

**Team Leaders' and Members' Pro-Diversity Beliefs: Powerful  
Means to Overcome the Detrimental Effects of Diversity  
Faultlines in Teams**

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## Abstract

Western organizations increasingly organize work in team-based structures. Members of these teams often differ in various diversity attributes (e. g., gender, age, cultural background). In response, research aims to provide evidence-based recommendations on how to effectively manage diversity in teams. Within diversity research, the diversity faultlines approach has been particularly fruitful. It considers the impact of the alignment of multiple diversity attributes in teams. Strong diversity faultlines are associated with the emergence of relatively homogeneous subgroups in teams and have an overall negative impact on team processes and outcomes. This dissertation investigates factors that mitigate the detrimental consequences of strong diversity faultlines in teams, namely pro-diversity beliefs. It extends faultline literature beyond the conventional focus on processes and outcomes related to team members by emphasizing the leaders' perspective. The three empirical papers included in this dissertation systematically examine how strong pro-diversity beliefs can help unleashing the positive effects of team diversity despite strong faultlines.

The first paper highlights the role of leaders' pro-diversity beliefs in mitigating the negative impact of diversity faultlines on two team processes: perceived cohesion and social loafing. Moreover, it compares the impact of socio-demographic faultlines (based on gender and age) and experience-based faultlines (based on team tenure and education level). Data was collected in a multisource field sample with 217 team members nested in 44 teams and the corresponding leaders. We found that socio-demographic, but not experience-based faultlines were negatively related to perceived cohesion and positively to perceived loafing. Path analysis further revealed that these relationships were mitigated when leaders held strong pro-diversity beliefs.

The second paper extends these findings by additionally taking the impact of members' pro-diversity beliefs into account. It examines whether the impact of socio-demographic

faultlines on performance is contingent on leaders' and members' pro-diversity beliefs. Moreover, we assumed that aggregate LMX would mediate this relationship. In a multisource data set obtained from 41 teams with 219 members and the corresponding leaders working for the German Ministry of Foreign Affairs, we found partial support for our hypotheses. As expected, the impact of strong socio-demographic faultlines on diplomats' performance was least negative when both leaders and members held strong pro-diversity beliefs. However, neither the two-way interactions of faultlines and leaders' or members' pro-diversity beliefs nor aggregate LMX had a significant impact in our research model.

The third paper zooms into processes and outcomes related to team leaders. It investigates how leaders' pro-diversity beliefs and their perceptions of members' pro-diversity beliefs in teams with strong socio-demographic faultlines impact leaders' task role assignment, performance expectation, and motivation. To test our hypotheses, we conducted two experimental studies with students, one in Germany (N = 55) and one in the US (N = 134). Findings showed that strong pro-diversity beliefs held and perceived by leaders made them assign task roles that cross-cut rather than aligned with the subgroup structure created by faultlines. Moreover, leaders' perceptions of members' pro-diversity beliefs, but not their own beliefs, had a positive impact on their motivation, mediated by their performance expectation.

In sum, findings of these three papers extend the literature on diversity faultlines and leadership by systematically demonstrating the mitigating impact of pro-diversity beliefs on faultlines' detrimental consequences on processes and outcomes related to team leaders and members. Based on various samples, we showed that it is worthwhile to distinguish between pro-diversity beliefs held by leaders, pro-diversity beliefs held by members, and leaders' perceptions of members' pro-diversity beliefs. Fostering strong pro-diversity beliefs among leaders and members should thus be a crucial element of effective diversity faultline management in organizations.

## Zusammenfassung

Westliche Organisationen organisieren Arbeit immer häufiger in teambasierten Strukturen. Teammitglieder haben oft unterschiedliche Diversitätsmerkmale (z. B. Geschlecht, Alter, kultureller Hintergrund). Daher zielt Forschung darauf ab, evidenzbasierte Empfehlungen für effektives Diversitätsmanagement zu liefern. Innerhalb der Diversitätsforschung ist der *diversity faultline*-Ansatz besonders erfolgreich. Er berücksichtigt die Auswirkungen der Anordnung mehrerer Diversitätsmerkmale in Teams. Starke *diversity faultlines* lassen relativ homogene Subgruppen in Teams entstehen und haben allgemein einen negativen Einfluss auf Teamprozesse und -ergebnisse. In dieser Dissertation werden Faktoren untersucht, die die negativen Konsequenzen von starken *diversity faultlines* in Teams abschwächen können: positive Diversitätsüberzeugungen. Ergänzend zur bisherigen Forschung im Bereich *diversity faultlines*, in der meist nur Prozesse und Ergebnisse bezüglich der Teammitglieder berücksichtigt werden, betonen wir die Perspektive der Führungskräfte. Die drei empirischen Artikel dieser Dissertation erforschen systematisch, wie positive Diversitätsüberzeugungen es ermöglichen, trotz starker *diversity faultlines* die Vorteile von Diversität in Teams zu nutzen.

Der erste Artikel beleuchtet die Rolle der Diversitätsüberzeugungen von Führungskräften bei der Abschwächung der negativen Auswirkungen von *diversity faultlines* auf zwei Teamprozesse: wahrgenommener Zusammenhalt und soziales Faulenzen. Außerdem werden der Einfluss sozio-demografischer *faultlines* (basierend auf Geschlecht und Alter) und erfahrungsbasierter *faultlines* (basierend auf Dauer der Teamzugehörigkeit und Bildungsabschluss) verglichen. Die Stichprobe umfasste 217 Teammitglieder aus 44 Teams und die dazugehörigen Führungskräfte. Die Ergebnisse zeigten, dass sozio-demografische, aber nicht erfahrungsbasierte *faultlines*, negativ mit wahrgenommenem Zusammenhalt und positiv mit sozialem Faulenzen assoziiert waren. Durch Pfadanalysen wurde zudem deutlich, dass diese

Zusammenhänge geringer ausfielen, wenn Führungskräfte stark positive Diversitätsüberzeugungen hatten.

Der zweite Artikel ergänzt diese Ergebnisse durch die Berücksichtigung der positiven Diversitätsüberzeugungen von Teammitgliedern. Es wird untersucht, ob die Auswirkungen von sozio-demografischen *faultlines* von positiven Diversitätsüberzeugungen der Führungskräfte und Teammitglieder abhängig sind. Außerdem vermuteten wir, dass LMX diese Beziehung mediiert. In einer Stichprobe von 41 Teams des Auswärtigen Amtes mit 219 Mitgliedern und den dazugehörigen Führungskräften fanden wir partielle Bestätigung für unsere Hypothesen. Wie erwartet war der Einfluss sozio-demografischer *faultlines* auf die Teamleistung von Diplomaten am wenigsten negativ, wenn sowohl Führungskräfte als auch Teammitglieder starke positive Diversitätsüberzeugungen besaßen. Jedoch hatten weder die Zweifach-Interaktionen zwischen *faultlines* und Diversitätsüberzeugungen der Führungskräfte oder Mitglieder noch LMX einen signifikanten Einfluss in unserem Modell.

Der dritte Artikel legt einen Schwerpunkt auf Prozesse und Ergebnisse bezüglich der Führungskräfte. Es wird untersucht, wie Diversitätsüberzeugungen von Führungskräften und deren Wahrnehmung der Diversitätsüberzeugungen von Teammitgliedern die Aufgabenverteilung, Leistungserwartung und Motivation von Führungskräften in Teams mit starken sozio-demografischen *faultlines* beeinflussen. Um unsere Hypothesen zu testen, führten wir zwei experimentelle Studien mit Studierenden durch, eine in Deutschland ( $N = 55$ ) und eine in den USA ( $N = 134$ ). Es zeigte sich, dass Führungskräfte Aufgaben eher so verteilten, dass die Subgruppenstruktur in Teams mit starken *faultlines* durchkreuzt wurde, wenn sie selbst stark positive Diversitätsüberzeugungen besaßen oder dies bei ihren Teammitgliedern wahrnahmen. Außerdem waren Führungskräfte, die positive Diversitätsüberzeugungen in ihrem Team wahrnahmen, stärker motiviert. Dieser Zusammenhang wurde durch die erwartete Teamleistung mediiert.



Insgesamt erweitern die drei Artikel den Wissensstand in den Bereichen *diversity faultlines* und Führung durch eine systematische Hervorhebung des abschwächenden Einflusses von positiven Diversitätsüberzeugungen auf die negativen Auswirkungen von *diversity faultlines* auf Prozesse und Ergebnisse bezogen auf Führungskräfte und Teammitglieder. In verschiedenen Stichproben wurde gezeigt, dass eine Unterscheidung zwischen Diversitätsüberzeugungen von Führungskräften, Diversitätsüberzeugungen von Teammitgliedern, und Wahrnehmungen der Diversitätsüberzeugungen von Teammitgliedern durch Führungskräfte sinnvoll ist. Eine Stärkung der positiven Diversitätsüberzeugungen von Führungskräften und Teammitgliedern sollte daher ein wichtiges Element des effektiven *diversity faultline* Managements in Organisationen sein.

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## **1. General Introduction**

### **1.1 Diversity in work teams**

Organizations today face rising innovation pressures, globalized competition, and rapid changes in structures and technology. Consequently, they require employees to possess very specific knowledge (Probst, Raub, & Romhardt, 2006). To achieve competitive advantage, however, organizations need to create a broad knowledge pool that integrates expert knowledge held by different employees in a synergetic manner. Therefore, they increasingly organize work in team-based structures (Cohen & Bailey, 1997). Work teams comprise two or more individuals in an organizational context, interdependently perform organizationally relevant tasks, share a common goal, and maintain and manage boundaries (Kozlowski & Bell, 2013). Based on their unique knowledge pool, work teams can process more information and tackle bigger challenges than individuals (Hinsz, Tindale, & Vollrath, 1997). Organizations thus increasingly depend on the successful cooperation of individuals in teams (Hackman, 2002).

Due to globalized operations and legal, social, and economic shifts, members of work teams often differ in diversity attributes such as gender, age, and cultural or educational background (Deller, 2015; van Knippenberg & Schippers, 2007). This trend is likely to increase in years to come. Team diversity thus plays a central role in organizational life (Jehn, Greer, & Rupert, 2008; Zellmer-Bruhn, Maloney, Bhappu, & Salvador, 2008) and is subject to a large body of research (for reviews, see van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Diversity refers to a characteristic of a social grouping that indicates the degree of objective or subjective differences between its members (van Knippenberg & Schippers, 2007). It may have positive or negative effects on team performance.

According to the social categorization perspective (Brewer, 1991; Tajfel & Turner, 1986), members' similarities and differences in diverse teams lead to social categorizations

that enhance ingroup favoritism and outgroup hostility. These intergroup biases, in turn, inhibit cohesion and communication, lead to conflicts, and impair team performance. In contrast, the information/decision-making perspective (Williams & O'Reilly, 1998) proposes that members of diverse teams bring a broad range of knowledge, skills, and abilities to the table. This forces them to more thoroughly elaborate task-relevant information. Hence, they achieve higher levels of decision quality and performance.

Evidence for a negative or positive main effect of diversity is highly inconsistent (e. g., Bell, Villado, Lukasik, Belau, & Briggs, 2011; Bowers, Pharmer, & Salas, 2000; Guillaume, Brodbeck, & Riketta, 2012; Horwitz & Horwitz, 2007). One reason for the inconclusive findings in conventional diversity research may be that determining the most relevant diversity attribute for team processes or outcomes is often difficult. This problem is addressed by the diversity faultline approach, which considers of the joint impact of multiple diversity attributes at the same time.

## **1.2 Diversity faultlines**

Diversity faultlines refer to “hypothetical dividing lines splitting a team into one or more relatively homogeneous subgroups based on multiple attributes” (Meyer, Glenz, Antino, Rico, & Gonzalez-Roma, 2014, p. 634). The concept substantially differs from team diversity: Because homogeneous subgroups cannot emerge when members are completely homogeneous or diverse, strong diversity faultlines are most likely to occur at a moderate level of diversity (Lau & Murnighan, 1998). Until now, the diversity faultlines literature has yielded a solid theoretical basis and substantial empirical evidence of faultlines’ predictive validity (Thatcher & Patel, 2012). In addition, algorithms for determining diversity faultline strength have been established and evaluated (Meyer & Glenz, 2013).

The literature distinguishes between faultlines based on socio-demographic attributes (e. g., gender, age, cultural background) and task-related or experience-based attributes (e. g.,

tenure, educational background, function). Moreover, faultlines can either be dormant (i. e., not perceived by team members) or active (i. e., faultlines have been triggered and are thus salient) (Chrobot-Mason, Ruderman, Weber, & Ernst, 2009; Jehn & Bezrukova, 2010). According to the social categorization perspective, strong diversity faultlines elicit intergroup bias that has a detrimental impact on team processes and outcomes (Brewer, 1991; Tajfel & Turner, 1986). This assumption is refined by the theory of subgroups in work teams (Carton & Cummings, 2012). The theory postulates that, depending on the context and research focus, members of subgroups that emerge from strong diversity faultlines are similar in terms of identity, resources, or task-relevant knowledge. Each subgroup type elicits specific inter-subgroup processes: Identity-based subgroups involve threats to subgroups' identities and fragmentation of a team's identity. Resource-based subgroups are associated with asymmetric perceptions of fairness and power centralization. Knowledge-based subgroups elicit the consideration of alternative knowledge sources or inhibit the convergence of mental models. These inter-subgroup processes, in turn, impact team-level outcomes such as cohesion, conflicts, and performance.

A review of several studies confirmed the theoretical assumption that strong diversity faultlines have a negative main effect on team processes and outcomes, regardless of whether they are perceived or not (Thatcher & Patel, 2012). This effect explains variance on the team-level above and beyond conventional diversity measures (Lau & Murnighan, 2005). To illuminate how teams can benefit from their members' diversity despite strong faultlines, scholars have examined factors that mitigate the faultlines' detrimental impact. They found, for instance, that individuals differ in their beliefs about what kind of group composition is beneficial for teamwork. Diversity beliefs indicate "the extent to which individuals perceive diversity to be beneficial for or detrimental to the group's functioning" (van Dick, van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008, p. 1467). Individuals with strong pro-



diversity beliefs consider working with others that are different from themselves as a benefit, while individuals with strong pro-similarity beliefs rather work with similar others (Homan, van Knippenberg, van Kleef, & De Dreu, 2007). It is important to highlight that diversity beliefs differ from prejudice or negative stereotypes in that they refer to what individuals think about diversity itself and its usefulness for accomplishing relevant outcomes in teams that consist of diverse members. They represent the cognitive component of an attitude toward diversity rather than the emotional component, which is more concerned with whether individuals like diversity in general or people that differ from themselves.

Research has recognized strong pro-diversity beliefs held by members as powerful means to overcome the negative consequences of diversity faultlines (Homan, Greer, Jehn, & Koning, 2010; Homan et al., 2007; Meyer & Schermuly, 2012). Members' pro-diversity beliefs mitigate the negative impact of strong diversity faultlines by leading to sensible reconciliation of self-categorization despite obvious subgroups (Carton & Cummings, 2012; van Knippenberg, De Dreu, & Homan, 2004). Moreover, they inhibit the perception of a team in terms of subgroups, reduce intergroup bias, and stimulate interactions across subgroups (Greer, Homan, De Hoogh, & Den Hartog, 2012; Homan & Jehn, 2010). Despite strong diversity faultlines, teams whose members hold strong pro-diversity beliefs should succeed in integrating their specific knowledge into a broad knowledge pool and thus pave the way for complex problem solution.

This may, however, not be the full story of pro-diversity beliefs. Leaders have a major impact on members' experience and behavior in teams (Yukl, 2013), particularly when faultlines are strong (Homan & Jehn, 2010). Nevertheless, research has so far neglected the leaders' perspective during the investigation of the mitigating effect of pro-diversity beliefs on the negative consequences of diversity faultlines. We know neither whether leaders' pro-diversity beliefs or their perceptions of members' pro-diversity beliefs mitigate faultlines' detrimental

consequences, nor whether faultlines and pro-diversity beliefs impact processes and outcomes related to leaders in teams. Scholars may thus have missed an opportunity to explain differences in the consequences of diversity faultlines depending on leaders' attitudes and behavior until now. Closing this research gap may help teams to unleash the positive effects of members' diversity when faultlines are strong and provide a foundation for effective diversity faultline management that fosters inclusion and equality in the workplace.

### **1.3 Goal and overview of the dissertation**

Based on data collected in the field and in the lab, this dissertation aims to extend the current literature on diversity faultlines and leadership in several ways. To begin with, it introduces leaders' pro-diversity beliefs as key factors that mitigate the detrimental consequences of diversity faultlines. Beyond this, it distinguishes the mitigating impact of pro-diversity beliefs held by members from leaders' perceptions of members' pro-diversity beliefs. Moreover, it extends current knowledge about faultlines' consequences by investigating the impact of faultlines and pro-diversity beliefs on processes (i. e., leaders' task role assignment and performance expectation) and outcomes (i. e., leaders' motivation) related to team leaders. Regarding processes and outcomes related to members, this dissertation replicates previous findings about the impact of faultlines on perceived cohesion, loafing, and performance. Aggregate LMX is added as a new relevant member process that may mediate the impact of faultlines on performance. Finally, it compares the consequences of two faultline types, namely socio-demographic and experience-based faultlines.

To achieve these objectives, I conducted four empirical studies that are presented in three chapters of the present dissertation. Figure 1 presents an integrated research model of all studies in which each chapter is marked by a specific color. The common theme in all chapters is the consideration of socio-demographic faultlines and leaders' pro-diversity beliefs (both marked with three colors).

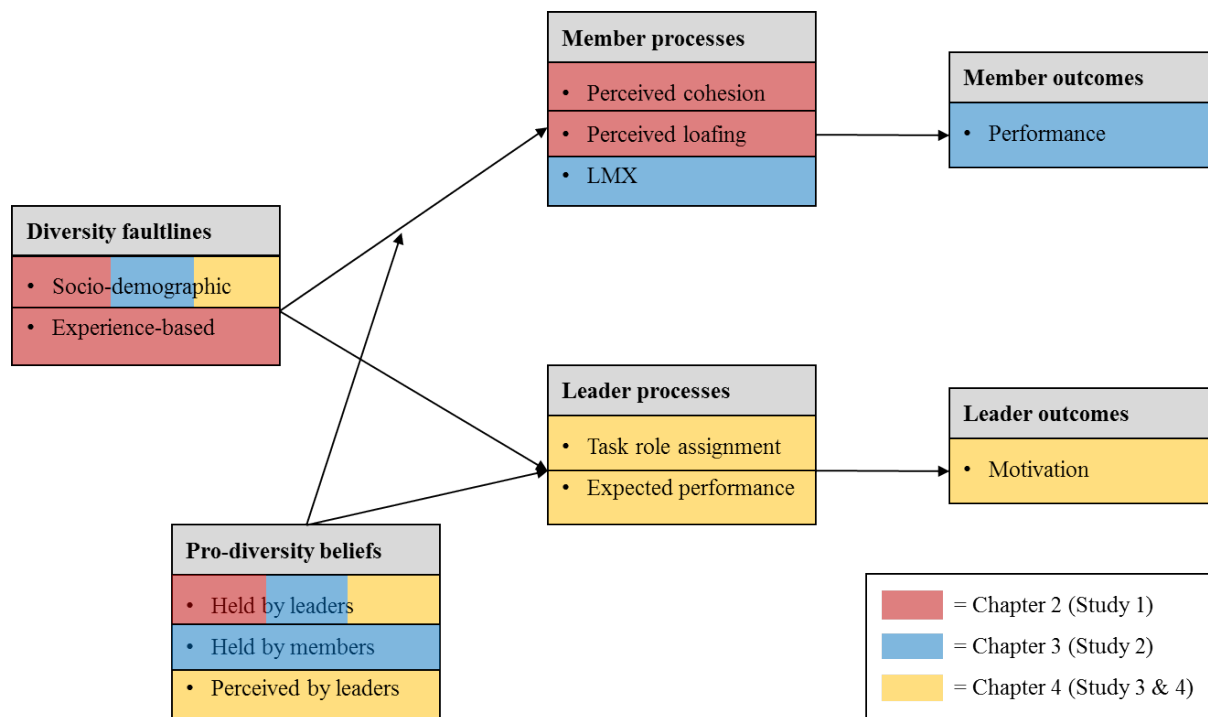


Figure 1. Integrated research model of the present dissertation

The chapters differ in their consideration of types of faultlines, pro-diversity beliefs, and processes and outcomes related to members or leaders. More specifically, Chapter 2 examines whether leaders' pro-diversity beliefs mitigate faultlines' negative impact on the member processes perceived cohesion and loafing. Moreover, it disentangles the effects of different attribute combinations by comparing the impact of experience-based and socio-demographic faultlines in a heterogeneous multisource field sample. Chapter 3 builds on the preceding findings by considering the joint impact of leaders' and members' pro-diversity beliefs on the relationship between diversity faultlines and members' performance in a multi-source field sample of teams working for the German Ministry of Foreign Affairs. To uncover the underlying process of this relationship, it additionally takes into account aggregate LMX as a relational consequence of diversity faultlines and pro-diversity beliefs held by leaders and members. Chapter 4 introduces processes and outcomes related to team leaders to the faultline literature. In two experimental studies, it examines how pro-diversity beliefs held and per-

ceived by leaders in teams with strong diversity faultlines impact their task role assignment, performance expectation, and motivation. Finally, Chapter 5 integrates the findings of all studies, discusses their theoretical and practical implications, presents strengths and limitations, and identifies areas of future research by extending the integrated research model.

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## 2. How Leaders' Diversity Beliefs Alter the Impact of Faultlines on Team Functioning<sup>1</sup>

*Abstract:* Teams with strong faultlines often do not achieve their full potential because their functioning is impaired. We argue that strong diversity beliefs held by team leaders mitigate the negative impact of socio-demographic and experience-based faultlines on team functioning. In a heterogeneous multisource field sample of 217 employees nested in 44 teams and their leaders, we tested our assumptions. Results of a path-analytic model showed that socio-demographic faultlines were negatively related to perceived cohesion and positively related to perceived loafing. The impact of socio-demographic faultlines on team functioning was less detrimental when leaders held strong diversity beliefs. Against our expectations, we found no support for an impact of experience-based faultlines on perceived cohesion or a moderating role of leaders' diversity beliefs in this context. Potential explanations for these results and implications for organizations and team leaders are discussed.

*Keywords:* faultlines, leaders' diversity beliefs, perceived cohesion, perceived loafing, subgroups

### 2.1 Introduction

Beyond doubt, establishing conditions that increase the benefits of workplace diversity in teams is one of the major challenges of modern organizations (Jackson & Joshi, 2004). Due

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to the rising demand for the integration of diverse and highly-specialized knowledge, the indispensability of well-functioning teams continues to gain in importance (Mell, van Knippenberg, & van Ginkel, 2014). At the same time, the likelihood of inter-individual differences among colleagues rises as demographic changes, globalization, and growing workforce mobility and specialization proceed (Meyer & Glenz, 2013). In response to these challenges, researchers have turned towards analyzing the impact of diversity faultlines in teams. Faultlines are “hypothetical dividing lines that may split a group into subgroups based on one or more attributes” (Lau & Murnighan, 1998, p. 328). In contrast to traditional research on diversity, this approach enables the simultaneous consideration of several diversity attributes (van Knippenberg & Schippers, 2007). Research demonstrated an overall negative impact of diversity faultlines on team functioning and outcomes (Thatcher & Patel, 2012).

Leaders play an important role in teams through their power to intentionally influence team members’ behavior and experiences (Yukl, 2013). A few studies have identified the impact of leaders’ behavior – transformational leadership in particular – on the utilization of the potential of team diversity. When leaders exhibited strong transformational leadership behavior, a positive relationship between educational specialization heterogeneity and team creativity emerged (Shin & Zhou, 2007). In addition, the impact of diversity in age, nationality, and educational background on team performance was positive when transformational leadership was high (Kearney & Gebert, 2009). Faultline research found that the negative impact of faultlines on productive energy was buffered by strong transformational leadership (Kunze & Bruch, 2010). In an attempt to extend these findings on leaders’ behaviors, we propose that their attitudes towards diversity alter the consequences of faultlines in teams as well. Whereas the faultline literature provides support for the beneficial effects of positive attitudes towards diversity held by team members (e.g., Homan, van Knippenberg, van Kleef, & De Dreu, 2007; Meyer & Schermuly, 2012), leaders’ attitudes have been neglected until now. We may

thus have missed an opportunity to explain differences in the consequences of faultlines between teams depending on their leaders' attitudes. This is an important shortcoming because leaders with negative attitudes towards diversity may activate faultlines, evoke perceptions of identity threat, and thus intensify the negative impact of faultlines on team functioning.

