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LEVERAGING KNOWLEDGE DIVERSITY IN HIERARCHICALLY DIFFERENTIATED TEAMS: THE CRITICAL ROLE OF HIERARCHY STABILITY

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Past research has been equivocal about the information sharing and performance effects of knowledge diversity in teams. In an attempt to resolve this equivocality, scholars have suggested that status hierarchy may play a role, proposing that status differences can constrict team-level information sharing in diverse teams by privileging the knowledge of higher-status members and discounting the knowledge of lower-status members. Although there is some evidence to support this notion, there is also evidence to suggest that status differences may amplify information sharing in diverse teams by offering status enhancement incentives to members who share unique knowledge. In this paper, we reconcile these different predictions by suggesting that the effects of status hierarchy on the relationship between knowledge diversity and team information sharing will depend on the stability of the hierarchy. Using a diverse sample of 156 teams across 110 organizations, we found that status differences constricted information sharing in knowledge-diverse teams when hierarchy stability was high and amplified information sharing in knowledge-diverse teams when hierarchy stability was low. These information sharing effects, in turn, affected team performance. Our study highlights how hierarchy stability is critical for understanding whether status differences constrict or amplify information sharing in knowledge-diverse teams.

The proposition that the variety of knowledge that team members possess constitutes both a key resource and a formidable challenge for work teams has been well established in management theory and research. Knowledge diversity is widely recognized as an important resource that can enable a team to broaden the range of information included in problem-solving and deliberation, thereby enhancing decision-making and improving team performance (van Knippenberg, De Dreu, & Homan, 2004). Decades of research have also clearly suggested, however, that knowledge-diverse teams struggle with mobilizing task resources, since sharing unique knowledge can undermine interpersonal relationships and team consensus (Stasser, 1999). In an attempt to understand how and when knowledge diversity benefits or hinders teams, researchers have investigated a wide range of contingences, including team context (Joshi & Roh, 2009), task uncertainty (Cannella, Park, & Lee, 2008; Carpenter & Fredrickson, 2001), leadership (Somech, 2006), member identification (van der Vegt & Bunderson, 2005), and diversity beliefs (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007), to name just a few (see

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Guillaume, Dawson, Otaye-Ebede, Woods, & West, 2017).

In recent years, scholars have pointed to a relatively underresearched but ubiquitous team factor with potentially robust implications for leveraging knowledge diversity in teams: a team's "status hierarchy," or differences among individual members in the prominence, respect, and deference they are accorded by the team (Bunderson & van der Vegt, 2018; van Dijk & van Engen, 2013). Intrateam status hierarchies exist in virtually all teams (Magee & Galinsky, 2008), and may be particularly relevant for knowledge-diverse teams where diverse work experiences and training credentials often carry status implications. Status hierarchies within teams create vertical member differentiation because they affect which voices get heard and heeded, which affects how and whether teams draw from the pool of information possessed by different team members (Bunderson & Boumgarden, 2010). If we are to understand how and when knowledge diversity will lead to improved information sharing within teams, therefore, "we need to think about the dynamic interplay between horizontal and vertical member differences … [although] few scholars have begun to grapple with this question" (Bunderson & van der Vegt, 2018: 55).

To complicate matters, the effect of a team's status hierarchy on its capacity to leverage the knowledge diversity of team members is not straightforward. There is indeed evidence showing that hierarchical differences between members can lead to unequal participation across team members and will therefore narrow the range of perspectives expressed (e.g., Fligstein, 1987; Pitcher & Smith, 2001). These results imply that, for teams with diverse knowledge, status differences should be minimized. There is other research, however, suggesting that status hierarchies play a functional role by introducing status enhancement incentives for sharing unique information and providing an ordered structure for reconciling diverse information (e.g., Larson, Sargis, Elstein, & Schwartz, 2002; Wittenbaum, 1998). Applied to the present problem, these results suggest that status hierarchies could help teams overcome the challenges associated with sharing diverse knowledge (Stasser, 1999).

In this paper, we argue that, in order to reconcile these divergent predictions, we must first recognize that status hierarchies are not all the same and that specific characteristics of a status hierarchy can influence the extent to which that hierarchy enables versus constrains the sharing of diverse knowledge in teams (see van Dijk & van Engen, 2013). More specifically, one widely studied characteristic of a status hierarchy that has been shown to have far-reaching implications for the effect of the hierarchy on intrateam dynamics is the *stability* of the hierarchy, or the extent to which the relative status of team members is fixed versus shifting over time (see Greer, de Jong, Schouten, & Dannals, 2018; Knight & Mehta, 2017; Scheepers, 2009; Zink, Tong, Chen, Bassett, Stein, & Meyer-Lindenberg, 2008). We build on this past work to suggest that the effect of a status hierarchy on a team's capacity to mobilize diverse knowledge will be contingent on the stability of that hierarchy. Moreover, in direct contrast to past theoretical work related to this question (e.g., Guillaume et al., 2017; van Dijk & van Engen, 2013), we propose that, within knowledge-diverse teams specifically, a status hierarchy is more likely to stifle the sharing of diverse knowledge when that hierarchy is stable rather than unstable.

By addressing these issues, our study makes two important contributions to research on teams and, more specifically, to research on diversity and hierarchy in teams. First, given the ubiquity of status hierarchies in work teams—and perhaps especially within knowledge-diverse teams—we add theoretical and empirical weight to recent voices contending that we cannot understand the effects of knowledge diversity in teams without considering the complex effects of intrateam status hierarchies (e.g., Bunderson & van der Vegt, 2018; van Dijk & van Engen, 2013). In doing so, we help to synthesize disconnected strands of research across different disciplines that have only just begun to consider these interactive effects. Our research thus contributes to the knowledge diversity literature by clarifying how and when status hierarchy can affect the relationships between knowledge diversity, team information sharing, and team performance. And, second, the present research builds on emerging research suggesting that the process and performance effects of hierarchy on team dynamics are contingent on hierarchy stability (see Bendersky & Pai, 2018; Greer et al., 2018). We extend those insights to the important problem of information sharing in knowledge-diverse teams. Specifically, whereas past research has typically focused on how hierarchy stability supports information sharing processes and team performance in relatively homogenous teams (e.g., Maner & Mead, 2010; Mead & Maner, 2012), we explain why hierarchy stability can thwart these outcomes when a team possesses diverse knowledge. In doing so, we highlight important downsides to hierarchy stability, at least in certain team contexts.

THEORETICAL BACKGROUND

Knowledge Diversity and Team Information Sharing

Knowledge diversity is of central interest to team researchers because it speaks to the breadth of the knowledge base from which a team can presumably draw in making decisions and developing new ideas (Baer, Dirks, & Nickerson, 2013; van Knippenberg et al., 2004). We use the term "knowledge diversity" to refer to the variety of information, perspectives, and understanding that may exist among members of a team and relates in some way to the team's work (Harrison & Klein, 2007). Typically, the most salient knowledge differences that exist within teams are those differences that result from the various technical and functional specializations of team members. Because specialized knowledge is not directly observable, researchers often operationalize knowledge diversity through demographic proxies, such as educational background, job role assignment, and functional experience (see Milliken & Martins, 1996; Williams & O'Reilly, 1998).

Knowledge diversity can stimulate information sharing as team members with specialized knowledge offer their perspective and solicit the perspective of others (Kearney, Gebert, & Voelpel, 2009). In diverse teams, members can more readily recognize that others have different perspectives from their own, which can prompt information sharing to broaden the team's collective understanding of problems (van Knippenberg & Schippers, 2007). With this in mind, many organizations believe in the performance value of knowledge-diverse teams and, as a result, assemble teams in ways that increase knowledge diversity (Aime, Humphrey, DeRue, & Paul, 2014; Guillaume et al., 2017; van Knippenberg & Schippers, 2007).

As noted earlier, however, knowledge diversity may also reduce team information sharing. Several classic group decision-making experiments have found that commonly held information (i.e., homogenous knowledge possessed by many team members) is generally shared more often in teams than diverse information that is uniquely held by just one member (Gigone & Hastie, 1993; Stasser, Taylor, & Hanna, 1989; Stasser & Titus, 1985, 1987). Teams can view unique information as a threat to achieving consensus, since reconciling multiple distinct points of view can be more difficult for teams than focusing the team conversation instead on overlapping information on which members already agree (Postmes, Spears, & Cihangir, 2001; Stamkou, van Kleef, & Homan, 2019). The preference for sharing commonly held knowledge remains, even when multiple members possess divergent information that could improve the quality of team decisions (Stasser & Stewart, 1992; Stasser & Titus, 1985). This work suggests that the mere presence of diverse knowledge does not ensure that it will be mobilized, and can, in fact, deter information sharing. For this reason, it is important to consider moderating factors that affect whether knowledge diversity stimulates or undermines team information sharing (van Knippenberg & van Ginkel, 2010).

Recently, scholars have proposed that a team's status hierarchy might provide insights into the effects of knowledge diversity in teams (Bunderson & van der Vegt, 2018; Guillaume et al., 2017; van Dijk & van Engen, 2013). Whereas knowledge diversity affects the breadth of information available within a team, status differences affect the flow of information among members. "Knowledge diversity" is concerned with what members know based on their areas of specialization (Harrison & Klein, 2007), and "status hierarchy" refers to differences among team members in the prominence, respect, and deference they are accorded by the team (Anderson, John, Keltner, & Kring, 2001; Magee & Galinsky, 2008). This definition implies that hierarchies of status are distinct from power hierarchies, which derive from member control over valued resources such as budgets, materials, decision rights, or network connections (Emerson, 1962; Finkelstein, 1992). Status within teams may be shaped not only by institutionalized roles and authority structures (Bunderson, van der Vegt, & Sparrowe, 2014) but also by shared perceptions that a given teammate is able and willing to advance team interests (Berger, Cohen, & Zelditch, 1972; Locke & Heller, 2017; Willer, Youngreen, Troyer, & Lovaglia, 2012). Additionally, because status hierarchies are partially based on willing deference, rather than on resource control, they are potentially more sensitive to the evolving actions of team members, and more tightly linked to team processes like information sharing than power hierarchies (Flynn, Reagans, Amanatullah, & Ames, 2006). We therefore focus on status hierarchies rather than power hierarchies in this paper.

Despite the clear connection between knowledge diversity and status hierarchies, scholars have noted that studies have tended to overlook their interrelationship:

> Research on diversity in teams and research on inequality in teams have proceeded independently of one another. Studies tend to focus on one or the other, and they draw on different theoretical perspectives and speak to different academic subcommunities in doing so. (Bunderson & van der Vegt, 2018: 55)

We begin this effort by synthesizing the limited research that has considered the interactive effects of knowledge diversity and hierarchy, highlighting two contrasting perspectives about their interrelationship. We then draw upon the concept of hierarchy stability to reconcile those (seemingly) conflicting findings.

Joint Effects of Knowledge Diversity and Status Hierarchy on Team Information Sharing

Status hierarchy as a constrictor. Some prior research on status (and power) differences in teams views hierarchy as an impediment to the open sharing of diverse knowledge among members (e.g., Eisenhardt & Bourgeois, 1988; Fligstein, 1987; Park, Lew, & Lee, 2018; see Bunderson & Reagans, 2011). The assumption is that status differences undermine the relationship between knowledge diversity and information sharing because the team places greater emphasis on the perspectives and contributions of status-advantaged members than on those of status-disadvantaged members (Bunderson, 2003). Only a subset of the knowledge possessed by the team is therefore incorporated into team decisions. These studies generally find support for this notion (Pitcher & Smith, 2001) and explain the effect by two factors.

First, those at the top of the status hierarchy have more control over the focus of team deliberation compared to those at the bottom because teams are more willing to cede to higher-ranking members (Brescoll, 2011; Mast, 2002). Teams tend to place greater weight on the views of high-status members because those views are seen as more credible. Group members may therefore more readily accept the perspective of higher-status members with less extensive team discussion, deliberation, or debate (Anderson & Brown, 2010). As a result, high-status members need to devote less time to sharing information with team members in order to justify their point of view. For homogenous teams, the tendency to favor the opinions of high-status team members is potentially less problematic since other members have less unique information to contribute beyond what the high-status team members already offer. In contrast, in knowledge-diverse teams, readily adopting the perspective of high-status team members means that alternative knowledge perspectives may be kept out of team discussion.

Second, in hierarchical teams, low-status members can feel more situationally constrained (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008), act more inhibited (Keltner, Gruenfeld, & Anderson, 2003), and can feel less optimistic about taking risks in sharing information (Anderson & Galinsky, 2006). These effects arise from the belief that other team members will disregard this information, or will respond more critically toward it, compared to the information expressed by high-status members (Aquino & Thau, 2009; Stamkou et al., 2019). In homogenous teams, however, low-status team members can more readily share information that affirms, supports, and validates the perspective of high-status team members. We therefore expect this effect to be particularly pronounced in knowledge-diverse teams. Low-status members are likely to have information that differs from the views of higher-ranking members, thus elevating the risk that can come with diverging from or contradicting high-status team members.

In sum, there is evidence that status hierarchies can constrict the sharing of knowledge in diverse teams by more quickly coalescing around the perspectives of high-status members, while creating an environment where low-status members feel inhibited and therefore withhold divergent information. These findings support the argument that a status hierarchy would harm information sharing in knowledge-diverse teams (Park et al., 2018).

