CHAPTER 1

GENERAL INTRODUCTION
In order to ensure competitive advantage and sustainable success, organizations in many industrialized countries need to address crucial challenges, among them demographic shifts, globalization, enhanced knowledge and information-processing requirements, and the need to innovate (Kozlowski & Ilgen, 2006; Leibold & Voelpel, 2006; Mannix & Neale, 2005; West, 2012). To cope with these manifold challenges, organizations increasingly rely on organizational teams1 (Cohen & Bailey, 1997) as these are assumed to be able to master the complexity of modern work life (Kozlowski & Bell, 2003).

Indeed, teams have a unique ability to effectively adapt and flexibly respond to changing and unpredictable environments and situations (Cohen & Bailey, 1997). While an individual’s resources per se are limited and bound to serial work (West, 2012), teams do not only have more resources but can also use them for performing multiple tasks in parallel (McGrath, 1991). Under the right circumstances, teams can even synergistically combine and integrate their extended range of complementary knowledge and skills toward superior performance which allows for more innovative solutions, higher decision quality, and heightened performance on complex tasks (Jackson & Joshi, 2011). Teams and their effective collaboration are therefore crucial for organizations (Kozlowski & Bell, 2003), and organizations that succeed in leveraging teams’ potential have a competitive advantage.

Not surprisingly, a team’s effectiveness or performance has thus emerged as one of the most important criteria of organizational success (Guzzo & Dickson, 1996; Levine & Moreland, 1990; West, 2012). Different notions of team performance and team effectiveness exist, and both terms are sometimes used interchangeably in the literature. Following Cohen and Bailey’s (1997) approach, I define team effectiveness as overarching, rather broad construct that accommodates “the multiplicity of outcomes that matter in organizational settings” (p. 243). Hence, I differentiate team effectiveness into the two dimensions2 of performance effectiveness (actual performance; i.e., quality, quantity) and behavioral outcomes (i.e., absenteeism, turnover) that are related to actual performance (e.g., Guzzo & Dickson, 1996).

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1 When describing work groups or teams, I refer to the definition of teams by Kozlowski and Bell (2003, p. 334) as “two or more individuals who (a) exist to perform organizationally relevant tasks, (b) share one or more common goals, (c) interact socially, (d) exhibit task interdependencies (i.e., work flow, goals, outcomes), (e) maintain and manage boundaries, and (f) are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity.”

2 Unlike Cohen and Bailey (1997) who understand member attitudes as a third dimension of team effectiveness, I conceptualize attitudinal measures (e.g., satisfaction) as intervening mechanisms.
However, a team’s effectiveness is not at all self-evident but depends on a number of factors that need to be prudently orchestrated in order to increase the chance of attaining the envisioned outcomes. In fact, many teams suffer from serious lacks of coordination and motivation that result in detrimental performance losses (Levine & Moreland, 1990), without ever achieving the advantages of teamwork. To answer this need for powerful instruments that help ensure team success (Cohen & Bailey, 1997), a number of theoretical models of team effectiveness (e.g., Cohen & Bailey, 1997; Gladstein, 1984; Guzzo & Shea, 1992; Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Kolodny & Kiggundu, 1980; Kozlowski & Bell, 2003; Kozlowski & Ilgen, 2006; McGrath, 1984, 1991; McGrath, Arrow, & Berdahl, 2000; Zaccaro, Rittman, & Marks, 2001) have been developed. These models describe how the collaboration of members in a team may lead to high team effectiveness. They explicitly acknowledge that a team’s performance does not result automatically, but is importantly influenced by a variety of factors. A team’s leadership and a team’s diversity have emerged as crucial factors in this regard, and – despite considerable differences with respect to their perspectives and specific emphases – a number of theoretical frameworks concordantly claim these factors’ relevance for team success. For instance, frameworks that draw on the classical Input-Process-Output models (e.g., Cohen & Bailey, 1997; Gladstein, 1984) assume both a team’s leadership and its composition to influence team effectiveness, and these two factors also play a prominent role in models that conceptualize teams as complex, dynamic, and adaptive systems (e.g., McGrath et al., 2000).

In the present dissertation, I examine leadership and team diversity as key drivers of team effectiveness. Before delineating the aim of this research in more detail and providing an outline of this dissertation, I will introduce the fields of leadership and team diversity.

**Leadership**

The first of the two proposed levers of team effectiveness is leadership (Guzzo & Dickson, 1996). Aiming to predict and describe effective leadership in a team setting (Burke et al., 2006), scholars have begun to develop specific team leadership models (e.g., Hackman, 2002; Hackman & Wageman, 2005; Hackman & Walton, 1986; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; McGrath, 1962; Morgeson, DeRue, & Karam, 2010; Yukl, 2012; Zaccaro et al., 2001). These models aim to capture the unique demands that arise from leading teams rather than an assembly of individuals, and speak to the specific functions and roles that

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3 Defined very broadly, leadership involves “a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization” (Yukl, 2013, p. 18).
are needed to fulfill these demands (e.g., functional team leadership approach; Morgeson et al., 2010; Zaccaro et al., 2001). Albeit team leadership is viewed as conceptually different from the leadership of individuals, these models allow integrating a variety of traditional leadership approaches (Yukl, 2012) that may facilitate teams’ efforts toward goal attainment, and help find an answer concerning their value in a given team context (Yukl, 2012). Hence, team leadership theories are important to understand how leaders can best promote team success.