Moreover, the literature provides no consistent conclusions as to whether the consequences of faultlines differ depending on the combination of attributes used for faultline calculation (Thatcher & Patel, 2012). More specifically, we do not know whether faultlines based on education level and team tenure (i.e., experience-based faultlines), have the same detrimental effect on team functioning as faultlines based on gender and age (i.e., socio-demographic faultlines). We argue that unless several faultline types are considered simultaneously, investigations of the effects of faultlines on team functioning may lead to incomplete conclusions.

In order to disentangle the effects of different faultline types and the moderating impact of leaders' attitudes towards diversity, we turn to two indicators of team functioning: perceived cohesion and loafing. Team functioning is an important antecedent of team outcomes and both indicators of team functioning have been shown to impact outcomes such as team performance (Greer, 2012; Karau, 2012). Team cohesion is one of the most widely studied variables in small groups and in faultline research (Greer, 2012). It refers to forces binding team members to one another and to their team as a whole (Guzzo & Shea, 1992). Meta-analytic research yielded support for the negative relationship between faultlines and cohesion (Thatcher & Patel, 2011). Social loafing has only recently been introduced to the faultline literature (Meyer, Schermuly, & Kauffeld, 2016). It describes the "reduction in motivation and effort when individuals work collectively compared with when they work individually" (Karau & Williams, 1993, p. 681). In a sample of 45 blue-collar teams, members were most likely to loaf if faultlines were strong, members had low levels of social competence, and be-

longed to a larger subgroup (Meyer et al., 2016). These results indicated that social loafing occurred in teams with strong faultlines under certain conditions related to members and subgroups. It remains unclear, however, whether these effects differ in magnitude depending on the attributes considered for faultline calculation and whether they are contingent on leaders' attitudes towards diversity.

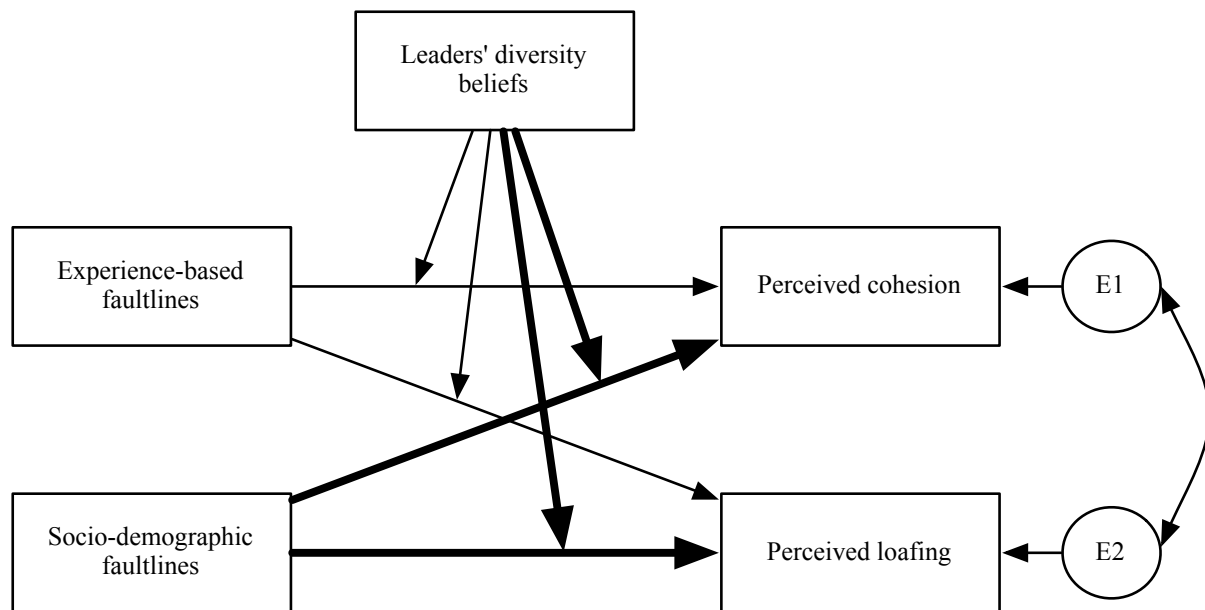
In sum, we aim to advance the current faultline literature in several ways: First, we introduce the leaders' perspective and examine their attitudes' impact on the relationship between faultlines and team functioning. Second, we simultaneously compare the effects of experience-based and socio-demographic faultlines on team functioning as reflected by perceived cohesion and loafing. We thus mean to disentangle the effects of different attribute combinations used for faultline calculation. Third, we replicate existing findings concerning the relationships between faultlines, cohesion, and loafing in a heterogeneous multisource field sample. Our complete research model is displayed in Figure 2.

## **2.2 Theoretical background**

### **2.2.1 Impact of experience-based and socio-demographic faultlines**

The effects of faultlines depend on the attribute combinations used for faultline calculation (e.g., Bezrukova et al., 2009; Carton & Cummings, 2013; Choi & Sy, 2010; Molleman, 2005; van Knippenberg et al., 2011). However, there is limited consensus regarding the attribute combinations that are relevant for specific aspects of team functioning and magnitude differences in the effects of different faultline types (Bezrukova et al., 2009; Thatcher & Patel, 2012). The theory of subgroups (Carton & Cummings, 2012) may provide a first remedy in this regard. It distinguishes between the consequences of faultlines that result in identity-based subgroups, which differ in values or demographic attributes essential for social identity and faultlines that create knowledge-based subgroups, which differ in information processing or mental models of task-related constructs. Each subgroup type is associated with

specific inter-subgroup processes. To better understand the impact of specific faultline types on team functioning, we aim to examine the effects of two faultline types simultaneously. For the sake of comparability, we focus on faultlines and subgroup types that have already been examined in previous research (e.g., Bezrukova et al., 2009; Carton & Cummings, 2013).



*Figure 2.* Proposed research model in Study 1

*Note.* Bold arrows indicate relationships that are assumed to be stronger in magnitude.

In our research, experience-based faultlines yield knowledge-based subgroups by taking into account members' education level and team tenure. These attributes are not necessarily salient (i.e., it is hard to guess a person's education level or team tenure by merely looking at them). They are, however, directly related to a team's task and may shape members' approaches to specific problems. Members of teams with subgroups based on education level and team tenure may have communication problems across subgroups due to incompatible mental models that lead to different working styles (Carton & Cummings, 2012). In contrast, socio-demographic faultlines create identity-based subgroups by considering the alignment of team members' gender and age. Gender and age are relevant in the team context because they

influence members' perceptions and behaviors through categorizations or stereotypes (Messick & Mackie, 1989). They are likely to covary with differences in values, beliefs, attitudes, and social ties (Kearney & Gebert, 2009). Because gender and age are highly salient, faultlines based on these attributes are more likely to be activated and create intergroup bias than faultlines based on education level and team tenure. Intergroup bias may turn into in-group favoritism and out-group hostility and impair team functioning. Despite the fact that we expect a negative impact of both faultline types on team functioning moderated by leaders' diversity beliefs (see Hypotheses 1-3), we assume that the impact of socio-demographic faultlines is stronger (see Hypothesis 4). The development of our hypotheses will thus be guided by the following research question: "How do socio-demographic and experience-based faultlines differ in their negative impact on team functioning and how do leaders' diversity beliefs alter these relationships?"

### **2.2.2 Different faultline types and perceived cohesion**

We first turn to perceived cohesion as an indicator of team functioning. Cohesion is closely linked to interpersonal attraction and depends on the extent to which members of a team are similar to one another (Hogg, 1992). It immediately indicates disturbances in team functioning, for instance due to intergroup bias. The theory of subgroups states cohesion as one of the main team outcomes that is influenced by inter-subgroup processes elicited by strong faultlines (Carton & Cummings, 2012). According to the theory, strong faultlines are related to low team cohesion because intergroup biases negatively influence members' affective-evaluative reactions towards members of other subgroups. Integrating the findings of 16 studies on faultlines and cohesion, a meta-analysis provided a firm empirical base for the negative impact of faultline strength on team cohesion (Thatcher & Patel, 2011).

We assume a negative relationship between experience-based faultlines and perceived cohesion. According to the theory of subgroups, this faultline type yields knowledge-based

subgroups, which may enhance the consideration of alternative knowledge resources but also inhibit the convergence of mental models within a team (Carton & Cummings, 2012). When subgroups emerge based on education level and team tenure, their members are likely to differ in their mental models, ways of information processing, and interpretation of problems. Members of a subgroup who share the same education level and work in the team since several years may have adopted the same ways of working, shared norms, and similar values. In contrast, members of another subgroup who share a different education level and just began to work in the team may prefer to carry out tasks in a different way and hold different values. Members of both subgroups may thus not perceive many similarities across subgroups. We argue that because cohesion is closely linked to the perception of similarities, members of teams with strong experience-based faultlines are less likely to identify with the team as a whole and perceive lower levels of cohesion.

*Hypothesis 1a:* Experience-based faultline strength is negatively related to perceived cohesion.

Next, we propose that socio-demographic faultlines are also negatively related to perceived cohesion. The theory of subgroups postulates that strong socio-demographic faultlines create identity-based subgroups, which may trigger inter-subgroup processes such as threats to the subgroups' identities or fragmentation of the teams' identity (Carton & Cummings, 2012). Identity threats are subtle cues that indicate less favorable treatment of team members simply because of their subgroup membership (Chrobot-Mason, Ruderman, Weber, & Ernst, 2009). They may be elicited by competition for status and prestige or discrimination within the team (van Knippenberg, De Dreu, & Homan, 2004). Because gender and age are highly salient in the team context and associated with stereotypic beliefs (Fiske, 1998), the negative impact of socio-demographic faultlines may exceed that of experience-based faultlines. The differences between subgroups are likely to hamper interactions on an informal basis and

make it more difficult for members to consider members of other subgroups as members of the same collective entity that they belong to. Consequently, the likelihood that members of different subgroups feel like they are a part of the entire team decreases (Carton & Cummings, 2012).

*Hypothesis 1b:* Socio-demographic faultline strength is negatively related to perceived cohesion.

### **2.2.3 Different faultline types and perceived loafing**

So far, we argued that experience-based and socio-demographic faultlines are negatively related to perceived cohesion. Next, we outline why we believe that these faultline types also influence the motivation of team members to go the extra mile for their team. Early research showed that individuals pulling a rope in a team exhibited a smaller individual pulling force than they did when pulling the rope alone (Ringelmann, 1913, as cited in Kravitz & Martin, 1986). Whereas Ringelmann attributed this phenomenon mainly to coordination losses, researchers later focused more on the motivational aspects of the reduced effort, also called social loafing (Kerr, 1983; Latané, Williams, & Harkins, 1979; Liden, Wayne, Jaworski, & Bennett, 2004). Social loafing has a negative impact on performance (Ellis, Mai, & Christian, 2013; Karau, 2012). It is a particularly relevant phenomenon today because the spread of electronic workplaces and the increased importance of knowledge work and team-based structures provide new ways for team members to loaf (Kidwell, 2010). A recent study showed that strong faultlines based on gender, age, and educational background were related to increases in team members' loafing behavior if they were part of a larger subgroup and had low levels of social competence (Meyer et al., 2016). However, the effects of different faultline types on social loafing were not considered until now.

We turn to the collective effort model (Karau & Williams, 1993) to explain the relationships between different faultline types and perceived loafing. The model provides a



framework for the motivation of individuals in a collective setting. It states that the team members' willingness to exert effort on a collective task depends on several conditions: Members must be convinced of the fact that their performance relates to the team's performance and that favorable team outcomes are related to favorable individual outcomes.

As argued above, strong experience-based faultlines elicit knowledge-based subgroups, which are likely to impair the convergence of mental models in the overall team (Carton & Cummings, 2012). Members of subgroups that differ in the combination of education level and team tenure may thus have different ways of approaching problems and differ in their norms and values. When experience-based faultlines are strong, members of one subgroup may be less convinced that their individual performance is important for the overall team's performance. An important condition for members' willingness to exhibit high effort is thus unfulfilled (Karau & Williams, 1993) and these members are likely to be less motivated to contribute towards the team's task. Moreover, members of one subgroup that differs in education level and team tenure from others may fear that members of the other subgroup reject their ideas and are thus reluctant to fully contribute towards the team's task. The overall perception of loafing in a team will be even stronger when members perceive that members of other subgroups withdraw effort, and choose to lower their efforts in order to avoid exploitation (Comer, 1995; Liden et al., 2004; Mulvey & Klein, 1998). Consequently, we assume that in teams with strong experience-based faultlines, members perceive high levels of loafing.

*Hypothesis 2a:* Experience-based faultline strength is positively related to perceived loafing.

According to the theory of subgroups, identity-based subgroups are likely to emerge in teams with strong socio-demographic faultlines (Carton & Cummings, 2012). This subgroup type elicits inter-subgroup processes such as identity threat or identity fragmentation, which may decrease the overall group valence. When group valence is high, the team context pro-

vides an important source of information relevant to team members' self-evaluation (Karau & Williams, 1993). In these teams, favorable team outcomes are closely linked to favorable individual outcomes. In contrast, when group valence is low, members perceive a weaker relationship between favorable team outcomes and their individual outcomes. The second precondition for individuals' willingness to exert strong effort in collective tasks is thus violated (Karau & Williams, 1993). Team members are likely to lower their effort because they do not consider it as useful to avoid negative individual outcomes. Because gender and age are visible at first sight, these processes are particularly likely to be activated and impair group valence in teams with strong socio-demographic faultlines. As stated above, the overall perception of low effort or strong social loafing within a team will be amplified when members additionally lower their efforts in order to avoid exploitation. Therefore, we expect a positive relationship between socio-demographic faultline strength and levels of perceived loafing.

*Hypothesis 2b:* Socio-demographic faultline strength is positively related to perceived loafing.

#### **2.2.4 The moderating impact of leaders' diversity beliefs**

To explain why two teams with the same combination of members' attributes can differ in the extent of perceived cohesion and loafing, we focus on a specific component of leaders' attitudes towards diversity – diversity beliefs. Diversity beliefs refer to the cognitive component of a person's attitude towards diversity and describe "the extent to which individuals perceive diversity to be beneficial for or detrimental to the group's functioning" (van Dick, van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008, p. 1467). Based on stereotypes, expectations, or prior experiences, some leaders have strong diversity beliefs (i.e., they are convinced that diversity is associated with a larger pool of knowledge and perspectives that is beneficial for team functioning), while others have weak diversity beliefs (i.e., they prefer to work with a team that consists of members with similar attributes) (van

Knippenberg, Haslam, & Platow, 2007).

Strong faultlines are most likely to elicit social categorization processes and intergroup bias when identity threat occurs within the team. Identity threat can also be operationalized as weak diversity beliefs held by team leaders (Homan et al., 2007; Meyer, in press). More specifically, weak diversity beliefs may evoke leaders' categorization tendencies – the tendency to see the teams' diversity in terms of subgroups rather than individual differences (Greer, Homan, De Hoogh, & Den Hartog, 2012; Homan, Greer, Jehn, & Koning, 2010). Strong categorization tendencies increase intergroup bias because they encourage leaders to treat team members in terms of subgroups. We argue that strong diversity beliefs held by team leaders can mitigate the negative impact of both experience-based and socio-demographic faultlines because they reduce the occurrence of intergroup bias. Leaders with strong diversity beliefs encourage interactions and the exchange of information between members of different subgroups and thus support the convergence of mental models. Moreover, they avoid to treat members based on their subgroup-membership. Instead, they appreciate individual differences and treat members based on their membership in the overall team, which can help members of all subgroups to feel connected to the team (Meeussen, Otten, & Phalet, 2014). When leaders hold strong diversity beliefs, members will thus be less likely to perceive subgroups despite strong experience-based or socio-demographic faultlines and team functioning will be less impaired (Homan & Jehn, 2010). These leaders may prevent the occurrence of identity threat, identity fragmentation, and faultline activation and facilitate the perception of an overall team identity. We thus postulate that leaders with strong diversity beliefs can mitigate the negative impact of experience-based and socio-demographic faultlines on perceived cohesion.

In contrast, leaders with weak diversity beliefs may, for instance, take one subgroup's side in a conflict, meet with subgroups separately, or allocate tasks and resources to the det-

riment of one or more subgroups. Differential treatment of subgroups is likely to elicit perceptions of identity threat. In addition, it is one of the main triggers that activate dormant faultlines (Chrobot-Mason et al., 2009). The negative impact of faultlines on team functioning is stronger when faultlines are active (Thatcher & Patel, 2012). Therefore, we argue that if leaders do not value diversity, they are likely to treat subgroups differently, create cues that indicate identity threat, and thus reinforce the detrimental impact of experience-based or socio-demographic faultlines on team functioning.

Several studies in the diversity literature provide support for the impact of members' diversity beliefs on the relationship between diversity and team identification (Hentschel, Shemla, Wegge, & Kearney, 2013; van Dick et al., 2008; van Knippenberg et al., 2007) and for the effect of leaders' categorization tendencies or diversity beliefs on the consequences of diversity in general (Greer et al., 2012; Grütter & Meyer, 2014; Meeussen et al., 2014). In addition, faultline research yields results regarding the impact of members' diversity beliefs on different consequences of faultlines (Homan et al., 2010, 2007; Meyer & Schermuly, 2012). The moderating impact of leaders' diversity beliefs, however, has not been considered in the faultline literature so far.

*Hypothesis 3a:* The negative relationship between experience-based faultline strength and perceived cohesion is moderated by leaders' diversity beliefs in such a way that the relationship is less strong when leaders have strong diversity beliefs.

*Hypothesis 3b:* The negative relationship between socio-demographic faultline strength and perceived cohesion is moderated by leaders' diversity beliefs in such a way that the relationship is less strong when leaders have strong diversity beliefs.

We further assume that strong diversity beliefs held by team leaders can attenuate the impact of experience-based and socio-demographic faultlines on perceived loafing. Leaders with strong diversity beliefs may often emphasize that diversity is beneficial to solve the

team's tasks. They may particularly call for members' different perspectives and stress the fact that the team can only succeed when every member contributes towards the team's goal. Even when experience-based faultlines are strong, all members may thus be convinced that their individual effort and performance is important for the team's performance, which increases their motivation. Moreover, leaders with strong diversity beliefs try not to treat team members in terms of subgroups, which makes faultline activation less likely (Homan et al., 2010). Consequently, members of different subgroups based on strong socio-demographic faultlines will be more likely to perceive a high overall group valence. The team context is thus an important source of information relevant to team members' self-evaluation (Karau & Williams, 1993). In these teams, members are likely to perceive a link between team outcomes and individual outcomes. Despite strong socio-demographic faultlines, they may thus be more willing to exert effort towards a favorable team outcome. In consequence, we postulate that strong diversity beliefs held by team leaders attenuate the detrimental effects of both faultline types on perceived loafing.

*Hypothesis 3c:* The positive relationship between experience-based faultline strength and perceived loafing is moderated by leaders' diversity beliefs in such a way that the relationship is less strong when leaders have strong diversity beliefs.

*Hypothesis 3d:* The positive relationship between socio-demographic faultline strength and perceived loafing is moderated by leaders' diversity beliefs in such a way that the relationship is less strong when leaders have strong diversity beliefs.

### **2.2.5 Differences in the effects of experience-based and socio-demographic faultlines**

The faultline literature distinguishes between dormant and active faultlines. While dormant faultlines are potential faultlines that are not necessarily perceived by team members, active faultlines exist when team members are aware of the subgroups based on diversity attributes within their team (Jehn & Bezrukova, 2010). Research showed that the presence of

faultlines impacts team functioning even if they are not activated (Chrobot-Mason et al., 2009). Nevertheless, their impact on team functioning is stronger when they are activated and actually perceived by team members (Jehn & Bezrukova, 2010). In contrast to education level and team tenure, gender and age are highly salient attributes that are associated with widely shared stereotypic beliefs (Fiske, 1998). Faultlines based on these attributes are more likely to be activated and create intergroup bias, which turns into in-group favoritism and out-group hostility and impairs team functioning. We thus expect socio-demographic faultlines to be stronger related to perceived cohesion and loafing than experience-based faultlines.

We further argue that the moderating effect of leaders' diversity beliefs is stronger for socio-demographic than for experience-based faultlines. Due to high salience, faultlines that yield identity-based subgroups are more likely to be activated and are prone to elicit identity threat within the team (Carton & Cummings, 2012). Therefore, additional identity threat and activation potential related to weak leaders' diversity beliefs would particularly aggravate the negative impact of socio-demographic faultlines.

*Hypothesis 4:* The effects of socio-demographic faultline strength on team functioning are stronger in magnitude than those of experience-based faultline strength.

## **2.3 Method**

### **2.3.1 Procedure and sample**

Between March and August 2014, the first author recruited participants from her network of contacts and social networks for business professionals (e.g., LinkedIn) in Germany. In addition, students working on their bachelor thesis and an empirical research project supported the recruitment during this period under the supervision of the first author. We contacted team leaders via e-mail or phone with requests containing information about a survey on collaboration in teams, conducted by a German university. We asked team leaders to complete an online or paper-pencil questionnaire and to subsequently distribute separate question-

naires to their team members. In total, we sent out 202 online questionnaire-links and 50 versions of the paper-pencil questionnaire to leaders of different teams.

Eventually, 80 team leaders (response rate = 32%) and 276 team members completed the questionnaire. We wanted to ensure that team members had been working together for a considerable amount of time and were not working independently from each other. Therefore, we excluded teams that indicated that they worked together in their current composition for less than three months or reported that members did not have to collaborate at all to complete their tasks. In addition, we excluded teams that did not provide sufficient information to calculate faultline strength. Corresponding to the standard in current team research to obtain valid measures of team level constructs (Kunze & Bruch, 2010; Leslie, 2014; Ries, Diestel, Wegge, & Schmidt, 2010), we also excluded teams with less than three participating members.

The final data set included responses of 44 team leaders and 217 team members. 26 teams completed the online version and 18 teams completed the paper-pencil version of the questionnaire. Average team size was 6.50 ( $SD = 2.78$ ) members. Seventy-six percent of the teams worked in small to medium-sized businesses (up to 249 employees), 7% in large businesses (250 to 999 employees), and 17% in large enterprises (1000 or more employees). The main industry sectors included crafts and trades (20%), food service industry (16%), health care (14%), industry (9%), and consulting (5%). The most frequently indicated main functional areas were services (34%), medical care (14%), human resources and training (9%), and manufacturing (7%).

Thirty-six percent of the team leaders were female and the mean age was 46.20 ( $SD = 10.59$ ) years. Each team leader provided demographic information of all members of his or her team ( $n = 286$ ). Sixty-two percent of the team members were female ( $n = 176$ ) and the average age was 37.50 ( $SD = 12.16$ ) years. Thirty-six percent had a university degree, 17% a

high-school diploma (12 years of schooling), 29% a higher secondary school degree (10 years of schooling), 17% a lower secondary school degree (nine years of schooling), and 1% did not complete any educational degree. The average team tenure was 6.18 ( $SD = 7.53$ ) years.

### **2.3.2 Measures**

As stated above, team leaders provided demographic attributes of all members and rated their own diversity beliefs while team members rated perceived cohesion and perceived loafing. All items were presented in German and rated on a 5-point Likert-type scale ranging from 1 = *not true at all* to 5 = *very true*.

*Faultline strength.* We determined faultline strength using the average silhouette width (ASW) measure, a cluster-based approach that sorts team members into subgroups according to their similarity to obtain subgroups with maximum internal homogeneity and maximum between-subgroup heterogeneity (Meyer & Glenz, 2013). It is designed to work with small and large teams and with categorical and continuous data alike. In a comparison of several faultline measures, ASW had the most favorable attributes and accurately determined subgroup membership in the presence of more than two subgroups (Meyer, Glenz, Antino, Rico, & Gonzalez-Roma, 2014; Meyer & Glenz, 2013). An ASW value of 1 indicates a strong faultline, separating a team into two or more homogeneous subgroups based on perfect alignment of attributes. A value of 0 indicates that no faultline exists, either due to no variation in attributes or extreme variation so that attributes do not align at all. We scaled continuous attributes (i.e., age and tenure) by their standard deviation. Categorical attributes (i.e., gender and education level) were dummy coded and multiplied by  $1/\sqrt{2}$  to make differences in categorical attributes comparable to those in continuous attributes (Thatcher, Jehn, & Zanutto, 2003).

*Perceived cohesion.* To measure perceived cohesion, we used six items of the perceived cohesion scale (Podsakoff, Niehoff, MacKenzie, & Williams, 1993). Three researchers



independently translated the items into German and resolved differences in discussions. An item example is “Members of my group work together as a team”. The items yielded a good internal consistency ( $\alpha = .87$ ).<sup>2</sup>

*Perceived loafing.* We adapted eight items to measure perceived loafing (George, 1992; Vogt, 2004). The scale had originally been developed for employees in the sales context. We modified the wording and deleted two items because they specifically referred to tasks completed by salespeople. An example item is “Some team members defer responsibilities they should assume to other members”. Items yielded an excellent internal consistency ( $\alpha = 0.92$ ).