Status hierarchy as an amplifier. However, a review of the broader literature on team information sharing and the functions of team hierarchy suggests the alternative possibility that status differences may actually amplify information sharing among members with unique knowledge (Larson, Christensen, Franz, & Abbott, 1998; Stasser, 1999). These potential benefits are grounded in the reality that built-in forces within teams can restrict the sharing of unique information because introducing new knowledge into a team discussion can disrupt the consensus process (Postmes et al., 2001). Egalitarian teams should be especially averse to sharing unique information because they lack the hierarchical structure that can help resolve stalemates and sort through distinct and potentially contradictory pieces of information (Stasser, 1999). Consistent with this expectation, most of the classic studies about team members' reluctance to share unique information were conducted in teams with relatively flat status hierarchies. Subsequent research examining these dynamics has found that status differences within a team (e.g., a designated leader or expert) can counteract the tendency for teams to withhold unique knowledge (Aime et al., 2014; Stasser, Stewart, & Wittenbaum, 1995; Stewart & Stasser, 1995; Wittenbaum, 1998). This finding suggests that status differences may actually offer a

solution to the problem of withholding unique information, for two reasons.

First, by virtue of their elevated position and influence over team discussions, those at the top of the status hierarchy can use their standing to elicit and then integrate diverse information (Stewart & Stasser, 1995). They thus have the capacity to direct members' attention to unique pieces of information that might otherwise go overlooked (Wittenbaum, 2000). This notion implies that higher-status members may not always leverage their standing to advance their own perspective in a team. Under the right conditions and with the right incentives, they can instead deploy their influence to promote a broader consideration of multiple perspectives (van der Vegt, de Jong, Bunderson, & Molleman, 2010; Wittenbaum, 1998). Moreover, once diverse ideas are expressed, members with higher-status can help integrate potentially conflicting pieces of information or help sort through counterposing arguments, thereby providing a robust means for resolving disagreements and reaching consensus (Bunderson, van der Vegt, Cantimur, & Rink, 2016; Ronay, Greenaway, Anicich, & Galinsky, 2012; Wittenbaum, 2000). Arguably, averting stalemates could be especially beneficial for knowledge-diverse teams because reaching consensus among members with divergent views is more complicated than making decisions when members possess homogenous knowledge (Postmes et al., 2001). A hierarchy can thus allow knowledge-diverse teams to elicit and then integrate disparate pieces of information that could otherwise prove difficult in flatter teams.

Second, this stream of literature has argued (and found) that a status hierarchy can incentivize low-status members to make valuable contributions to the team in an attempt to "move up" (Becker & Huselid, 1992; Lazear & Rosen, 1981). Since teams confer status partially based on valued contributions to collective outcomes (Willer, 2009), sharing unique information can be an especially potent means by which members in knowledge-diverse teams can demonstrate their distinct value to the team (Larson et al., 2002). After all, these members have unique and potentially value-adding knowledge. In contrast, in homogeneous teams, members likely find it more difficult show their worth by sharing information (Larson et al., 2002) and may even withhold information in an attempt to outmaneuver other team members. Even though sharing information while occupying a low-status position may trigger anxiety, it can concurrently prompt those members in diverse teams to make contributions that highlight their worth to the team (Anderson & Kilduff, 2009a; Sleebos, Ellemers, & de Gilder, 2006).

In sum, there are also reasons to suggest that status hierarchy could stimulate information sharing in diverse teams. A hierarchy allows those at the top to draw attention to unique information and motivates those at the bottom to share unique information as a means for demonstrating their distinct task contributions to the team. Notably, as these status dynamics stimulate the provision of differentiated information, they should be particularly beneficial for knowledge-diverse teams (Sung & Choi, 2019).

Taken together, there are reasonable arguments and some preliminary evidence on both sides of the question of whether hierarchy constricts or amplifies the effects of knowledge diversity on information exchange. We summarize these arguments and findings in Appendix A. Importantly, the evidence also seems to suggest that the effect of hierarchy on information sharing in knowledge-diverse teams may itself be contingent on whether features of the hierarchy encourage (or discourage) both higher-status members to share information with and invite participation from team members with different knowledge backgrounds, and lower-status members to take risks by offering their unique perspective. But what hierarchical feature might influence broad member participation in knowledge-diverse teams? We propose hierarchy stability as a promising answer to this key question, a fundamental characteristic of status hierarchies that has been increasingly shown to have far-reaching implications for hierarchy's effects in teams (e.g., Aime et al., 2014; Greer et al., 2018; Maner & Mead, 2010; Tarakci, Greer, & Groenen, 2016). We build on this recent work to consider how hierarchy stability can bring out the constricting or amplifying effects of status differences in knowledge-diverse teams.

The Moderating Effect of Hierarchy Stability

"Hierarchy stability" is defined as the extent to which a status hierarchy, or the relative status of members within a group, is fixed and static versus shifting over time (Maner, Gailliot, Butz, & Peruche, 2007; Satterstrom, 2016). Hierarchy stability is low when the status hierarchy is fluid and high when the relative status of each member remains relatively constant, static, or fixed over time. Hierarchy stability may arise from a variety of sources. For example, stable task requirements tend to lead to stable status hierarchies (Aime et al., 2014). And, when a team experiences lower levels of membership change, the

hierarchy is more likely to be fixed (Satterstrom, 2016). Finally, established roles and authority structures that are imposed by outside authorities, defined by institutional precedent, or that emerge and become routinized through shared history can also increase hierarchy stability (Bunderson et al., 2014).

Past work also recognizes that, even though we might expect steeper hierarchies to become more stable and flatter hierarchies to become less stable, this is not always the case. For example, emergency room teams tend to have steep yet fluid hierarchies (Klein, Ziegert, Knight, & Xiao, 2006), whereas other types of teams, such as performing arts teams, often have flat yet stable hierarchies (Harrison & Rouse, 2014). Hierarchy stability is therefore presumed to be orthogonal to the status hierarchy itself (Scheepers, 2009) and meta-analytic work has supported this assertion (Greer et al., 2018).

The general conclusion drawn from this research is that hierarchy stability promotes the benefits of a hierarchy for team functioning (Greer et al., 2018) because, in a steep and stable hierarchy, team members are less attuned to opportunities for status gain and feel less threatened by status loss (Hays & Bendersky, 2015). In contrast, uncertainty about one's standing within a differentiated, but unstable hierarchy can evoke competitive behavior, such as withholding information (Maner & Mead, 2010), undermining other team members (Case & Maner, 2014), or excluding those who pose a threat (Mead & Maner, 2012). Based on these findings, scholars have suggested that hierarchy stability may be positively related to team information sharing, since it reduces the competitive forces that can arise when the status ordering is in flux (Bendersky & Pai, 2018).

It should be mentioned, however, that studies of hierarchy stability have typically been conducted in teams whose members possess relatively homogenous knowledge (Case & Maner, 2014; Hays & Bendersky, 2015; Maner & Mead, 2010; Mead & Maner, 2012). There are reasons to believe that steep and unstable hierarchies elicit the strongest competitive forces in homogenous teams because, in this context, team members possess redundant resources (see Kilduff, Elfenbein, & Staw, 2010). As mentioned above, when members have overlapping knowledge, this information no longer serves as an effective means to demonstrate their value to the team (Larson et al., 2002). With fewer opportunities to share unique knowledge, members may seek to enhance their status through more self-focused or self-protective tactics in an attempt to outmaneuver other team members who possess the same expertise. Consistent with this expectation, past research has demonstrated that, when a hierarchy is steep but unstable, members feel particularly threatened by others most similar to them (Duguid, Loyd, & Tolbert, 2012). This is because those with similar resources can more readily leapfrog one's standing in the hierarchy (Doyle, Lount, Wilk, & Pettit, 2016). As a result, in homogeneous teams, the uncertainty that comes with unstable hierarchies can fuel competitive forces, particularly among team members with similar expertise (Smith & Hou, 2015), which can motivate them to preserve their status by withholding, rather than sharing, information (Maner & Mead, 2010). The literature thus clearly suggests that, in these hierarchical teams, *stability* is helpful because it curbs these forces and should therefore enable more team information sharing.

We propose that the effects of hierarchy stability may function differently in knowledge-diverse teams where members possess—and can demonstrate value by sharing—unique information. In the sections below, we build on growing evidence to suggest that, in knowledge-diverse teams, hierarchy stability fosters four key dynamics that compound the constricting effects of hierarchy and mute the amplifying effects of hierarchy on team information sharing outlined in Appendix A: (a) stability increases the dominance of one knowledge perspective over team decision-making (Aime et al., 2014; Tarakci et al., 2016), (b) stability limits the accountability of high-status team members for sharing and integrating alternative views (Lerner & Tetlock, 1999; Ridgeway, 1982; Willer, 2009), (c) stability increases the personal risk to low-status members for offering divergent perspectives (Aquino & Thau, 2009; Lian et al., 2014), and (d) stability reduces status enhancement incentives for lower-status members to share unique information (Flynn et al., 2006; Hardy & van Vugt, 2006; Stasser, 1999).

Knowledge Diversity, Status Hierarchy, and Hierarchy Stability

First, when the same individuals occupy the top ranks of a status hierarchy over an extended period of time in a diverse team, their perspective will become even more disproportionately influential in team decision-making. Knowledge perspectives that are repeatedly adopted in team decisions become more consensually understood by others on the team (Bunderson & Reagans, 2011; Pitcher & Smith, 2001). As a result, high-status members in stable

hierarchies need to spend less time communicating their position and justifying their decision preferences to others because other team members have become attuned to the interests and preferences of those at the top (Nickerson & Zenger, 2008) and have become familiar with their arguments (Anderson & Brown, 2010). This consensual attention process in stable hierarchies occurs even when those at the top are recommending a poor solution or when their expertise is no longer well suited for evolving task demands (Aime et al., 2014; Anderson & Kilduff, 2009b; Tarakci et al., 2016).

Importantly, continually reinforcing high-status members' knowledge can influence not only how the team solves problems over time, but also how the team starts detecting and defining problems in the first place (De Dreu, Nijstad, & van Knippenberg, 2008; Marks, Zaccaro, & Mathieu, 2000). For instance, when finance executives became the dominant functional group in U.S. corporations between the 1960 s and 1980 s, their firms increasingly defined corporate problems through the lens of finance. Fligstein (1987: 50) noted, "Since the goal of a finance strategy is to maximize short-term profit," these firms primarily sought out mergers, leading them to miss critical opportunities (e.g., quality control and internationalization) that were related to alternative functional perspectives. This issue of narrowing the team's attention in identifying problems is less detrimental over time in homogenous teams where the views of those at the top of the hierarchy are highly similar to and representative of the knowledge perspective of other team members. However, narrowing a team's attention to just certain knowledge domains becomes highly problematic in knowledge-diverse teams where a broad consideration of the knowledge possessed by all members is critical for a comprehensive understanding and informed resolution of team problems.

Second, hierarchy stability limits the ability of knowledge-diverse teams to hold high-status members accountable for serving the group's interests. Knowledge-diverse teams are assembled for the intended purpose of incorporating a wider range of information in team decisions (van Knippenberg & Schippers, 2007). For this reason, members of diverse teams should expect that they will be actively involved in team discussions, that their input will be utilized in team decisions, and that high-status members will share information explaining their own rationale to the team (Aime et al., 2014; Mitchell & Boyle, 2015; Mitchell & Nicholas, 2006). When the hierarchy is stable, however, diverse teams have little recourse for high-status team members who neither properly justify their own position to the team nor incorporate others' knowledge into team decisions. In contrast, when status positions are fluid within a diverse team, higher-status members face the risk of losing their elevated position to those team members who are more collaborative and willing to consider divergent perspectives (Kakkar, Sivanathan, & Gobel, 2020; Ridgeway & Diekema, 1989). In unstable hierarchies, high-status members can mitigate the risk of status loss by demonstrating group-oriented motives, such as using their position to encourage and integrate the unique contributions from other team members while also more fully sharing their own knowledge (Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; De Dreu et al., 2008; Shepherd, Spears, & Manstead, 2013; van der Vegt et al., 2010). Hierarchy stability, however, weakens this accountability mechanism by minimizing the risk of status loss for high-status members (Knight & Mehta, 2017; Scheepers, 2009; Willer, 2009).

Third, in knowledge-diverse teams, we further expect that the repeated marginalization of nondominant perspectives over time will exacerbate the hesitance that lower-ranking members feel to share knowledge that differs from the views of high-ranking members. If lower status promotes caution and inhibition in general (Galinsky et al., 2008; Lian, Ferris, Morrison, & Brown, 2014; Knight & Mehta, 2017; Zink et al., 2008), then the continual reinforcement of one's lower-status position over time should further dampen the expression of such divergent views. For example, in a study at a technology company with a knowledge-diverse work force but a stable hierarchy, individuals were reluctant to share information that differed from their manager because they worried about the personal repercussions of doing so (Detert & Edmondson, 2011). To make matters worse, as hierarchy stability increases, team members are emboldened to ignore, challenge, or criticize the input of lower-status team members because their own position in the hierarchy is secure (Aquino & Thau, 2009; Lian et al., 2014). Low-ranking members therefore become even more reluctant to share dissimilar information in order to avoid these personal risks.