Having introduced these very broad team leadership models that provide useful frameworks for studying the leadership of teams, I will now focus on specific, and more traditional forms of leadership (cf. Morgeson et al., 2010), and how these have been conceptualized and examined in prior research. Two leadership paradigms are crucial in this regard: The first focuses on leaders’ behaviors (Burke et al., 2006; Zaccaro et al., 2001) whereas the second refers to leaders’ individual characteristics, such as their traits and demographics (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011). Together with the overarching notion of team leadership, both perspectives on leadership are relevant for the present dissertation, and are thus introduced in the following.

With respect to leader behaviors, a number of taxonomies have been developed (Piccolo & Buengeler, 2013), each subsuming a variety of observed leader behaviors which contribute to leader effectiveness (Yukl, 2013; Yukl & Van Fleet, 1992). In the following, two especially important and widely researched theories are introduced as they are of particular importance for the present dissertation. Already quite early in the history of modern leadership research, researchers (Ohio State Leadership Studies; Fleishman, 1953; Halpin & Winer, 1957; Hemphill & Coons, 1957) have differentiated leadership behaviors according to whether they are concerned with the task (i.e., Initiating Structure) or with relations and the person (i.e., Consideration). Similarly, the Michigan Leadership Studies (Kahn, 1956; Katz & Kahn, 1952; Likert, 1961) resulted in the definition of two major types of leader behavior, namely production versus employee orientation, whereas Blake and Mouton (1964) introduced the two leader orientations of concern for production and concern for people. Conceptualizing these two orientations as axes of the Managerial Grid (1964; 1981), Blake and Mouton claimed the combination of high concern for production and people (the “High-High leader”, also called the “Team management” style) to be more effective than any other combination of the two leader orientations (Blake & McCanse, 1991). The two underlying dimensions of leader behaviors are also reflected in subsequent theories, for instance in contingency (Fiedler, 1964) and situational (Hersey & Blanchard, 1969) approaches to leadership, or in the dimensions of directive versus participative/supportive leadership that are an integral part of Path-Goal-Theory (House, 1971).
Albeit the two broad behavioral dimensions of Consideration and Initiating Structure (or related dimensions) have more and more disappeared from past years’ research agenda (Judge, Piccolo, & Ilies, 2004), they are nonetheless crucial for our understanding of effective leadership. Recent meta-analyses have shown their validity (also relative to other leadership approaches) (Burke et al., 2006; DeRue et al., 2011; Judge et al., 2004; Piccolo et al., 2012a), and endorse these basic leadership factors’ relevance in the study of effective leadership.

Based on Burns’ (1978) differentiation of transformational and transactional leadership in his classical work on political leadership, and along with the orientation toward charismatic-affective forms of leadership (Conger & Kanungo, 1987; House, 1977), another highly influential behavioral leadership taxonomy was developed: The Full Range of Leadership model (Bass & Riggio, 2006) comprises transformational leadership as the most effective style (Bass, 1985), which incorporates various behaviors such as portraying an inspiring vision of the future, role-modeling and charismatic influence, bundling team members’ collective efforts to attain the team’s mission, and providing intellectual stimulation and individualized support with respect to the singular members’ developmental needs. Second to transformational leadership, transactional behaviors comprise establishing an exchange relationship with followers on the basis of either contingent rewards or punishments, whereas laissez-faire behavior is the absence of effective leadership (Bass & Riggio, 2006).

An abundance of empirical evidence clearly underlines the utility and validity of transformational leadership across situations and contexts (Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). Consistent with the earliest notions of leader charisma in situations of crisis (cf. Weber, 1947; Yukl, 2013), its specific effectiveness under challenging, unstable, or turbulent conditions has been theorized (Bass, 1985, 1998) and empirically demonstrated (e.g., Bass, Jung, Avolio, & Berson, 2003; Lim & Ployhart, 2004). Interestingly, contingent reward has been found to be more strongly correlated with transformational than with transactional leadership, and to be nearly as effective, or with respect to some criteria equally effective as transformational leadership (Judge & Piccolo, 2004). Under certain circumstances (e.g., in business contexts), contingent reward has even been found to be superior to transformational leadership (Judge & Piccolo, 2004). In sum, both transformational leadership and contingent reward are important leadership behaviors that need to be considered when aiming to delineate effective leadership of teams.

In addition to this behavioral approach to leadership (Piccolo & Buengeler, 2013), leader characteristics in form of traits and demographics (DeRue et al., 2011) are important for an appropriate understanding of leaders’ influence on teams. First attempts to differentiate leaders
from non-leaders or to predict the emergence or effectiveness of leaders by their innate characteristics have been made several decades before the above introduced differentiation of leader behaviors (for a review of the early trait studies, see Stogdill, 1948). However, this early trait approach did not reveal universal leader traits that were generally effective (Yukl, 2006), and has been replaced by a systematic search for traits and other individual characteristics as key predictors of leader effectiveness (DeRue et al., 2011). In fact, leadership research has regained its interest in leader characteristics, as evident in numerous studies on traits (e.g., Hogan & Kaiser, 2005; Judge, Piccolo, & Kosalka, 2009), such as personality (e.g., Grant, Gino, & Hofmann, 2011) and other workplace-relevant dispositions (e.g., goal orientation or intelligence; Judge et al., 2009; Sonnentag, Frese, Stolte, Heinbokel, & Brodbeck, 1994).