To test whether perceived cohesion and loafing could be treated as distinctive constructs in this dataset, we conducted CFAs on the team level. As in the preliminary study (see Footnote 1), the two-factor model ( $\chi^2 = 116.55$ ,  $df = 76$ ,  $p < .01$ ;  $CFI = .93$ ,  $RMSEA = .11$ ,  $SRMR = .07$ ) fitted the data better than the one-factor model ( $\chi^2 = 177.16$ ,  $df = 77$ ,  $p < .01$ ;  $CFI = .84$ ;  $RMSEA = .17$ ,  $SRMR = .08$ ,  $\Delta\chi^2 = 60.61$ ,  $p < .01$ ).

*Leaders' diversity beliefs.* We used five items to assess leaders' diversity beliefs (Meyer & Schermuly, 2012; van Dick et al., 2008). Item examples are “In a work group like this, diversity is a great benefit” or “The more people that differ from each other in a group like this, the better for the group”. The scale yielded an acceptable internal consistency ( $\alpha = .75$ ).

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<sup>2</sup> In a preliminary study, we validated our measures of perceived cohesion and loafing. In a sample of 136 members of different working teams, we found excellent internal consistencies for perceived cohesion and loafing ( $\alpha = 0.91$  and  $\alpha = 0.93$ , respectively). We conducted a confirmatory factor analysis (CFA) with the R package lavaan (Rosseel, 2012) to test whether perceived cohesion and loafing could be treated as distinctive constructs. The two-factor model fitted the data satisfactorily ( $\chi^2 = 134.64$ ,  $df = 76$ ,  $p < .01$ ;  $CFI = .96$ ,  $RMSEA = .08$ ,  $SRMR = .05$ ) and better than a one-factor model ( $\chi^2 = 483.08$ ,  $df = 77$ ,  $p < .01$ ;  $CFI = .70$ ;  $RMSEA = .20$ ,  $SRMR = .14$ ,  $\Delta\chi^2 = 348.44$ ,  $p < .01$ ). We thus included both measures into the main study. Because only one member of each team completed the questionnaire in the preliminary study and we obtained no information about team leaders, we did not perform additional analyses in this data set.

*Control variables.* Several other variables may influence the relationships postulated above. First of all, team size is positively related to social loafing (Karau & Williams, 1993) and was thus controlled for in our analyses. Moreover, the impact of faultlines depends on the number of subgroups that they create (Carton & Cummings, 2012). Therefore, we controlled for the number of subgroups created by experience-based and socio-demographic faultlines. To observe the unique impact of faultlines as opposed to traditional diversity measures, we controlled for diversity effects of all attributes used for faultline calculation (Lau & Murnighan, 2005). Consistent with previous faultline research (Homan et al., 2008; Spell, Bezrukova, Haar, & Spell, 2011), we used Blau's index (1977) as an indicator for heterogeneity in gender and education level and the group-wise standard deviation as an indicator for heterogeneity in age and team tenure. We standardized and averaged heterogeneity in education level and team tenure to create the control variable for experience-based heterogeneity. In the same way, we standardized and averaged heterogeneity in gender and age to create the control variable for socio-demographic heterogeneity.

## **2.4 Results**

### **2.4.1 Descriptive statistics**

We used the open-source statistical environment R (R Core Team, 2014) for our statistical analyses. Table 1 displays means, standard deviations, correlation coefficients, and internal consistencies for all measures on the team level.

Table 1. Descriptive statistics, Pearson correlations, and internal consistency values for all variables (Study 1,  $N = 44$ )

Variable	Min	Max	M	SD	1	2	3	4	5	6	7	8	9	10
Control variables														
1. Team size	3.00	12.00	6.50	2.78										
2. Number subgroups (exp)	1.00	5.00	2.77	1.05	.56***									
3. Number subgroups (dem)	2.00	4.00	2.52	0.82	.69***	.25								
4. Heterogeneity (exp)	0.21	1.71	0.80	0.41	-.10	-.28	-.09							
5. Heterogeneity (dem)	0.17	1.57	0.84	0.38	-.38**	-.30	-.19	.13						
Study variables														
6. Faultline strength (exp)	0.00	1.00	0.56	0.23	.45***	.32*	.24	-.12	-.15					
7. Faultline strength (dem)	0.26	0.88	0.59	0.14	.32*	.24	.22	-.13	.10	.20				
8. Perceived cohesion	2.87	4.72	3.88	0.48	-.26	-.10	-.08	.11	.31*	-.22	-.33*	(.87)		
9. Perceived loafing	1.33	3.53	2.47	0.60	.27	.13	.04	-.08	-.37**	.37**	.27	-.77***	(.92)	
10. Leaders' diversity beliefs	2.20	5.00	3.78	0.67	.26	.19	.32*	.07	-.12	.26	-.09	.24	-.11	(.75)

Note. Internal consistency values (Cronbach's alphas) appear across the diagonal in parentheses. exp = experience-based, dem = socio-demographic.

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

In line with our assumptions, both faultline types were negatively correlated with perceived cohesion and positively correlated with perceived loafing. We conducted one-way ANOVAs for all variables to check for differences between teams that completed the online questionnaire or the paper-pencil version. We found no such differences and therefore report results of the complete sample. Subsequently, we examined the intraclass correlations (ICCs) and interrater agreements ( $r_{wg}$ ) of perceived cohesion and perceived loafing to assess whether an aggregation of individual responses on the team level was justified (Klein & Kozlowski, 2000). ICC(1) values indicate an estimate of the amount of total variance of a measure that is explained by group membership, while ICC(2) values indicate the reliability of the group means (Bliese, 2000). ICC(1) values should not fall below .12 (James, 1982) and ICC(2) values should exceed .60 (Glick, 1985). Our indicators of team functioning corresponded to these criteria (ICC(1): perceived cohesion = .36, perceived loafing = .35; ICC(2): perceived cohesion = .74, perceived loafing = .72). The extent of agreement among members of the same team is indicated by  $r_{wg}$  values (Klein & Kozlowski, 2000). The average  $r_{wg}$ -values of our measures were above the standard cutoff of .70 (perceived cohesion = .92, perceived loafing = .90). In sum, these results justified data aggregation to the team level.

#### **2.4.1 Hypothesis Testing**

We tested all hypotheses in a single path model using the R package lavaan (Rosseel, 2012). This approach enabled us to simultaneously examine the direct effects of two faultline types on perceived cohesion and loafing as well as the moderating effects of leaders' diversity beliefs. Moreover, by this means we were able to control for common method variance by allowing for the correlation of the error terms of perceived cohesion and loafing in our model (Shaver, 2005). The path-analytic results of the proposed research model are presented in Table 2. We report the standardized path coefficients.

H1a assumed a negative relationship between experience-based faultline strength and

perceived cohesion. Our data did not provide support for this assumption ( $b = -.08, p > .05$ ). In H1b, we proposed a negative relationship between socio-demographic faultline strength and perceived cohesion. This was supported by our results ( $b = -.39, p < .01$ ). H2a postulated a positive relationship between experience-based faultlines and perceived loafing. We did not find evidence for this assumption ( $b = .24, p > .05$ ). In line with H2b, the relationship between socio-demographic faultline strength and perceived loafing was positive ( $b = .34, p < .01$ ).

*Table 2.* Path-analytic results of the proposed research model (Study 1,  $N = 44$ )

	Perceived Cohesion		Perceived Loafing	
	Standardized $b$	Standard Error	Standardized $b$	Standard error
Control variables				
Team size	-.21	.03	.19	.04
Number of subgroups (exp)	.16	.07	-.18	.08
Number of subgroups (dem)	.07	.09	-.18	.11
Heterogeneity (exp)	-.02	.14	.05	.16
Heterogeneity (dem)	.38**	.16	-.42***	.19
Study variables				
Faultline strength (FS exp)	-.08	.27	.24	.32
Faultline strength (FS dem)	-.39**	.42	.34**	.51
Leaders' diversity beliefs (LDB)	.25*	.09	-.13	.11
FS exp x LDB	-.20	.06	.20	.08
FS dem x LDB	.42***	.06	-.39***	.08
$R^2$	.50		.52	

*Note.* exp = experience-based, dem = socio-demographic. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Next, we examined the moderating impact of leaders' diversity beliefs. H3a stated that the relationship between experience-based faultlines and cohesion is contingent on leaders'

diversity beliefs. Contrary to H3a, we did not find an interaction between experience-based faultline strength and leaders' diversity beliefs on perceived cohesion ( $b = -.20, p > .05$ ). As postulated in H3b, leaders' diversity beliefs did, however, moderate the relationship between socio-demographic faultlines and perceived cohesion ( $b = .42, p < .001$ ). In line with our expectations, strong leaders' diversity beliefs attenuated the negative relationship between socio-demographic faultlines and perceived cohesion (see Figure 3).

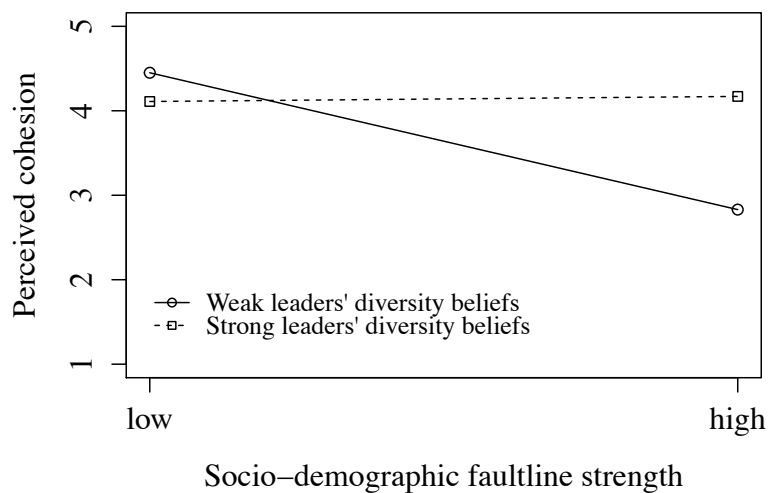


Figure 3. Perceived cohesion as a function of socio-demographic faultline strength and leaders' diversity beliefs

We further assumed leaders' diversity beliefs to moderate the relationship between experience-based faultline strength and perceived loafing. We found no support for this idea ( $b = .20, p > .05$ ) and rejected H3c. In support of H3d, our data showed an interaction effect of socio-demographic faultline strength and leaders' diversity beliefs on perceived loafing ( $b = -.39, p < .001$ ). As expected, team members perceived less loafing in teams with strong socio-demographic faultlines when leaders held strong diversity beliefs (see Figure 4).

Subsequently, we compared the magnitude of the faultline types' effects. As predicted in H4, our findings revealed that socio-demographic faultline strength had a stronger effect

than experience-based faultline strength on both perceived cohesion and loafing. Moreover, our data showed the moderating effect of leaders' diversity beliefs only for socio-demographic faultlines.

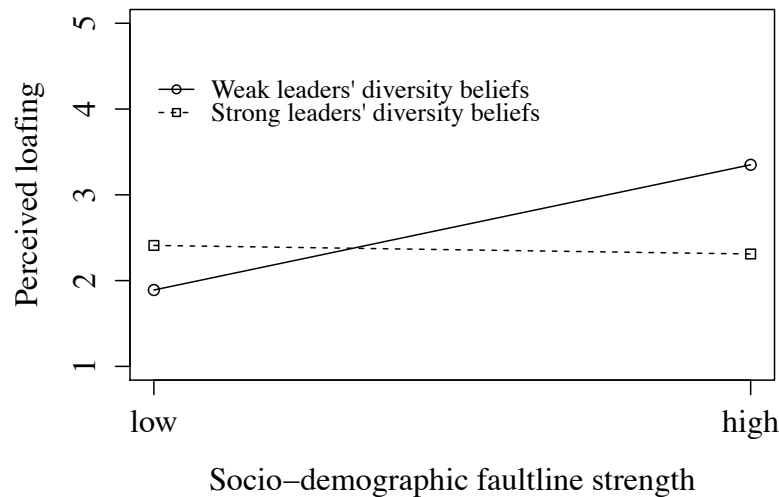


Figure 4. Perceived loafing as a function of socio-demographic faultline strength and leaders' diversity beliefs.

The proposed research model explained 50% in the variance of perceived cohesion and 52% in the variance of perceived loafing. The covariance between perceived cohesion and loafing was  $-0.59$  ( $p < .001$ ). However, because the model was just identified, we were not able to assess its fit ( $\chi^2 = 0.00$ ,  $df = 0$ ,  $p < .001$ ; CFI = 1.00; RMSEA = .00, SRMR = .00). Results showed that experience-based faultlines were not related to perceived cohesion. Moreover, their interaction with leaders' diversity beliefs was neither related to perceived cohesion nor to loafing. We thus modified the proposed research model by deleting these paths and removing the respective control variables (i.e., heterogeneity and number of subgroups for experience-based faultlines; see Figure 5). The revised research model fitted the data well ( $\chi^2 = 3.04$ ,  $df = 3$ ,  $p = .39$ ; CFI = 1.00; RMSEA = .02, SRMR = .02). In this model, experience-based faultlines were positively related to perceived loafing ( $b = .23$ ,  $p < .05$ ), thus providing partial support for H2a. Other than that, there were no differences regarding the

results of our hypotheses tests between the proposed and the revised research model. The revised model explained 43% of the variance in perceived cohesion and 45% of the variance in perceived loafing. The covariance between perceived cohesion and loafing was  $-.62$  ( $p < .001$ ).

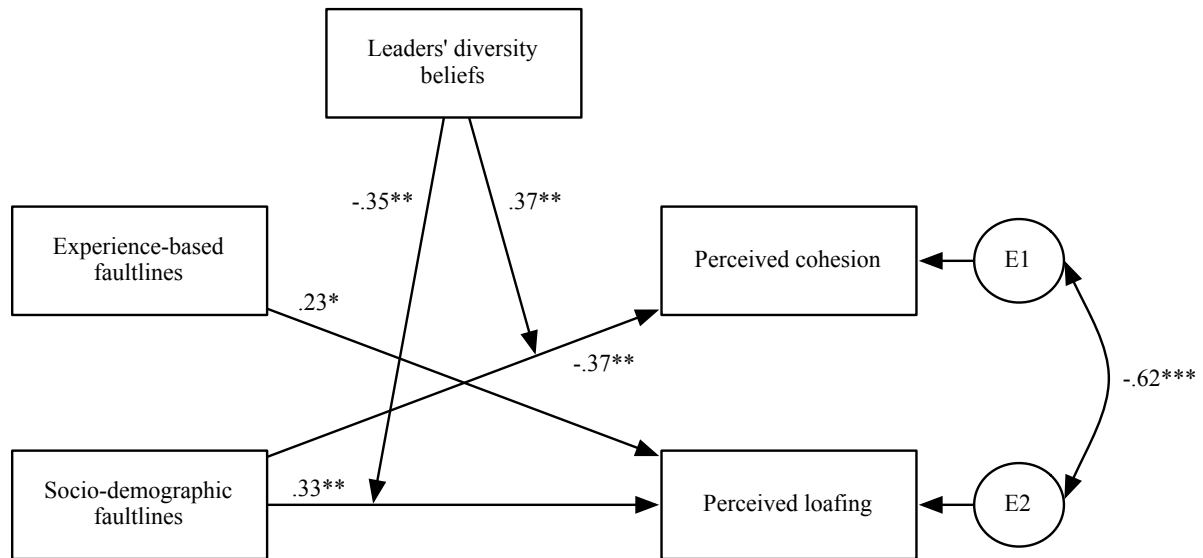


Figure 5. Revised research model in Study 1

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## 2.5 Discussion

In a multisource field sample, we compared the impact of two of the most prevalent faultline types (i.e., experience-based and socio-demographic faultlines) in interaction with leaders' diversity beliefs on perceived cohesion and loafing. Results of a path-analytic model showed that the detrimental impact of socio-demographic faultlines on perceived cohesion and loafing was mitigated when leaders had strong diversity beliefs. Experience-based faultlines were positively related to perceived loafing, but we found no evidence for their postulated impact on perceived cohesion or their interaction with leaders' diversity beliefs.

### 2.5.1 Theoretical Implications

Perhaps the most important result of our research is that we found support for the as-



sumption that the impact of socio-demographic faultlines on team functioning is less detrimental when team leaders hold strong diversity beliefs. Results of the present study add to the knowledge regarding the attenuating effect of diversity beliefs in the faultline literature; this time by focusing on team leaders rather than members. In teams with strong socio-demographic faultlines, members reported higher levels of cohesion when leaders had strong diversity beliefs. This may be due to the fact that leaders with strong diversity beliefs do not treat their team members in terms of subgroups and thus reduce the chances of faultline activation and identity threat or fragmentation. In addition, members perceived less loafing when socio-demographic faultlines were strong and leaders held positive diversity beliefs. As leaders may have emphasized the importance of each member's contribution and the value of diversity in these teams, members perceived a stronger link between team outcomes and individual outcomes despite strong faultlines. Consequentially, they may have been less likely to withdraw effort and to perceive effort withdrawal by other members. From this point, it would be interesting to find out more about the determinants of weak or strong leaders' diversity beliefs in teams with strong socio-demographic faultlines and how leaders' beliefs are related to team members' beliefs. Including team leaders in the faultline calculation may yield important insights in this regard (Meyer, Shemla, Li, & Wegge, 2015). Perhaps leaders share their diversity beliefs more with members of the subgroup that they are part of than with members of other subgroups. It would also be interesting to analyze whether leaders' diversity beliefs impact the relationship between faultlines and team functioning differently depending on which subgroup the leader is included in.

The current study further refines the view on the impact of faultlines on team functioning by distinguishing between experience-based and socio-demographic faultlines. This distinction may enable researchers to examine more specific mediating and moderating variables of the impact of faultlines on team functioning. As expected, socio-demographic faultlines

were negatively related to perceived cohesion and positively related to perceived loafing. In line with the theory of subgroups, these findings support the idea that socio-demographic faultlines elicit identity-based subgroups, which enhance processes such as identity threat and fragmentation, and thus have a detrimental impact on team functioning (Carton & Cummings, 2012). Corresponding to our assumptions, socio-demographic faultlines had a stronger impact on team functioning than experience-based faultlines. This may be due to the fact that in contrast to attributes included in experience-based faultlines, the attributes used to calculate socio-demographic faultlines are highly salient and faultline activation is thus more likely.

Contrary to our expectations, experience-based faultlines were not related to perceived cohesion and this relationship was not contingent on leaders' diversity beliefs. These results may be explained by the fact that both attributes used for determining experience-based faultline strength – team tenure and education level – are not visible at first glance. Consequently, they may be less likely to result in activated faultlines and have a smaller impact on subgroup formation than the alignment of socio-demographic attributes. Whereas subgroups based on socio-demographic faultlines emerge immediately and influence the social relations between team members, it may be less relevant for individuals to find out later that other members of their subgroup differ from them in education level or team tenure. Moreover, team tenure is restricted in teams that have been working together for a few months only. In these teams, experience-based faultline strength will depend mostly on the members' education level. To avoid the dominance of a single attribute, future studies may thus consider more than two different attributes to calculate experience-based faultline strength. Our results are similar to those of Molleman (2005), who only found a negative impact of ability-based faultlines on cohesion when team autonomy was high. Subgroups created by experience-based faultlines may thus impact perceived cohesion only under conditions other than leaders' diversity beliefs. An interesting starting point may be the consideration of the number and variation of

subgroup size. The theory of subgroups predicts that for knowledge-based subgroups, the convergence of mental models is least likely when the number of subgroups is high and the variation in subgroup size is low (Carton & Cummings, 2012). Exploring these boundary conditions could be a worthwhile focus for future research.

Based on our data, we found partial support for the impact of experience-based faultlines on perceived loafing. This relationship reached a significant level only in the revised research model and was not contingent on leaders' diversity beliefs. We thus cannot draw a stable conclusion of whether strong experience-based faultlines lower the chances that members of certain subgroups perceive a weaker link between their individual performance and the team's overall performance, which is likely to increase the levels of perceived loafing. Future research may replicate and particularly focus on processes that drive this relationship. For instance, information elaboration may be interesting in this regard. It refers to the exchange and processing of information (van Knippenberg et al., 2004). We would expect that strong experience-based faultlines have a specific detrimental impact on information elaboration on the team level. In a similar vein, the level of transactive memory within the team may also be an important driver of the impact of experience-based faultlines on perceived loafing. Team members need to know who knows what for effective functioning and performance (van Knippenberg, van Ginkel, & Homan, 2013). When experience-based faultlines are strong, the chasms within subgroups may hinder interactions between team members in which they learn about one another's expertise roles. We would thus assume a negative relationship between faultlines and the level of a team's transactive memory.

### **2.5.2 Practical Implications**

Our findings showed that socio-demographic faultlines have detrimental effects on team functioning, which are mitigated by strong leaders' diversity beliefs. Organizations can foster strong diversity beliefs among their leaders by means of personnel selection and devel-

opment. Within the scope of personnel selection, organizations may attract future leaders with strong diversity beliefs by publicly emphasizing the value of diversity and considering diversity beliefs, stereotypes, and expectations in their selection procedure. As part of their personnel development efforts, organizations can offer specific coaching or training programs that focus on stereotypes and expectations. These programs may encourage leaders to reflect their personal diversity beliefs and to adapt them accordingly.

Besides strong leaders' diversity beliefs, other factors may affect the consequences of socio-demographic faultlines as well. To begin with, members' diversity beliefs also have the potential to counteract the negative impact of faultlines (Homan et al., 2010, 2007). Leaders should thus encourage their team members to reflect and enhance their diversity beliefs. Moreover, establishing shared norms, focusing on objectives that are important for the team as a whole, or establishing trust between team members can increase team cohesion (Podsakoff et al., 1993). Team coaching or development focusing on diversity beliefs, a shared identity, and trust may be a worthwhile approach in this regard.

The knowledge about faultlines may encourage organizations to change their teams' compositions and create homogeneous teams. We believe that this option should be considered with caution. Not only would it limit organizations in their effort to select the most qualified employees for a specific task, it would also prevent teams from benefiting from their members' various experiences, perspectives, and task-relevant informational resources (Pieterse, van Knippenberg, & van Dierendonck, 2013). A better option would be to manage faultlines when they are present (van Knippenberg et al., 2011). If organizations can choose between several qualified employees, however, they may select the person whose attributes do not particularly align with those of the present team members in order to create an option of crosscutting potentially dividing faultlines (Molleman, 2005).

### 2.5.3 Limitations

Our research was not without limitations. One may argue that the measures of perceived cohesion and loafing can be confounded due to common method variance. We thus verified the distinction of both variables in confirmatory factor analyses in the preliminary and main study. Moreover, we allowed the error terms of both variables to correlate in our research model (Shaver, 2005). Common method variance thus did not seem to be a severe issue in our analyses.

Second, our measures of perceived cohesion and loafing related to the team level only. Both variables may, however, be perceived differently on the subgroup level. In teams with strong faultlines, members may perceive high cohesion and low loafing on the subgroup level. To control for this effect, we included team size and the number of subgroups into our models. A different option, however, would be to examine perceived cohesion and loafing both on the subgroup and the team level. On the individual level, it would further be worthwhile to distinguish between effort withdrawal due to low motivation, and effort withdrawal due to lack of relevant information.

Third, our findings are based on data from a convenient sample (i.e., teams from different organizations that were willing to participate). Controlling for all relevant influences in such a sample is difficult if not impossible. For instance, we do not know whether our conclusions also pertain to teams that were not willing to participate. Future research may thus replicate our findings in teams working in the same organization or in an experimental setting.

Moreover, our findings acknowledge that faultlines differ in their effects on team functioning depending on the combination of attributes considered for faultline calculation. However, researchers often do not verify whether they made the correct choice of attribute combination for faultline calculation. Future research may thus focus on determining which combination of attributes is most meaningful or relevant for teams in a specific context. We

believe that the specification of the appropriate set of faultline attributes is one of the biggest challenges that faultline research faces at the moment.

Adding to the problem stated above, there is no clear consensus regarding the optimal weighting of diversity attributes when calculating faultline strength. Despite existing recommendations (Bezrukova et al., 2009), it seems logical that perceived distances between team members are not always well reflected by the standard deviation of continuous attributes or the distance between categories of categorical attributes. More specifically, team members with a university degree might perceive less distance towards members with a high-school diploma than towards members with a lower secondary school degree. The nature of attributes further enhances the possibility that some attributes influence faultline strength more than others (van Knippenberg et al., 2011). A variable with two categories (e.g., gender) is more likely to result in strong faultlines than a continuous variable (e.g., age). Future research should thus aim to clarify the perceived distances between different attribute levels and their specific influence on faultline strength.

#### **2.5.4 Conclusion**

We combined research on faultlines and social loafing to answer the question of why diverse teams sometimes do not fully benefit from their members' different perspectives and experiences, and consequently do not achieve their full potential. Our results suggest that teams with strong socio-demographic faultlines are less likely to achieve their full potential, because team members of different subgroups do not feel as a part of the entire team and consequently are not motivated to expend great effort on the team's task. In addition, we found that the detrimental impact of socio-demographic faultlines on perceived cohesion and loafing was mitigated when leaders held strong diversity beliefs. Strengthening leaders' diversity beliefs may thus increase the benefit of members' different perspectives.