And, fourth, lower-status members of knowledge-diverse teams will have less incentive to share their unique perspectives when the hierarchy is more stable. Sharing unique information is one of the more potent ways of enhancing one's status (Larson et al., 2002). However, if members see little possibility for upward mobility in the team's hierarchy, it is less

likely that they will exert discretionary effort and take the interpersonal risk to share knowledge that differs from the views of high-status members in an attempt to enhance their status (Anderson & Kilduff, 2009a). As hierarchy stability decreases, however, lower-ranked members can more readily anticipate how their efforts to share unique information with the team might lead to improved social standing (Knight & Mehta, 2017; Lazear & Rosen, 1981).

In sum, we expect that hierarchy stability will draw out the harmful moderating effects of hierarchy in knowledge-diverse teams by increasing the knowledge dominance of high-status members, reducing the accountability of high-status members, increasing the personal penalties levied on dissenting low-status members, and reducing the status rewards for low-status members who share information. The net effect will be lower information sharing across team members. Put differently, we are proposing a moderated-moderation relationship between knowledge diversity, status hierarchy, and hierarchy stability. That is, we expect that the moderating role of status hierarchy in the relationship between knowledge diversity and information sharing in teams will, in turn, be moderated by hierarchy stability. Specifically, we predict that the relationship between knowledge diversity and information sharing in teams will become weaker (more negative) with increasing levels of status hierarchy as that hierarchy becomes more stable and will become stronger (more positive) with increasing levels of status hierarchy as that hierarchy becomes less stable. Stated formally:

Hypothesis 1. Hierarchy stability moderates the moderating effect of status hierarchy on the relationship between knowledge diversity and team information sharing, such that status hierarchy will weaken the diversity-sharing relationship as hierarchy stability increases and will strengthen that relationship as hierarchy stability decreases.

Team Information Sharing and Team Performance

Hypothesis 1 suggests that the interaction of knowledge diversity, status hierarchy, and hierarchy stability will have important implications for information sharing in diverse teams. Given the robust relationship between information sharing and team performance that has been documented in past research (e.g., Mesmer-Magnus & DeChurch, 2009; van Knippenberg & Schippers, 2007), Hypothesis 1 therefore implies that this interaction should also impact team performance. Information sharing is a critical mechanism for converting knowledge diversity into team performance, since diverse teams are typically formed in order to perform complex tasks that require the input, insight, and information of individuals who bring differing perspectives (van Knippenberg et al., 2004). The effective functioning of diverse teams is therefore dependent on the capacity of team members to share and integrate their knowledge in making decisions (Stasser & Titus, 1985; van Knippenberg & van Ginkel, 2010). Information sharing ensures that the dispersed knowledge necessary for informed decision-making is fully available to the team, thereby allowing team members to combine and recombine insights in order to gain a richer understanding of team problems and identify sound, or potentially novel, solutions to team problems (Harrison & Klein, 2007). As a result, diverse teams that share more information often reach higher-quality decisions and perform better (Kearney et al., 2009). Integrating these arguments with our previous hypotheses, we propose that the indirect relationship between knowledge diversity and team performance through information sharing in teams will become weaker (more negative) with increasing levels of status hierarchy as that hierarchy becomes more stable and will become stronger (more positive) with increasing levels of status hierarchy as that hierarchy becomes less stable. Stated formally:

Hypothesis 2. Hierarchy stability moderates the moderating effect of status hierarchy on the indirect relationship between knowledge diversity and team performance through its effect on team information sharing, such that status hierarchy will weaken the indirect effect of knowledge diversity on team performance as hierarchy stability increases and will strengthen that indirect effect as hierarchy stability decreases.

METHOD

Sample and Procedure

The sample was constructed as part of an MBA thesis course coordinated by one member of our research team. During the MBA thesis course, students learned how to collect, analyze, and interpret quantitative team data. Toward that end, each student had to collect data from a small number of teams, using a standardized data collection procedure, described below, to make sure that all team data would be collected in an identical manner and

could later be merged into one data set that students could analyze (see Bledow, Rosing, & Frese, 2013). The course coordinator closely monitored the data collection process. Students were not allowed to collect data from their own organizations, but used their personal contacts to recruit teams and received concise definitional criteria for the work teams that could be sampled.[1]

These team selection criteria were based on multiple existing definitions of work teams in the organizational literature (e.g., Arrow & McGrath, 1995; Kozlowski & Bell, 2003; Kozlowski & Ilgen, 2006) as well as on conceptualizations of work teams that scholars have used in their research (e.g., van der Vegt & Bunderson, 2005). Specifically, students were instructed to sample existing work teams in the field that (a) shared common objectives and performed organizationally relevant work (not trivial tasks); (b) frequently interacted face to face; (c) exhibited interdependencies with respect to workflow, goals, and outcomes; (d) were colocated; and (e) were embedded in an organizational context. Consistent with prior research examining similar topics (e.g., Bunderson et al., 2016), we sampled teams with a minimum of four members.

Before approaching teams, students had to discuss the suitability of the teams with the course coordinator. After approval, the research project was first introduced to the teams' supervisors, who were invited to participate on an unpaid, voluntary basis. Participants were assured anonymity, and we did not provide feedback on the results of the study. Supervisors who agreed to participate provided the students with additional information, such as the nature of team tasks, the size and industry sector of the organization, and their subordinates' contact information.

The students subsequently visited the work teams on-site to collect data from subordinates and team supervisors at different periods in time to minimize artifactual covariation between the study variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Specifically, three separate surveys were distributed: two team member surveys and a supervisor survey. In the first team member survey, members provided information about perceptions of hierarchy stability, job roles, educational background, demographic information, and dyadic ratings of influence, prominence, and respect. Two weeks after completing the first team member survey, members rated a series of team process variables, including team information sharing. Approximately two weeks after the second team member survey, supervisors rated team performance. Supervisors were not included in the team member analyses because we wanted to keep team performance ratings independent of team process ratings (Bunderson et al., 2016). All data were collected within a three-month period.

Of the 198 teams we were able to approach within the course time frame, 28 were either unresponsive or declined to participate. We therefore collected data from 170 teams, consisting of 1,243 team members from 122 organizations. Of the 1,243 team members, we received survey responses from 1,095 (88% response rate). The average within-team response rate was 92%. These response rates exceed the typical response rates observed in organizational research (Allen, Stanley, Williams, & Ross, 2007; Rogelberg & Stanton, 2007).

To calculate our team level measures, we aggregated individual responses to the team level and thus excluded from the team scores individuals who did not respond to the survey. Four teams did not complete our measure of knowledge diversity. Two teams did not provide round robin influence, prominence, and respect ratings. Six teams did not have their leader evaluate team performance. Two teams had only two members respond thus limiting our ability to calculate our team-level variables of diversity and hierarchy. We excluded these teams from our analyses (yielding a team response rate of 79%). We followed Richter, West, van Dick, and Dawson's (2006) approach to evaluate the impact of incomplete group data as a function of the number of responses per group (n) and group size (N): $[N\text{-}n]/Nn$. We set the cut-off point at 0.32 because scores from groups at this value or lower are correlated with true scores at 0.95 or higher (Dawson, 2003). None of the teams in our sample was above this cut-off point and thus all were included on the basis of within-team response rates. Our final sample therefore included 156 teams

[1] Our sampling strategy follows a convenience sampling approach, as we did not randomly sample teams from our population of interest. This sampling strategy increases the feasibility of collecting a sufficiently large sample of teams, but can also introduce certain biases, such as restriction of range and issues pertaining to generalizability (Passmore & Baker, 2005). We attempted to reduce the impact of this approach by collecting data from a diverse array of organizations, industries, and team types, rather than studying teams within a single context, because doing so could increase the representativeness of our sample (Landers & Behrend, 2015).

consisting of 995 individuals from 110 different organizations.[2]

The teams in the final sample came from 13 different industries (e.g., information technology, hospitality, health care, finance, agriculture, transportation, manufacturing, trades, telecommunications, education, business services, real estate, and government) and represented different disciplinary subgroups, including sales, finance, R&D, administrative support, engineering, and marketing. In terms of the types of teams identified by Sundstrom, DeMeuse, and Futrell (1990: 125), 41 teams could be characterized as dealing with "advice/involvement," 66 teams with "production/service," 29 teams with "project/development," and 20 teams with "action/negotiation." Finally, with regard to organization size, 28% worked in organizations or branches with fewer than 20 employees, 23% in organizations or branches with 20 to 99 employees, 29% in organizations or branches with 100 to 499 employees, and 21% in organizations or branches with 500 or more employees. Teams had 6.95 members on average (SD = 2.58), with an average team tenure of 4.66 years (SD = 5.36), an average age of 41.17 years (SD = 11.87), and with 54% female. Most (98.5%) team members had a vocational qualification or higher.

[2] Because statistical power declines substantially when interactions are included in the model, we conducted an a priori power analysis to ensure that our sample size was sufficient to test our model. We conducted our power analysis using the Monte Carlo simulation method outlined by Dawson and Richter (2006), while adding new parameters to account for the nested nature of our data. It is important to note that mixed-effects models can have a power advantage over ordinary least squares models because the inclusion of a random intercept can partition Level 2 variance from the error term, thereby increasing power. This is accentuated as the standard deviation of the Level 2 intercept increases and the standard deviation of the residual decreases (Charness, Gneezy, & Kuhn, 2012). We generated 1,000 data sets each that vary along three parameters: sample size (40–200), measure reliability (.60–1.00), and effect size (0.00–0.50). Prior research on the interaction between hierarchy stability and hierarchy suggests a moderate effect size (Greer et al., 2018; Scheepers, 2009; Zink et al., 2008). To detect a moderate effect (slope difference a = −0.30) with at least 80% power and the level of reliability we observed in our data, it was necessary to have a sample size of at least 140 cases. We also conducted a post-hoc power analysis using the parameter values observed in our data and found that the statistical power of our sample was 84%. These analyses suggest that our current sample offers sufficient statistical power to test our model.

Measures

Knowledge diversity. We measured knowledge diversity based upon educational background and job type. We calculated educational background diversity based upon the subject area of each participant's highest degree. Participants selected one option that best described their educational background. Options included law, economics, business, mathematics, social science, technology, cultural studies, medicine, and natural sciences. Four participants provided an open-ended response to this question, all of which belonged to the same subject area. We subsequently considered this as a tenth category. We then calculated the team's educational background diversity using Blau's (1977) index: $1 - \sum p_i^2$, where p_i is the percentage of the group in the ith category. We employed Blau's index because it captures heterogeneity across qualitative categories and is the most common index of diversity in organizational research (Bunderson & van der Vegt, 2018). Next, we calculated job role diversity based on each team member's current role. Participants provided an open-ended response when asked to state their current job position. We calculated job role diversity based upon the number of different job positions represented within each team using Blau's (1977) index. Because knowledge diversity can be considered a combination of education and job roles that are different yet correlated dimensions (Amason, Shrader, Thomson, 1997), we follow prior precedent by combining these dimensions into a composite based on the mean of the standardized diversity scores (e.g., Ferrier, 2001). Carpenter, Geletkanycz, and Sanders (2004: 772) explained that, by using multiple indicators of diversity such as job role and educational background, "measurement error becomes less of a factor and the odds of generating spurious results from single-item variables is reduced." The bivariate correlation for these measures was r = .48.

Status hierarchy. We measured status hierarchy based upon peer ratings of prominence, respect, and influence, following Anderson et al. (2001). Participants were given the names of all members of their team and asked to indicate to what extent "each team member is influential within the team" (1 = *no influence*, 7 = *very influential*), "each team member is prominent within the team" (1 = *no prominence*, 7 = *very prominent*), and "you respect each of the following persons within the team" (1 = *very little respect*, 7 = *very much respect*). We calculated each team member's influence, prominence, and respect based upon their mean peer ratings for each item.

Our measure relies on peer ratings, rather than self-ratings, because a person's influence, prominence, and respect are conferred by others (Bunderson et al., 2016). After calculating each team member's peer ratings on each dimension, we calculated the standard deviation across team members to derive the team scores for prominence, influence, and respect hierarchies. We then calculated the mean score of the influence, prominence, and respect hierarchies to derive a measure of the team's status hierarchy. Cronbach's alpha for this measure was .83.

Team information sharing. We measured information sharing using a 6-item scale from De Dreu (2007). These items were: "Communicating is a problem in my team" (R), "Members of my team inform each other about work-related issues," "The quality of information exchange in our team is good," "I get new facts, insights, and ideas from my colleagues," "During work meetings, we exchange a lot of new information," and "We do not repeat ourselves during team meetings." The response scale ranged from 1 (*never*) to 7 (*very often*). Cronbach's alpha for this scale was .82, and aggregation statistics supported aggregation to the team level: ICC(1) = .27, ICC(2) = .69; median $r_{wg(j)}$ = 0.84 (SD = 0.13).