Another tenet of this leadership approach is the focus on leader demographics (DeRue et al., 2011), such as a leader’s age which is – similar to gender (Eagly, Karau, & Makhijani, 1995) and race (Ridgeway, 1991; Rosette, Leonardelli, & Phillips, 2008) – closely related to status and power (Ridgeway, 2003) and thus inherently linked to a leader’s possibility to exert influence over followers (cf. Kearney, 2008; Sauer, 2011; Tsui & Gutek, 1999; Tsui, Xin, & Egan, 1996). Specifically, the role of age as leader characteristic may gain even more in importance, as resulting from demographic shifts in many industrialized countries - the workforce and the teams working in it have become gradually older (Leibold & Voelpel, 2006). Nonetheless, individuals enter managerial positions early on, and nowadays, higher education increasingly helps young individuals compensate for the previously required longer work experience when it comes to early promotions into higher positions (Jackson, May, & Whitney, 1995). Hence, a turnaround of established age-hierarchy relations (Lawrence, 1984) becomes more and more common in today’s organizations (Collins, Hair, & Rocco, 2009; Shore, Cleveland, & Goldberg, 2003), clarifying the need for studying the implications of young leader age.

In sum, this more complex and systematic approach to examine the effectiveness of leader characteristics meaningfully complements the long-standing dominance of research on leader behaviors (DeRue et al., 2011), and meta-analytical evidence on the validity of the trait approach to leadership (Judge & Bono, 2000; Judge, Bono, Ilies, & Gerhardt, 2002), also compared to the behavioral approach to leadership (DeRue et al., 2011), underlines the value of leader characteristics for our understanding of effective leadership. Going even further, first attempts to interactively link leader behaviors and characteristics (Greer, Homan, De Hoogh, & Den Hartog, 2012; Sauer, 2011) show how the two leadership paradigms together can contribute knowledge on effective leadership over and above their singular or additive effects.
TEAM DIVERSITY

A second crucial factor theorized and shown to influence team effectiveness (Guzzo & Dickson, 1996; McGrath et al., 2000) is a team’s diversity with respect to informational, demographic, and other characteristics. Together with leadership, team diversity is an integral part of the present dissertation, and is thus introduced in more detail.

Diversity is defined as variation from any characteristic that an individual can use to distinguish one group member from another (Williams & O'Reilly, 1998). Along with demographic shifts, globalization, and increasing specialization and knowledge requirements, the diversity of work teams has augmented, and will continue to do so (Leibold & Voelpel, 2006; Van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Organizations aspire to bring the potential inherent in diverse teams’ expanded body of informational resources to full fruition (Mannix & Neale, 2005), and thus increasingly compose diverse teams. Argued to be a double-edged sword (Mannix & Neale, 2005), team diversity indeed entails the potential for superior performance, but also the threat of seriously deteriorated team functioning. The finding that diversity does not per se yield favorable consequences (e.g., Kearney & Gebert, 2009) challenges these overly optimistic hopes, and forces organizations to take powerful actions to successfully manage diverse teams.

Two perspectives have been put forward to explain diversity’s differential effects (Van Knippenberg & Schippers, 2007). Referring to the potential positive outcomes of diversity (information/decision-making perspective; Williams & O'Reilly, 1998), diversity implies a broadened pool of knowledge, experiences, views, and backgrounds that – if used for heightened processing and elaboration of task-relevant information – may lead to more creative and innovative solutions, better decision quality and problem-solving, and lastly higher team performance (Van Knippenberg, De Dreu, & Homan, 2004). According to the similarity-attraction/social categorization perspective (Williams & O'Reilly, 1998), dissimilarity among diverse members may serve as basis for lowered interpersonal attraction (Byrne, 1971) and unfavorable social categorizations (Tajfel & Turner, 1986) which may lead to subgroup-building and detrimental intergroup biases (Polzer, Milton, & Swann Jr, 2002). This may diminish cohesion and increase the likelihood of conflicts and lowered team functioning (e.g., Harrison, Price, & Bell, 1998; Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin, 1999).

Research (e.g., Jehn et al., 1999; Webber & Donahue, 2001) has attempted to show that more job-related diversity (i.e., informational diversity in terms of education, function, or tenure) is associated with the described favorable effects of team diversity, whereas less job-related diversity (e.g., demographic diversity in terms of age, sex, or nationality) is linked to the
described unfavorable outcomes. However, this differentiation between more and less job-related diversity did not yield consistent differences in terms of team outcomes (Van Knippenberg & Schippers, 2007). Integrating these (seemingly) opposite perspectives on the consequences of diversity in an overarching theoretical framework (categorization-elaboration model of group diversity and group performance), Van Knippenberg and colleagues (2004) declared that all kinds of diversity can in principal produce positive as well as negative outcomes. Favorable outcomes are likely to result when diverse teams actively use their informational differences, without experiencing unfavorable social categorization processes and harmful intergroup biases.

In sum, diversity constitutes an organizationally relevant phenomenon that influences team processes and outcomes (Van Knippenberg & Schippers, 2007), but whether a specific diversity dimension (e.g., education level diversity or tenure diversity) will have positive, negative, or no effects on team outcomes in a particular context is difficult to predict. In the following section, I will consider both leadership and team diversity as factors influencing team success and discuss prior research’s ability to predict team effectiveness from these factors.