We found partial support for the positive relationship between experience-based fault-

lines and perceived loafing. Further research, however, is needed to identify relevant mediator and moderator variables of this relationship. We mean to encourage future studies that focus on the intersection of research on faultlines and social loafing. Moreover, we hope that our results are helpful to enhance efforts of effective faultline management in organizations.

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### **3. To Believe or not to Believe? The Joint Impact of Faultlines and Pro-Diversity Beliefs on Diplomats' Performance<sup>3</sup>**

*Abstract:* Diversity faultlines often have a detrimental impact on team performance.

To test whether this impact depends on leaders' and members' pro-diversity beliefs, we examined 41 leaders and 219 members of teams working for the German Ministry of Foreign Affairs. Findings indicated a three-way interaction of diversity faultline strength and leaders' and members' pro-diversity beliefs on diplomats' team performance. More specifically, the negative impact of faultline strength on performance was weakest when leaders and members held strong pro-diversity beliefs. Unexpectedly, we found neither evidence for two-way interactions between faultline strength and leaders' or members' pro-diversity beliefs nor a mediating effect of aggregate LMX. Our findings highlight the joint impact of leaders' and members' pro-diversity beliefs for attenuating the negative consequences of diversity faultlines.

*Keywords:* diplomats' team performance, diversity faultlines, LMX, pro-diversity beliefs

#### **3.1 Introduction**

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<sup>3</sup> This chapter contains the following manuscript:

Schölmerich, F., Schermuly, C. C., & Deller, J. (in press). To believe or not to believe? The joint impact of faultlines and pro-diversity beliefs on diplomats' performance. *Human Performance*. doi: 10.1080/08959285.2017.1313258

and is based on the following conference presentations:

Schölmerich, F., Schermuly, C. C., & Deller, J. (2016). *The joint impact of faultlines, members', and leaders' diversity beliefs on diplomats' performance*. Paper presented at the Annual meeting of the Interdisciplinary Network on Group Research (INGRoup) in Helsinki, Finland.

Schölmerich, F., Schermuly, C. C., & Deller, J. (2016). *How faultlines, members', and leaders' diversity beliefs impact diplomats' performance*. Poster presented at the Annual Conference of the Society of Industrial and Organizational Psychology (SIOP) in Anaheim, USA.

Schölmerich, F., Schermuly, C. C., & Deller, J. (2015). *Diversity faultlines in diplomatic teams - A pecha kucha presentation*. Presentation at the Annual Meeting of the International Organizations Network (ION), Berlin, Germany.



Due to transformations in the work environment such as demographic change, globalization, and growing workforce specialization, managing diversity is not a choice but a reality in western organizations – and one of their greatest challenges (van Knippenberg & Schippers, 2007). Within research on diversity, the diversity faultline approach has delivered useful implications for scholars and managers of diversity alike (Thatcher & Patel, 2012). Diversity faultlines are hypothetically dividing lines that may split a team into two or more subgroups based on its members' attributes (Lau & Murnighan, 1998). Conceptualizing diversity in this way provides a unique opportunity to consider the joint impact of several diversity attributes on team processes and outcomes. The theory of subgroups (Carton & Cummings, 2012) describes the impact of diversity faultlines in teams. Depending on the attributes used for faultline calculation, different types of subgroups may emerge (e.g., identity-based or resource-based subgroups). In this study, we focus on demographic faultlines based on the attributes gender and age. This faultline type may elicit identity-based subgroups, which impact team level outcomes via inter-subgroup processes such as identity threat. In line with the theory of subgroups, meta-analytic results suggest a negative impact of diversity faultlines on team level outcomes such as relationship conflicts and team performance (Thatcher & Patel, 2011). Subgroupings due to strong diversity faultlines may disrupt team collaboration and information elaboration that is crucial to performance (van Knippenberg, De Dreu, & Homan, 2004). Teams with strong diversity faultlines may thus find less optimal solutions for problems or make worse decisions than teams with weak diversity faultlines.

Previous research has demonstrated that pro-diversity beliefs held by team leaders (Schölmerich, Schermuly, & Deller, 2016) or members (Homan, Greer, Jehn, & Koning, 2010; Homan, van Knippenberg, van Kleef, & De Dreu, 2007; Meyer & Schermuly, 2012) can help to overcome the negative effects of diversity faultlines. An individual with strong pro-diversity beliefs perceives diversity to be beneficial rather than detrimental for a team's

functioning (van Dick, van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008). Diversity beliefs are influenced by prior experiences, stereotypes, and expectations (van Knippenberg, Haslam, & Platow, 2007). Until now, the mitigating impact of pro-diversity beliefs on the consequences of diversity faultlines has only been considered separately for team leaders and members. This does not live up to the complex interaction between leaders and members in teams. As leaders and members increasingly interact at eye-level, leadership theory and research currently move the leadership construct beyond a downward hierarchical process towards a process of mutual influence (Bass & Bass, 2008; Day & Harrison, 2007). Therefore, we argue that it is important to look at the joint impact of leaders' and members' pro-diversity beliefs to fully understand their impact on the diversity faultline performance-relationship. This approach will provide knowledge about how the moderation of leaders' pro-diversity beliefs depends on the extent of members' pro-diversity beliefs and reveal whether strong pro-diversity beliefs held by leaders and members add up regarding the attenuation of the negative consequences of diversity faultlines.

To examine the effects of faultlines and pro-diversity beliefs held by leaders and members, we chose a classic outcome variable in the faultline literature that is relevant to diplomatic teams: team performance. Team performance can be understood as behavior or outcome with a focus on efficiency or effectiveness (Beal, Cohen, Burke, & McLendon, 2003). We consider team performance as the extent to which a team meets or surpasses specific performance goals (Bell, Villado, Lukasik, Belau, & Briggs, 2011; Jehn & Bezrukova, 2004). If organizations want to benefit from their team-based structures, it is essential to understand what makes teams perform better or worse (Rubino, Avery, Volpone, & Ford, 2014).

To further explain the process between the three-way interaction described above and team performance, we turn to the overall quality of the relationships between leaders and members within a team, as captured by the aggregated level of Leader-Member-Exchange

(LMX; Graen & Uhl-Bien, 1995). Examining the relational consequences of diversity faultlines and pro-diversity beliefs is important for explaining their impact on team performance. Based on balance theory, we argue that the interaction of diversity faultline strength, members', and leaders' pro-diversity beliefs will impact aggregate LMX, which in turn will influence team performance. More specifically, when strong faultlines exist and diversity is thus salient, differences in members' and leaders' pro-diversity beliefs may impair aggregate LMX, which may then have a detrimental impact on team performance.

We examine our assumptions in a large internationally operating organization, namely the German Ministry of Foreign Affairs. Its employees regularly rotate between different cultural and social working environments. Foreign services in general have to effectively manage their teams' diversity in order to successfully work towards representing their country's foreign policy in a complex and dynamic performance environment. Despite their importance, we know little about the impact of diversity in diplomatic teams until now.

In sum, this study provides several theoretical and practical contributions. On a theoretical level, it improves our understanding of how the joint influence of leaders' and members' pro-diversity beliefs can attenuate the negative impact of diversity faultlines. Moreover, we examine the mediating impact of aggregate LMX to clarify the relational consequences of diversity faultlines and pro-diversity beliefs held by leaders and members that may be relevant for team performance. On a practical level, we aim to provide important conclusions regarding evidence based diversity faultline management in diplomatic teams. Due to their specific training and fixed rotation schedules, the high-level officials in these teams cannot be replaced easily. Effectively managing diversity faultlines should thus be central to HR development. This study will reveal whether trainings or other interventions should specifically focus on leaders' and members' pro-diversity beliefs.

### **3.2 Theoretical background**

### **3.2.1 Diversity faultlines and leaders' pro-diversity beliefs**

We focus on demographic faultlines based on the attributes gender and age because (a) they are among the most frequently examined attributes (Thatcher & Patel, 2012), (b) they are highly salient and thus meaningful in teams, and (c) they reflect demographic changes in the German Ministry of Foreign Affairs' workforce because during the last decades, the proportion of female diplomats has continuously increased as has the range of employees' age (Davoine, Ravasi, Salamin, & Cudré-Mauroux, 2013; German Ministry of Foreign Affairs, 2015). The theory of subgroups in work teams (Carton & Cummings, 2012) predicts that demographic faultlines often elicit identity-based subgroups. Strong identity-based subgroups can have a detrimental impact on team outcomes (e.g., performance) due to inter-subgroup processes such as inter-subgroup identity threat or team identity fragmentation. In other words, strong demographic faultlines enhance an "us-versus-them" mentality, disrupt information exchange, and thus impair team performance (van Knippenberg et al., 2004). A meta-analysis found support for the negative impact of diversity faultlines on team performance (Thatcher & Patel, 2012).

We argue that leaders may reinforce or mitigate the negative impact of diversity faultlines on team performance. Leaders hold a unique position in teams. Their power allows them to exert a substantial influence on members' experience and behavior in teamwork (Yukl, 2013). Among their general tasks is leading and motivating team members (Kozlowski & Bell, 2013) and managing a team's performance (Mohrman, Cohen, & Mohrman, 1995). Leaders' performance management may encourage interactions between team members and stimulate processes such as coordination and communication in teams (Taggar, 2002). Because leaders' behavior is shaped by their pro-diversity beliefs, these beliefs play an important role in determining a team's success (Homan & Jehn, 2010). Consequently, we argue that it is

important to consider leaders' pro-diversity beliefs when examining their impact on the relationship between diversity faultlines and team performance.

Team leaders may differ in their pro-diversity beliefs. Some leaders may value diversity in the working context and emphasize the benefits of diversity when interacting with the team. Others may regard diversity more as a liability and react in a way that strengthens the division into subgroups caused by diversity faultlines. Weak pro-diversity beliefs held by team leaders may pose a threat to the favorable image of the team as a whole or a specific subgroup and thus enhance detrimental inter-subgroup processes such as identity threat and identity fragmentation in teams with strong identity-based faultlines (Carton & Cummings, 2012). Identity threat implies that a favorable image of the team or a subgroup is challenged. It arises based on competition for status and prestige or discrimination within the team (van Knippenberg et al., 2004). Moreover, weak pro-diversity beliefs held by team leaders may also increase the likelihood that social categorizations elicited by strong diversity faultlines create intergroup bias within the team that has detrimental effects on team performance (van Knippenberg et al., 2004). We thus propose that strong pro-diversity beliefs held by team leaders attenuate the negative impact of diversity faultlines on performance.

The impact of leaders' pro-diversity beliefs has rarely been examined in the faultline literature. A recent study found that strong pro-diversity beliefs held by leaders attenuated the detrimental impact of diversity faultlines on team cohesion and perceived loafing (Schölmerich et al., 2016). One study on ethnic diversity examined leaders' categorization tendencies, which are likely to be strong when pro-diversity beliefs are weak (Greer, Homan, De Hoogh, & Den Hartog, 2012). Strong categorization tendencies made leaders consider their team in terms of in- and out-group, which may reinforce the negative consequences of diversity faultlines. Results showed that when leaders exhibited high visionary behavior and had strong categorization tendencies, ethnic diversity was negatively related to team commu-

nication and team financial performance. In sum, we argue that strong pro-diversity beliefs held by team leaders attenuate the negative impact of diversity faultlines on team performance.

*Hypothesis 1:* Leaders' pro-diversity beliefs moderate the relationship between diversity faultline strength and team performance, such that the negative relationship is weaker when leaders' pro-diversity beliefs are strong.

### **3.2.2 Diversity faultlines and members' pro-diversity beliefs**

Members' pro-diversity beliefs are among the factors that determine the extent of identity threat experienced within the team (Homan, van Knippenberg, van Kleef, & De Dreu, 2007; Meyer, in press). In teams with strong faultlines, members are particularly prone to feel threatened by perceived differences if they hold weak pro-diversity beliefs. In consequence, distrust between subgroups emerges and the impact of diversity faultlines on performance is most detrimental (Carton & Cummings, 2012). However, if team members hold strong pro-diversity beliefs and do not consider differences within the team as a threat, they are likely to initiate interaction between members of different subgroups and exchange knowledge and perspectives despite strong faultlines. A high level of pro-diversity beliefs within the team may thus inhibit the emergence of the "us-versus-them" mentality that is detrimental to team performance (van Knippenberg et al., 2004). Therefore, we argue that the extent of members' pro-diversity beliefs in a team influences the magnitude of the negative impact of diversity faultlines on performance.

We aim to examine the moderating effect of members' pro-diversity beliefs on the relationship between two variables on the team level (diversity faultlines and team performance). Therefore, members' pro-diversity beliefs need to be averaged to the team level. We considered the level of members' pro-diversity beliefs to be a configural team property (Klein & Kozlowski, 2000). Configural team properties emerge from individual members' attributes

or values and capture a pattern of individual characteristics within a team. They can be aggregated to the team level if they are used for predicting other team level variables. We assume that members' pro-diversity beliefs are not substantially influenced by team membership but rather by prior experiences or stereotypes. Therefore, we do not expect a strong within-group agreement regarding members' pro-diversity beliefs. Previous studies aggregated members' diversity beliefs to the team level (Homan et al., 2010; Meyer & Schermuly, 2012) based on the additive model specified by Chan (1998). According to the additive model, the team level aggregate of an individual measure can be a meaningful predictor or moderator for team level variables and relationships even if members differ on their ratings of the measure within the team. Consequently, we average ratings of members' pro-diversity beliefs within each team to obtain an aggregate measure of members' pro-diversity beliefs on the team level. We assume that if the majority of team members hold strong pro-diversity beliefs, they create a climate in which the detrimental effects of diversity faultlines on team performance are attenuated because identity threat is unlikely to occur. For this reason, the more members hold strong pro-diversity beliefs, the less the whole team experiences negative effects of diversity faultlines. From now on, members' pro-diversity beliefs will thus refer to the aggregated level of members' pro-diversity beliefs within a team.

Several studies provide empirical evidence for this assumption. In an experimental setting, teams with strong faultlines based on gender and information performed better when members were convinced of the value of diversity (Homan et al., 2007). A similar result was obtained when members' openness to experience instead of their pro-diversity beliefs was examined (Homan et al., 2008). Another experimental study showed that teams could overcome the negative impact of diversity faultlines on performance only if members held strong pro-diversity beliefs and high task motivation (Meyer & Schermuly, 2012). When performing intellectual tasks, members of teams with strong diversity faultlines were less likely to con-

strue their team's diversity in terms of subgroups when their pro-diversity beliefs were strong (Homan et al., 2010). We thus postulate that strong members' pro-diversity beliefs in a team attenuate the negative impact of diversity faultlines on team performance.

*Hypothesis 2:* Members' pro-diversity beliefs moderate the relationship between diversity faultline strength and team performance, such that the negative relationship is weaker when members' pro-diversity beliefs are strong.

### **3.2.3 The joint impact of faultlines and pro-diversity beliefs held by leaders and members**

Considering the moderating impact of leaders' and members' pro-diversity beliefs separately may lead to incomplete conclusions regarding their mitigating effect on the negative relationship between diversity faultlines and team performance. Whether information exchange and cooperation are enhanced and harmful interactions are diminished in teams with strong faultlines may depend on the specific combination of leaders' and members' pro-diversity beliefs. We argue that members can reinforce or mitigate the positive impact of leaders' pro-diversity beliefs on the relationship between diversity faultlines and performance depending on their pro-diversity beliefs. In other words, the positive effects of strong pro-diversity beliefs or the negative effects of weak pro-diversity beliefs add up when considering team leaders and members.

To illustrate this idea, picture the following scenario: A team working in a medium-sized German embassy in Southeast Asia consists of six people, three of them female and between 50 and 60 years old and three of the male and between 30 and 40 years old. Their main responsibilities include legal aspects and visa services. Neither the team leader nor the members are convinced of the value of diversity and they would rather exclusively work with people that are similar to them. Due to a new regulation, they have to revise the visa process and all corresponding documents. When the team leader assigns the new task to her team, the



older women immediately refer to experiences they had in the past and want to organize the new process along previous processes. The young men, however, prefer to establish a unique process and documents to prevent problems that occurred in the past. Both subgroups do not try to understand or value the ideas and experiences of the other subgroup. In contrast, they become more and more convinced of their own ideas and start to work against each other. The team leader hardens the fronts by meeting with the subgroups separately and taking sides with the subgroup of older women. After the decision process lasted much longer than planned, the exasperated leader decides to establish the suggestion of the older women. The negative impact of weak pro-diversity beliefs held by team members on the relationship between faultlines on performance is thus clearly intensified by the leaders' weak pro-diversity beliefs.

Conversely, we believe that the detrimental effects of diversity faultlines on team performance can be overcome in particular if leaders and members of a team hold strong pro-diversity beliefs. In this case, there are fewer sources of identity threat in a team and intergroup bias is less likely to arise despite social categorizations (Carton & Cummings, 2012; Meyer, *in press*). Leaders and members may emphasize the value of diversity for the fulfillment of the team's task, encourage interactions between members of different subgroups in order to exchange knowledge and perspectives, and thus prevent intergroup bias. Strong pro-diversity beliefs held by leaders and members may add to the development of an inclusive environment, in which everyone feels fairly treated, valued for who they are, and included in decision making (Nishii, 2013), which is beneficial for team performance. In addition, when leaders' and members' pro-diversity beliefs are strong, their categorization tendencies may be weaker (Homan et al., 2010). Consequently, leaders and members alike construe team diversity in terms of individual differences rather than in terms of subgroups, which is beneficial to overcome the negative effects of strong diversity faultlines. We thus argue that the moderating impact of leaders' pro-diversity beliefs on the relationship between faultlines and perfor-

mance depends on members' pro-diversity beliefs. When leaders and members hold strong pro-diversity beliefs, they may remove the barriers that usually block performance in teams with strong diversity faultlines. The mitigating impact of pro-diversity beliefs will be weaker if just one side, i.e. leaders or members, believes in the value of diversity. In sum, we argue that the negative relationship between diversity faultlines and team performance is contingent on leaders' and members' pro-diversity beliefs. The mitigating effect of strong leaders' pro-diversity beliefs depends on members' pro diversity beliefs: The negative relationship between faultlines and performance is strong when leaders and members hold weak pro-diversity beliefs, weaker if either leaders or members hold strong pro-diversity beliefs, and weakest if leaders and members hold strong pro-diversity beliefs.

*Hypothesis 3:* There is a three-way interaction between diversity faultline strength and pro-diversity beliefs held by leaders and members on team performance, such that the negative relationship between faultline strength and team performance is weakest when leaders and members hold strong pro-diversity beliefs.

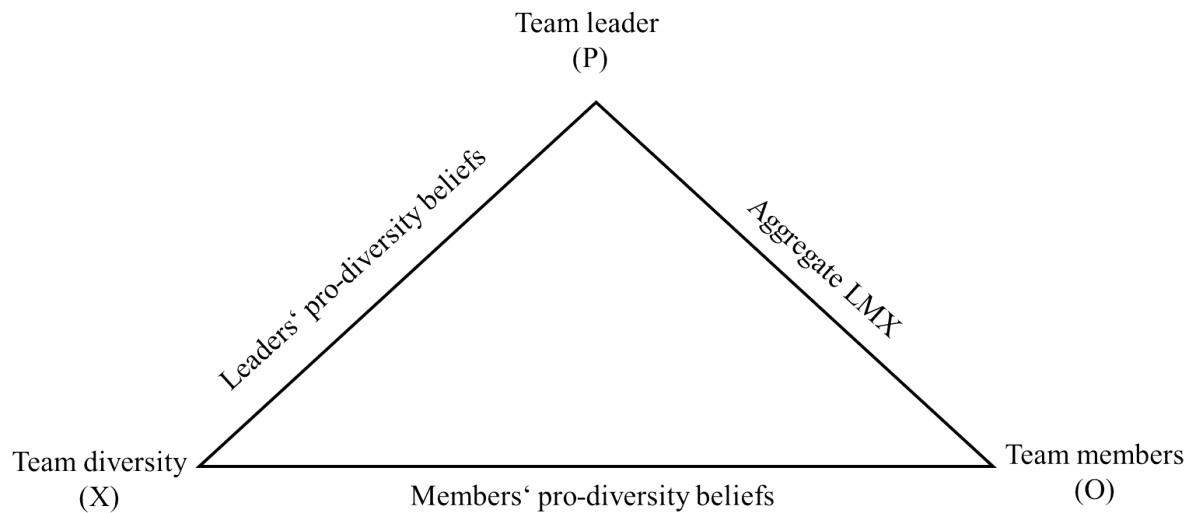
#### **3.2.4 The mediating role of leader-member-exchange**

What happens when diversity faultlines are strong and members and leaders differ in their pro-diversity beliefs? If the level of pro-diversity beliefs among members is high but leaders hold weak beliefs, or vice versa, a threat to the team's balance may arise in addition to the identity threat elicited by either members or leaders. This balance threat may impair Leader-Member-Exchange (LMX; Graen & Uhl-Bien, 1995). LMX refers to the quality of the dyadic relationship between a leader and a member of a team. A high aggregate LMX implies that leaders offer loyalty, cooperation, liking, and professional respect to the majority of their employees (Sparrowe & Liden, 1997). Employees, in turn, respond with higher levels of effort and extrarole behavior (Stewart & Johnson, 2009).

LMX has been considered as a moderator of the diversity - performance relationship (Nishii & Mayer, 2009; Stewart & Johnson, 2009). In the context of diversity faultlines, however, we argue that LMX should be considered as a mediator because strong diversity faultlines may influence LMX within a team, which in turn impacts team performance. As specified for members' pro-diversity beliefs above, we consider LMX on the team level as a configural team property, for which within-group agreement is not expected (Klein & Kozlowski, 2000). Similar to previous research (Liden, Erdogan, Wayne, & Sparrowe, 2006; Stewart & Johnson, 2009), we aggregated LMX to the team level based on the individual dyadic LMX ratings of the members in each team. In correspondence with the additive model (Chan, 1998), we assume that the team level aggregate of the individual LMX ratings is a meaningful mediator of relationships between team level variables despite the fact that within-group agreement of LMX ratings may be low. As we will explain in more detail below, we propose a first stage and direct effect moderated moderated mediation model (Hayes, 2016), in which the indirect effect of faultline strength on team performance via aggregate LMX is moderated by leaders' pro-diversity beliefs and this moderation in turn depends on a second moderator, namely members' pro-diversity beliefs. More specifically, we expect that for a high aggregate LMX to emerge in teams with strong diversity faultlines (i. e., most team members experience high quality exchange with their leader), both leaders and members need to hold strong pro-diversity beliefs. A high aggregate LMX in turn is likely to increase team performance.

We draw on Heider's balance theory (Cartwright & Harary, 1956; Heider, 1946) to explain how the three-way interaction of diversity faultlines and pro-diversity beliefs held by member and leaders impacts aggregate LMX. The theory describes the interdependent relations between a person (P), another person or a group of people (O), and an impersonal entity (X). For our study, we consider P as the team leader, O as the members, and X as the team's diversity. P and X are connected by leaders' pro-diversity beliefs, O and X are connected by

the level of members' pro-diversity beliefs, and P and O are connected by the aggregate LMX level within the team (see Figure 6).



*Figure 6.* Relations between team leaders, members, and diversity according to balance theory

The predictions of the theory only hold when X is relevant for P and O. We argue that diversity is especially salient and relevant in teams with strong diversity faultlines. Consequently, members' and leaders' pro-diversity beliefs are likely to influence aggregate LMX in those teams. According to the theory, people try to avoid a state of imbalance, because it requires extra cognitive effort and involves pressure and psychological tension. Balance exists if there are three positive or one positive and two negative relationships in the P-O-X unit. More specifically, if the team leader and members both value diversity, aggregate LMX should be high to maintain balance. If diversity is salient due to strong faultlines and leaders and members differ in their pro-diversity beliefs, chances are that aggregate LMX is low. A low aggregate LMX implicates that members receive less support and guidance from the team leader and consequently exhibit lower levels of motivation, commitment, and performance (Graen & Uhl-Bien, 1995).

The faultline literature provides no conclusions regarding the impact of diversity faultlines and pro-diversity beliefs held by leaders and members on aggregate LMX. Meta-analytic evidence shows that perceived similarity between employee and leader is positively related to LMX (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2011). In this line of thinking, differing pro-diversity beliefs may be associated with a lower perceived similarity and thus diminish aggregate LMX, particularly when combined with strong faultlines. In a study that looked at the joint impact of diversity faultlines, team leader inclusion in the subgroup, and occurrence of crisis on performance, LMX was suggested but not examined as a mediating process (Meyer, Shemla, Li, & Wegge, 2015). We thus argue that the moderating effect of leaders' pro-diversity beliefs on the relationship between diversity faultlines and aggregate LMX depends on members' pro-diversity beliefs: When leaders' and members' pro-diversity beliefs differ, the negative relationship between diversity faultlines and aggregate LMX is strongest.