Hierarchy stability.[3] We developed a 6-item measure of hierarchy stability based on common definitions and experimental manipulations of unstable hierarchies (Jordan, Sivanathan, & Galinsky, 2011; Maner et al., 2007). We chose to develop a scale of hierarchy stability because prior work on this topic was experimental and hence only provided ways for inducing it, rather than assessing it. Our items were: "In this team, it is relatively easy to move up in the hierarchy" (R), "In this team, members sometimes lose their status" (R), "The pecking order in this team is stable," "Once you have status on this team it will stay that way," "The status of members of this team is subject to change" (R), and "Who on this team is influential is subject to change" (R). We measured these items on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Cronbach's alpha was .67[4] and aggregation statistics supported aggregation to the team level: ICC(1) = .23, ICC(2) = .65; median $r_{wg(j)}$ = 0.91 (SD = 0.08).

Team performance.[5] We measured team performance based on supervisor responses to a 3-item scale that asked each supervisor to compare the performance of the focal work team with that of other work teams within the same organization with similar composition, tasks, and customers. By invoking a relative comparison to other teams in the organization, we aimed for supervisors to contextualize their team's performance (Gong, Li, & Shin, 2011). These items were: "Compared to other teams within this organization, my team performs above average," "Other teams within my organization perform better than my team" (R), and "My team is generally rated more positively than other teams within the organization." The response set ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha for the 3-item scale was .78.

Control variables. We used a theoretically driven approach and followed recent guidance on including control variables in our models (Spector & Brannick, 2011). Our first set of controls focused on possible antecedents of hierarchy stability (i.e., task routineness or stability and membership stability [Aime et al., 2014; Satterstrom, 2016]). Including these controls provides additional assurance that the effects we observe are a function of hierarchy stability rather than these antecedents. For membership stability, we used a scale from Wageman, Hackman, and Lehman (2005), and, for task routineness or stability, we used a scale from Jehn, Northcraft, and Neale (1999). Second, following past hierarchy research, we included controls to capture the average amount of status within the team (e.g., Halevy, Chou, Galinsky, & Murnighan, 2012). By including the average levels of team status, we can better isolate the effects of our status hierarchy measure (Harrison & Klein, 2007). We do not include controls

[3] Although a validated measure of hierarchy stability was not available when we collected our field data, a measure was published by Hays and Bendersky in 2015. In our online validation study, we therefore also included our own stability scale and this measure. We observed a high bivariate correlation between the mean scores for our scale and the Hays and Bendersky (2015) scale (r = .68, $p < .001$).

[4] Given that Cronbach's alpha for this variable was just below the .70 standard customarily used to evaluate scale reliability (Nunnally, 1978), we cross-checked the internal consistency of this scale using two alternative reliability indices that have been proposed to correct problems associated with Cronbach's alpha: Guttman's lambda 6 (λ_6) and omega (ω_t) (Cho & Kim, 2015). We found Guttman's λ_6 yielded a reliability estimate of .73 and ω_t estimated reliability at .76, both of which exceed minimum acceptability levels for internal consistency.

[5] We conducted an online validation study in which we compared our scale and Edmondson's (1999) team performance measure. The results of this study showed a high bivariate correlation between the mean scores for these two scales (r = .78, $p < .001$).

that capture the mean levels of our knowledge diversity measure because these were derived from categorical variables, rather than continuous measures. Finally, we accounted for team size, since this variable can affect team cohesion and communication.

Analyses

To account for any potential organization-level nonindependence among team-level observations, we used multilevel modeling to test our hypotheses. To test Hypothesis 1, which involves a three-way interaction or moderated moderation, we followed guidance provided by Dawson and Richter (2006), who suggested that testing three-way interactions involves four sequential steps. First, the three-way interaction term is evaluated in terms of statistical significance in a model that also includes all three combinations of the two-way interaction terms. Second, if the three-way interaction term is statistically significant, an interaction plot can be used to visually compare the different simple slopes. Third, each simple slope is tested to examine whether that simple slope is significantly different from zero. And, fourth, relevant simple slopes can be compared to test whether those particular simple slopes are different from each other. For each step of this approach, we include a random intercept term to account for between-organization nonindependence.

To test Hypothesis 2, which involves moderated mediation, we examined the significance of indirect effects using bootstrapping with 10,000 draws to derive parameter estimates and confidence intervals (Preacher, Rucker, & Hayes, 2007). Estimating indirect effects via nonparametric bootstrapping is recommended because it does not make assumptions about the shape of the sampling distribution (Preacher et al., 2007). Because we are examining moderated mediation involving a three-way interaction, we examined the statistical significance of knowledge diversity on team performance through information sharing at high and low levels of hierarchy and at high and low levels of hierarchy stability. To account for the fact that some of our teams come from the same organizations, we calculated robust standard errors clustered around the organization using the "mediation" package in R (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014).

RESULTS

Table 1 includes descriptive statistics among our study variables. Table 2 presents the results of our multilevel models used to test Hypothesis 1. Model 1 shows the main effects for our theoretical variables; approximately 22% of the variance in information sharing is between-organization. We did not find evidence for a main effect of knowledge diversity on team information sharing (B = −0.00, *SE* = 0.04, $p = .941$), nor a main effect of status hierarchy (B = −0.01, *SE* = 0.04, $p = .785$). We did, however, find a positive main effect of hierarchy stability predicting team information sharing (B = 0.10, *SE* = 0.04, $p = .008$), a finding we address further in the Discussion. Model 2 shows the two-way interaction between knowledge diversity and status hierarchy. We did not find a statistically significant two-way interaction predicting team information sharing (B = 0.00, *SE* = 0.05, $p = .923$). These results provide initial evidence for the nuanced nature of the interrelationship between knowledge diversity and status hierarchy in teams. Model 3 includes all three two-way interactions, none of which was statistically significant. And Model 4 is used to test the three-way interaction proposed in Hypothesis 1.

Hypothesis 1 posited that hierarchy stability would moderate the moderating effect of a team's status hierarchy on the relationship between knowledge diversity and team information sharing. Model 4 of Table 2 shows a significant three-way interaction predicting information sharing (B = −0.13, *SE* = 0.06, $p = .017$). To understand the nature of this interaction, we plotted simple slopes (Figure 1) and calculated their significance. These results are presented in Table 3. Knowledge diversity was negatively related to team information sharing when status hierarchy and hierarchy stability were high (Est. = −0.21, *SE* = 0.10, $t = -2.02$, $p = .046$). We found a marginally significant positive effect on team information sharing when status hierarchy was high and hierarchy stability was low (Est. = 0.17, *SE* = 0.09, $t = 1.84$, $p = .069$). The *t*-tests, presented in Table 4, showed that the simple slopes of knowledge diversity predicting information sharing differed significantly for high hierarchy depending on hierarchy stability (slope difference a: $t = -2.50$, $p = .015$) such that the slope is significantly more negative when hierarchy stability is high than when it is low. Collectively, these findings offer support for Hypothesis 1 and further suggest that, whereas increased levels of hierarchy stability clearly exert a constricting effect as we had anticipated, it is less clear that decreased levels of hierarchy stability are exerting an amplifying effect.

Table 5 presents the moderated mediation results used to test Hypothesis 2 that knowledge diversity

TABLE 1
Descriptive Statistics and Correlations among Study Variables

		M	*SD*	1	2	3	4	5	6	7	8
1	Team performance	4.94	0.88								
2	Information sharing	4.79	0.46	.25**							
3	Hierarchy stability	4.66	0.39	.09	.32**						
4	Status hierarchy	0.77	0.25	−.13	−.15	−.04					
5	Knowledge diversity	0.41	0.23	.03	.03	.06	.12				
6	Status mean	4.68	0.53	−.04	.39**	.18*	−.22*	−.03			
7	Membership stability	5.12	1.05	.17*	.20*	.38**	−.14†	−.07	.11		
8	Task stability	4.06	0.74	.03	−.11	.07	−.01	−.04	−.22**	.03	
9	Team size	6.95	2.58	−.04	.06	−.07	−.02	.21**	−.10	−.24**	.04

Note: $n = 156$ teams.
† $p < .10$
* $p < .05$
** $p < .01$

would be more negatively related to team performance in stable hierarchical teams than unstable hierarchical teams, via its effect on team information sharing. Knowledge diversity is negatively related to team performance, via its effect on team information sharing, when status hierarchy and stability are high (Est. = −0.10, 95% CI [−0.23, 0.00], $p = .046$), but was only marginally positively related to team performance when status hierarchy is high and stability is low (Est. = 0.08, 95% CI [−0.00, 0.20], $p = .068$). These indirect effects differed significantly from each other (Est. = −0.18, $p = .008$). The indirect effect of knowledge diversity on team performance, via team information sharing, is more negative when status hierarchy and stability are high than when status hierarchy is high and stability is low. These results support Hypothesis 2, and again offer support for the constricting effect of hierarchy in knowledge-diverse teams, whereas the evidence supporting the amplifying effect of hierarchy is not as clear.

Robustness Checks

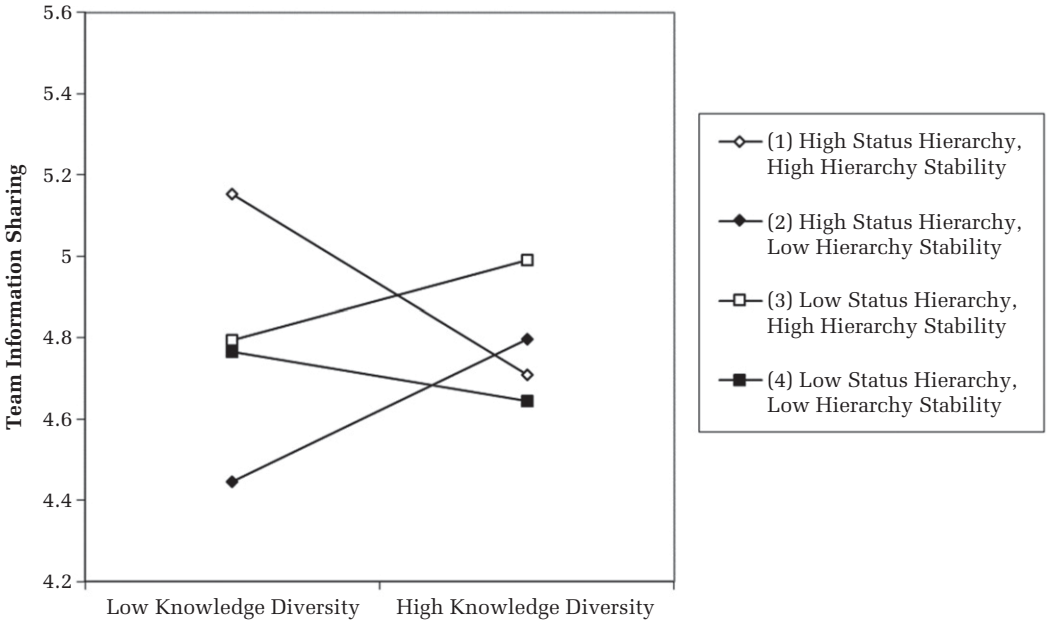
To verify the robustness of our results, we conducted five additional checks in which we examine

TABLE 2
Results of Multilevel Models Predicting Team Information Sharing

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	4.77	(0.04)***	4.77	(0.04)***	4.78	(0.04)***	4.78	(0.04)***	4.79	(0.04)***
Team size	0.05	(0.04)	0.05	(0.04)	0.05	(0.04)	0.05	(0.04)		
Task stability	−0.03	(0.04)	−0.03	(0.04)	−0.03	(0.04)	−0.03	(0.03)		
Membership stability	0.05	(0.04)	0.05	(0.04)	0.04	(0.04)	0.05	(0.04)		
Status mean	0.17	(0.04)***	0.17	(0.04)***	0.18	(0.04)***	0.18	(0.04)***		
Hierarchy stability	0.10	(0.04)**	0.10	(0.04)**	0.11	(0.04)**	0.12	(0.04)**	0.16	(0.04)***
Knowledge diversity	−0.00	(0.04)	−0.00	(0.04)	−0.00	(0.04)	−0.00	(0.04)	−0.01	(0.04)
Status hierarchy	−0.01	(0.04)	−0.01	(0.04)	−0.01	(0.04)	−0.01	(0.04)	−0.04	(0.04)
Knowledge diversity × Status hierarchy			0.00	(0.05)	0.00	(0.05)	−0.02	(0.05)	0.00	(0.05)
Knowledge diversity × Hierarchy stability					−0.04	(0.04)	−0.05	(0.04)	−0.04	(0.04)
Status hierarchy × Hierarchy stability					0.06	(0.05)	0.03	(0.05)	0.02	(0.05)
Knowledge diversity × Status hierarchy × Hierarchy stability							−0.13	(0.06)*	−0.13	(0.06)*
Random effect (Organization)	0.04		0.04		0.03		0.03		0.07	
Level 2 Observations (Organizations)	110		110		110		110		110	
Level 1 Observations (Teams)	156		156		156		156		156	

* $p < .05$
** $p < .01$
*** $p < .001$

FIGURE 1
Interaction Plot for Knowledge Diversity × Status Hierarchy × Hierarchy Stability Predicting Team Information Sharing



two comparisons: (a) the knowledge diversity–information sharing relationship at high hierarchy–high stability versus high hierarchy–low stability (Hypothesis 1) and (b) the indirect effect of knowledge diversity on performance through information sharing at high hierarchy–high stability versus high hierarchy–low stability (Hypothesis 2). In our first robustness check, we examined our models excluding all control variables (see Model 5 of Table 2). Second, past research has shown that the Blau index can be biased by not properly accounting for differences in group size (Biemann & Kearney, 2010). We therefore also tested our models using a bias-corrected version of the Blau index. Third, because our sample comprised teams across a variety of industries, we ran models including industry as a fixed effect. Fourth, we recognize that there are different types of teams included in our representative sample and that these differences may be partly responsible for the effects we observe. Using open-ended team descriptions from our survey, we relied on the Sundstrom et al. (1990) framework to categorize four types of teams (e.g., advice/involvement, production/service, project/development, and action/negotiation) and ran models including team type as a fixed effect. And, fifth, we also acknowledge that teams differ in the types of tasks that they are assigned and, in particular, those tasks can differ in their information sharing requirements (Mesmer-Magnus & DeChurch, 2009). To address this possibility, we ran our models including a measure of task interdependence (van der Vegt, Emans, & van de Vliert, 2001). A sample item includes: "The other team members and I depend on each other for information and resources we need to do our job well." Across each of these checks, we found support for both Hypothesis 1 and Hypothesis 2, suggesting that our findings are robust to these issues.