**LEADERSHIP AND TEAM DIVERSITY AS PREDICTORS OF TEAM EFFECTIVENESS**

Sound theoretical reasoning (e.g., Cohen & Bailey, 1997) and empirical evidence (Guzzo & Dickson, 1996; Stewart, 2006) support leadership’s and team diversity’s influential role for team success, and the present dissertation focuses on these two phenomena as (joint) predictors of team effectiveness. Yet, both literatures struggle with several critical issues that diminish the possibility to unambiguously establish the linkages of both leadership and team diversity with team effectiveness. The difficulty to obtain clear linkages may either be grounded in methodological (e.g., measurement of diversity, measurement of team effectiveness) or in conceptual (systematic) issues (e.g., level of analysis, moderators). More specifically, the respective conceptualization and measurement of leadership, diversity, and their outcomes may yield differential predictions of team effectiveness. Numerically, this inconsistency may become evident in different strengths or magnitudes of positive associations (predominantly in the leadership literature; e.g., Judge & Piccolo, 2004) or in differing algebraic signs of the respective relations (predominantly in the diversity literature, but sometimes also in the leadership literature; e.g., Horwitz & Horwitz, 2007; Howell & Avolio, 1993). An attempt to deepen understanding of the linkages among leadership, diversity, and team effectiveness would thus also need to address the reasons for the diminished ability to establish stable and consistent relationships. This may help carve out a clearer picture of the effectiveness of leadership and
diversity for stimulating team success. A variety of potential reasons for differential predictions of and findings for team effectiveness in both fields are therefore introduced in the following.

**Potential Reasons for Inconsistencies in the Leadership-Team Effectiveness Link**

Empirical research generally supports the notion that leadership is positively associated with team effectiveness (Stewart, 2006). Zaccaro and colleagues (2001) even describe effective leadership as “perhaps the most critical factor in the success of organizational teams” (p. 452). However, some specific leadership phenomena lack a comprehensive body of research that would allow for making definite statements on their effects. For those leadership phenomena for which more systematic team-level research has been conducted, results have not always been consistent, or the strength of the leadership-team effectiveness link has been found to be rather tepid, which reduces the possibility to draw definite conclusions. Indeed, meta-analyses (Burke et al., 2006; Judge & Piccolo, 2004; Stewart, 2006) show substantial differences of this link between primary studies, ranging from positive (e.g., transformational and directive leadership; Keller, 2006; Somech, 2006), neutral (e.g., transformational and participative leadership; Kearney & Gebert, 2009; Ross & Offermann, 1997; Somech, 2006), to in rare cases even negative associations (e.g., contingent reward; Howell & Avolio, 1993). In the following, non-isomorphic relations at different levels of analysis, a lack of integrating leadership with other leadership constructs or with team-related factors, a lack of considering indirect effects, and the measurement of team effectiveness are put forward as potential reasons for inconsistent results.

One factor contributing to this lack of clarity with respect to leadership’s effects may be the possibility that different levels of analysis may reveal different associations between leadership and effectiveness. Although a recent meta-analysis (Burke et al., 2006) indicates an emerging trend to specifically examine leadership at the team level (e.g., Schaubroeck, Lam, & Cha, 2007; Somech, 2006), the majority of evidence on leadership’s effectiveness is based on analyses at the individual level (DeChurch, Hiller, Murase, Doty, & Salas, 2010). As multilevel research demonstrates that constructs are mostly non-isomorphic when examined at different levels (Bliese, 2000; Morgeson & Hofmann, 1999; Yammarino, Dionne, Chun, & Dansereau, 2005), there is reason to believe that the leadership-effectiveness link may differ at the individual and the team level. For instance, although numerous studies show transformational leadership’s effectiveness at the individual level, results at the team level are less strong and consistent (Gebert & Kearney, 2011; Judge & Piccolo, 2004), but there is also a lower number of studies at the team level (Judge & Piccolo, 2004). Linked to the need to study leadership’s relations at the
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team level, the potential for inconsistency may also lie in different foci within a singular leadership style that arise from incorporating elements that are more directed toward individuals, and others that are more directed toward the team (e.g., dual-level focus of transformational leadership; Kark & Shamir, 2002; Wang & Howell, 2010; Wu, Tsui, & Kinicki, 2010). The need to specifically study individual-focused leadership’s effects in a team setting becomes even clearer as the dispersion in individual-focused leadership (i.e., differentiated leadership) arising from an unequal treatment of a team’s singular members may harmfully interfere with team processes and outcomes (e.g., Wu et al., 2010). A failure to account for these differential foci may distort results and thus contribute to inconsistent predictions of team success.

Another factor that may lessen the ability to establish a clear link between leadership and team effectiveness is the general lack of integration of various theories and constructs in the leadership literature (Avolio, 2007; DeRue et al., 2011). For instance, leadership constructs have mostly been studied in isolation, without accounting for the effects of other, potentially also influential leader constructs. This is especially the case when it comes to simultaneously illuminating leadership constructs from different theories and paradigms, and hence, there is only a small number of studies that incorporate different leader behaviors, or behaviors and characteristics (e.g., Bono & Judge, 2004; Burke et al., 2006; DeRue et al., 2011; Keller, 2006; Piccolo et al., 2012a). This is summarized as follows: “The lack of integration in leadership research is evident both within and across the trait and behavior paradigms, as research within each paradigm generally focuses on a single trait or behavioral perspective” (DeRue et al., 2011, p. 8). Indeed, leaders rarely exhibit only one leadership approach, but most commonly apply different leadership behaviors and functions to promote team success (cf. Morgeson et al., 2010), as for instance apparent in considerable correlations between different leadership constructs (cf. Judge & Piccolo, 2004; Piccolo et al., 2012a). Hence, a reductionist approach to leadership does not allow answering the question whether the effect is really due to the leadership construct under study.