If many team members experience low LMX, the team's performance is likely to be threatened. Based on social exchange theory, LMX is related to individual outcomes through the norm of reciprocity, which implies that individuals feel an obligation to return the treatment they receive from others (Graen & Uhl-Bien, 1995). If the leader provides little support and resources to most members, they are likely to respond with less favorable job attitudes, lower engagement, and less effective performance (Chen, Lam, & Zhong, 2007). Team performance depends on the behavior of the individual team members (Kozlowski, 2012). When many members reduce their engagement and effort due to a low aggregate LMX, the team's performance is thus likely to decline.

From an empirical point of view, the relationship between LMX and performance is well established. Meta-analytic evidence shows that LMX is positively related to individual performance (Dulebohn et al., 2011; Gerstner & Day, 1997). Research has also begun to consider the influence of LMX on the team level by means of aggregation indices (Liden et al.,

2006; Stewart & Johnson, 2009). Because research has consistently found positive relationships between high LMX and individual performance, it is likely that aggregated LMX exerts a similar effect on the team level. Taken together the theoretical and empirical arguments presented above, we postulate that the three-way interaction of diversity faultlines pro-diversity beliefs held by leaders and members on team performance is partly mediated by aggregate LMX. Our complete research model is presented in Figure 7.

*Hypothesis 4:* Aggregate LMX partly mediates the joint impact of diversity faultline strength and pro-diversity beliefs held by leaders and members on team performance, such that when leaders and members differ in their pro-diversity beliefs (i.e., leaders' beliefs are strong and members' beliefs are weak or vice versa), the negative relationship between diversity faultlines and aggregate LMX is strongest. Aggregate LMX, in turn, is positively related to team performance.

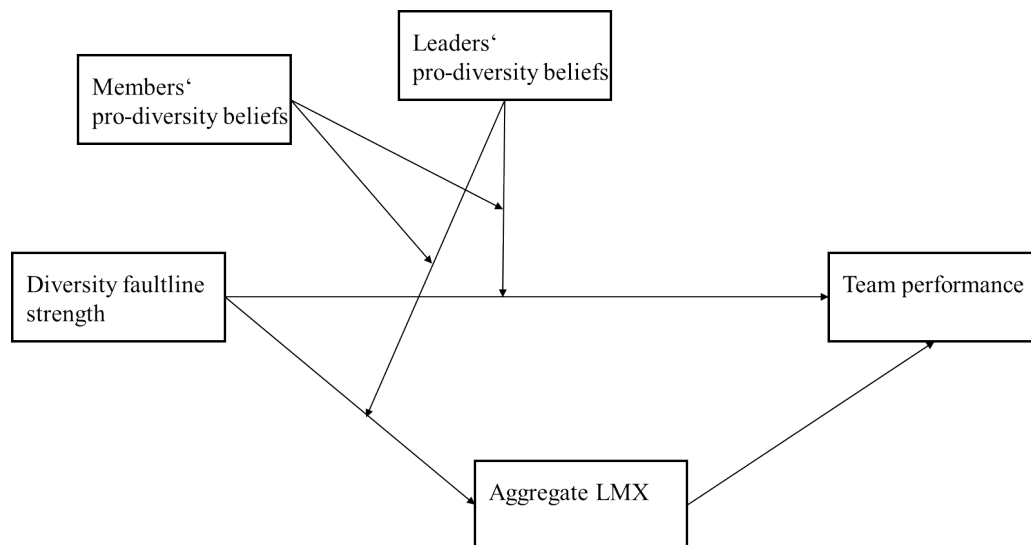


Figure 7. Research model of Study 2

### 3.3 Method

#### 3.3.1 Procedure and sample

We collected data in diplomatic teams working for the German Ministry of Foreign Affairs. The Ministry coordinates and carries out the foreign policy of the Federal Republic of Germany. Around the world, it has more than 200 embassies and consulates. The Ministry employs about 11,000 people in several services, either in Germany or abroad. Most employees change their work location every four years based on a strict scheme. The tasks of German diplomats include representing Germany's interests abroad, informing the German government about developments in other countries, and giving assistance to Germans abroad.

To obtain data from both team leaders and members, we used two linked online questionnaires. One version addressed team leaders and contained questions regarding members' diversity attributes, leaders' pro-diversity beliefs, and team performance. The other version addressed team members and held the items of members' pro-diversity beliefs and LMX. All items were presented in German. Team leaders received an email with the link to their online questionnaire and were asked to forward the link to the members' questionnaire to their team members. We contacted 200 team leaders that were randomly selected from the Ministry's team database. In total, 74 team leaders (response rate = 37%) and 242 team members completed the questionnaires. We excluded teams that did not provide sufficient information to calculate diversity faultline strength. Moreover, to obtain a reliable measure of the aggregated team level variables, we excluded teams in which less than three members had completed the questionnaire.

The final sample comprised 41 teams with their leaders and 383 team members, of which 219 had completed the questionnaire. On average, 56% of the members of a team participated in the study. Forty-one percent worked in-country, while 59% worked on international assignments in German embassies all over the world. Of the international teams, 16%

worked in small embassies (up to 15 employees), 42% in medium embassies (up to 50 employees), and 42% in large embassies (more than 50 employees). The most frequently indicated functional areas of international teams included administration (75%), legal aspects and visa (42%), and politics (33%) (multiple responses were allowed). The national teams worked in the central department (53%), the legal department (12%), the protocol department (12%), or the departments concerned with Europe and the United Nations (12%). On average, the teams in our sample had 9.2 members ( $SD = 2.8$ ). Most of the team leaders were male (59%), 78% assigned themselves to the Germanic country cluster based on the GLOBE study (House, Hanges, Javidan, Dorfman, & Gupta, 2004), and they were on average 53.4 years old ( $SD = 5.9$ ). Fifty percent of the team members were female, 78% reported to belong to the Germanic country cluster, and they had a mean age of 45.1 ( $SD = 10.7$ ).

### 3.3.2 Measures

*Diversity faultline strength.* For determining diversity faultline strength, we chose the average silhouette width (ASW) measure. ASW is a cluster-based approach that has several advantages compared to other measures of diversity faultline strength: It works with small and large teams alike, considers more than two subgroups per team, and takes into account both categorical and continuous attributes (Meyer & Glenz, 2013). ASW values of 0 indicate that a faultline does not exist in a team and subgroup emergence is thus unlikely – either due to homogeneity in diversity attributes or due to strong heterogeneity that does not allow for the emergence of subgroups. An ASW value of 1 implies a perfect diversity faultline in a team. The team is thus likely to be separated into two or more homogeneous subgroups based on the members' attributes. We followed the procedure of Bezrukova and colleagues (2009) for the scaling of diversity attributes: The categorical attribute gender was dummy coded with 0 and  $1/\sqrt{2}$  while the continuous attribute age was scaled by its standard deviation.



*Leaders' and members' pro-diversity beliefs.* Team leaders and members rated their pro-diversity beliefs on five items based on van Dick et al. (2008), which were previously translated to German by Meyer and Schermuly (2012). Item examples are “In a work group like this, diversity is a great benefit” or “The more people that differ from each other in a group like this, the better for the group”. Ratings were made on a 5-point Likert-type scale from 1 = *strongly disagree* to 5 = *strongly agree*. For leaders and members, the items yielded good internal consistencies ( $\alpha = .81$  and  $\alpha = .82$ , respectively). Members' pro-diversity beliefs were averaged on the team level.

*Aggregate Leader-Member-Exchange.* Team members rated LMX on a scale originally developed by Graen and Uhl-Bien (1995) and translated to German by Schyns (2002). The seven items were rated on a scale from 1 to 5. The wording of the scale was adjusted according to the items. Item examples include “My supervisor would be personally inclined to use his or her power to help me solve problems in my work” or “How well does your leader understand your problems and needs?” The items yielded an excellent internal consistency ( $\alpha = .92$ ) and were averaged on the team level.

In line with our conceptualization, the demonstration of within-group agreement is not required for configural team properties such as members' pro-diversity beliefs and aggregate LMX (Klein & Kozlowski, 2000). To verify whether these variables could be treated as distinctive variables, we conducted confirmatory factor analyses (CFAs) with the R package lavaan (Rosseel, 2012) on the individual level. The two-factor solution ( $\chi^2 = 114.99$ ,  $df = 53$ ,  $p < .001$ ; CFI = .96, RMSEA = .08) fitted the data satisfactorily and better than the one-factor model ( $\chi^2 = 415.17$ ,  $df = 54$ ,  $p < .001$ ; CFI = .74; RMSEA = .18,  $\Delta\chi^2 = 300.18$ ,  $p < .001$ ). We thus included both variables as distinctive constructs in our analyses.

*Team performance.* Team leaders rated the performance of their team on four items by Kearney (2013), which were adapted from previous performance measures (Kearney, Gebert,

& Voelpel, 2009; Zellmer-Bruhn & Gibson, 2006). As stated above, we consider a broad measure of performance that indicates the extent to which the team meets or surpasses goals and expectations held by its leader. Again, we used the 5-point Likert-type scale from 1 = *strongly disagree* to 5 = *strongly agree*. Item examples are “This team fully achieves its goals” or “Compared to other teams with similar tasks, this is a high-performance team”. The items yielded an acceptable internal consistency of .77.

To examine whether both variables rated by team leaders – leaders’ pro-diversity beliefs and team performance – could be treated as distinctive variables, we conducted CFAs on the team level. The two-factor solution ( $\chi^2 = 32.46$ ,  $df = 26$ ,  $p = .18$ ; CFI = .94, RMSEA = .08) fitted the data satisfactorily and better than the one-factor model ( $\chi^2 = 73.85$ ,  $df = 27$ ,  $p < .001$ ; CFI = .57; RMSEA = .21,  $\Delta\chi^2 = 41.39$ ,  $p < .001$ ). Therefore, we added both variables as distinctive constructs in our analyses.

*Control variables.* We controlled for several variables that may impact the relationship between the interaction of diversity faultlines, members’, and leaders’ pro-diversity beliefs, LMX, and team performance. To begin with, we controlled for team size and the number of subgroups because these variables may alter the consequences of diversity faultlines (Carton & Cummings, 2012; Thatcher & Patel, 2012). In addition, we controlled for team tenure because it can influence the impact of diversity on performance (Rubino et al., 2014). Moreover, we wanted to observe the unique impact of diversity faultlines regardless of the heterogeneity in the attributes used for faultline calculation. Consistent with previous research on diversity faultlines, we introduced an averaged indicator of heterogeneity as control variable (Homan et al., 2008; Spell, Bezrukova, Haar, & Spell, 2011). More specifically, we calculated Blau’s index (1977) for gender and the standard deviation of age. Subsequently, we averaged both values to create the control variable for heterogeneity in gender and age. Finally, to control for within-group variation of the variables that were aggregated to the team level,

we added the standard deviations of members' pro-diversity beliefs and aggregate LMX as controls to our analyses (see Meyer & Schermuly, 2012).

### 3.4 Results

Because our predictor (diversity faultline strength), one moderator (leaders' pro-diversity beliefs), and the outcome (team performance) were team level variables, we had to average the other moderator (members' pro-diversity beliefs) and the mediator (aggregate LMX) to the team level to test our hypotheses. Descriptive statistics, correlation coefficients, and internal consistency values for the key measures on the team level ( $N = 41$ ) are displayed in Table 3. We conducted one-way ANOVAs for all variables to check for differences among teams working in-country or abroad. We found no such differences and therefore collapsed all teams together into the sample used for testing our hypotheses.

To test our hypotheses, we followed recommendations for conditional process analysis by Hayes (2016). Using the PROCESS Macro for SPSS (Hayes, 2013), we calculated conditional process models with z-standardized variables using team performance and LMX as outcomes (see Table 4). Contrary to our assumption in Hypothesis 1, leaders' pro-diversity beliefs did not mitigate the impact of diversity faultlines on team performance in Model 1 ( $\beta = -.06, p = .75$ ). Therefore, Hypothesis 1 was refuted. Hypothesis 2 assumed that a high level of members' pro-diversity beliefs attenuated the negative impact of diversity faultlines on team performance. Results of Model 2 showed that members' pro-diversity beliefs did not alter the impact of diversity faultlines on team performance ( $\beta = .19, p = .31$ ). We thus had to reject Hypothesis 2 as well. To test Hypotheses 3 and 4, we used a first stage and direct effect moderated moderated mediation model as specified in the PROCESS Macro (Hayes, 2016). Model 3 showed that the three-way interaction term of diversity faultlines and pro-diversity beliefs held by leaders and members significantly predicted team performance ( $\beta = .59, p = .01$ ). The model explained 49% of the variance in team performance.

Table 3. Descriptive statistics, Pearson correlations, and internal consistency values for key measures on the team level (Study 2,  $N = 41$ )

Variables	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
Control variables															
1. Team size	5.00	12.00	9.15	2.75											
2. Team tenure	0.94	15.00	3.63	3.14	.08										
3. Number of subgroups	2.00	6.00	3.20	1.31	.64**	-.17									
4. Heterogeneity	0.21	2.61	0.79	0.42	.14	-.06	.13								
5. SD MDB	0.00	1.40	0.66	0.29	-.06	.07	.10	.10							
6. SD LMX	0.00	1.87	0.67	0.37	.07	-.05	.17	-.06	.01						
Study variables															
7. Faultline strength	0.34	0.88	0.58	0.12	.33*	-.02	.50**	.11	-.10	-.08					
8. LDB	2.00	4.80	3.85	0.66	.29	-.01	.23	.22	.09	-.43**	.14	(.81)			
9. MDB	2.68	4.15	3.36	0.37	.23	.09	.10	.07	.18	-.32*	-.05	.41**	(.82)		
10. LMX	2.47	4.29	3.62	0.49	.12	.01	-.09	.15	-.01	-.51**	-.06	.44**	.39*	(.92)	
11. Team performance	3.00	5.00	4.35	0.50	.08	.18	.22	-.18	-.23	-.08	.28	.15	.21	.12	(.77)

*Note.* LDB = leaders' pro-diversity beliefs, MDB = members' pro-diversity beliefs. Internal consistency values (Cronbach's alphas) appear across the diagonal in parentheses. \* $p < .05$ , \*\* $p < .01$ .

*Table 4.* Results of regression analyses of team performance and LMX on diversity faultlines, members' and leaders' pro-diversity beliefs, their interactions, and LMX (Study 2,  $N = 41$ )

	<i>Outcome = Team performance</i>			<i>Outcome = LMX</i>
	Model 1	Model 2	Model 3	Model 4
<i>Control variables</i>				
Team size	-.19	-.28	-.24	.22
Team tenure	.22	.23	.27	-.05
Heterogeneity	-.24	-.20	-.28	.07
Number of subgroups	.26	.36	.31	-.18
SD members' diversity beliefs		-.26	-.21	-.01
SD LMX			.13	-.36
<i>Study variables</i>				
Faultline strength (FS)	.18	.22	.11	-.14
Leaders' diversity beliefs (LDB)	.23		.38	.20
Members' diversity beliefs (MDB)		.26	.08	.21
FS x LDB	-.06		.04	.03
FS x MDB		.19	.45	.09
LDB x MDB			-.01	.07
FS x LDB x MDB			.59*	.24
LMX			.06	
$R^2$	.24	.31	.49	.42

*Note.* Figures in the main part of the table are standardized beta regression weights.

\* $p < .05$ .

In line with Hypothesis 3, Table 5 shows that the direct effect of diversity faultlines on team performance was least negative when leaders and members held strong pro-diversity beliefs (direct effect = 1.20). The bias-corrected 95% confidence interval for this effect did not include zero (LLCI = 0.23, ULCI = 2.17). The slope difference test for three-way interactions (Dawson & Richter, 2006) showed that the slope of this effect differed significantly from all other combinations of pro-diversity beliefs: from strong members' and weak leaders' beliefs ( $t = 2.17, p = .039$ ), weak members' and strong leaders' beliefs ( $t = 2.83, p = .009$ ), and weak beliefs of members and leaders ( $t = 2.07, p = .048$ ). As illustrated in Figure 8, our results thus provide support for Hypothesis 3.

*Table 5.* Conditional direct effects of diversity faultline strength on team performance at values of the moderators

Values of LDB	Values of MDB	Direct effect	LLCI	ULCI
-1	-1	0.21	-0.27	0.69
-1	1	-0.08	-0.81	0.66
1	-1	-0.89	-2.08	0.30
1	1	1.20	0.23	2.17

*Note.* LDB = pro-leaders' diversity beliefs, MDB = members' pro-diversity beliefs, LLCI = lower level of bias-corrected 95% confidence interval, ULCI = upper level of bias-corrected 95% confidence interval.

Hypothesis 4 predicted LMX as a mediator between the three-way interaction of diversity faultlines and pro-diversity beliefs held by leaders and members on team performance. Against our expectations, the three-way interaction in Model 4 did not predict LMX ( $\beta = .24$ ,  $p = .30$ ) and LMX did not have a significant impact on performance in Model 3 ( $\beta = .06$ ,  $p = .75$ ) (see Table 2). In line with these results, the 95% confidence interval of the index of moderated moderated mediation included zero (LLCI = -0.18, ULCI = 0.49). Consequently, we did not find support for Hypothesis 4.

### 3.5 Discussion

We developed this study to extend and enhance knowledge about the impact of pro-diversity beliefs on the relationship between diversity faultlines and performance in teams. We investigated the consequences of diversity faultlines based on gender and age in diplomatic teams working for the German Ministry of Foreign Affairs in-country or abroad. Our results revealed a three-way interaction of diversity faultline strength and pro-diversity beliefs held by leaders and members on team performance. As predicted, when leaders and members held strong pro-diversity beliefs, the negative relationship between diversity faultlines and team performance was weakest. Against our expectations, we did not find support for the postulated two-way interactions and the mediating effect of aggregate LMX.

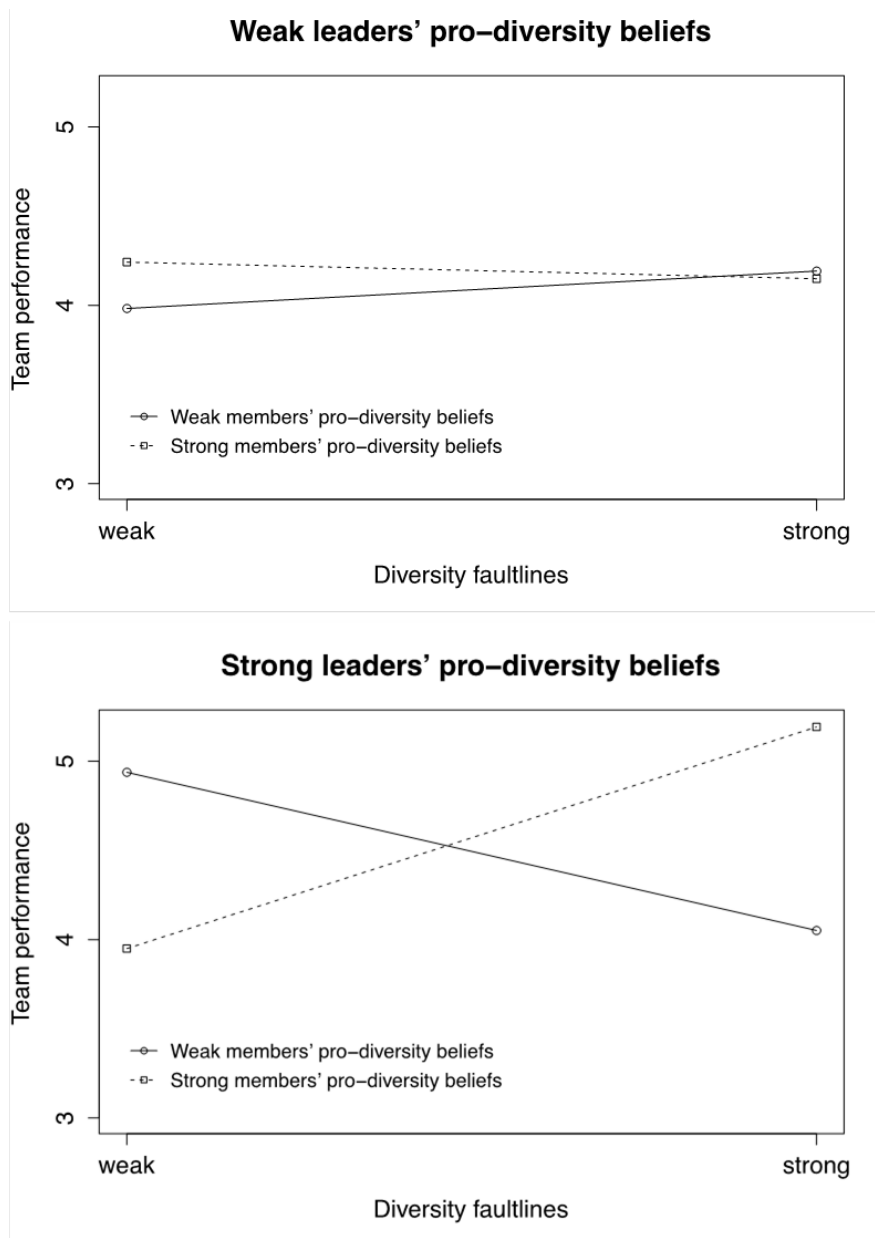


Figure 8. Team performance as a function of diversity faultline strength and pro-diversity beliefs held by leaders and members

### 3.5.1 Theoretical implications

Our findings extended the current literature on diversity faultlines and team cognition by demonstrating that the joint impact of leaders' and members' pro-diversity beliefs explained more variance in the performance of teams with strong faultlines than their separate consideration. In line with our prediction, the attenuating effect of leaders' pro-diversity be-

liefs on the negative relationship between diversity faultlines and team performance depended on members' pro-diversity beliefs. The negative relationship between diversity faultline strength and team performance was weakest – in fact even positive – when leaders and members held strong pro-diversity beliefs. In this situation, the reduction of identity threat potential may indeed have minimized the risk of intergroup bias and enhanced team performance (Carton & Cummings, 2012; van Knippenberg et al., 2004). Moreover, as weak pro-diversity beliefs can serve as faultline triggers because they direct individuals' attention to social categories and thus elicit intergroup bias (Chrobot-Mason, Ruderman, Weber, & Ernst, 2009), faultlines may have been less likely to be activated when members and leaders held strong pro-diversity beliefs. In addition, when leaders and members held strong pro-diversity beliefs, they may have created an inclusive environment that enhanced team performance (Nishii, 2013). This study's findings thus support the idea that strong pro-diversity beliefs held by leaders and members remove the barriers created by strong diversity faultlines and enable high team performance.

Nevertheless, the role of context in shaping the reactions of employees to faultlines needs to be considered when interpreting our results (Maloney, Bresman, Zellmer-Bruhn, & Beaver, 2016). Diversity is a central issue in teams working for the German Ministry of Foreign Affairs because diplomats decide at the very beginning of their career that they want to work in a context that is characterized by diversity on a daily basis. Therefore, team leaders and members in this context may be more likely than others to consider diversity as a benefit for teamwork. Chances are that they are more motivated and willing to prevent or overcome the negative consequences of diversity faultlines. In our sample, the negative consequences of faultlines were not only mitigated when leaders and members held strong pro-diversity beliefs, but turned into a positive relationship with team performance. We thus identified a con-



dition in this specific context, under which team performance benefited from strong diversity faultlines.

Interestingly, the negative relationship between faultline strength and performance was strongest (albeit not significant) when leaders held strong and members held weak pro-diversity beliefs. This finding may be explained by leader behaviors that do not correspond to their strong pro-diversity beliefs when members hold weak beliefs. When faultlines are strong and leaders realize that members do not believe in the value of diversity, they may become frustrated and less motivated to encourage interactions between subgroups despite their own strong pro-diversity beliefs. Consequently, their ratings of team performance may be negatively biased. Alternatively, leaders with strong pro-diversity beliefs may still encourage interactions across subgroups, but these interactions may be less effective due to weak pro-diversity beliefs held by members. We thus challenge researchers to replicate and extend our research design with a focus on examining the actual behavioral consequences of members' and leaders' pro-diversity beliefs in teams with weak or strong diversity faultlines. Results of future studies may illuminate whether strong pro-diversity beliefs indeed decrease the probability of faultline activation and perceived identity threat.