TABLE 3
Simple Slopes Analyses of Knowledge Diversity Predicting Team Information Sharing

	Est.	*SE*	*t*	*p*
(1) High hierarchy and High stability	−0.21	0.10	−2.02	.046
(2) High hierarchy and Low stability	0.17	0.09	1.84	.069
(3) Low hierarchy and High stability	0.10	0.09	1.06	.294
(4) Low hierarchy and Low stability	−0.06	0.09	−0.74	.461

Supplementary Analyses

Even though our theory focuses on team-level phenomena (i.e., understanding the interrelationship between team knowledge diversity and status

TABLE 4
Results of T-tests of Slope Differences Predicting Team Information Sharing

		Est.	*SE*	t-statistic	*p*
(a)	High hierarchy and High stability vs. High hierarchy and Low stability	−0.32	0.13	−2.50	0.015
(b)	High hierarchy and High stability vs. Low hierarchy and High stability	−0.24	0.13	−1.91	0.059
(c)	High hierarchy and Low stability vs. Low hierarchy and Low stability	0.19	0.11	1.71	0.090
(d)	Low hierarchy and High stability vs. Low hierarchy and Low stability	0.10	0.11	0.95	0.344
(e)	High hierarchy and High stability vs. Low hierarchy and Low stability	−0.14	0.12	−1.18	0.242
(f)	High hierarchy and Low stability vs. Low hierarchy and High stability	0.08	0.11	0.72	0.473

hierarchy), and thus should be tested at the team level, a dyadic analysis in which each team member rates all other team members in a round-robin format can supplement our team analysis, in two ways. First, our theory proposes different arguments about why hierarchy stability affects high-status versus low-status team members; a dyadic analysis allows us to compare information sharing for high-status versus low-status team members. Second, our theory also distinguishes between information that is uniquely held from information that is commonly held. While we do not directly measure the content of information that is shared between team members, we do know the knowledge background of each team member and, specifically, whether two team members have relatively similar or different knowledge backgrounds. Under the assumption that two team members with different (similar) knowledge backgrounds are more likely to share unique (overlapping) information, we can examine how hierarchy and hierarchy stability relate to sharing unique versus commonly held information.

We used a roster approach to measure dyadic information sharing. Such approaches are common in research on interpersonal and network processes (Kenny, 1994; Wasserman & Faust, 1994). We asked each team member to rate the extent to which "I give advice to" each other team member on a 3-point scale (1, "*not at all*"; 2, "*somewhat*"; 3, "*to a very strong degree*"). It should be noted that some scholars make conceptual distinctions between advice and information, suggesting that advice ties encompass both information that pertains to the team's task and also nontask-related suggestions, such as career advice (Cross & Sproull, 2004; Ibarra, 1997). However, other scholars have used the two terms interchangeably (e.g., Constant, Sproull, & Kiesler, 1996), measured advice ties based on whom participants go to for "information … for getting tasks done" (Chua, Ingram, & Morris, 2008: 442), or meta-analytically combined them (Balkundi & Harrison, 2006). Past research also suggests that advice giving and information sharing are both interpersonally cooperative behaviors that tend to function similarly in response to diversity, hierarchy, and stability (Larson et al., 2002; Thomas-Hunt, Ogden, & Neale, 2003). For this reason, we expect our advice measure to approximate dyadic information sharing.

To measure knowledge uniqueness, we compared the knowledge background of each dyadic member. Members who had the same educational background and the same job role were scored as a "2," team members with only one of those two dimensions in common were scored as a "1," and members with neither in common were scored as a "0". We then reversed-scored this scale to match our focus on knowledge diversity such that a high score indicates a high degree of knowledge uniqueness (i.e., low knowledge overlap) between two individuals. To measure the status of each team member, we followed the same steps as our team analyses in which we used the mean peer rating of each team member's influence, prominence, and respect. We group-mean centered this variable to better isolate within-team

TABLE 5
Results of Moderated Mediation Analyses Predicting Team Performance

	Est.	95% lower limit	95% upper limit	*p*
High status hierarchy, High stability	−0.10	−0.23	0.00	.046
High status hierarchy, Low stability	0.08	−0.00	0.20	.068
Low status hierarchy, High stability	0.05	−0.04	0.16	.261
Low status hierarchy, Low stability	−0.03	−0.15	0.07	.511

status differences (Hofmann & Gavin, 1998). To measure hierarchy stability, we also used the same measure as our team analyses in which we use the team mean of our 6-item scale. We also included the same control variables from our team analyses: team size, task stability, member stability, and team status mean. Finally, to address the nonindependence inherent in our dyadic data, we included random intercepts for each information provider and each information receiver.

Table 6 shows the results of our dyadic analyses. Model 1 includes the main effects of our theoretical variables. We found that knowledge uniqueness is negatively related to information sharing ($B = -0.04$, $SE = 0.01$, $t = -4.69$, $p < .001$), meaning that, at the dyadic level, commonly held knowledge is more likely to be discussed than unique knowledge, which is consistent with research showing that individuals prefer to share overlapping information compared to unique information (Stasser, 1999). We also found that high-status team members share more information than low-status team members ($B = 0.26$, $SE = 0.02$, $t = 11.17$, $p < .001$). Model 2 includes the two-way interaction between knowledge uniqueness and team member status; high-status team members were no more likely to share unique information than low-status team members ($B = 0.02$, $SE = 0.01$, $t = 1.53$, $p = .126$). Model 3 includes all three two-way interactions. We found a significant two-way interaction between member status and stability ($B = -0.04$, $SE = 0.02$, $t = -2.00$, $p = .046$), suggesting that high-status team members were more likely to share information in unstable rather than stable hierarchies. Model 4 is the full model that includes all two-way interactions and our three-way interaction. We found a significant three-way interaction ($B = -0.03$, $SE = 0.01$, $t = -2.03$, $p = .042$). In Model 5, we excluded control variables and found a significant three-way interaction ($B = -0.03$, $SE = 0.01$, $t = -2.07$, $p = .038$).

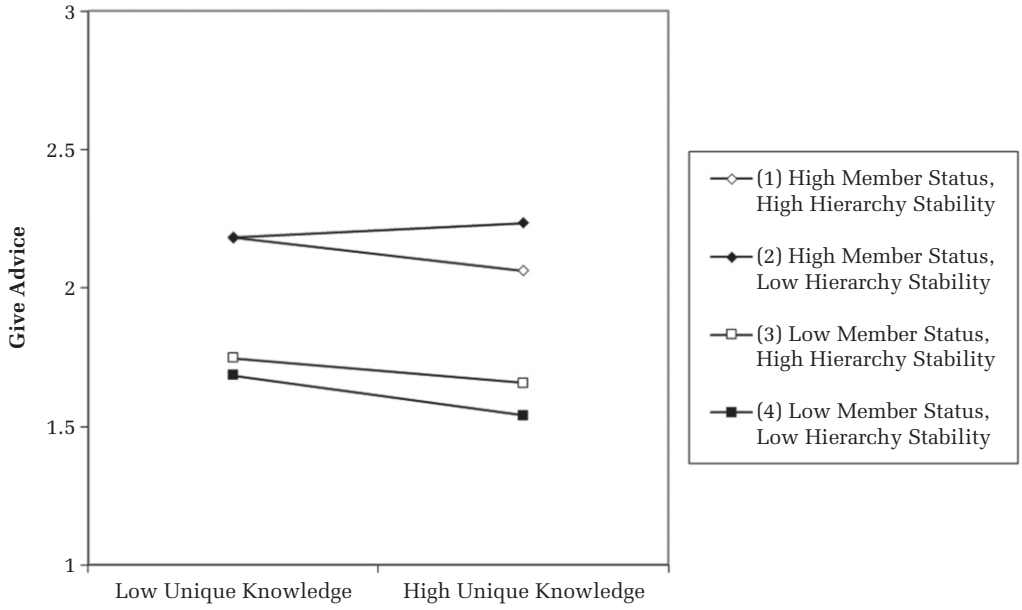
To understand the nature of the three-way interaction, we plotted it (Figure 2). We then compared the slopes of high-status team members sharing information with others who have unique and overlapping knowledge backgrounds under conditions of high versus low hierarchy stability. We found that high-status team members were more likely to share information with those from different knowledge backgrounds when hierarchy stability was low than when it was high ($t = -2.32$, $p = .020$). This finding is consistent with our theory. Next, we compared the slopes of low-status team members sharing information with others who have unique and common knowledge backgrounds under conditions of high versus low hierarchy stability. We found that there were no differences in information sharing ($t = 0.51$,

TABLE 6
Results of Multilevel Models Predicting Dyadic Advice Giving

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	1.91	(0.02)***	1.91	(0.02)***	1.91	(0.02)***	1.91	(0.02)***	1.95	(0.02)***
Team size	−0.10	(0.02)***	−0.10	(0.02)***	−0.10	(0.02)***	−0.10	(0.02)***		
Task stability	−0.05	(0.01)***	−0.05	(0.01)***	−0.05	(0.01)***	−0.05	(0.01)***		
Member stability	−0.02	(0.02)	−0.02	(0.02)	−0.02	(0.02)	−0.02	(0.02)		
Team status mean	0.06	(0.01)***	0.06	(0.01)***	0.06	(0.01)***	0.06	(0.01)***		
Unique knowledge	−0.04	(0.01)***	−0.04	(0.01)***	−0.04	(0.01)***	−0.04	(0.01)***	−0.04	(0.01)***
Member status	0.26	(0.02)***	0.25	(0.02)***	0.25	(0.02)***	0.25	(0.02)***	0.24	(0.02)***
Hierarchy stability	0.01	(0.02)	0.01	(0.02)	0.00	(0.02)	0.00	(0.02)	0.01	(0.02)
Unique knowledge × Member status			0.02	(0.01)	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)
Unique knowledge × Hierarchy stability					−0.01	(0.01)	−0.01	(0.01)	−0.01	(0.01)
Member status × Hierarchy stability					−0.05	(0.02)*	−0.04	(0.02)†	−0.05	(0.02)*
Unique knowledge × Member status × Hierarchy stability							−0.03	(0.01)*	−0.03	(0.01)*
Random effect (Information provider)	0.16		0.16		0.15		0.16		0.17	
Random effect (Information receiver)	0.02		0.02		0.02		0.02		0.02	
Observations	5,811		5,811		5,811		5,811		5,811	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

FIGURE 2
Interaction Plot for Knowledge Uniqueness × Member Status × Hierarchy Stability Predicting Advice Giving



$p = .607$). That is, low-status team members were no more likely to share information with others from unique knowledge backgrounds when hierarchy stability was high than when it was low. This finding is not consistent with our theoretical arguments, a point we address in the Discussion.

DISCUSSION

Understanding why teams often struggle to translate diverse knowledge into superior performance remains one of the most central questions in teams research. Recently, scholars have suggested incorporating the role of status hierarchy because hierarchical differentiation affects how information is shared, recognized, and utilized within a team (Bunderson & van der Vegt, 2018). This study examined the interactive effects of knowledge diversity and status hierarchy on team information sharing and, ultimately, team performance. Preliminary work on the interaction between knowledge diversity and status hierarchy leads to inconsistent and even contradictory predictions about how this interaction will play out. We synthesize these various arguments to illustrate that a status hierarchy can have constricting and amplifying effects in knowledge-diverse teams. On the constricting side, we suggest that status hierarchies can undercut information sharing in diverse teams because higher-status members may exert disproportionate influence over team decision-making and lower-status members may feel inhibited in offering perspectives that differ from high-status members. On the amplifying side, status hierarchy can enhance information sharing in diverse teams when higher-status members use their elevated position to share information with and solicit information from those who come from different knowledge backgrounds and hierarchy can also incentivize lower-status members to offer unique task contributions in an attempt to enhance their status.