While the joint investigation of various leadership constructs sheds light on their relative validity in predicting team performance (DeRue et al., 2011), an emphasis on various leadership approaches’ additive effects leaves unconsidered the possibility that multiplicative relations between leadership behaviors, or between behaviors and characteristics, may explain more of the variance that exists regarding team effectiveness. For example, whereas the “High-High leader” Hypothesis (Blake & Mouton, 1964) has only received limited support, mostly additive tests have been applied, without recognizing the utility of interactive examinations (Yukl, 2006). Indeed, the specific interactive combinations between leadership constructs (within and across
the trait and behavioral paradigm) may exert unique effects on teams. For instance, leadership constructs may mutually strengthen their positive effects, and/or balance their negative effects (cf. opposing action strategies or ambidextrous leadership; Gebert, Boerner, & Kearney, 2010; Gebert & Kearney, 2011), or one construct may counteract the positive effect of another construct (Greer et al., 2012). Moreover, examining the interactive relations between specific leadership behaviors (e.g., participative leadership, contingent reward) and specific leader characteristics (e.g., factors related to leader status; Kearney, 2008; Sauer, 2011) may shed light on why participative leadership is not always similarly positively related to outcomes (Sagie & Koslowsky, 2000; Sauer, 2011; Somech, 2006; Wagner, 1994; Yukl, 1999), or may hint at why contingent reward is sometimes especially effective (Judge & Piccolo, 2004). Albeit such multiplicative approach is even scarcer than the merely additive integration of leadership constructs, it importantly enhances our understanding of the effects of leadership on teams. Hence, a failure to acknowledge other leadership constructs that influence a leadership construct’s relationship with team effectiveness may distort results, and elevate inconsistencies.

A more integrated approach to leadership (Avolio, 2007) does not only comprise a focus on leadership itself but also on relevant contextual boundary conditions as moderators of the leadership-team effectiveness link. Findings that leadership enhances team performance in some circumstances, while having less or no effect in others (e.g., transformational leadership in innovative, challenging, high-performance, or high-excellence situations versus in less innovative, challenging situations; Eisenbeiss, van Knippenberg, & Boerner, 2008; Howell & Avolio, 1993; Lim & Ployhart, 2004) further illuminate the need to transcend a main-effects approach to leadership (Schaubroeck et al., 2007). Studying crucial (e.g., team-related) moderators thus helps establish when leadership positively, neutrally, or even negatively affects team success (e.g., Howell, Dorfman, & Kerr, 1986; Schaubroeck et al., 2007; Somech, 2006).

Another reason for this lack of clarity with respect to leadership’s impact on team effectiveness may be the possibility that this link is indirect rather than direct, and thus partly or fully mediated through intervening mechanisms. Indeed, various authors recommend to transcend predominantly theoretical notions of how leadership affects relevant outcomes by empirically establishing specific mechanisms that tie specific leadership constructs with specific outcomes (e.g., Dionne, Yammarino, Atwater, & Spangler, 2004; Hiller, DeChurch, Murase, & Doty, 2011). Whereas leadership of teams can be viewed as “a vehicle for joining people together toward a common purpose” (Hiller et al., 2011, p. 1167), the mechanisms (Morgeson et al., 2010; Yukl, 2012) by which this is accomplished still need clarification.
Lastly, the criteria used to measure team success may produce mixed results with respect to the leadership-team effectiveness link (cf. Gebert & Kearney, 2011). Time-lagged/longitudinal or independent (i.e., assessments by a separate source such as the supervisor or objective information) measures show less strong relations than cross-sectional or same-source (i.e., assessments by the team members) measures (Judge & Piccolo, 2004; Judge et al., 2004; Lowe et al., 1996; Ross & Offermann, 1997; Yukl, 2012). As recommended by Podsakoff, MacKenzie, and Lee (2003), relying on separate source-information and time-lagged measurement may help establish more precise linkages between leadership and criteria.

**Potential Reasons for Inconsistencies in the Diversity-Team Effectiveness Link**

After several decades of research on team diversity as potential driver of team success (Williams & O'Reilly, 1998), and the general notion that diversity indeed powerfully affects team processes and outcomes (Van Knippenberg et al., 2004), no clear and consistent picture of whether its impact on team effectiveness is favorable or unfavorable emerged. Whereas meta-analytical studies mostly indicated neutral effects (e.g., Horwitz & Horwitz, 2007; Webber & Donahue, 2001), these findings were based on a wide range of effects from negative (e.g., Barsade, Ward, Turner, & Sonnenfeld, 2000), neutral (e.g., Kearney & Gebert, 2009), to positive (e.g., Jehn et al., 1999) relations obtained in primary studies. A number of potential reasons for this difficulty to clearly establish diversity’s relation to team success are introduced in the following, namely the lack of accounting for moderators of this link, the differential conceptualizations of diversity, whether diversity is measured based on the whole or only part of the team, the possibility of indirect effects, and the team effectiveness criteria used.