In contrast to our expectations, neither leaders' nor members' pro-diversity beliefs altered the relationship between faultline strength and team performance when considered separately. Similar results were found in an experimental study with student teams by Meyer and Schermuly (2012). Contrary to their predictions, the interaction between faultline strength and pro-diversity beliefs did not impact task performance. The interaction only reached a significant level, when a second moderator – task motivation – was considered as well. Certain moderating effects may thus only become visible when considering an additional moderator. Moreover, our results may be explained by the fact that we did not consider whether the diversity faultlines in our teams were active or dormant, i.e. perceived or not perceived by team

members. Despite the fact that faultlines have an impact on team processes and outcomes even if they are not perceived, their effect is stronger when they are activated, i.e., actually perceived by members and leaders (Jehn & Bezrukova, 2010; Thatcher & Patel, 2012). Perhaps leaders' and members' pro-diversity beliefs separately moderate the relationship between activated faultlines and performance, which should be verified in future research. These findings should thus be interpreted as conservative estimate while the relationships may be stronger in settings where faultlines are activated. Moreover, team leaders rated the performance of their teams on a rather broad measure. Their ratings seemed to be positively biased and restricted in range (see discussion in limitations section). Future research should include a more objective and specific operationalization of team performance. Another reason for our findings may be that the impact of pro-diversity beliefs on the relationship between faultlines and performance does not necessarily have to be homologous across individual and team levels (Chen et al., 2002). Researchers may thus compare the joint impact of diversity faultlines and pro-diversity beliefs on performance between the individual and the team level in the future. In sum, our results showed that the impact of pro-diversity beliefs affected the relationship between diversity faultlines and team performance only when leaders' and members' beliefs were considered simultaneously.

An additional theoretical contribution concerned the mediating effect of aggregate LMX. Despite the fact that in teams with strong diversity faultlines members reported the highest aggregate LMX when they and their leaders held strong pro-diversity beliefs, the three-way interaction did not have a significant impact on aggregate LMX. Moreover, aggregate LMX was not related to team performance in diplomatic teams in the conditional process model. Our data thus did not support the idea that aggregate LMX determined the process between the three-way interaction and team performance. This may be due to the fact that participation in our study was voluntary and not all members of the teams completed the

online questionnaire. Comparing the within-group standard deviations of LMX from our sample ( $M = 0.67$ ,  $SD = 0.37$ , scale from 1 to 5) to other samples in which all members participated ( $M = 0.38$ ,  $SD = 0.17$ , scale from 1 to 4) (Stewart & Johnson, 2009) or at least 60% of the team members ( $M = 1.01$ ,  $SD = 0.90$ , scale from 1 to 7) (Liden et al., 2006) yields similar results. However, if team members that did not respond were mostly those with low LMX, including them in the sample may have altered our findings. Consequently, the low response rate may have distorted our measure of aggregate LMX. Unfortunately, we were not able to test whether non-respondents differed in their LMX ratings from the participating members. Our mediation hypothesis would have been most accurately tested if all team members had participated. Future studies should replicate our design with LMX ratings collected from all team members.

Other mediating processes may be more relevant to explain the relationship between the three-way interaction and team performance. For instance, it might be worthwhile to examine the extent of information exchange or communication between leaders and different subgroups in teams with strong diversity faultlines. In addition, the extent of transactive memory within a team (van Knippenberg, van Ginkel, & Homan, 2013) may be an important process that underlies the impact of the three-way interaction on team performance. Future research may also focus on the level of identity threat that is actually perceived by members and relationship conflicts that arise between leaders and members or between members of different subgroups due to strong faultlines and differences in pro-diversity beliefs. It would be interesting to consider these mediating effects not only on the team but also on the subgroup or individual level.

Last but not least, we found a positive correlation ( $r = .41$ ,  $p = .007$ ) between leaders' and members' pro-diversity beliefs. Just as affective states may crossover between different members of a team (Bakker, Westman, & Emmerik, 2009), so may pro-diversity beliefs, as

the cognitive part of an attitude, between leaders and members. Our research design, however, did not allow for a test of causal direction between both variables. Did leaders' pro-diversity beliefs influence their members' beliefs or vice versa? Given the higher status of leaders, chances are that leaders served as a role model and team members observed and eventually adopted their pro-diversity beliefs (Bandura, 1977). In addition, both members' and leaders' pro-diversity beliefs were positively correlated with aggregate LMX ( $r = .44, p = .004$ ;  $r = .39, p = .012$ , respectively). Again, however, the causal direction was not clear. It might be that high levels of aggregate LMX made members and leaders believe in the value of diversity or that when members and leaders held strong pro-diversity beliefs, a high level of aggregate LMX was more likely. Future research is thus needed to determine the antecedents of pro-diversity beliefs, to examine how and when members' and leaders' pro-diversity beliefs differ, and to clarify the impact of aggregate LMX.

### **3.5.2 Practical implications**

When diplomatic teams are characterized by subgroupings due to strong diversity faultlines and leaders or members are not convinced of the value of diversity, the team's performance may be impaired which can have extensive political and economic consequences. It is thus crucial for foreign services to effectively manage their teams' diversity faultlines. Our study showed that considering leaders' and members' pro-diversity beliefs may be a promising starting point in this regard. Establishing strong pro-diversity beliefs among leaders and members can be achieved by selecting individuals that hold strong pro-diversity beliefs (HR selection) and/or by training employees to enhance their diversity beliefs and thus develop the skills necessary to interact successfully in teams with strong diversity faultlines (HR development). Regarding HR development, foreign services may convince leaders and members to perceive differences as a benefit rather than a threat to team functioning. Because people may change their pro-diversity beliefs to the better if they are convinced of its value for team per-

formance (van Knippenberg et al., 2007), foreign services should emphasize the information/decision-making perspective on diversity (Williams & O'Reilly, 1998) and promote examples in which heterogeneous teams outperform homogeneous ones. In addition, they may offer specific training or coaching methods that provide the opportunity for leaders and members to experience the benefits of diversity. Leaders and members should be encouraged to regularly reflect their pro-diversity beliefs and adapt them when necessary.

Moreover, leaders of diplomatic teams should be in particular sensitive to the risks and benefits of diversity faultlines in their teams. Strong subgroups and identity threats may make it more difficult to develop an accurate diversity mindset within the team (van Knippenberg et al., 2013). Once leaders realize that strong diversity faultlines jeopardize their team's performance, they should particularly enhance the value of diversity for accomplishing the team's goals and support members in perceiving diversity as a benefit rather than a threat to team functioning. By holding strong pro-diversity beliefs themselves, they can act as an effective role model in promoting the value of diversity (Bandura, 1977). Support for this idea is provided by the positive correlation between leaders' and members' pro-diversity beliefs in our data.

### **3.5.3 Limitations**

Despite our encouraging results, an important limitation to our study is the small sample size. Sample sizes between 40 and 50 teams are common in diversity faultline research (e.g., Homan et al., 2010; Meyer, Schermuly, & Kauffeld, 2016; Meyer & Schermuly, 2012; Spell, Bezrukova, Haar, & Spell, 2011; van Knippenberg, Dawson, West, & Homan, 2011). Based on findings from power analysis, however, these sample sizes inhibit the detection of small to medium effects. For instance, we found a small correlation between LMX and team performance ( $r = .12, p = .45$ ). A power analyses with the R package *pwr* (Champely, 2015) revealed that we would have needed data from 427 teams to obtain these effects on a signifi-

cance level of .05 and a power of .80. To detect small and medium effects on a significant level, research model should be explored in a larger sample of diplomatic teams in the future.

Adding to the problem described above, most of the effects we found were small. This may be due to a selection bias. Chances are that most of the participating teams had moderate to strong pro-diversity beliefs and generally performed well. The restricted ranges of our measures support this assumption. All measures were rated on a five-point Likert scale. None of our measures ranged more than three scale points. Team performance, the outcome variable, ranged only between ratings of 3.0 and 5.0. Variance in our data thus seemed to be restricted. We believe that a replication of our study in a more heterogeneous sample with increased variance in ratings may yield stronger effects.

Furthermore, our results may be impacted by common method variance due to our cross-sectional design. Although we obtained multisource data, both leaders and members each rated two variables that were included in our analyses. CFAs confirmed that the variables rated by leaders (i.e., leaders' pro-diversity beliefs and team performance) and members (i.e., members' pro-diversity beliefs and aggregate LMX) could be treated as distinctive constructs. We encourage future research, however, to obtain a more objective measure of team performance (e.g., key figures, customer ratings) and longitudinal data in order to conduct a more valid test of our research model.

Limitations also concern the attributes used for the calculation of diversity faultline strength. Our analysis involved demographic faultlines based on the attributes gender and age. Unfortunately, the present data did not permit the analysis of the impact of additional diversity attributes. Future research may examine the impact of diversity faultlines based on attributes such as cultural background, personality, or work experience in the diplomatic setting. In addition, we weighted the attributes used for the calculation of diversity faultline strength in line with current practice in diversity faultline research (Meyer & Glenz, 2013). One standard

deviation in a numeric measure (i.e., age) is equated with the difference between categories of a categorical measure (i.e., gender). The optimal weighting of attributes, however, is not yet clear. It remains for future research to compare different weighting methods and to identify optimal weighting of attributes.

### 3.5.4 Conclusion

In conclusion, our study adds to the literature on diversity faultlines and team cognition by contributing additional knowledge about the impact of pro-diversity beliefs in teams with strong faultlines. Our findings showed that it is worthwhile to consider the joint impact of leaders' and members' pro-diversity beliefs as attenuation factor of the negative relationship between diversity faultlines and team performance in a specific context – diplomatic teams. In order to perform well, diplomatic teams with strong diversity faultlines require leaders and members to hold strong pro-diversity beliefs. This may be due to the fact that strong pro-diversity beliefs held by leaders and members attenuate identity threat and intergroup bias in teams with strong faultlines. Consequently, those teams are likely to perform better. Foreign services should thus focus on leaders' and members' pro-diversity beliefs when trying to overcome the potential risk associated with strong diversity faultlines. Future research is needed to explore these relationships on the subgroup and individual level, to differentiate effects from activated and dormant faultlines, and to identify relevant mediating mechanisms.

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#### **4. That's What Beliefs Are for: Pro-Diversity Beliefs as Drivers of Leaders' Task Role Assignment and Motivation in Teams With Strong Faultlines<sup>4</sup>**

*Abstract:* Strong diversity faultlines often elicit intergroup bias between subgroups that is detrimental for team processes and outcomes. Despite evidence for leaders' ability to mitigate the negative consequences of faultlines, we know little about what determines their managerial strategies and motivation. We argue that leaders' pro-diversity beliefs and their perception of members' pro-diversity beliefs are important in this regard. In two experimental studies with students, one conducted in Germany ( $N = 55$ ) and one in the US ( $N = 134$ ), leaders were more likely to assign task roles that cross-cut subgroups when they held and perceived strong pro-diversity beliefs within their team. Moreover, leaders' perceptions of members' pro-diversity beliefs were positively related with their task motivation. Leaders' team performance expectation mediated this relationship. Unexpectedly, leaders' pro-diversity beliefs neither influenced their performance expectation nor their task motivation. Findings provide evidence-based implications for effective diversity faultline management in teams.

*Keywords:* diversity faultlines, leaders' motivation, leaders' task role assignment, pro-diversity beliefs

##### **4.1 Introduction**

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<sup>4</sup> This chapter contains the following manuscript:

Schölmerich, F., Schermuly, C. C., Zellmer-Bruhn, M. (2016). *That's what beliefs are for: Pro-diversity beliefs as drivers of leaders' task role assignment and motivation in teams with strong faultlines*. Manuscript in preparation for Journal of Applied Psychology.

and is based on the following conference presentation:

Schölmerich, F., Schermuly, C. C., Zellmer-Bruhn, M. (2016). *Diversity beliefs in action - Wie Diversitätsüberzeugungen das faultline-verstärkende Verhalten von Diskussionsleitern beeinflussen [Diversity beliefs in action – how diversity beliefs impact faultline-reinforcing behavior of discussion leaders]*. Poster presented at the Congress of the German Association of Psychology (DGPs) in Leipzig, Germany.



Due to demographic change and globalization, organizations are experiencing a speed up diversification of employees working in their teams regarding age, cultural backgrounds, and gender. Conventional research on team diversity analyses the impact of single diversity attributes and often yielded inconclusive results (van Knippenberg & Schippers, 2007). Induced by the idea to investigate the joint impact of multiple diversity attributes in teams, researchers turned towards the diversity faultline approach. Strong diversity faultlines indicate that members' attributes align in a way that relatively homogeneous subgroups emerge within a team (Lau & Murnighan, 1998). In a meta-review, strong diversity faultlines were associated with an overall negative impact on team processes, emergent states, and outcomes (Meyer, Glenz, Antino, Rico, & Gonzalez-Roma, 2014). This effect was tied to intergroup bias that emerged from strong diversity faultlines, eroded interactions between members, and decreased their capacity to communicate across subgroups, share diverse knowledge, and learn from each other (van Knippenberg, De Dreu, & Homan, 2004).

Team leaders are constantly challenged to cope with the detrimental consequences of strong diversity faultlines. They are able to reinforce or remove the barriers formed by faultlines (Kunze & Bruch, 2010; Rico, Sánchez-Manzanares, Antino, & Lau, 2012). We argue that leaders' task role assignment and motivation are crucial factors in this regard. Task role assignment, to begin with, is a typical managerial strategy identified in intergroup literature that influences the salience of categorization boundaries between subgroups (Bettencourt & Dorr, 1998). It is a component of team structure, particularly of the specialization of tasks, which describes the horizontal division of labor into tasks and roles (Bresman & Zellmer-Bruhn, 2013). Effective task role assignment can improve performance particularly when teams are responsible for creative or complex tasks under time pressure. Imagine, for instance, a team preparing a marketing campaign for a new product. Instead of assigning the task to the entire team, the leader may assign different task roles to smaller groups of team

members. Two members may be responsible for analyzing boundary conditions, three others may be in charge of developing a profile of the target group, while two others identify potential competitors and barriers for the market entry. When leaders assign task roles that cut across the subgroup structure created by strong faultlines, members of different subgroups with distinct diversity attributes work together. Cross-cutting reduces intergroup bias between in- and out-subgroup and stimulates information elaboration and performance in teams with strong faultlines (Rico et al., 2012). In contrast, when leaders' task role assignment aligns with the subgroup structure, distinctions between in- and out-subgroups gain in salience and faultlines' negative consequences grow stronger.

In addition, we assume that leaders' motivation determines whether faultlines can unrestrictedly unleash their negative effects. Motivation in general explains why people initiate, choose, or persist in specific, goal-oriented behavior (Weiner, 1992). Highly motivated leaders are often perceived as effective leaders (Barbuto & Xu, 2006) and transfer their motivation to their followers (Wieseke, Kraus, Alavi, & Kessler-Thönes, 2011). Moreover, leaders' motivation influences their leadership style (e. g., transformational leadership) (Barbuto Jr., 2005; Kark & Dijk, 2007), which in turn mitigates faultlines' negative effects (Kunze & Bruch, 2010). We thus believe that, beyond their task role assignment, leaders' motivation is crucial for shaping the consequences of diversity faultlines in teams.

Despite leaders' relevance in managing teams with strong faultlines, we know little about factors that influence the way they approach faultline management. We need to clarify what makes leaders apply beneficial managerial strategies and experience high motivation in teams with strong diversity faultlines to enable a more specific, evidence-based faultline management in teams as well as research that identifies how teams can benefit from members' diversity despite strong faultlines. Theory suggests that leaders' managerial strategies depend on their attitudes and the subjective norm they perceive within a team (Fishbein & Ajzen,

1975). We argue that in a strong faultline context, where diversity is salient, leaders' pro-diversity beliefs represent a crucial attitude and their perceptions of members' pro-diversity beliefs indicate a relevant subjective norm. Pro-diversity beliefs refer to the cognitive part of attitudes towards diversity and are strong when people perceive diversity as beneficial – rather than detrimental – to a group's functioning (van Dick, van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008). Previous research showed that diversity faultlines had a less negative effect on performance when members held strong pro-diversity beliefs (Homan, van Knippenberg, van Kleef, & De Dreu, 2007), and on team cohesion and social loafing when leaders held strong pro-diversity beliefs (Schölmerich, Schermuly, & Deller, 2016). However, the mechanisms underlying the mitigating impact of strong pro-diversity beliefs remain unclear. Moreover, despite the knowledge that leaders' perceptions of members attributes influence the leadership process (Turner & Haslam, 2001), the impact of leaders' perceptions of members' pro-diversity beliefs has not been examined until now. We thus need to understand the extent to which leaders' pro-diversity beliefs and their perceptions of member' pro-diversity beliefs influence their task role assignment and motivation. Therefore, we investigate whether leaders choose more effective managerial strategies to overcome faultlines and are more motivated when they are convinced of the benefit of diversity and perceive the same among their team members. In addition, we examine the mediating role of leaders' performance expectation between leaders' and members' pro-diversity beliefs and leaders' motivation in teams with strong faultlines.

In sum, our research contributes to the literature on diversity faultlines and leadership in several ways. First, we introduce leaders' perceptions of members' pro-diversity beliefs and simultaneously examine the impact of pro-diversity beliefs held and perceived by leaders on their faultline management. Second, we investigate leaders' task role assignment and motivation as key factors that shape faultlines' consequences. Third, we analyze leaders' perfor-

mance expectation as mediator between pro-diversity beliefs and leaders' motivation. Finally, we conduct two laboratory studies in Germany and the US to obtain causal inferences and be able to generalize our findings to populations in different cultures. Results will provide evidence-based advice to organizations and team leaders on effective diversity faultline management.

#### **4.2 Theoretical background: Changes in leaders' task role assignment**

In teams with strong diversity faultlines, intergroup bias often impairs communication and interaction between members of different subgroups (Meyer et al., 2014). Based on Allport's (1954) contact hypothesis, leaders can reduce intergroup bias by manipulating interactions among team members (Turner & Haslam, 2001). They may, for instance, assign task roles that decrease the comparative fit of social categorizations (Bettencourt & Dorr, 1998). Comparative fit refers to the extent to which social categorizations generate subgroups with high intragroup and low intergroup similarity (van Knippenberg et al., 2004). Strong diversity faultlines indicate a high comparative fit (Meyer, Shemla, & Schermuly, 2011). When leaders assign task roles to similar members in strong faultline teams, task role assignment aligns with the team's subgroup structure. Consequently, comparative fit increases and faultlines' consequences are exacerbated. However, when leaders assign task roles to members that differ in several diversity attributes, task roles cut across subgroups and reduce comparative fit. The social ties that emerge from cooperation between members of different subgroups can bridge faultlines and buffer their negative effects (Ren, Gray, & Harrison, 2014). When members of different gender, age, and cultural background share the same information or cooperate on a task, individual as opposed to subgroup-based interaction is promoted and subgroup identification as opposed to overall team identification can be reduced. Correspondingly, results from experimental research showed that strong faultlines teams in which task role assignment cross-cut subgroups reported less intergroup bias, elaborated more information, and

performed better than teams in which task role assignment aligned with subgroups (Rico et al., 2012).

To illustrate our reasoning, let's assume that the marketing team described in the introduction is characterized by a strong diversity faultline based on the attributes gender, age, and cultural background. Of the seven members, three are males, they are between 40 – 50 years old and grew up in the US. The other four members are females, between 20 and 30 years old, and two grew up in China and two in Germany. If the team leader assigned task roles so that the American men analyze boundary conditions, the Chinese women are in charge of the target group, and the German women identify competitors, task role assignment would reflect the faultline-based subgroups and increase comparative fit. If, however, the leader decided to charge one American man, one Chinese woman, and one German woman with the analysis of boundary conditions, one male American man and one Chinese woman with the target group, and one American man and one German woman with the competitors, task roles would cut across subgroups and reduce comparative fit. Leaders' task role assignment may thus determine whether a team with strong faultlines struggles with communication and conflicts or manages to share perspectives, elaborate information, and succeeds in finding adequate solutions to complex problems.

In teams with strong diversity faultlines, leaders' task role assignment thus represents a managerial strategy that is particularly decisive for the team's success. However, it is unclear what makes leaders assign task roles that cross-cut or align with subgroups. To identify potential antecedents of leaders' task role assignment, we turn to the theory of reasoned action (Fishbein & Ajzen, 1975). This theoretical framework has previously been used to predict leaders' behavior (e. g., Bommer, Rubin, & Baldwin, 2004). Applied to the leadership context, it postulates that leaders' behavior depends on their attitudes and perceptions of the subjective norm within a team. The more positive leaders' attitudes are towards a certain behav-

ior, the more likely they engage in this behavior. Moreover, behavioral prediction quality increases when attitudes match the level of specificity in behavior (Petty, 1995). To predict a specific behavior such as task role assignment in teams with strong diversity faultlines, we thus focus on a specific attitude, namely leaders' pro-diversity beliefs. When leaders hold strong pro-diversity beliefs, they consider diversity as a benefit for team functioning. To release the potential of diversity, they should assign the same task roles to members with different diversity attributes. Hence, the subgroup structure in teams with strong faultlines is cross-cut and comparative fit is reduced. In contrast, leaders with weak pro-diversity beliefs view diversity as a risk for effective team performance. They may prefer to assign the same task roles to similar members, which reflects the subgroup structure. Consequently, we predict that in teams with strong diversity faultlines, leaders' task role assignment is determined by their pro-diversity beliefs. When leaders hold strong pro-diversity beliefs, they are more likely to assign task roles in a way that faultlines are cross-cut.

Leaders certainly do not work in a vacuum where their behavior is solely determined by their own attitudes (Bommer et al., 2004). Instead, leadership is a process of mutual influence between leaders and members in which the team context plays a pivotal role (Yukl, 2013). According to social information processing theory (Salancik & Pfeffer, 1978), leaders' behavior is shaped by information drawn from their context. Characteristics of people in the leaders' immediate environment (e. g., their team members) often influence which information they weigh heavily and which they consider as less important (Turner & Haslam, 2001). In line with these arguments, the theory of reasoned action emphasizes the subjective norm as influencing factor on leaders' behavior (Fishbein & Ajzen, 1975). The subjective norm refers to social pressure, for instance created by team members, that leaders perceive within their social context to perform a certain behavior. The more supportive the subjective norm, the more likely leaders are to perform a certain behavior (Fishbein & Ajzen, 1975). We

argue that in the context of teams with strong diversity faultlines, leaders' perceptions of members' pro-diversity beliefs form a relevant subjective norm that shapes leaders' task role assignment. When most members hold weak pro-diversity beliefs, leaders recognize that diversity is considered as a risk and may experience social pressure to assign task roles in a way that only similar team members work together. In contrast, when leaders perceive strong pro-diversity beliefs among their members (i. e., members view diversity as beneficial for team functioning), the subjective norm supports the cooperation of members with different diversity attributes. Hence, leaders are more likely to assign task roles so that subgroups created by faultlines are cross-cut and members of different subgroups have the opportunity to interact. We thus assume that in teams with strong diversity faultlines, leaders' task role assignment is determined by their perception of members' pro-diversity beliefs. When leaders perceive strong pro-diversity beliefs among their members, they are more likely to assign task roles that cross-cut subgroups.

The impact of leaders' pro-diversity beliefs and their perception of members' pro-diversity beliefs on leaders' task role assignment in teams with strong diversity faultlines has not been examined empirically until now. However, previous research demonstrated that cross-cutting faultlines mitigated their negative impact on team functioning (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007) and team performance (Rico et al., 2012; Sawyer et al., 2006; Voids et al., 2012). Moreover, meta-analytical evidence suggested that, as postulated by the theory of reasoned action, attitudes and perceptions of the subjective norm predicted individuals' behavior (Armitage & Conner, 2001; Sheppard, Hartwick, & Warshaw, 1988). In the leadership context, Emiliani (2003) pointed to the essential impact of leaders' beliefs on their behavior. Finally, studies on members with strong pro-diversity beliefs showed that they were less likely to construe diversity in terms of subgroups, were more open-minded towards others' ideas and views (Homan, Greer, Jehn, & Koning, 2010), and

were expected to be better able to manage and use their differences (Homan, Buengeler, Eckhoff, van Ginkel, & Voelpel, 2015). Taken together these theoretical and empirical arguments, we hypothesize:

*Hypothesis 1a:* In teams with strong diversity faultlines, leaders with strong pro-diversity beliefs assign task roles to cross-cut rather than reinforce the subgroup structure.

*Hypothesis 1b:* In teams with strong diversity faultlines, leaders who perceive strong pro-diversity beliefs within their team assign task roles to cross-cut rather than reinforce the subgroup structure.

### 4.3 Study 3

#### 4.3.1 Method

*Sample and procedure.* Study 3 took place in January 2016, conducted by the first author and six graduate students that were trained previously. The sample comprised 55 students from a German Business School. Forty-nine percent were female and their mean age was 23.18 years ( $SD = 2.84$ ). Most participants were undergraduate students (89%), had a German cultural background (84%) and prior work experience (65%).

We recruited participants during classes based on the following cover story: As part of a study on creativity in group discussions, a publisher of textbooks aimed to identify new ways of adding online material to traditional textbooks. The research team organized group discussions to collect creative ideas on this topic. Participants should lead a short group discussion with four undergraduate students. The leader and all members of the four teams with the most creative ideas were promised a €25 Amazon gift card.

