do not suggest that board psychological safety and chair participative leadership are the only board-level phenomena influencing director monitoring, and we hope our work inspires further inquiry into board-level phenomena affecting director monitoring. In addition, we did not focus on leadership behavior or the socio-psychological characteristics of the CEOs. Perhaps board climate—or the direct positive relationship between chair participative leadership and psychological safety we also witnessed in our study—is contingent on CEO personality. For example, CEO narcissism (Chatterjee & Hambrick, 2007) might inhibit monitoring by independent outside directors or even undermine the group's psychological safety, independent of the relationships we found. Moreover, given our focus on the impact of CEO–board cognitive conflict, we did not study how and when such conflict is most likely to occur or how other types of conflict might unfold in boardrooms (Greer, Jehn, & Mannix, 2008; O'Neill, Allen, & Hastings, 2013). In this vein, interesting further work can be done on boardroom norms capturing whether it is okay to challenge the CEO to begin with.

Second, although we investigated boards in different institutional environments (i.e., Australia and the Netherlands) and different board models (i.e., one-tier and two-tier boards) and still found similar results, we are cognizant that nearly all participating boards were fully comprised of outsiders and had separate CEO and chair positions. Even though we notice a marked trend toward having boards made up primarily of outside directors with the CEO being the only insider in systems such as in the United States (e.g., Adams, Licht, & Sagiv, 2011; Larcker & Tayan, 2016), future research could seek to understand how, if at all, differences in board composition and different institutional settings affect the relationships we uncovered. This is particularly relevant given that both the Australian (Study 1) and Dutch companies (Study 2) only featured independent chairs; this is different from settings in which it is still customary to have a CEO also serving as the chair or as a voting director. Under such conditions, with an entirely different power balance between CEOs and directors, it is reasonable to expect some of the uncovered relationships to be different, particularly when it comes to the leadership of a lead director. We believe this limitation offers an interesting opportunity for further research on group-level mechanisms either curtailing or enhancing outside directors' monitoring in settings with higher levels of CEO power.

Third, our quantitative study also has several methodological limitations. Given the sensitive data we collected via our survey instrument (i.e., CEOs rating individual directors), we had to rely on organizations signing themselves up to participate in the research. Despite our efforts to assess its significance, we cannot fully rule out self-selection bias (i.e., the participating boards may be different from the population of boards in the Netherlands) as having affected our results. In addition, although we had different raters for the various constructs and the results corroborated the insights from the qualitative study, we cannot entirely rule out that the negative relationship between board–CEO cognitive conflict and director monitoring may simply be the product of directors and CEOs perceiving and experiencing their disagreements differently. We could not test for this possibility, so future research using a different methodological approach could further assess the extent to which this may have been the case. In addition, the cross-sectional nature of our survey setup raises questions around the potential for reverse causality; that is, there is a possibility that directors' engagement in monitoring during board meetings might result in less cognitive conflict given that directors might be better at putting across what is truly happening within the organization. Whereas the qualitative study does not warrant such an interpretation (particularly while interpreting the role of chair participative leadership and psychological

safety), further (processual or longitudinal) research is needed to confirm our insights.

CONCLUSION

High-profile practice reviews of governance failures—alongside worldwide governance regulations—continue to emphasize the importance of active engagement in monitoring by outside directors (Walker, 2009). A common theme across these reviews and regulations is the importance of outside directors (versus insiders) being in a position to hold the CEO accountable. While most of the literature and regulatory effort has focused on the attributes of individual directors, we have argued that two of the most widely supported prescriptions in governance—namely, appointing outside directors to boards and having an independent chair to counterbalance the CEO—may potentially *undermine* boardroom dynamics and thus director monitoring. In so doing, we highlight that both the chair's leadership and the psychological climate within the boardroom are key to stimulating directors' engagement in monitoring. We hope the broadening of the focus provides refined guidance for future research and practice initiatives.

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APPENDIX A

TABLE A1
CODING SCHEME OF BOARD–CEO DISAGREEMENT EPISODES ACROSS THE FIVE BOARDS INVOLVED (STUDY 1)

Construct	Code	Behaviors Within Code	Exemplars from Observed Episodes (Episode No. in Brackets)
Intensity of board–CEO disagreement	LOW	CEO and director(s) leave the disagreement as implicit; absence of strong divergence of views and opinions; CEO takes time to understand the issue before responding.	• CEO mainly listens to feedback and at the end acknowledges that some of the ideas will be addressed by management. (B2) • CEO acknowledges that they might have been wrong about [*X*] and then implicitly agrees with the rest of the directors' comments. (P2)
	MEDIUM	CEO and director(s) are explicit about the fact they disagree; moderate level of divergence of views and opinions; CEO and directors take time to understand each other's reasoning.	• CEO carefully explains yet defends the current approach. (E4) • CEO understands the concerns expressed by the directors yet defends the current approach. Probes D5 to understand what the main issue is. (B3)
	HIGH	CEO and director(s) are very explicit about the fact they disagree; strong divergence of views and opinions; CEO and directors directly respond to or counter each other's reasoning.	• CEO initially silent. Then strongly defends their view and critically says to D2 that is not something they should waste time on anymore. (D2) • CEO tries to patiently explain the issue. Toward the end of the discussion becomes frustrated and strongly disagrees with suggestions coming from board. (E2)
Level of chair participative leadership	LOW	Chair shuts down opinions of others; chair provides own strong opinions; chair dominates the discussion; chair remains silent or inactive.	• Chair asks many questions, disagrees multiple times with other directors, and ultimately just says no to a proposal from other directors. (E1) • Chair silent throughout whole discussion. (D2)
	MEDIUM	Chair provides background information about the issue; chair structures the discussion; chair asks for input from other directors.	• Chair silent until the end. Then proposes a course of action and asks for the input of other directors. (P1) • Chair further explains the process after concerns have been raised. (B2)