Given the inability to clearly predict team success from diversity, Van Knippenberg and colleagues (2004) stated that diversity’s effects depend on its boundary conditions, and requested to replace an overly simplified main-effects approach by studying moderators of this link. Underlining this notion, Nishii and Mayer (2009) stated the search for moderators to be important “not only because it can help to explain the conditions under which diversity is more or less likely to be associated with outcomes but also because it helps illuminate the processes underlying the relationship between diversity and outcomes” (p. 1412). These authors also remarked the disproportion of voices speaking up for the importance of moderators in diversity research (e.g., Jackson, Joshi, & Erhardt, 2003; Webber & Donahue, 2001; Williams & O'Reilly, 1998) compared to the scarcity of actual studies on diversity incorporating boundary conditions. Indeed, the finding that contextual factors determine whether diversity has positive or negative
effects on team outcomes (e.g., positive effects in case of high levels of leadership, neutral or negative effects in case of low levels of leadership; Greer et al., 2012; Homan & Greer, 2013; Kearney & Gebert, 2009; Nishii & Mayer, 2009), clearly underscores the notion that one important reason for inconsistent findings in diversity research is the disregard of moderators.

Another potential reason for inconsistencies in the diversity literature is the failure to adapt the conceptualization of diversity to the actual meaning of the respective diversity dimension under study as well as to align the measurement with the selected concept (Harrison & Klein, 2007; Shore et al., 2009). In an influential taxonomy on team diversity, Harrison and Klein (2007) presented theoretical and methodological differences between various conceptualizations of team diversity. More specifically, team diversity (e.g., tenure diversity) may indicate a broadened pool of unique informational information (variety), diverging values and opinions (separation), or an uneven allocation of appreciated, status-related resources (disparity). As these concepts reflect different meanings and relate to different measures, they may be characterized by different relations with team outcomes (Bell, Villado, Lukasik, Belau, & Briggs, 2011; Carton & Cummings, 2012). This clarifies this distinction’s importance for building consistent knowledge on the diversity-outcomes link (Shore et al., 2009).

A third reason for this ambiguity in the diversity-team effectiveness relation may arise from measuring demographic and informational (objectively verifiable) dimensions of diversity (e.g., age, sex, tenure, education level) based on information obtained from the team members. While this information’s correctness cannot be unequivocally ensured, the more serious problem arises from the fact that barely all members of a team complete a survey (e.g., Nishii & Mayer, 2009). In a team in which six out of ten members (60% team response rate) participate in the study, the distribution of organizational tenure indicated by these six members may be rather homogeneous, resulting in estimates indicating low variety, separation as well as disparity diversity with respect to organizational tenure (cf. Harrison & Klein, 2007). However, the four non-responding members of the team may all differ somewhat with respect to organizational tenure (suggesting moderate variety in the complete team), or be homogeneously lower-tenured than the six other members (suggesting relatively high separation in the complete team), or may be by far higher-tenured than the six members (suggesting relatively high disparity in the complete team). It becomes clear that such non-measurement of information underlying the calculation of diversity indices may considerably distort the obtained diversity estimate as compared to the actual diversity in a team, showing this factor’s importance when aiming to draw a clearer picture of diversity’s effects on teams.
Diversity may also relate to team effectiveness through intervening mechanisms, and the way in which diverse teams perceive, process, and integrate their abundant resources (e.g., Homan et al., 2008; Kearney & Gebert, 2009; Van Knippenberg et al., 2004) has shown to be a relevant aspect of how diversity – with the help of facilitating conditions, such as leadership (Van Knippenberg et al., 2004) – can translate into favorable results. Although the mechanisms by which diversity favorably or unfavorably affects team outcomes are better understood than the conditions under which diversity yields positive or negative results (Nishii & Mayer, 2009; Van Knippenberg et al., 2004; Williams & O'Reilly, 1998), studying intervening mechanisms is nonetheless important to delineate more clearly how diversity affects team success.

Lastly, the conceptualization and measurement of team effectiveness may also contribute to differential relations between diversity and team outcomes. Specifically, this link may differ for cross-sectional or self-rated (i.e., by the team members) measures compared to time-lagged/longitudinal or independent (e.g., supervisor-rated) measures (Horwitz & Horwitz, 2007; Nishii & Mayer, 2009; Van Knippenberg, Homan, & Van Ginkel, 2013). Therefore, differences in measuring team effectiveness may have produced inconsistencies in the diversity-team success link, and relying on more rigorous (time-lagged, independent) outcome measures is vital for future research.

**CONSIDERING THE INTERPLAY OF LEADERSHIP AND TEAM DIVERSITY**

In sum, a variety of reasons for inconsistencies in both the leadership and the diversity literatures have been introduced, together with the needs for clarification in the respective fields that may help produce more consistent predictions of team outcomes (see Table 1.1). Whereas these reasons in both fields were delineated separately, there is one critical issue that requires looking at both factors simultaneously: The integration of leadership and diversity for a more precise prediction of team effectiveness. Bringing these two concepts together is the logical next step, but also a crucial challenge for research in both fields (cf. DiTomaso & Hooijberg, 1996).