Students that agreed to participate were randomly assigned to one of four experimental conditions of a 2 (leader: weak vs. strong pro-diversity beliefs) by 2 (members: weak vs. strong pro-diversity beliefs) factorial design. They individually followed an experimenter to a room where they were asked to prepare for leading the group discussion. The experimenter



handed out a briefing for group discussion leaders that contained general information about the discussion procedure and the impact of diversity in group discussions (see manipulation of leaders' pro-diversity beliefs). Subsequently, participants received a sheet with information about the undergraduate students that allegedly would participate in the group discussion. This document contained information about visible social characteristics of the students (i. e., gender, age, cultural background) that aligned in a way that a strong diversity faultline was created. We chose these attributes because the alignment of visible social characteristics, as opposed to less visible characteristics, increases the perception of differences and subgroups and may activate faultlines (Zellmer-Bruhn, Maloney, Bhappu, & Salvador, 2008). All participants read that the students were two women named Laura (20 years) and Anna (19 years), and two men named Ahmed (27 years) and Mustafa (28 years). The names served as indicator of gender and cultural background. We chose German and Turkish names, because the cultural background of most of the universities' students related to one of those two countries. The female names were the most popular names given to girls born 19 or 20 years ago in Germany and the male names were general popular Turkish names for men. To further enhance the operationalization of a strong diversity faultline based on age, gender, and cultural background, the information on the sheet was presented in a way that Laura and Anna could be easily perceived as one subgroup and Ahmed and Mustafa as another subgroup. In all conditions, the group discussion teams were thus characterized by a strong diversity faultline. Next, the experimenter provided bogus feedback of a questionnaire on teamwork that the students allegedly had completed previously (see manipulation of members' pro-diversity beliefs). Participants were informed that the group discussion comprised two parts: First, the four participants should be divided into two pairs for a short, separate brainstorming session. Afterwards, the four participants would be brought together to combine their creative ideas. The group discussion leaders had to assign task roles for the first part of the group discussion. More specific-

ly, they had to decide which of the four students should work together in pairs. After that, leaders completed a short questionnaire. In the end, the experimenter revealed that the group discussion would not take place, explained the true purpose of the study, and informed all participants that four Amazon gift cards would be randomly drawn by lots in the sample.

*Manipulation of pro-diversity beliefs.* We manipulated leaders' pro-diversity beliefs and their perception of members' pro-diversity beliefs. The briefing for group discussions leaders contained a paragraph about the impact of diversity in group discussions. Leaders assigned to the strong pro-diversity beliefs condition read that diversity was a great benefit for group discussions because members of diverse teams usually exchanged more information and obtained better results. Leaders in the weak pro-diversity beliefs condition learned that diversity was a great risk for group discussions because members of diverse teams usually exchanged less information and obtained worse results.

To manipulate leaders' perceptions of the members' pro-diversity beliefs, the experimenter presented bogus results of a questionnaire on teamwork that the students had allegedly taken previously. The results comprised scores on the team level for creativity, pro-diversity beliefs, and communication skills. In all conditions, teams scored average in creativity and communication skills (4 on a scale from 1 to 7). In the weak members' pro-diversity beliefs condition, the team's pro-diversity beliefs were below average (2 on the same scale). In the strong members' pro-diversity beliefs condition, the team's pro-diversity beliefs were above average (6 on the same scale).

*Measures.* To check the manipulation of leaders' pro-diversity beliefs, we measured their pro-diversity beliefs with three items such as "In a work group like this, diversity is a great benefit" (Meyer & Schermuly, 2012; van Dick et al., 2008). Cronbach's alpha was .77. For the manipulation check of perceived members' pro-diversity beliefs, leaders rated the single item "I think that the members of my group like to work together with others who are

very different from themselves.” Items used for the manipulation checks were rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. Leaders’ task role assignment either aligned with or cross-cut subgroups based on faultlines. If they assigned task roles so that Laura and Anna would work in one pair and Ahmed and Mustafa in the other, their task role assignment would align with the subgroup structure. If leaders assigned task roles in any other way, they would cross-cut the subgroup structure. We controlled for attributes used in faultline calculation (i. e., age, gender, and cultural background), to prevent biases due to participants’ attributes.

### 4.3.2 Results

All analyses were conducted by means of the open-source statistical environment (R Core Team, 2016). In support of the manipulation of leaders’ pro-diversity beliefs, participants in the strong leader pro-diversity beliefs condition were more convinced of the benefit of diversity ( $M = 5.35$ ,  $SD = 1.32$ ) than participants in the weak leader pro-diversity beliefs condition ( $M = 4.67$ ,  $SD = 1.33$ ),  $F(1, 53) = 3.59$ ,  $p = .06$ ,  $\eta^2 = .06$ . Confirming the manipulation of leaders’ perception of members’ pro-diversity beliefs, participants in the strong members’ pro-diversity beliefs condition perceived a higher willingness among members to work together with others who are different from them ( $M = 4.96$ ,  $SD = 1.45$ ) than participants in the weak members’ pro-diversity beliefs condition ( $M = 3.00$ ,  $SD = 1.44$ ),  $F(1, 53) = 25.3$ ,  $p < .001$ ,  $\eta^2 = .32$ .

Table 6 presents means, standard deviations, correlations, and Cronbach’s alpha values of all variables in Study 3. We set the  $p$ -value to .10 to increase statistical power that was impaired by the small sample size. Due to the binary outcome variable task role assignment (alignment with vs. cross-cutting of subgroups), we conducted logistic regression analyses to test H1a and H1b. We assumed that leaders would most likely assign task roles that cross-cut

subgroups when they held strong pro-diversity beliefs (H1a) and perceived strong pro-diversity beliefs among members (H1b).

*Table 6.* Descriptive statistics, Pearson correlations, and internal consistency values (Study 3,  $N = 55$ )

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	1	2	3	4	5	6	7
1 Gender	0.49	0.50	0.00	1.00							
2 Age	23.18	2.84	18.00	32.00	.13						
3 Cultural background	0.84	0.37	0.00	1.00	-.06	.24					
4 LPDB (manipulated)	0.51	0.50	0.00	1.00	-.20	-.19	-.14				
5 MPDB (manipulated)	0.49	0.50	0.00	1.00	-.09	.09	-.06	.02			
6 LPDB (rated)	5.01	1.36	1.67	7.00	.02	.01	.09	.25	.44**	(.77)	
7 MPDB (rated)	3.96	1.74	1.00	7.00	.06	.12	-.12	.00	.57**	.35*	
8 Task role assignment	0.60	0.49	0.00	1.00	-.16	.05	.14	.31*	.21	.30*	.28*

*Note.* LPDB = leaders' pro-diversity beliefs; MPDB = members' pro-diversity beliefs. Coding gender: male = 0, female = 1; cultural background: other = 0, German = 1; LPDB/MPDB: weak = 0, strong = 1; Task role assignment: aligned with subgroups = 0, cross-cut subgroups = 1. Internal consistency values (Cronbach's alphas) appear across the diagonal in parentheses. \* $p < .05$ , \*\* $p < .01$ .

Table 7 shows the results of the binary logistic regression analyses of task role assignment. In support of H1a, strong pro-diversity beliefs held by leaders increased the probability of task role assignment that cut across subgroups created by faultlines ( $B = 1.73$ ,  $p = .01$ ,  $OR = 5.63$ ). In line with H1b, leaders were more likely to assign task roles that cross-cut subgroups when they perceived strong pro-diversity beliefs within the team ( $B = 1.11$ ,  $p = .09$ ,  $OR = 3.04$ ). Nagelkerke  $R^2$ , a measure of effect size in logistic regression (Tabachnick & Fidell, 1989), increased from .04 for the model only including control variables (Model 1) to .26 for the model with control and study variables (Model 2). Pro-diversity beliefs held and perceived by leaders were thus meaningful predictors of task role assignment.

Table 7. Binary logistic regression analysis of task role assignment (Study 3,  $N = 55$ )

Variables	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>OR</i>	95 % <i>CI OR</i>	<i>B</i>	<i>SE</i>	<i>OR</i>	95 % <i>CI OR</i>
Gender	.63	.57	1.87	0.61, 5.92	-.23	.65	0.79	0.22, 2.88
Age	-.04	.11	0.96	0.77, 1.17	.08	.12	1.08	0.86, 1.38
Cultural background	.44	.81	1.55	0.31, 7.91	-.78	.93	0.46	0.07, 2.78
LPDB					1.73*	.68	5.63	1.57, 23.85
MPDB					1.11 <sup>†</sup>	.65	3.04	0.88, 11.56
Nagelkerke $R^2$				.04				.26

*Note.* Unstandardized estimates are shown. LPDB = leaders' pro-diversity beliefs; MPDB = members' pro-diversity beliefs; OR = odds ratio; CI = confidence interval. Coding gender: male = 0, female = 1; cultural background: other = 0, German = 1; LPDB/MPDB: weak = 0, strong = 1; Task role assignment: aligned with subgroups = 0, cross-cut subgroups = 1. <sup>†</sup> $p < .10$ , \* $p < .05$ .

### 4.3.3 Discussion

Study 3 showed that leaders' pro-diversity beliefs and their perception of members' pro-diversity beliefs had a positive impact on their task role assignment in teams with strong diversity faultlines. Findings thus provided initial evidence of factors that determine whether leaders choose managerial strategies that reinforce or mitigate the negative consequences of strong diversity faultlines. Corresponding with intergroup and leadership literature, we showed that both leaders' pro-diversity beliefs and the pro-diversity beliefs they perceive among members determine whether or not they assign task roles that cross-cut subgroup structures. Leaders' task role assignment may be a mechanism that underlies the mitigating effect of leaders' and members' pro-diversity beliefs in in strong faultline teams.

Despite this first support of our assumptions, Study 3 was not without limitations. First, our sample size was small. To increase statistical power and obtain more stable conclusions, we aim to replicate our findings with a bigger sample in Study 4. Second, the sample was composed of students from a German university. However, teamwork differs across cultures (Gibson & Zellmer-Bruhn, 2001). To investigate whether our conclusions hold in the Anglo-American culture, we next rerun the experiment with students from a US university. Third, we did not consider leaders' motivation in Study 3. Leaders' motivation is, however, another potential factor that reinforces or mitigates the detrimental impact of strong faultlines in teams. In Study 4, we will thus turn to investigate the impact of leaders' pro-diversity beliefs and those they perceive within their team on leaders' motivation. As argued in more detail below, we assume leaders' performance expectation to be an important mediator in these relationships.

#### **4.4 Theoretical background: Changes in leaders' motivation**

In the team context, leaders' motivation is a crucial precondition for success. When leaders are not motivated they may, for instance, engage in *laissez faire* behavior (i. e., the absence of effective leadership), which has detrimental consequences for team performance (Bass & Riggio, 2006). Particularly in teams with strong diversity faultlines, when interactions between members of different subgroups are difficult, motivated leaders are essential to ensure the effective cooperation of all team members and mitigate faultlines' negative effects. However, little is known about the antecedents of leaders' motivation in teams with strong diversity faultlines. Studying these antecedents may thus lead to cues for more effective diversity faultline management in organizations.

Leadership theories suggest that strong beliefs are a paramount motivational source (Barbuto Jr. & Scholl, 1998) and a regulatory guide that influences individuals' motivation to lead (Kark & Dijk, 2007). Leaders' motivation is expected to be strongest if the characteris-

tics of a given situation match their needs and values (Rheinberg, Vollmeyer, & Burns, 2001). When leaders are convinced of the benefit of diversity for team functioning, leading a team with strong faultlines represents a task in which situational factors match their values and motivation should thus be high. Moreover, applied to the leadership context, expectancy-value theory states that leaders' motivation depends on their evaluation of valence and expectancy of a goal in a specific situation (Atkinson, 1957). Valence indicates the relative attractiveness of a goal while expectancy refers to the cognitive anticipation that performance will be followed by desired consequences. When leaders consider diversity as a benefit for team functioning, leading a team with strong faultlines should appear attractive to them. Moreover, leaders with strong pro-diversity beliefs should expect a better performance by a team that is characterized by strong diversity faultlines, which in turn increases their motivation. Consequently, we predict that leaders with strong pro-diversity beliefs, as opposed to those with weak pro-diversity beliefs, will be more motivated to lead a team with strong diversity faultlines because they expect a higher team performance. Expected team performance will mediate the effect of leaders' pro-diversity beliefs on their motivation to lead.

More often than not, leaders' attributes have been emphasized at the expense of attributes of the group when looking at antecedents of leaders' motivation (Kark & Dijk, 2007). Because leadership has a character of mutual influence between leaders and members (Yukl, 2013), we consider leaders' perception of members' pro-diversity beliefs as an additional antecedent of leaders' motivation in teams with strong diversity faultlines. Perceiving strong pro-diversity beliefs within a strong faultline team may signal leaders a match between members' values and the team context, which is a crucial precondition for motivation (Rheinberg et al., 2001). Strong pro-diversity beliefs within a team indicate that members value diversity as a benefit for teamwork. Completing tasks in a team with strong diversity faultlines should thus appear attractive to these members. This perception may encourage leaders to increase

their cognitive anticipation of success, i. e. their expectancy of team performance. High performance expectancy, in turn, is related to higher levels of leaders' motivation (Atkinson, 1957). In contrast, when leaders perceive weak pro-diversity beliefs within a team with strong diversity faultlines, they may not expect team members to perform well and not trust them to cope with a strong faultline context, which impairs their motivation. Therefore, we assume that leaders who perceive strong pro-diversity beliefs among members of a team with strong diversity faultlines will be more motivated to lead the team because they expect a higher team performance. Expected team performance will mediate the effect of pro-diversity beliefs leaders perceive among their team members on leaders' motivation.

Despite the fact that the impact of pro-diversity beliefs on leaders' motivation in teams with strong diversity faultlines has not been investigated before, empirical support for our assumptions can be derived from a study that focused on diversity faultlines, team members' pro-diversity beliefs, their motivation, information elaboration, and performance. In this study, members' pro-diversity beliefs were positively related with their motivation on the team level ( $r = .49, p < .01$ ) (Meyer & Schermuly, 2012). Moreover, the positive relationship between expected performance and motivation is well documented empirically. For instance, two studies with student samples indicated that expectancy was positively related with indicators of motivation (Feather & Newton, 1982). Based on the theoretical and empirical arguments presented above, we hypothesize:

*Hypothesis 2a:* The relationship between leaders' pro-diversity beliefs and their motivation to lead a team with strong diversity faultlines is mediated by their expectation of team performance. Leaders' pro-diversity beliefs positively impact their performance expectation, which is in turn positively related to their motivation.

*Hypothesis 2b:* The relationship between leaders' perception of pro-diversity beliefs held by members and their motivation to lead a team with strong diversity faultlines is medi-



ated by their expectation of team performance. Leaders' perception of members' pro-diversity beliefs positively impacts their performance expectation, which is in turn positively related to their motivation.

#### 4.5 Study 4

To overcome limitations and extend findings of Study 3, we conducted a second study with a larger sample of students from the US. Beyond leaders' task role assignment (H1a and H1b), we examined the hypotheses referring to leaders' expectation of team performance and their motivation (H2a and H2b).

##### 4.5.1 Method

*Sample and procedure.* In April and May 2016, the first author and three trained graduate students recruited 140 participants via a subject pool run by a Midwestern university in the US. The study was advertised as a 30-minute study on creativity in group discussions. Participants received \$10 for participation. As before, they were told that the four teams with the most creative ideas would additionally receive a \$25 Amazon gift card. Six participants were removed because they expressed doubts in the cover story. The final sample comprised 134 participants. Sixty-three percent were female and they were 22.50 years old on average ( $SD = 6.66$ ). Most of them were undergraduate students (76%), 19% were graduate students, and 5% were nonstudents. Participants were mostly White (64%), 28% were Asian, and 8% had another cultural background. Seventy-one percent had prior work experience.

Experiment materials were translated to English and validated by a native speaker. As in Study 3, participants were randomly assigned to one of the four experimental conditions and were told the same cover story. This time, however, we chose American and Chinese names for the undergraduate students that would allegedly take part in the group discussion because the majority of the universities' students had a cultural background in one of those countries. More specifically, the experimenter presented Jessica (18 years), Ashley (19 years),

Wei (23 years), and Qiang, (22 years) to the participants. The female names were the most popular names given to girls born 18 or 19 years ago in the US and the male names were popular Chinese names for men. Again, the names were presented in a way that Jessica and Ashley could be easily perceived as a subgroup and Wei and Qiang as another subgroup to create a strong diversity faultline based on age, gender, and cultural background. As before, the experimenter provided bogus feedback of a questionnaire on teamwork. Leaders were then asked to assign task roles for the first part of the group discussion and complete a short questionnaire. In the end, the experimenter revealed the true purpose of the study, paid participants, and explained that the Amazon gift cards would be randomly drawn from all participants.

*Manipulation of pro-diversity beliefs.* Leaders' and members' pro-diversity beliefs were manipulated as in Study 3. Because the effect size of the leaders' pro-diversity beliefs' manipulation check in Study 3 was small, we slightly adjusted the paragraph in the briefing for discussion leaders so that it referred specifically to the context of group discussions with students rather than teams or group discussions in general (see Appendix). We did not change the manipulation of leaders' perceptions of members' pro-diversity beliefs.

*Measures.* We used items of Study 3 to check the manipulation of leaders' and members' pro-diversity beliefs. Cronbach's alpha of leaders' pro-diversity beliefs was .80. Again, leaders' task role assignment was captured in terms of alignment with or cross-cutting of subgroups during the first part of the group discussion. Leaders rated their motivation on three items from the subscale interest of the Questionnaire of Current Motivation (QCM; Freund, Kuhn, & Holling, 2011). The QCM captures motivation in experimental achievement situations and has been used to predict performance in complex problem solving tasks (Rheinberg et al., 2001). The interest subscale specifically reflects an individual's positive affect toward and positive evaluation of a given task (Freund et al., 2011). We chose these items because

they suited the experimental situation in capturing current rather than general motivation and referred to a facet of motivation that is directly linked to the task of leading a team. An example item is “After reading the instructions, the task seems to be very interesting”. Items were rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. Cronbach’s alpha was .70. Expected team performance was measured with two items: “Altogether, the group will produce very creative ideas” and “Altogether, the group will produce many ideas”. Both items were rated on a scale from 1 = *very unlikely* to 5 = *very likely*. As before, we controlled for participants’ attributes used in faultline calculation (i. e. age, gender, and cultural background/race).

#### 4.5.2 Results

Participants assigned to the strong leader pro-diversity beliefs condition rated pro-diversity beliefs higher ( $M = 5.76$ ,  $SD = 0.83$ ) than participants in the weak leader pro-diversity beliefs condition ( $M = 4.92$ ,  $SD = 1.14$ ),  $F(1, 132) = 22.83$ ,  $p < .001$ ,  $\eta^2 = .15$ . Participants in the strong members’ pro-diversity beliefs condition reported a higher willingness among members to work together with others who are different from them ( $M = 5.34$ ,  $SD = 1.27$ ) than participants in the weak members’ pro-diversity beliefs condition ( $M = 2.98$ ,  $SD = 1.33$ ),  $F(1, 131) = 109.50$ ,  $p < .001$ ,  $\eta^2 = .46$ . These manipulation checks thus confirmed that we successfully manipulated pro-diversity beliefs held and perceived by leaders.

Table 8. Descriptive statistics, Pearson correlations, and internal consistency values (Study 4,  $N = 134$ )

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	1	2	3	4	5	6	7	8	9
1 Gender	0.63	0.48	0.00	1.00									
2 Age	22.50	6.66	18.00	63.00	-.09								
3 Race	1.43	0.63	1.00	3.00	-.02	.11							
4 LPDB (manipulated)	0.48	0.50	0.00	1.00	-.11	.11	.08						
5 MPDB (manipulated)	0.51	0.50	0.00	1.00	-.10	.02	-.06	.05					
6 LPDB (rated)	5.32	1.09	1.33	7.00	.04	.24*	-.02	.38**	.24*	(.80)			
7 MPDB (rated)	4.19	1.75	1.00	7.00	-.07	.20*	.08	.20*	.67**	.48**			
8 Expected performance	3.90	0.61	2.00	5.00	-.13	-.03	-.21*	-.01	.32**	.11	.18*		
9 Leader's motivation	4.47	1.06	1.33	7.00	.12	.24*	.09	-.02	.20*	.13	.23*	.23*	(.70)
10 Task role assignment	0.60	0.49	0.00	1.00	-.12	.19*	-.06	.51**	.38**	.53**	.52**	.04	.12

*Note.* LPDB = leaders' pro-diversity beliefs; MPDB = members' pro-diversity beliefs. Coding gender: male = 0, female = 1; race: White = 1, Asian = 2, other = 3; LPDB/MPDB: weak = 0, strong = 1; Task role assignment: aligned with subgroups = 0, cross-cut subgroups = 1. Internal consistency values (Cronbach's alphas) appear across the diagonal in parentheses. \* $p < .05$ , \*\* $p < .01$ .

Table 9. Binary logistic regression analysis of task role assignment (Study 4,  $N = 134$ )

Variables	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>95 % CI OR</i>	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>95 % CI OR</i>
Gender	.42	.39	1.52	0.71, 3.29	.06	.52	1.06	0.30, 2.98
Age	-.13	.07	0.88	0.76, 0.98	.23*	.11	1.27	1.07, 1.59
Race_Asian	.39	.43	1.47	0.63, 3.47	-1.59*	.65	0.20	0.01, 0.68
Race_Other	.55	.71	1.74	0.43, 7.55	-1.27	1.01	0.28	0.00, 2.00
LPDB					3.53***	.69	34.07	10.06, 153.31
MPDB					2.74**	.61	15.47	5.12, 58.65
Nagelkerke $R^2$				.09				.58

*Note.* Unstandardized estimates are shown. LPDB = leaders' pro-diversity beliefs; MPDB = members' pro-diversity beliefs; OR = odds ratio; CI = confidence interval. Coding gender: male = 0, female = 1; LPDB/MPDB: weak = 0, strong = 1; Task role assignment: aligned with subgroups = 0, cross-cut subgroups = 1. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 8 displays means, standard deviations, correlations, and Cronbach's alpha values of Study 4. As before, we conducted logistic regression analyses due to the binary outcome tested in H1a and H1b (leaders' task role assignment; see Table 9). In line with H1a, strong pro-diversity beliefs held by team leaders increased the probability of task role assignment that cross-cuts subgroups ( $B = 3.53$ ,  $p < .001$ ,  $OR = 34.07$ ). H1b suggested that leaders who perceived strong pro-diversity beliefs within a team would more likely assign task roles that cut across subgroups. Our data supported this assumption ( $B = 2.74$ ,  $p < .001$ ,  $OR = 15.47$ ). Nagelkerke  $R^2$  increased from .09 in the control model (Model 1) to .58 in the model with control and study variables (Model 2). Again, this supported the insight that pro-diversity beliefs held and perceived by leaders are meaningful predictors of task role assignment.

We further predicted that leaders' performance expectation mediated the impact of their pro-diversity beliefs (H2a) and their perception of members' pro-diversity beliefs (H2b) on their motivation. Table 10 displays the results of our linear regression analyses. Against our expectations, leaders' pro-diversity beliefs were neither related with their motivation ( $\beta = -.04, p = .64$ ) nor with expected performance ( $\beta = -.02, p = .84$ ). H2a thus had to be refuted.

Table 10. Linear regression analysis of expected performance and leaders' motivation (Study 4,  $N = 134$ )

Variables	Outcome: expected performance		Outcome: leaders' motivation		
	Model 1	Model 2	Model 3	Model 4	Model 5
	Gender	-.13	-.11	.15	.17*
Age	-.02	-.02	.25**	.25**	.25**
Race	-.21*	-.19*	.06	.08	.12
LPDB		-.02		-.04	-.04
MPDB		.31***		.22*	.14
Expected performance					.24**
$R^2$	.06	.15	.08	.13	.18
Adjusted $R^2$	.04	.12	.06	.10	.14
$\Delta R^2$		.09		.05	.05

Note. Figures in the main part of the table are z-standardized (beta) regression weights. LPDB = leaders' pro-diversity beliefs; MPDB = members' pro-diversity beliefs. Coding gender: male = 0, female = 1; race: White = 1, Asian = 2, other = 3; LPDB/MPDB: weak = 0, strong = 1. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

However, we found a positive relationship between leaders' perception of members' pro-diversity beliefs and expected performance ( $\beta = .31, p < .001$ ) and leaders' motivation ( $\beta = .22, p = .01$ ). The impact of the leaders' perception of members' pro-diversity beliefs on

leaders' motivation vanished once we added expected team performance to the regression model ( $\beta = .14, p = .10$ ). We tested the indirect effect by means of a bootstrapping test with 5,000 resamples. The bootstrapping revealed an average causal mediation effect of .07 with a 95% confidence interval of .02 - .16. Because the confidence interval did not include zero, these results support H2b.