TABLE A1
(Continued)

Construct	Code	Behaviors Within Code	Exemplars from Observed Episodes (Episode No. in Brackets)
	HIGH	Chair supports the efforts of other directors, making sure they are being heard; chair withholds own views initially to not steer the discussion.	• Chair repeatedly summarizes what they are picking up, does not give own view until midpoint, and probes others for their views. (B3) • Chair asks several follow-up questions regarding the issues other directors have raised and makes sure they receive an answer. (V1)
Level of other directors' information seeking from the CEO	LOW	Limited engagement of other directors in seeking further information from the CEO; other directors withdraw or disagree with the issue that is creating the conflict.	• Directors' talk over each other while disagreeing; two directors visibly withdraw from the discussion toward the end of the item. (E2) • Directors remain silent, with only D3 affirming chair's approach at the end. (B4)
	MEDIUM	Two or more directors join the discussion yet only moderately seek further information from the CEO or are mixed in their support for the issue that is raised by the voicing director.	• D7 and D4 add views that seek the middle ground in the disagreement, arguing that both views have certain merits. (D3) • D1 and D6 ask some further clarification questions, although it is clear that they largely agree with how the CEO and management has approached the issue D5 is raising. (V2)
	HIGH	Two or more directors join the discussion and actively support the voicing director's effort to obtain further information from the CEO.	• D3 and D4 ask further clarification questions and take responsibility for challenging the CEO. (V1) • D5 and D2 join D10 in challenging the CEO on the issue. (P2)

TABLE A2
BEHAVIORAL PATTERNS IN THE OBSERVED DISAGREEMENT EPISODES (STUDY 1)

Board ID	Episode ID	Intensity of Board–CEO Disagreement	Level of Chair Participative Leadership	Other Directors' Information Seeking from the CEO
Bravo	B1	LOW	MEDIUM	LOW
Bravo	B2	LOW	MEDIUM	HIGH
Bravo	B3	MEDIUM	HIGH	HIGH
Bravo	B4	HIGH	MEDIUM	LOW
Bravo	B5	HIGH	MEDIUM	MEDIUM
Prime	P1	LOW	MEDIUM	HIGH
Prime	P2	LOW	LOW	HIGH
Victor	V1	MEDIUM	HIGH	HIGH
Victor	V2	MEDIUM	MEDIUM	MEDIUM
Δ	D1	HIGH	LOW	LOW
Δ	D2	HIGH	LOW	LOW
Δ	D3	HIGH	LOW	MEDIUM
Echo	E1	MEDIUM	LOW	MEDIUM
Echo	E2	HIGH	LOW	LOW
Echo	E3	HIGH	LOW	LOW
Echo	E4	MEDIUM	MEDIUM	MEDIUM

Notes: Board–CEO disagreement undermines director information seeking. That is, high levels of board–CEO disagreement regularly result in low levels of director information seeking from the CEO (five of the seven instances), whereas this is less likely for low or medium levels of board–CEO disagreement (one of nine cases). Board–CEO disagreement is less likely to undermine director information seeking at higher levels of chair participative leadership. That is, high or medium levels of board–CEO disagreement result in lower levels of director information seeking at low levels of chair participative leadership (four of six instances), whereas this is less likely at high or medium levels of chair participative leadership (one of six instances).

TABLE A3
BOOTSTRAPPED RESULTS AND CONFIDENCE INTERVALS' ESTIMATED PATHS (STUDY 2)

Name of Path	Estimated Path	Model	Type of Effect	Coeff. (*SE*)	(*z* (*P* > |*z*|))	[95% CI]
a3	Director Monitoring ← (Chair Participative Leadership * Board–CEO Cognitive Conflict)	1	Moderation of Chair Participative Leadership on the *Board–CEO Cognitive Conflict–Director Monitoring* relationship	**1.25** (.25)	5.02 (< .01)	[.76, 1.73]
b1	Psychological Safety ← Board–CEO Cognitive Conflict	2	Leg 1 of Mediation of the relationship *Board–CEO Cognitive Conflict–Director Monitoring* via Psychological Safety	**−.19** (.09)	−2.02 (.04)	[−.37, −.06]
b3	Psychological Safety ← (Chair Participative Leadership * Board–CEO Cognitive Conflict)	2	Moderation of Chair Participative Leadership on the *Board–CEO Cognitive Conflict–Psychological Safety* relationship	**.59** (.24)	2.48 (.01)	[.12, 1.06]
c	Director Monitoring ← Psychological Safety	3	Leg 2 of Mediation of the relationship *Director Monitoring–Board–CEO Cognitive Conflict* via Psychological Safety	**.74** (.27)	2.73 (< .01)	[.21, 1.26]
b3*c	Director Monitoring ← (Chair Participative Leadership * Board–CEO Cognitive Conflict)	2&3	Indirect of Chair Participative Leadership on the *Board–CEO Cognitive Conflict–Director* Monitoring relationship, controlling for Psychological Safety	**.43** (.22)	1.98 (.05)	[.01, .86]

Notes: The coefficients that are statistically significant at $p < .05$ are in **bold**. All 95% CIs and coefficients are estimated through a bootstrap routine using 10,000 replications.