Diversity in work teams is a fact of modern work life (Van Knippenberg & Schippers, 2007), and diverse teams must learn to use and combine their unique resources for obtaining their collective objectives (Kearney & Gebert, 2009). This is exactly where leadership comes into play as it is key to build and maintain successful teams and to promote these processes (Hogan & Kaiser, 2005; Zaccaro et al., 2001). Given the identity threat arising from being confronted with dissimilar others (Byrne, 1971; Tajfel & Turner, 1986) and the enlarged potential for disrupting collaboration in teams (Williams & O'Reilly, 1998), a team’s diversity can be conceptualized as an insecure, unpredictable, and complex situation for its members, and
thus as a situation of “crisis”. In such situation of crisis, both the need for effective leadership and the probability of obtaining effective followership are markedly increased (Van Vugt, Hogan, & Kaiser, 2008). Powerful leadership strategies are thus required that are especially capable of handling such situation of crisis and effectively addressing the increased demands of diverse teams. Indeed, team leadership models have described effective leaders as providing a basis for sharing a team’s knowledge, ensuring its distribution, and managing it. Effective leaders also facilitate the collective processing and use of resources and information, foster learning and development, activate team members, and stimulate team communication (Morgeson et al., 2010; Zaccaro et al., 2001). Besides these information-processing and developmental functions, successful team leaders also ensure positive interpersonal processes (Kearney & Gebert, 2009) and develop a shared understanding of the team’s mission among the members (Morgeson et al., 2010). All of these leadership functions are likely to be crucial for complementing diverse teams’ specific needs (cf. Van Knippenberg et al., 2004).

This makes clear why diversity has been raised as important boundary condition for leadership’s effectiveness (House & Aditya, 1997). “Leadership clearly does not happen in a vacuum and this is particularly the case with teams” (Day, Gronn, & Salas, 2006, p. 213). Leadership research has recognized the relevance of the team context in which leadership occurs, and the differential challenges related to differential contexts. Indeed, more or less challenging, complex, or diverse contexts create different needs for leadership (cf. Van Vugt et al., 2008), and can powerfully shape a leader’s capacity to successfully influence teams (e.g., Kearney & Gebert, 2009; Lim & Ployhart, 2004; Schaubroeck et al., 2007). For delineating the specific effectiveness of leadership constructs in a team setting, their joint consideration with a team’s composition is therefore crucial (Day et al., 2006; Morgeson et al., 2010).

Similarly, leadership has been recognized as particularly powerful means to determine the outcomes of diversity. The active use of diverse teams’ potential for heightened performance is not at all self-evident (van der Vegt & Bunderson, 2005), but critically depends on facilitating factors that enable diversity’s potential positive effects, while hindering its potential negative effects (Van Knippenberg et al., 2004). Given team leaders’ key role in shaping team processes and performance (Zaccaro et al., 2001), leadership has been claimed as one of the, if not the most critical factor for obtaining this dual effect (Homan & Greer, 2013; Kearney & Gebert, 2009; Klein, Knight, Ziegert, Lim, & Saltz, 2011; Van Knippenberg et al., 2004).

Hence, key to our understanding of leadership’s and diversity’s potential for promoting team success is the successful integration and interactive examination of these two concepts. This may importantly advance the predictive validity of prior team effectiveness models’
Unlocking the Potential of Teams

conceptualization of diversity and leadership as somewhat separate levers of team success (e.g., Cohen & Bailey, 1997; Gladstein, 1984) over and above their singular contributions. Given the specific connections between the potential benefits and capabilities of leadership (Hooijberg & DiTomaso, 1996; Morgeson et al., 2010; Somech, 2006) and the respective needs of diverse teams (DiTomaso & Hooijberg, 1996; Nishii & Mayer, 2009; Van Knippenberg et al., 2004), there is reason to believe that the integration of leadership and diversity may help fully realize these two factors’ potential as drivers of team success.

Raising hopes for more precise linkages among leadership, diversity, and team effectiveness, research has begun to empirically study leadership’s and diversity’s joint effects, indicating that both together may indeed more positively influence team success than either of the two alone (e.g., Homan & Greer, 2013; Kearney & Gebert, 2009). Albeit these are important starting points, to date only isolated findings exist on the interactive relations of leadership and team diversity on team outcomes (Klein et al., 2011), which is summarized by House and Aditya (1997, p. 451-452) as follows: The “issue of leading diverse individuals and groups requires substantial theoretical development and empirical research. At the present time, the literature on this issue is largely speculative and anecdotal.” Specifically, the interplay of various leadership constructs, different diversity dimensions and conceptualizations, and various indicators of team effectiveness in various team settings and contexts has not been sufficiently explored.

To carve out these two factors’ interactive relevance for obtaining effective teams, an integrated approach is needed that systematically addresses the potential reasons for inconsistencies in both fields and meaningfully unites leadership and team diversity for predicting team effectiveness. This leads to the goal of the dissertation which will be delineated in the following.

**Goal of the Dissertation: Integration of Leadership and Team Diversity to Predict Team Effectiveness**

The primary goal of this dissertation is to achieve a more comprehensive understanding of when and how leadership, diversity, and their interplay are able to enhance team effectiveness. In other words, the dissertation aims to examine leadership’s and diversity’s potential to promote team effectiveness, and how their integration can contribute to team success over and above these factors’ solitary effects. The main focus of this dissertation is on leadership (in terms of leadership behaviors, characteristics, and foci) and its association with team effectiveness, and how this is influenced by diversity as key contingency factor. However, it also addresses
diversity (in terms of different dimensions and conceptualizations) as crucial factor for team success, and examines how leadership can help leverage diversity’s potential.

This integration of leadership and team diversity will be achieved by means of four systematic studies that all focus on leadership, or leadership and diversity, as promoters of team success. Specifically, the dissertation aims to illuminate the five questions of a) how leader behaviors interact to affect the relationship between diversity and team effectiveness, b) how a leader behavior’s different foci affect team effectiveness, c) how different conceptualizations of diversity affect the relationship between leader behavior and team effectiveness, d) how a leader characteristic and diversity interact to affect whether a leader’s role as a target of diversity training is conducive to team effectiveness, and lastly, e) how leader behaviors affect the relationship between a leader characteristic and team effectiveness.