We draw upon recent research on hierarchy stability to reconcile these alternative predictions. Whereas past work has extolled the benefits of stability in homogenous teams, because it curtails competitive behavior, we explain why stability can undermine information sharing in knowledge-diverse teams with steep hierarchies. Our study shows that, as hierarchy stability increases in knowledge-diverse teams, the constricting mechanisms of hierarchy supersede the amplifying mechanisms, thus weakening the relationship between knowledge diversity and team performance via team information sharing. We also find some evidence that, as hierarchy stability decreases, the amplifying effects of the status hierarchy may supersede the constricting mechanisms, strengthening the positive relationship between knowledge

diversity and team performance through its impact on team information sharing.

Our supplemental dyadic analyses confirm that hierarchy stability thwarts the sharing of unique information, but this effect appears to primarily apply to high-status rather than low-status team members—that is, high-status members were more likely to share diverse information when the team hierarchy was unstable than when it was stable, whereas instability did not affect the information sharing behavior of low-status members. One potential explanation for this asymmetry could derive from different behavioral responses to the threat of status loss (i.e., high-status members) versus the prospect of status gain (i.e., low-status members). Prior research, grounded in prospect theory, has shown that the threat of status loss stimulates greater motivational force than the potential for status gains (Pettit, Yong, & Spataro, 2010). Another possibility is that hierarchy stability may have a tighter empirical link to information sharing behavior for high-status team members than for low-status members. High-status team members may anticipate that sharing unique information is an especially potent means for demonstrating their value to the team, whereas low-status team members, in contrast, might believe that alternative behaviors are better suited to highlight their distinct contribution to the team (e.g., volunteering for unwanted tasks, increasing discretionary effort toward completing their own tasks). Examining why there appears to be a different information sharing response to hierarchy stability for high-status versus low-status team members is a potential line of inquiry for future research.

Contributions

Our study makes two important contributions to the teams literature. First, we extend the teams literature by examining how two foundational elements of team life—knowledge diversity and status hierarchy—interrelate to affect team information exchange and team performance (Harrison & Klein, 2007; Magee & Galinsky, 2008). Prior research on intrateam member differences has largely developed along two independent tracks: the diversity literature, which focuses on horizontal member differences across task-related specializations, and the hierarchy literature, which emphasizes status differences. Recently, scholars have noted that hierarchy may be an important factor in understanding the relationship between knowledge diversity and team performance (Bunderson & van der Vegt, 2018; Guillaume et al., 2017; van Dijk and van Engen, 2013). We show that, indeed, one cannot fully understand the effects of diversity on team processes and outcomes without accounting for hierarchy.

We suggest that hierarchy can have different and even offsetting effects on the diversity–performance relationship. Emerging work in several related areas leads to contrasting and, in certain cases, competing predictions about how a team's status hierarchy might affect its ability to leverage knowledge diversity. By elaborating on the constricting and amplifying mechanisms associated with hierarchy in knowledge-diverse teams, we identify and highlight these conflicting arguments. We then explain why the interactive effects of knowledge diversity and status hierarchy depend on characteristics of the hierarchy and, more specifically, on hierarchy stability. Our study therefore highlights the critical importance of considering hierarchy stability in examining the joint effects of horizontal and vertical member differences on team outcomes (see Bunderson & van der Vegt, 2018). Our model considers the possibility that the information sharing and performance benefits of knowledge diversity might vary depending on specific team dynamics that occur under varying degrees of hierarchy steepness and stability.

Second, we also contribute to the hierarchy literature by extending our understanding of the effects of hierarchy stability on team functioning. Prior research has emphasized the benefits of hierarchy stability because it can quell intrateam competition (Bendersky & Pai, 2018). But, past studies on stability have mostly sampled homogenous teams in which team members hold redundant knowledge (e.g., Maner & Mead, 2010; Mead & Maner, 2012). Our findings reaffirm that stability is particularly beneficial in homogenous teams with steep hierarchies, presumably because members of such teams may resort to competitive maneuvering (e.g., withholding information) given their inability to demonstrate value by sharing differentiated knowledge. We show, however, that hierarchy stability is associated with lower information sharing in knowledge-diverse teams. This finding implies that hierarchy stability can entail costs in diverse teams: disproportionate influence given to one knowledge perspective, less accountability for high-status members, and increased risk with decreased rewards for sharing unique information. At the same time, it is important to note that the main effect of hierarchy stability on team information sharing in our sample of teams was positive. Moreover, the interactions depicted in Figure 1 suggest that the information

sharing effects of hierarchy stability or instability were more pronounced in steep and homogeneous teams than in steep and diverse teams. In other words, whereas we remained agnostic in our theorizing about whether stability effects would be stronger in homogenous teams or in diverse teams, our results suggest that stability is more consequential in homogenous teams. These findings suggest the need for further research investigating why and when stability effects are stronger when members of a hierarchically differentiated team possess similar (rather than divergent) knowledge. Future research might also examine whether stability effects vary with different operationalizations of knowledge diversity (e.g., functional experience) or in samples with more extreme differences in member knowledge.

Practical Implications

Our findings also hold important implications for practice in light of recent trends for how teams are deployed. Teams are regularly assembled in ways that increase knowledge diversity, with the intention of facilitating unique information sharing (Guillaume et al., 2017). Organizations often also eschew hierarchy, under the presumption that it impedes team functioning (Bernstein, Bunch, Canner, & Lee, 2016). And, finally, organizational environments are increasingly characterized by evolving task demands, membership changes, and broadly defined roles, which decrease hierarchy stability (Satterstrom, 2016). By focusing on these particular components, we address aspects of team life that are more relevant than ever. Our paper shows that understanding how these three foundational elements of teams should be managed is neither straightforward nor intuitive. We point out that what matters most is not their independent effects but, rather, how these three components work together interactively to promote team functioning. Below, we offer a clear roadmap that can help managers navigate these complex issues as they guide their team.

The theory and results of this study suggest that managers and leaders of knowledge-diverse teams must ask themselves three key questions, and in this order: (a) "How important is the open exchange of diverse knowledge for the successful performance of this team?"; (b) "To what extent do team members differ in the prominence, influence, and respect they receive within the team?"; and (c) "Is the status hierarchy within this team stable (i.e., reinforced by roles, authority, and norms), or do members routinely change status positions?" If the open exchange of diverse knowledge is important (Question 1) and status differences exist within the team (Question 2), then this study offers evidence that the third question is critically important for any manager attempting to fully leverage the potential of a knowledge-diverse team. Put simply, this study suggests that a stable hierarchy can undermine information sharing in knowledge-diverse teams that are hierarchically differentiated.

These results have important implications for the formation of new knowledge-diverse teams as well as for the management of existing knowledge-diverse teams. In forming a new knowledge-diverse team, if a manager concludes that status differences will and must exist within the team (e.g., teams where necessary occupational differences carry status implications), then she or he must give thought to the question of hierarchy stability and should take measures to avoid stable hierarchies. This might be done by deliberately rotating leadership, avoiding prescribed role assignments, changing roles or responsibilities, bringing in new members and rotating old members off the team, encouraging learning about other knowledge domains, and structuring interactions in ways that require the input of all members (e.g., the nominal group technique).

But what about cases in which an existing knowledge-diverse team with status differentiation already has a stable hierarchy in place? The results of this study suggest that such a team may not be fully leveraging the benefits of their knowledge diversity. All of the measures described above are just as relevant for reducing the stability of a team's hierarchy in an existing team, although they will clearly be more difficult to implement when high-status members are being asked to sacrifice the security of stable and predictable status positions. In such cases, change leadership must come from those with higher status. Past research suggests that team-based goals, incentives, and feedback are one way to incentivize higher-status members to share diverse information (van der Vegt et al., 2010).

Study Limitations and Future Research

Our study design included several elements aimed at increasing confidence in our results. Our data collection approach made it possible to collect data from a diverse sample of teams, which increases the generalizability of our findings. In addition, we collected data from different sources (members and supervisors) and temporally separated our measures. Nevertheless, there are aspects of our study design

that should be noted as limitations and point to opportunities for future research.

First, our measure of hierarchy stability is based upon team member perception rather than direct measurement of actual changes in the hierarchy. We chose to measure hierarchy stability this way since these perceptions are more proximal to information sharing behavior and because past experimental research has shown that people appear quite sensitive to manipulations of hierarchy stability (Knight & Mehta, 2017; Scheepers, 2009; Zink et al., 2008). Nevertheless, it would be helpful for future work to show whether there is a strong correspondence between perceived and actual changes in the hierarchy. Furthermore, it would be interesting to know whether actual hierarchy stability and perceived hierarchy stability relate to different outcomes. Finally, another avenue of research would be to examine the impact of situations in which there is a disconnect between perception and reality for hierarchy stability.

Second, even though we temporally separated our measures, we cannot assert causality with our field study. Our model proposes that hierarchy and hierarchy stability interact with knowledge diversity to jointly shape information sharing. However, we cannot rule out the possibility that information sharing affects hierarchy or hierarchy stability since prior work has shown that information sharing can lead to changes in one's hierarchical position (e.g., Flynn et al., 2006). Our research design did not permit exploring the reciprocal relationship that exists between information sharing and hierarchy stability, thereby suggesting one possible area for future inquiry involving (field) experiments or longitudinal study designs.

Third, we used an aggregated measure of team information sharing that reflects shared team member perceptions about overall patterns of information sharing. We chose this approach because the countervailing predictions about the interplay of knowledge diversity and status hierarchy operate at the team level of theoretical abstraction. Using an overall measure of team information sharing allows us to more directly test our theoretical model. Furthermore, a team-level measure does not entail a critical issue associated with dyadic measures of information sharing, which is that these (potentially private) bilateral exchanges may not always be reflected in team-level discussion and decision-making. Nevertheless, we do acknowledge that our team-level measure is limited because we cannot decompose the underlying patterns of information sharing based upon high-status versus low-status team members nor common versus unique information. To address this limitation, we conducted a supplementary analysis based on dyadic patterns of information sharing. But, even despite this additional analysis, we did not directly capture the actual information exchanged, merely the degree to which information is exchanged. Thus, our dyadic measure of common versus unique information reflects whether two people who share information come from the same or different knowledge background, rather than the specific information content exchanged. Future work is needed to understand more precisely how diversity, hierarchy, and stability affect the content of information that is exchanged.

CONCLUSION

We have demonstrated that the way in which status hierarchy interrelates with knowledge diversity to affect information sharing and team performance depends upon hierarchy stability. Increases in hierarchy stability elicit the harmful moderating effects of hierarchy in diverse teams by reducing team information sharing, whereas decreases in hierarchy stability may amplify the beneficial moderating effects of hierarchy by promoting information sharing. Thus, even though hierarchy stability can benefit information sharing in homogenous teams with steep hierarchies, we found that it becomes detrimental in diverse teams with steep hierarchies. The theory and results of this study provide a call for future research to explore the critical interplay between diversity and hierarchy in teams.

REFERENCES

Aime, F., Humphrey, S., DeRue, D. S., & Paul, J. B. 2014. The riddle of heterarchy: Power transitions in cross-functional teams. ***Academy of Management Journal***, 57: 327–352.

Allen, N. J., Stanley, D. J., Williams, H. M., & Ross, S. J. 2007. Assessing the impact of nonresponse on work group diversity effects. ***Organizational Research Methods***, 10: 262–286.

Amason, A., Shrader, R., & Thomson, G. 1997. ***Relative newness, top management teams, and new venture performance: Contingencies in new ventures.*** Paper presented at the annual meeting of the Academy of Management, Boston, MA.

Anderson, C., & Brown, C. E. 2010. The functions and dysfunctions of hierarchy. ***Research in Organizational Behavior***, 30: 55–89.

Anderson, C., & Galinsky, A. D. 2006. Power, optimism, and risk-taking. ***European Journal of Social Psychology***, 36: 511–536.

Anderson, C., John, O. P., Keltner, D., & Kring, A. M. 2001. Who attains social status? Effects of personality and physical attractiveness in social groups. ***Journal of Personality and Social Psychology***, 81: 116–132.

Anderson, C., & Kilduff, G. J. 2009a. Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. ***Journal of Personality and Social Psychology***, 96: 491–503.

Anderson, C., & Kilduff, G. J. 2009b. The pursuit of status in social groups. ***Current Directions in Psychological Science***, 18: 295–298.

Anderson, C., Srivastava, S., Beer, J. S., Spataro, S. E., & Chatman, J. A. 2006. Knowing your place: Self-perceptions of status in face-to-face groups. ***Journal of Personality and Social Psychology***, 91: 1094–1110.

Aquino, K., & Thau, S. 2009. Workplace victimization: Aggression from the target's perspective. ***Annual Review of Psychology***, 60: 717–741.

Arrow, H., & McGrath, J. E. 1995. Membership dynamics in groups at work: A theoretical framework. ***Research in Organizational Behavior***, 17: 373–411.

Baer, M., Dirks, K. T., & Nickerson, J. A. 2013. Microfoundations of strategic problem formulation. ***Strategic Management Journal***, 34: 197–214.

Balkundi, P., & Harrison, D. A. 2006. Ties, leaders, and time in teams: Strong inference about network structure's effects on team viability and performance. ***Academy of Management Journal***, 49: 49–68.