## **4.6 General discussion**

Driven to discover what determines leaders' task role assignment and their motivation in teams with strong faultlines, we set out to examine the impact of pro-diversity beliefs held and perceived by team leaders. In two experimental studies conducted in Germany and the US, we found causal evidence for the impact of leaders' pro-diversity beliefs and those they perceived among their team members on their task role assignment. When leaders held and perceived strong pro-diversity beliefs, they were more likely to assign task roles that cut across rather than reinforced the subgroup structure created by strong faultlines. Moreover, the impact of perceived members' pro-diversity beliefs on leaders' task motivation was mediated by expected team performance. Unexpectedly, leaders' pro-diversity beliefs were neither related with their performance expectation nor with their task motivation.

### **4.6.1 Theoretical implications**

Our findings contribute to the literature on diversity faultlines and leadership by identifying pro-diversity beliefs as crucial antecedents of leaders' task role assignment and motivation in teams with strong diversity faultlines. Because diversity faultline strength did not differ across teams in both experiments (all teams had strong faultlines), differences in leaders' task role assignment and motivation can fully be attributed to the manipulations of pro-diversity beliefs. This knowledge may help scholars to better understand how strong pro-diversity beliefs mitigate faultlines' negative effects.

Confirming Petty's (1995) assumptions, a specific attitude held by leaders (i. e., leaders' pro-diversity beliefs) indeed seems to influence a specific managerial strategy (i. e., leaders' task role assignment) in teams with strong faultlines. Moreover, in line with social information processing theory (Salancik & Pfeffer, 1978), beyond their own pro-diversity beliefs, leaders' perceptions of members' pro-diversity beliefs determined whether they assigned task roles to cross-cut or reinforce subgroups. Leaders' behavior thus depended on their own beliefs as well as the subjective norm they perceived (Ajzen & Madden, 1986). These findings are important because when leaders assign task roles that align with the subgroup structure, faultlines may be activated (i. e., perceived by team members) and consequently have a more detrimental impact (Chrobot-Mason, Ruderman, Weber, & Ernst, 2009). However, intergroup bias that engenders negative effects of faultlines may be considerably weakened by task role assignment that cross-cuts the gap between subgroups (Sawyer et al., 2006). Our research thus showed that pro-diversity beliefs held and perceived by leaders have an important impact on whether faultlines can unleash their negative effects or are bridged by task roles that encourage interactions between members of different subgroups.

Moreover, Study 4 showed that the level of pro-diversity beliefs leaders perceived among members influenced their performance expectation and in turn, their motivation. In line with expectancy-value theory (Atkinson, 1957), we thus identified a mechanism that explains the impact of pro-diversity beliefs leaders perceive within a team on their motivation, namely expected performance. Neglecting members' attributes as antecedents of leaders' motivation indeed has been a mistake (Kark & Dijk, 2007). However, the lack of support for the impact of leaders' pro-diversity beliefs on their performance expectation and motivation in Study 4 is thought-provoking. Our findings suggest that leaders' perceptions of members' pro-diversity beliefs are more important for evaluating the fit between the motive structure and situation, which in turn influences leaders' motivation (Rheinberg et al., 2001). This may



partly be due to cultural characteristics. Our sample comprised students from the US, whose working culture is characterized by a high degree of individualism and low degree of power distance (Hofstede, 1984). Team members are expected to take over responsibility for tasks and work independently. Consequently, leaders often are not directly involved in task completion and encourage members to take responsibility for their own performance (Gibson & Vermeulen, 2003). Leaders may thus have considered members' pro-diversity beliefs to be more influential for task completion and their motivation than their own pro-diversity beliefs. Correspondingly, a study on the organizational level found that leaders' attitudes towards diversity were less influential for diversity activities than external forces in the form of structural pressures (e. g., organizational diversity orientation) (Buttner, Lowe, & Billings-Harris, 2006).

#### **4.6.2 Practical implications**

Together, results of Study 3 and 4 provide practical implications for effective diversity faultline management in organizations. Based on our results, diversity faultline management should involve fostering leaders' and members' pro-diversity beliefs. More specifically, in order to increase task role assignment that cross-cuts the subgroup structure in teams with strong diversity faultlines, both leaders' and members' pro-diversity beliefs should be targeted. For enhancing leaders' performance expectation and motivation, members' pro-diversity beliefs should be in focus. Organizations may promote strong pro-diversity beliefs by either selecting individuals that hold strong pro-diversity beliefs already and/or training individuals to reflect and strengthen their pro-diversity beliefs. Because diversity beliefs have proven to be malleable (van Knippenberg, Haslam, & Platow, 2007), training them seems to be worthwhile. Note that strong pro-diversity beliefs do not refer to a specific dimension of diversity. Diversity training programs should thus not only focus on increasing awareness of stereotypes towards certain groups and changing participants' feelings and attitudes about those groups.

Instead, they should target leaders' and members' feelings about diversity itself to increase their awareness of the benefit of leading or working in a diverse team. Particularly when teams have strong diversity faultlines, training programs should reach beyond the focus on stereotypes and tap beliefs towards diversity itself (Homan, van Knippenberg, van Kleef, et al., 2007).

Team leaders could foster their members' pro-diversity beliefs by focusing on the information/decision making perspective on diversity (van Knippenberg et al., 2004). They may explain how task accomplishment increases with the extent to which members succeed in sharing their information and perspectives. In the marketing team described in the introduction, the leader may enhance her members' pro-diversity beliefs by stressing the value of each person's expertise in order to prepare the marketing campaign for a new product. This may be useful to overcome faultlines' negative consequences and unleash the positive effects of members' diversity.

### **4.6.3 Limitations and future research**

Our study is not without limitations. To begin with, both studies were conducted in an experimental setting with student participants. Experimental research usually maximizes internal validity at the expense of external validity and generalizability (Aguinis & Bradley, 2014). Therefore, we cannot state that our conclusions hold for professional teams. Confidence in our conclusions could be enhanced by replicating the current results in teams working in organizations. In doing so, the context of teamwork in organizations should be taken into account (Maloney, Bresman, Zellmer-Bruhn, & Beaver, 2016). Future researchers may, for instance, conduct a scenario-based study to examine whether task role assignment and motivation of leaders of professional working teams are influenced in a similar way by their pro-diversity beliefs and those they perceive within a team with strong diversity faultlines.

Second, both experiments were conducted at a single measurement point and thus only represent a snapshot of the impact of pro-diversity beliefs held and perceived by leaders in teams with strong diversity faultlines. Because pro-diversity beliefs are malleable, this impact may well shift over time. For instance, pro-diversity beliefs may strongly shape leaders' task role assignment and motivation in the beginning of a teamwork period. Once working norms are established, the impact of pro-diversity beliefs may fade. In the future, research should thus focus on investigating how the impact of pro-diversity beliefs in teams with strong faultlines change over time.

Third, our manipulation checks revealed that the manipulation of leaders' perceptions of members' pro-diversity beliefs was stronger than the manipulation of their own pro-diversity beliefs. This is not surprising, because all participants had an individual level of pro-diversity beliefs before the experiment started. Therefore, leaders' pro-diversity beliefs – as opposed to their perceptions of members' pro-diversity beliefs – were only modifiable to a certain degree (e. g., it did not seem realistic to induce very weak pro-diversity beliefs to a participant with very strong pro-diversity beliefs). Future field studies may investigate self-rated rather than manipulated pro-diversity beliefs for team leaders. In a related vein, an important direction for future research seems to be the examination of the origins of pro-diversity beliefs. Researchers should answer the question of how individual and situational characteristics shape the level of pro-diversity beliefs held by leaders and members of a team.

Moreover, we focused on the leaders' perspective in the current study. However, in order to obtain a complete picture about the impact of pro-diversity beliefs in teams with strong diversity faultlines, it is crucial to examine the members' perspectives as well. How do pro-diversity beliefs they perceive among leaders and other members impact their motivation and behavior? And how does leaders' task role assignment and motivation influence the

teams' task accomplishment? Future research may thus focus on including the members' perspective in the study design.

Finally, our results showed that the main effect of leaders' pro-diversity beliefs on task role assignment was stronger than the one of perceived members' pro-diversity beliefs, whereas only leaders' perception of members' pro-diversity beliefs impacted their motivation. Research should replicate these findings and explore potential boundary conditions for these effects. Moreover, when leaders or members held weak pro-diversity beliefs, the likelihood for task role assignment that cross-cuts subgroups was reduced. Future research may examine in more detail what happens when leaders and members differ in their pro-diversity beliefs and identify factors that determine whether leaders act on their own attitudes or on the subjective norm they perceive within a team.

#### **4.6.4 Conclusion**

In conclusion, this study provides a first promising step to better understand how the negative effects of faultlines can be overcome by means of strong pro-diversity beliefs held and perceived by team leaders. Our findings add to the growing literature on mitigating factors of the negative consequences of strong diversity faultlines on team processes and outcomes. Effectively managing diversity faultlines in teams is challenging for organizations and leaders. Fostering pro-diversity beliefs among leaders and members may pave the way for more effective workplace interventions to unleash the positive effects of workforce diversity.

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## 4.8 Appendix

### Manipulation of leaders' pro-diversity beliefs

*Strong leaders' pro-diversity beliefs:* In groups that are supposed to produce creative ideas, members' attributes can impact the amount and quality of ideas. Particularly in the university setting, research on creativity shows that when members differ a lot from each other (for instance in age or gender), they often contribute different perspectives and experiences. Consequently, members of diverse teams usually exchange more information and obtain better results. Recent research on student teams moreover indicates that students enjoy teamwork more and are more motivated to give their best when their group consists of different members. Diversity can thus be a great benefit for group discussions.

*Weak leaders' pro-diversity beliefs:* In groups that are supposed to produce creative ideas, members' attributes can impact the amount and quality of ideas. Particularly in the university setting, research on creativity shows that when members differ a lot from each other (for instance in age or gender), misunderstandings and conflicts are likely to occur. Consequently, members of diverse teams usually exchange less information and obtain worse results. Recent research on student teams moreover indicates that students enjoy teamwork less and are less motivated to give their best, when the group consists of different members. Diversity can thus be a great risk for group discussions.

## **5. General Discussion**

### **5.1 Summary of main findings**

The cumulative findings of the four empirical studies included in this dissertation refined the knowledge about the impact of diversity faultlines and pro-diversity beliefs in teams. They identified strong pro-diversity beliefs held by leaders as a key mitigating factor of the detrimental impact of socio-demographic (but not experience-based) faultlines on perceived cohesion and loafing. Leaders' pro-diversity beliefs also determined their task role assignment in teams with strong faultlines. In addition, this dissertation revealed a three-way interaction of diversity faultlines and pro-diversity beliefs held by members and leaders on team performance. The negative relationship between diversity faultlines and team performance was weakest when both members and leaders held strong pro-diversity beliefs. However, this relationship was not mediated by aggregate LMX. Furthermore, leaders who perceived strong pro-diversity beliefs among members, above and beyond their own pro-diversity beliefs, were more likely to assign task roles that cross-cut subgroups due to strong faultlines and were more motivated. This relationship was mediated by expected team performance.

This dissertation thus provides a strong case for broadening the perspective on the consequences of faultlines by considering different faultline types, pro-diversity beliefs, and processes and outcomes related to members and leaders. The refined knowledge about differences in the consequences of diversity faultlines in teams adds to research that examines how teams can unlock the potential of members' diversity despite strong faultlines. Figure 9 gives an overview of variables and relationships analyzed in the present dissertation and extends the integrated research model presented in Chapter 1. I will first discuss the theoretical and practical implications of the present dissertation. Subsequently, I will explain

how its limitations can be overcome and how the current research model may be extended in future research.

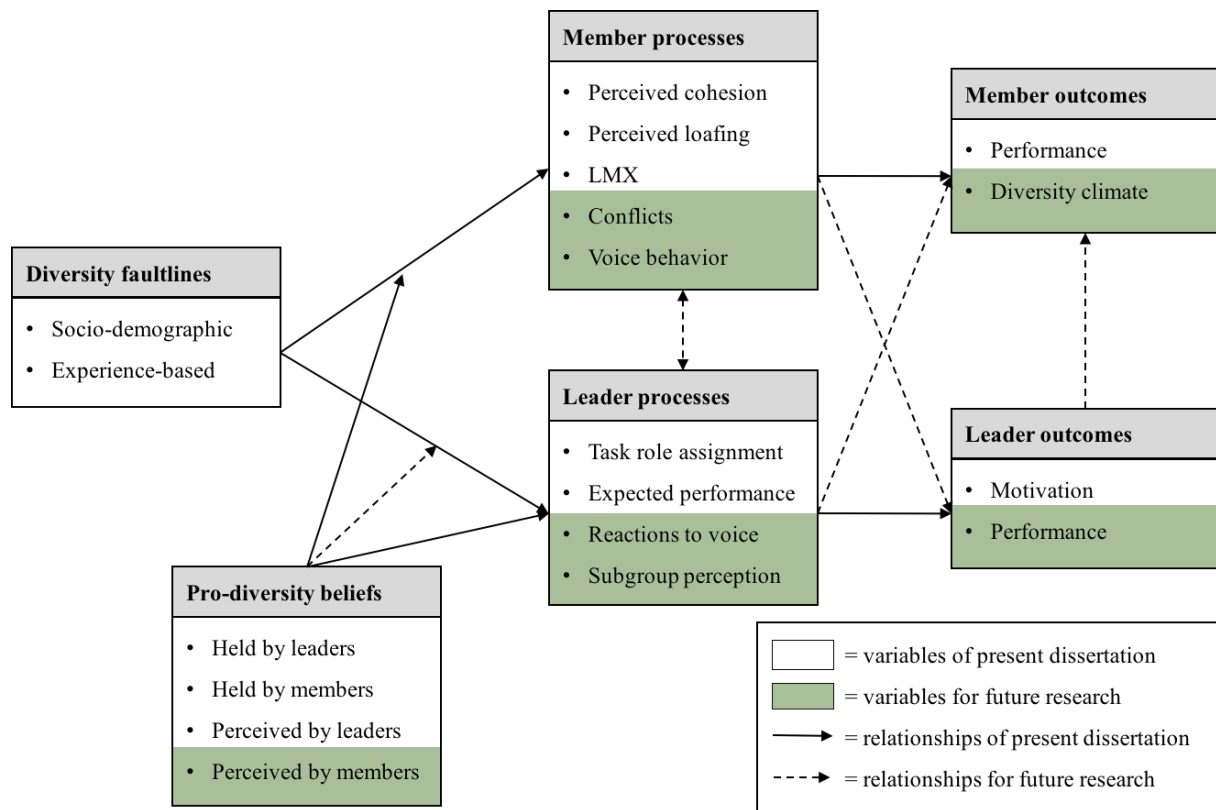


Figure 9. Extended research model

## 5.2 Theoretical and practical implications

The findings of the present dissertation add to the literatures on diversity faultlines and leadership in several ways. First, leaders' pro-diversity beliefs were identified as powerful means to overcome the detrimental impact of strong diversity faultlines on member processes and outcomes. This may be explained by the idea that leaders with strong pro-diversity beliefs are less likely to perceive and treat their team members in terms of subgroups (Greer, Homan, De Hoogh, & Den Hartog, 2012) and consequently buffer the occurrence of harmful inter-subgroup processes such as intergroup bias and identity threat (Carton & Cummings, 2012). Moreover, results suggest that their pro-diversity beliefs impact specific managerial strategies such as task role assignment, which in turn may heighten or reduce the potential of faultline

activation. Assigning task roles in a way that faultlines are cross-cut is one of the ways in which leaders can help their team to overcome the barriers created by strong faultlines (Sawyer, Houlette, & Yeagley, 2006). This finding supports the theoretical argument that specific attitudes influence specific leader behaviors (Petty, 1995) and advances the understanding of effective leadership behavior in teams with strong diversity faultlines. Unexpectedly, leaders' pro-diversity beliefs were not related to their performance expectation and motivation. This may be due to cultural influences in the sample. Most participants had a Western cultural background, which is characterized by a high degree of individualism and low degree of power distance (Hofstede, 1984). Leaders may thus only have felt indirectly involved in member outcomes such as performance. Therefore, their performance expectation and motivation may not have depended on their own pro-diversity beliefs.

In contrast, leaders' perceptions of members' pro-diversity beliefs in teams with strong diversity faultlines did indeed influence their performance expectation and motivation. Their perceptions thus seemed to be more important to evaluate the fit between team characteristics and the situation and influenced leaders' evaluation of expectancy and valence in a strong faultline context (Atkinson, 1957). In line with social information processing theory (Salancik & Pfeffer, 1978), leaders' perceptions of members' pro-diversity beliefs also impacted their task role assignment. Whether leaders assigned task roles to cross-cut or reinforce subgroups thus depended on their own beliefs as well as the subjective norm they perceived (Ajzen & Madden, 1986). Especially in a Western context, leaders' perceptions of members' pro-diversity beliefs may thus be a crucial additional mitigating factor of faultlines' detrimental consequences. These results also support the assumption that besides member processes and outcomes, theories on the consequences of diversity faultlines should incorporate leader processes and outcomes.

In addition, the findings of this dissertation suggest that the joint consideration of leaders' and members' pro-diversity beliefs is worthwhile when examining the effects of diversity faultlines on team performance. When both leaders and members hold strong pro-diversity beliefs, the potential for identity threat and intergroup bias is minimized and the activation of faultlines thus unlikely (Chrobot-Mason, Ruderman, Weber, & Ernst, 2009). Under these conditions, chances are that an inclusive environment emerges despite strong faultlines, which in turn enhances team performance (Nishii, 2013). Strong pro-diversity beliefs held by leaders and members may thus create an atmosphere in which teams with strong diversity faultline truly benefit from their members' diversity. However, the three-way interaction of faultlines and pro-diversity beliefs on performance was not mediated by aggregate LMX. Despite the fact that this may be explained by power issues due to a small sample size, it may also be associated with the study design that did not require all team members to participate. The measure of aggregate LMX may thus have been distorted by a selection bias among participants.

Results of this dissertation provide several implications for organizations that wish to enhance effective diversity faultline management to foster inclusion and equality in the workplace. First and foremost, they should target leaders' and members' pro-diversity beliefs. The negative consequences of strong diversity faultlines appear to be least evident when leaders and members hold strong pro-diversity beliefs. Establishing human resource management practices that promote strong pro-diversity beliefs in terms of selection and development seems worthwhile to unleash the positive effects of members' diversity. As a first step, organizations may select individuals that already hold strong pro-diversity beliefs to foster a high level of pro-diversity beliefs among their workforce.

Furthermore, enhancing leaders' and members' pro-diversity beliefs in trainings or workshops may bring organizations closer to this goal. Diversity is often idealized in the work

context and thus exerts pressure on team leaders and members to produce high quality results when diversity is salient due to strong faultlines. Training interventions should take away this pressure by acknowledging that faultlines pose a challenge to effective teamwork and provide the support that leaders and members need to effectively manage the negative consequences of faultlines. Nevertheless, interventions should focus on the information/decision-making perspective (Williams & O'Reilly, 1998) and promote examples in which heterogeneous teams outperform homogeneous ones. Conventional diversity training programs often only focus on increasing awareness of stereotypes towards certain groups and changing participants' feelings and attitudes about those groups. In contrast, diversity faultline trainings should target leaders' and members' feelings about diversity itself to increase their awareness of the benefit of leading or working in a diverse team.

Leaders' attitudes are often contagious and passed on to others (Bommer, Rubin, & Baldwin, 2004). Therefore, team leaders should act as role models for members regarding pro-diversity beliefs. They should explain how members' task accomplishment benefits from each other's knowledge, skills, and abilities. Moreover, they should encourage the interaction between members of different subgroups when faultlines are strong, for instance by structuring tasks in a way that faultlines are cross-cut. By this means, members of different subgroups can get to know each other and rely less on stereotypes (Nishii, 2013).

### **5.3 Strengths, limitations, and future directions**

This dissertation stands out due to the heterogeneous data basis that enabled the investigation of the consequences of faultlines and the impact of pro-diversity beliefs in a diverse set of contexts and participants. I collected multi-source field data from team leaders and members working in different organizations and from diplomats working for the German Ministry of Foreign Affairs. I also obtained data from two experimental studies conducted with students in the lab. Whereas the field studies strengthened the external validity of my findings,



the experimental studies enhanced the internal validity and enabled me to draw causal inferences. Because I collected data in Germany and the US, findings can be transferred to different cultural contexts. Moreover, the studies build upon each other to systematically extend the knowledge about the impact of faultlines and pro-diversity beliefs in teams. To determine diversity faultline strength, I applied the average silhouette width (ASW) measure. It exceeds other faultline measures in terms of accuracy and applicability in teams that are potentially split into more than two subgroups (Meyer & Glenz, 2013).

However, as with all research, there are several limitations regarding this dissertation. First, one of faultline research's biggest challenges at the moment refers to the appropriate selection and weighting of attributes in faultline strength calculation that are meaningful for a certain research question and context. I provided theoretical arguments for attribute selection and followed recommendations for attribute weighting (Bezrukova, Jehn, Zanutto, & Thatcher, 2009). Nevertheless, it remains for future research to determine whether other attributes or weightings would have been more appropriate.

Second, the consequences of diversity faultlines can be looked at on different levels (e. g., individual, subgroup, team, or organizational level). On each level, they have unique implications that may interact with those at other levels. Hence, it is crucial to bear in mind that the current work is limited to implications on the team and leaders' individual level. Some constructs that were measured on members' individual level (e. g., members' diversity beliefs) had to be aggregated to the team level for the purpose of hypothesis testing. Future research should examine whether the current findings can be replicated on different levels of analysis.

Third, I only examined linear relationships between faultlines and specific team processes and outcomes without verifying whether faultlines were dormant or active. Due to the fact that faultlines have a stronger impact once they are activated (Thatcher & Patel, 2012),

future research should consider nonlinear dynamics elicited by faultlines to more adequately model their impact (Guastello, 2002). For instance, beyond their linear impact on team performance, faultlines may also be related to team performance in a nonlinear way, which could be fitted by means of cusp catastrophe models (Grasman, van der Maas, & Wagenmakers, 2009).

Fourth, the theory of subgroups in work teams predicts that the number and size of subgroups influence the effects of faultlines on team processes and outcomes (Carton & Cummings, 2012). Despite controlling for the number of subgroups in my analyses, I did not examine the impact of the number and size of subgroups because my research questions focused on the team rather than subgroup level (Study 1 and 2) or both indicators did not vary (Study 3 and 4). Future scholars may analyze the impact of subgroup number and size in more detail, for instance in teams with strong faultlines that differ in size and number.

Finally, despite demonstrating the crucial impact of different types of pro-diversity beliefs, I did not provide information about their development and adaption. To clarify how leaders' and members' pro-diversity beliefs emerge, future research should systematically analyze their antecedents, for instance by means of meta-analytical methods. Moreover, in the current work it was not possible to determine whether leaders were more likely to act on their own or the perceived pro-diversity beliefs when these did not correspond. Whether one option was more likely than the other perhaps depended on leaders' experience, members' characteristics, or the task. Future studies should examine leaders' behavior in cases in which leaders' and members' pro-diversity beliefs are at odds.

Despite answering several questions related to faultlines and leaders' and members' pro-diversity beliefs, this dissertation raised several new issues. A few of them are incorporated in the extended research model presented in Figure 9, which is by far not complete. I aim to contribute to the development of a model of faultlines' consequences that considers

different types of faultlines and pro-diversity beliefs as well as processes and outcomes related to leaders and members.

To begin with, the current research model should be extended by considering members' perceptions of leaders' diversity beliefs as an important indicator of the subjective norm regarding diversity in teams that influences member processes and outcomes. Moreover, future research should examine the mitigating impact of all four pro-diversity beliefs types simultaneously to clarify whether certain types of beliefs are more powerful than others to overcome the barriers created by strong faultlines. Regarding member processes and outcomes, future studies may focus on how the impact of leader processes such as task role assignment depends on diversity faultlines and pro-diversity beliefs. To further strengthen the value of strong pro-diversity beliefs, research needs to demonstrate that they activate effective managerial strategies, which in turn have a beneficial impact on member processes (e. g., conflicts, voice behavior, shared leadership) and outcomes (e. g., diversity climate) in teams. Taking into account the mutual component of the leadership process, research should additionally analyze how member processes and outcomes influence leader processes (e. g., reactions to voice behavior, subgroup perception) and outcomes (e. g., performance) depending on faultline strength and different types of pro-diversity beliefs.

#### **5.4 Concluding remarks**

Effectively managing diversity faultlines in teams is challenging for organizations and leaders alike. Based on results of field and experimental studies, this dissertation demonstrated that leaders' and members' pro-diversity beliefs are powerful means to overcome the detrimental effects of diversity faultlines in teams. It proposes a model of faultline consequences that considers different types of diversity faultlines and pro-diversity beliefs as well as processes and outcomes related to members and leaders. Findings suggest that fostering pro-diversity beliefs among leaders and members can pave the way for more effective workplace

interventions that unleash the positive effects of workforce diversity despite strong diversity faultlines.

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