Becker, B. E., & Huselid, M. A. 1992. The incentive effects of tournament compensation systems. ***Administrative Science Quarterly***, 37: 336–350.

Bendersky, C., & Pai, J. 2018. Status dynamics. ***Annual Review of Organizational Psychology and Organizational Behavior***, 5: 183–199.

Berger, J., Cohen, B. P., & Zelditch, M., Jr. 1972. Status characteristics and social interaction. ***American Sociological Review***, 37: 241–255.

Bernstein, E., Bunch, J., Canner, N., & Lee, M. 2016. Beyond the holacracy hype. ***Harvard Business Review***, 94(7): 38–49.

Biemann, T., & Kearney, E. 2010. Size does matter: How varying group sizes in a sample affect the most common measures of group diversity. ***Organizational Research Methods***, 13: 582–599.

Blau, P. M. 1977. ***Inequality and heterogeneity: A primitive theory of social structure***. New York, NY: Free Press.

Bledow, R., Rosing, K., & Frese, M. 2013. A dynamic perspective on affect and creativity. ***Academy of Management Journal***, 56: 432–450.

Brescoll, V. L. 2011. Who takes the floor and why: Gender, power, and volubility in organizations. ***Administrative Science Quarterly***, 56: 622–641.

Bunderson, J. S. 2003. Recognizing and utilizing expertise in work groups: A status characteristics perspective. ***Administrative Science Quarterly***, 48: 557–591.

Bunderson, J. S., & Boumgarden, P. 2010. Structure and learning in self-managed teams: Why "bureaucratic" teams can be better learners. ***Organization Science***, 21: 609–624.

Bunderson, J. S., & Reagans, R. E. 2011. Power, status, and learning in organizations. ***Organization Science***, 22: 1182–1194.

Bunderson, J. S., & van der Vegt, G. S. 2018. Diversity and inequality in management teams: A review and integration of research on vertical and horizontal member differences. ***Annual Review of Organizational Psychology and Organizational Behavior***, 5: 47–73.

Bunderson, J. S., van der Vegt, G. S., Cantimur, Y., & Rink, F. 2016. Different views of hierarchy and why they matter: Hierarchy as inequality or as cascading influence. ***Academy of Management Journal***, 59: 1265–1289.

Bunderson, J. S., van der Vegt, G. S., & Sparrowe, R. T. 2014. Status inertia and member replacement in role-differentiated teams. ***Organization Science***, 25: 57–72.

Cannella, A. A., Jr., Park, J. H., & Lee, H. U. 2008. Top management team functional background diversity and firm performance: Examining the roles of team member colocation and environmental uncertainty. ***Academy of Management Journal***, 51: 768–784.

Carpenter, M. A., & Fredrickson, J. W. 2001. Top management teams, global strategic posture, and the moderating role of uncertainty. ***Academy of Management Journal***, 44: 533–545.

Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. 2004. Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. ***Journal of Management***, 30: 749–778.

Case, C. R., & Maner, J. K. 2014. Divide and conquer: When and why leaders undermine the cohesive fabric of their group. ***Journal of Personality and Social Psychology***, 107: 1033–1050.

Charness, G., Gneezy, U., & Kuhn, M. A. 2012. Experimental methods: Between-subject and within-subject design. ***Journal of Economic Behavior & Organization***, 81: 1–8.

Cho, E., & Kim, S. 2015. Cronbach's coefficient alpha: Well-known but poorly understood. ***Organizational Research Methods***, 18: 207–230.

Chua, R. Y. J., Ingram, P., & Morris, M. W. 2008. From the head and the heart: Locating cognition-and affect-based trust in managers' professional networks. ***Academy of Management Journal***, 51: 436–452.

Constant, D., Sproull, L., & Kiesler, S. 1996. The kindness of strangers: The usefulness of electronic weak ties for technical advice. ***Organization Science***, 7: 119–135.

Cross, R., & Sproull, L. 2004. More than an answer: Information relationships for actionable knowledge. ***Organization Science***, 15: 446–462.

Dawson, J. F. 2003. Do we have enough? The accuracy of incomplete data from small groups. ***Academy of Management Proceedings***, 1: A1–A6.

Dawson, J. F., & Richter, A. W. 2006. Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. ***Journal of Applied Psychology***, 91: 917–926.

De Dreu, C. K. 2007. Cooperative outcome interdependence, task reflexivity, and team effectiveness: A motivated information processing perspective. ***Journal of Applied Psychology***, 92: 628–638.

De Dreu, C. K., Nijstad, B. A., & van Knippenberg, D. 2008. Motivated information processing in group judgment and decision making. ***Personality and Social Psychology Review***, 12: 22–49.

Detert, J. R., & Edmondson, A. C. 2011. Implicit voice theories: Taken-for-granted rules of self-censorship at work. ***Academy of Management Journal***, 54: 461–488.

Doyle, S. P., Lount, R. B., Jr., Wilk, S. L., & Pettit, N. C. 2016. Helping others most when they are not too close: Status distance as a determinant of interpersonal helping in organizations. ***Academy of Management Discoveries***, 2: 155–174.

Duguid, M. M., Loyd, D. L., & Tolbert, P. S. 2012. The impact of categorical status, numeric representation, and work group prestige on preference for demographically similar others: A value threat approach. ***Organization Science***, 23: 386–401.

Edmondson, A. 1999. Psychological safety and learning behavior in work teams. ***Administrative Science Quarterly***, 44: 350–383.

Eisenhardt, K. M., & Bourgeois, L. J., III. 1988. Politics of strategic decision making in high-velocity environments: Toward a midrange theory. ***Academy of Management Journal***, 31: 737–770.

Emerson, R. M. 1962. Power-dependence relations. ***American Sociological Review***, 27: 31–41.

Ferrier, W. J. 2001. Navigating the competitive landscape: The drivers and consequences of competitive aggressiveness. ***Academy of Management Journal***, 44: 858–877.

Finkelstein, S. 1992. Power in top management teams: Dimensions, measurement, and validation. ***Academy of Management Journal***, 35: 505–538.

Fligstein, N. 1987. The intraorganizational power struggle: Rise of finance personnel to top leadership in large corporations, 1919–1979. ***American Sociological Review***, 52: 44–58.

Flynn, F. J., Reagans, R. E., Amanatullah, E. T., & Ames, D. R. 2006. Helping one's way to the top: Self-monitors achieve status by helping others and knowing who helps whom. ***Journal of Personality and Social Psychology***, 91: 1123–1137.

Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. 2008. Power reduces the press of the situation: Implications for creativity, conformity, and dissonance. ***Journal of Personality and Social Psychology***, 95: 1450–1466.

Gigone, D., & Hastie, R. 1993. The common knowledge effect: Information sharing and group judgment. ***Journal of Personality and Social Psychology***, 65: 959–974.

Gong, G., Li, L. Y., & Shin, J. Y. 2011. Relative performance evaluation and related peer groups in executive compensation contracts. ***Accounting Review***, 86: 1007–1043.

Greer, L. L., de Jong, B. A., Schouten, M. E., & Dannals, J. E. 2018. Why and when hierarchy impacts team effectiveness: A meta-analytic integration. ***Journal of Applied Psychology***, 103: 591–613.

Guillaume, Y. R., Dawson, J. F., Otaye-Ebede, L., Woods, S. A., & West, M. A. 2017. Harnessing demographic differences in organizations: What moderates the effects of workplace diversity? ***Journal of Organizational Behavior***, 38: 276–303.

Halevy, N., Chou, E. Y., Galinsky, A. D., & Murnighan, J. K. 2012. When hierarchy wins: Evidence from the national basketball association. ***Social Psychological & Personality Science***, 3: 398–406.

Hardy, C. L., & van Vugt, M. 2006. Nice guys finish first: The competitive altruism hypothesis. ***Personality and Social Psychology Bulletin***, 32: 1402–1413.

Harrison, D. A., & Klein, K. J. 2007. What's the difference? Diversity constructs as separation, variety, or disparity in organizations. ***Academy of Management Review***, 32: 1199–1228.

Harrison, S. H., & Rouse, E. D. 2014. Let's dance! Elastic coordination in creative group work: A qualitative study of modern dancers. ***Academy of Management Journal***, 57: 1256–1283.

Hays, N. A., & Bendersky, C. 2015. Not all inequality is created equal: Effects of status versus power hierarchies on competition for upward mobility. ***Journal of Personality and Social Psychology***, 108: 867–882.

Hofmann, D. A., & Gavin, M. B. 1998. Centering decisions in hierarchical linear models: Implications for research in organizations. ***Journal of Management***, 24: 623–641.

Homan, A. C., van Knippenberg, D., Van Kleef, G. A., & De Dreu, C. K. 2007. Bridging faultlines by valuing diversity: Diversity beliefs, information elaboration, and performance in diverse work groups. ***Journal of Applied Psychology***, 92: 1189–1199.

Ibarra, H. 1997. Paving an alternative route: Gender differences in managerial networks. ***Social Psychology Quarterly***, 60: 91–102.

Jehn, K. A., Northcraft, G. B., & Neale, M. A. 1999. Why differences make a difference: A field study of diversity, conflict and performance in workgroups. ***Administrative Science Quarterly***, 44: 741–763.

Jordan, J., Sivanathan, N., & Galinsky, A. D. 2011. Something to lose and nothing to gain: The role of stress in the interactive effect of power and stability on risk taking. ***Administrative Science Quarterly***, 56: 530–558.

Joshi, A., & Roh, H. 2009. The role of context in work team diversity research: A meta-analytic review. ***Academy of Management Journal***, 52: 599–627.

Kakkar, H., Sivanathan, N., & Gobel, M. S. 2020. Fall from grace: The role of dominance and prestige in the punishment of high-status actors. ***Academy of Management Journal***, 63: 530–553.

Kearney, E., Gebert, D., & Voelpel, S. C. 2009. When and how diversity benefits teams: The importance of team members' need for cognition. ***Academy of Management Journal***, 52: 581–598.

Keltner, D., Gruenfeld, D. H., & Anderson, C. 2003. Power, approach, and inhibition. ***Psychological Review***, 110: 265–284.

Kenny, D. A. 1994. ***Interpersonal perception: A social relations analysis***. New York, NY: Guilford Press.

Kilduff, G. J., Elfenbein, H. A., & Staw, B. M. 2010. The psychology of rivalry: A relationally dependent analysis of competition. ***Academy of Management Journal***, 53: 943–969.

Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. 2006. Dynamic delegation: Shared, hierarchical, and deindividualized leadership in extreme action teams. ***Administrative Science Quarterly***, 51: 590–621.

Knight, E. L., & Mehta, P. H. 2017. Hierarchy stability moderates the effect of status on stress and performance in humans. ***Proceedings of the National Academy of Sciences of the United States of America***, 114: 78–83.

Kozlowski, S. W., & Bell, B. S. 2003. Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), ***Handbook of psychology: Industrial and organizational psychology***, vol. 12: 333–375. New York, NY: Wiley.

Kozlowski, S. W., & Ilgen, D. R. 2006. Enhancing the effectiveness of work groups and teams. ***Psychological Science in the Public Interest***, 7: 77–124.

Landers, R. N., & Behrend, T. S. 2015. An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. ***Industrial and Organizational Psychology: Perspectives on Science and Practice***, 8: 142–164.

Larson, J. R., Christensen, C., Abbott, A. S., & Franz, T. M. 1996. Diagnosing groups: charting the flow of information in medical decision-making teams. ***Journal of Personality and Social Psychology***, 71: 315–330.

Larson, J. R., Jr., Christensen, C., Franz, T. M., & Abbott, A. S. 1998. Diagnosing groups: The pooling, management, and impact of shared and unshared case information in team-based medical decision making. ***Journal of Personality and Social Psychology***, 75: 93–108.

Larson, J. R., Jr., Sargis, E. G., Elstein, A. S., & Schwartz, A. 2002. Holding shared versus unshared information: Its impact on perceived member influence in decision-making groups. ***Basic and Applied Social Psychology***, 24: 145–155.

Lazear, E. P., & Rosen, S. 1981. Rank-order tournaments as optimum labor contracts. ***Journal of Political Economy***, 89: 841–864.

Lerner, J. S., & Tetlock, P. E. 1999. Accounting for the effects of accountability. ***Psychological Bulletin***, 125: 255–285.

Lian, H., Ferris, D. L., Morrison, R., & Brown, D. J. 2014. Blame it on the supervisor or the subordinate? Reciprocal relations between abusive supervision and organizational deviance. ***Journal of Applied Psychology***, 99: 651–664.

Locke, K. D., & Heller, S. 2017. Communal and agentic interpersonal and intergroup motives predict preferences for status versus power. ***Personality and Social Psychology Bulletin***, 43: 71–86.

Magee, J. C., & Galinsky, A. D. 2008. Social hierarchy: The self-reinforcing nature of power and status. ***Academy of Management Annals***, 2: 351–398.

Maner, J. K., Gailliot, M. T., Butz, D. A., & Peruche, B. M. 2007. Power, risk, and the status quo: Does power promote riskier or more conservative decision making? ***Personality and Social Psychology Bulletin***, 33: 451–462.

Maner, J. K., & Mead, N. L. 2010. The essential tension between leadership and power: When leaders sacrifice group goals for the sake of self-interest. ***Journal of Personality and Social Psychology***, 99: 482–497.

Marks, M. A., Zaccaro, S. J., & Mathieu, J. E. 2000. Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. ***Journal of Applied Psychology***, 85: 971–986.

Mast, M. S. 2002. Dominance as expressed and inferred through speaking time: A meta-analysis. ***Human Communication Research***, 28: 420–450.

Mead, N. L., & Maner, J. K. 2012. On keeping your enemies close: Powerful leaders seek proximity to ingroup power threats. ***Journal of Personality and Social Psychology***, 102: 576–591.

Mesmer-Magnus, J. R., & DeChurch, L. A. 2009. Information sharing and team performance: A meta-analysis. ***Journal of Applied Psychology***, 94: 535–546.

Milliken, F. J., & Martins, L. L. 1996. Searching for common threads: Understanding the multiple effects of diversity in organizational groups. ***Academy of Management Review***, 21: 402–433.

Mitchell, R., & Boyle, B. 2015. Professional diversity, identity salience and team innovation: The moderating role of open-mindedness norms. ***Journal of Organizational Behavior***, 36: 873–894.

Mitchell, R., & Nicholas, S. 2006. Knowledge creation in groups: The value of cognitive diversity, transactive memory and open-mindedness norms. ***Electronic Journal of Knowledge Management***, 4: 67–74.

Nickerson, J. A., & Zenger, T. R. 2008. Envy, comparison costs, and the economic theory of the firm. ***Strategic Management Journal***, 29: 1429–1449.

Nunnally, J. 1978. ***Psychometric theory*** (2nd ed.). New York, NY: McGraw Hill.

Park, W. W., Lew, J. Y., & Lee, E. K. 2018. Team knowledge diversity and team creativity: The moderating role of status inequality. ***Social Behavior and Personality***, 46: 1611–1622.

Passmore, D. L., & Baker, R. M. 2005. Sampling strategies and power analysis. In R. A. Swanson & E. F. Holton, III (Eds.), ***Research in organizations: Foundations and methods of inquiry***: 45–55. San Francisco, CA: Berrett Koehler.

Pettit, N. C., Yong, K., & Spataro, S. E. 2010. Holding your place: Reactions to the prospect of status gains and losses. ***Journal of Experimental Social Psychology***, 46: 396–401.

Pitcher, P., & Smith, A. D. 2001. Top management team heterogeneity: Personality, power, and proxies. ***Organization Science***, 12: 1–18.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. ***Journal of Applied Psychology***, 88: 879–903.

Postmes, T., Spears, R., & Cihangir, S. 2001. Quality of decision making and group norms. ***Journal of Personality and Social Psychology***, 80: 918–930.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. 2007. Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. ***Multivariate Behavioral Research***, 42: 185–227.

Richter, A. W., West, M. A., van Dick, R., & Dawson, J. F. 2006. Boundary spanners' identification, intergroup contact, and effective intergroup relations. ***Academy of Management Journal***, 49: 1252–1269.

Ridgeway, C. L. 1982. Status in groups: The importance of motivation. ***American Sociological Review***, 47: 76–88.

Ridgeway, C., & Diekema, D. 1989. Dominance and collective hierarchy formation in male and female task groups. ***American Sociological Review***, 15: 79–93.

Rogelberg, S. G., & Stanton, J. M. 2007. Introduction: Understanding and dealing with organizational survey nonresponse. ***Organizational Research Methods***, 10: 195–209.

Ronay, R., Greenaway, K., Anicich, E. M., & Galinsky, A. D. 2012. The path to glory is paved with hierarchy: When hierarchical differentiation increases group effectiveness. ***Psychological Science***, 23: 669–677.

Satterstrom, P. 2016. How micro-processes change social hierarchies in teams (Unpublished doctoral dissertation). Harvard University, Cambridge, MA.

Scheepers, D. 2009. Turning social identity threat into challenge: Status stability and cardiovascular reactivity during inter-group competition. ***Journal of Experimental Social Psychology***, 45: 228–233.

Shepherd, L., Spears, R., & Manstead, A. S. 2013. When does anticipating group-based shame lead to lower ingroup favoritism? The role of status and status stability. ***Journal of Experimental Social Psychology***, 49: 334–343.

Sleebos, E., Ellemers, N., & de Gilder, D. 2006. The carrot and the stick: Affective commitment and acceptance anxiety as motives for discretionary group efforts by respected and disrespected group members. ***Personality and Social Psychology Bulletin***, 32: 244–255.

Smith, E. B., & Hou, Y. 2015. Redundant heterogeneity and group performance. ***Organization Science***, 26: 37–51.

Somech, A. 2006. The effects of leadership style and team process on performance and innovation in functionally heterogeneous teams. ***Journal of Management***, 32: 132–157.

Spector, P. E., & Brannick, M. T. 2011. Methodological urban legends: The misuse of statistical control variables. ***Organizational Research Methods***, 14: 287–305.

Stamkou, E., van Kleef, G. A., & Homan, A. C. 2019. Feeling entitled to rules: Entitled individuals prevent norm violators from rising up the ranks. ***Journal of Experimental Social Psychology***, 84.

Stasser, G. 1999. The uncertain role of unshared information in collective choice. In J. M. Levine, L. L.

Thompson, & D. M. Messick (Eds.), ***Shared cognition in organizations: The management of knowledge***: 49–65. Abingdon, U.K.: Routledge.

Stasser, G., & Stewart, D. 1992. Discovery of hidden profiles by decision-making groups: Solving a problem versus making a judgment. ***Journal of Personality and Social Psychology***, 63: 426–434.

Stasser, G., Stewart, D. D., & Wittenbaum, G. M. 1995. Expert roles and information exchange during discussion: The importance of knowing who knows what. ***Journal of Experimental Social Psychology***, 31: 244–265.

Stasser, G., Taylor, L. A., & Hanna, C. 1989. Information sampling in structured and unstructured discussions of three- and six-person groups. ***Journal of Personality and Social Psychology***, 57: 67–78.

Stasser, G., & Titus, W. 1985. Pooling of unshared information in group decision making: Biased information sampling during discussion. ***Journal of Personality and Social Psychology***, 48: 1467–1478.

Stasser, G., & Titus, W. 1987. Effects of information load and percentage of shared information on the dissemination of unshared information during group discussion. ***Journal of Personality and Social Psychology***, 53: 81–93.

Stewart, D. D., & Stasser, G. 1995. Expert role assignment and information sampling during collective recall and decision making. ***Journal of Personality and Social Psychology***, 69: 619–628.

Sundstrom, E., DeMeuse, K. P., & Futrell, D. 1990. Work teams: Applications and effectiveness. ***American Psychologist***, 45: 120–133.

Sung, S. Y., & Choi, J. N. 2019. Effects of diversity on knowledge sharing and creativity of work teams: Status differential among members as a facilitator. ***Human Performance***, 32: 145–164.

Tarakci, M., Greer, L. L., & Groenen, P. J. 2016. When does power disparity help or hurt group performance? ***Journal of Applied Psychology***, 101: 415–429.

Thomas-Hunt, M. C., Ogden, T. Y., & Neale, M. A. 2003. Who's really sharing? Effects of social and expert status on knowledge exchange within groups. ***Management Science***, 49: 464–477.

Tingley, D., Yamamoto, T., Hirose, K., Keele, L., & Imai, K. 2014. Mediation: R package for causal mediation analysis. ***Journal of Statistical Software***, 59: 1–38.

van der Vegt, G. S., & Bunderson, J. S. 2005. Learning and performance in multidisciplinary teams: The importance of collective team identification. ***Academy of Management Journal***, 48: 532–547.

van der Vegt, G. S., de Jong, S. B., Bunderson, J. S., & Molleman, E. 2010. Power asymmetry and learning in teams: The moderating role of performance feedback. ***Organization Science***, 21: 347–361.

van der Vegt, G. S., Emans, B. J. M., & van de Vliert, E. 2001. Patterns of interdependence in work teams: A two-level investigation of the relations with job and team satisfaction. ***Personnel Psychology***, 54: 3–21.

van Dijk, H., & van Engen, M. L. 2013. A status perspective on the consequences of work group diversity. ***Journal of Occupational and Organizational Psychology***, 86: 223–241.

van Knippenberg, D., De Dreu, C. K., & Homan, A. C. 2004. Work group diversity and group performance: An integrative model and research agenda. ***Journal of Applied Psychology***, 89: 1008–1022.

van Knippenberg, D., & Schippers, M. C. 2007. Work group diversity. ***Annual Review of Psychology***, 58: 515–541.

van Knippenberg, D., & van Ginkel, W. P. 2010. The categorization-elaboration model of work group diversity: Wielding the double-edged sword. In R. J. Crisp (Ed.), ***The psychology of social and cultural diversity***: 257–280. Hoboken, NJ: Wiley-Blackwell.

Wageman, R., Hackman, J. R., & Lehman, E. 2005. Team diagnostic survey: Development of an instrument. ***Journal of Applied Behavioral Science***, 41: 373–398.

Wasserman, S., & Faust, K. 1994. ***Social network analysis: Methods and applications***. Cambridge, U.K.: Cambridge University Press.

Willer, R. 2009. Groups reward individual sacrifice: The status solution to the collective action problem. ***American Sociological Review***, 74: 23–43.

Willer, R., Youngreen, R., Troyer, L., & Lovaglia, M. J. 2012. How do the powerful attain status? The roots of legitimate power inequalities. ***Managerial and Decision Economics***, 33: 355–367.

Williams, K. Y., & O'Reilly, C. A., III. 1998. Demography and diversity in organizations: A review of 40 years of research. ***Research in Organizational Behavior***, 20: 77–140.

Wittenbaum, G. M. 1998. Information sampling in decision-making groups: The impact of members' task-relevant status. ***Small Group Research***, 29: 57–84.

Wittenbaum, G. M. 2000. The bias toward discussing shared information: Why are high-status group members immune? ***Communication Research***, 27: 379–401.

Zink, C. F., Tong, Y., Chen, Q., Bassett, D. S., Stein, J. L., & Meyer-Lindenberg, A. 2008. Know your place: Neural processing of social hierarchy in humans. ***Neuron***, 58: 273–283.

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APPENDIX A
SUMMARY OF MECHANISMS IN THE INTERRELATIONSHIP BETWEEN KNOWLEDGE DIVERSITY AND STATUS HIERARCHY

Summary of Mechanisms in the Interrelationship between Knowledge Diversity and Status Hierarchy

Moderating effect	Key mechanisms	Representative studies	Relevant findings
Negative moderation: Status as a constrictor	The knowledge perspective of high-status members can become too influential because they are seen as more credible.	Fligstein (1987)	The dominance of one functional perspective narrows firm attention to activities and strategic choices that are aligned with that perspective.
		Eisenhardt and Bourgeois (1988)	Power centralization leads to politicking that favors demographic similarities and discounts divergent task-related expertise, leading to poor firm performance.
		Pitcher and Smith (2001)	CEOs that have high power centralization often do not include the perspectives of other team members in making decisions, which hinders firm performance.
		Bunderson (2003)	In centralized teams, those at the top are more likely to involve team members with similar functional knowledge, limiting the influence of dissimilar knowledge on team decisions.
	Low-status members can be hesitant to share information that diverges from high-status members because they expect their view to be overlooked or criticized.	Anderson and Galinsky (2006)	Low-ranking individuals share less unique information than high-ranking individuals because they perceive it as entailing greater risk.

APPENDIX A
(Continued)

Moderating effect	Key mechanisms	Representative studies	Relevant findings
		Galinsky et al. (2008)	Low-ranking individuals experience greater pressure to conform and are more likely to withhold divergent ideas than high-ranking individuals.
		Park et al. (2018)	Status inequality negatively moderates the knowledge diversity–creativity relationship because low-status team members withhold information that diverges from high-status members.
		Stamkou et al. (2019)	Members who diverge from group norms (e.g., sharing divergent information) are reprimanded by high-status members who feel a sense of entitlement because these high-status members see norm violators as harming the group.
Positive moderation: Status as an amplifier	High-status members can help teams incorporate unique information into team decisions because they can use their position to direct the team's attention to unique information.	Stewart and Stasser (1995)	Members are more likely to recall unique information when it is mentioned by the designated expert and was more likely to be incorporated in the team decision.
		Larson, Christensen, Abbott, and Franz (1996)	The highest-ranking team member was more likely to repeat unique information than other team members.
		Larson et al. (1998)	When the highest-ranking team member pools unique information, it improves the quality of team decisions.
		Wittenbaum (1998)	High-status members can convince the group to incorporate unique information more easily than low-status members.
	Hierarchy can motivate low-status members to share unique information because they may "move up" by showing their distinct contribution to the team.	Larson et al. (2002)	Sharing unique information, compared to sharing overlapping information, yields more status because other group members perceive it as more valuable to the group.
		Flynn et al. (2006)	Individuals who offer advice and help to other group members gain status because they are seen as generous contributors to the group.
		Anderson and Kilduff (2009)	Sharing unique information leads to status gains because it enhances perceptions of competence.
		Sung and Choi (2019)	Status hierarchy positively moderates the knowledge diversity–team creativity relationship because it increases motivation of low-status members to share unique knowledge.