By means of these four studies, this dissertation aims to contribute to a more precise and clearer picture of how leadership and diversity relate to team effectiveness. Underlying all four empirical studies is the attempt to systematically deal with a variety of the critical challenges that may have impeded prior research’s ability to unambiguously link leadership as well as diversity to team effectiveness. Table 1.1 depicts how the four empirical studies aim to contribute to a more consistent prediction of team effectiveness from leadership, diversity, and their integration. More specifically, it summarizes the identified needs for clarification or neglected areas in the fields of leadership and diversity that were outlined above, and shows which of these critical challenges are addressed in the presented studies. In the following, I will give an outline of this cumulative dissertation.
UNLOCKING THE POTENTIAL OF TEAMS

**Table 1.1. The Present Dissertation’s Measures to Address Potential Reasons for Inconsistencies in the Prediction of Team Effectiveness**

<table>
<thead>
<tr>
<th>Measures to address potential reasons for inconsistency in the prediction of team success</th>
<th>Integration of both fields</th>
<th>Chapter 2</th>
<th>Chapter 3</th>
<th>Chapter 4</th>
<th>Chapter 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Leadership at the team-level</td>
<td>x*</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Dual-level focus of leadership</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
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<tr>
<td>Leadership differentiation</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership behaviors from different taxonomies</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
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<tr>
<td>Leadership behavior x Leadership behavior</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership characteristic x Leadership behavior</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Leadership behavior x Team diversity</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership characteristic x Team diversity</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
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</tr>
<tr>
<td>Indirect effects</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Separate source team effectiveness measure</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Time-lagged team effectiveness measure</td>
<td>x</td>
<td>x</td>
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<td>x</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diversity</th>
<th>Measurement of diversity on the basis of complete teams</th>
<th>x</th>
<th>x</th>
<th>x</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment of diversity concept and measurement</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparison of different team diversity conceptualizations</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Team diversity x Leadership</td>
<td>x**</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td>Indirect effects</td>
<td></td>
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<td>x</td>
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<td>Separate source team effectiveness measure</td>
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<tr>
<td>Time-lagged team effectiveness measure</td>
<td>x</td>
<td>x</td>
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</tbody>
</table>

* x = addressed in the empirical study (diversity as control variable not counted in this table).

** Interactive effects of leadership and diversity (and their indirect effects and outcomes) are listed in the upper (leadership) and lower part (diversity) of this table.
DISSERTATION OVERVIEW

The present dissertation contains four empirical chapters, concluded by a general discussion. The four empirical chapters are linked by an underlying red thread, namely the prediction of team effectiveness by various forms of leadership or by leadership’s interactive relation with various forms and conceptualizations of team diversity. All papers were written to be published in scientific journals and thus share the same structure, i.e. theoretical background, methods, results, and discussion. As the four empirical chapters reflect collaborations with my supervisors, members of my committee, and other researchers, and thus also incorporate their valuable input, I refer to these co-authors by using “we” instead of “I” throughout these chapters.

Based on a field survey study, in Chapter 2 entitled “Leadership and Team Diversity: Can High-High Leaders Help Leverage the Potential of Education Level Diversity?” we study how directive and participative leadership interact to determine the effects of education level diversity on the performance of customer service and sales teams. This study relies on the assumption that a main effects-approach will not allow establishing a consistent link between team diversity and team performance (Van Knippenberg et al., 2004), unless important boundary conditions are taken into account (i.e., leadership; Nishii & Mayer, 2009). Albeit prior research has considered team diversity’s interactive relation with either directive or participative leadership (Somech, 2006), a clear picture of whether directive or participative leadership is more conducive to diverse teams’ success did not emerge. Prior attempts to test the superior effectiveness of leaders high in both task- and person-orientation (i.e., the “High-High leader”; Blake & Mouton, 1964) were also inconclusive. We argue that the scarcity of research testing the interactive relations of these two leadership dimensions together with the omission to also consider contextual factors (i.e., team diversity) for which such leadership combination may be functional, is responsible for prior research’ inability to show the envisioned positive effects of the “High-High leader”. We therefore test the hypothesis that education level diversity is most positively related to team performance when both directive and participative leadership are high. In sum, this study provides a meaningful integration of prior research attempting to show the superior effectiveness of the “High-High leader” and to study directive and participative leadership conjointly with diversity. This research also adds to the nascent literature of diversity’s and leadership’s interactive effects on team effectiveness.

Whereas the first paper focuses on different leadership behaviors, the second paper comprises the study of different foci within one leadership behavior that differently affect the team and its individual members. Based on a field survey conducted in two companies of the food production industry, Chapter 3 entitled “Reconsidering the Interplay between Leadership...
and Group Diversity” examines the effects of group-focused transformational leadership on team performance, and how these depend on organizational tenure diversity. To this aim, the research tackles a number of reasons why prior research’s findings relating transformational leadership as well as team diversity to team performance have not always been consistent. With respect to transformational leadership, this study acknowledges that some transformational facets focus on the group as such (Kark & Shamir, 2002) which may positively affect team processes and performance. Other facets (e.g., intellectual stimulation) target a team’s individual members (Wu et al., 2010) which may positively affect processes and performance at the individual level. However, harmful effects on teams and their performance may arise from a leader’s differential levels of individualized support toward the various members. With respect to team diversity, we conceptualize and measure organizational tenure diversity as variety and disparity (Harrison & Klein, 2007) to empirically demonstrate that using two different concepts of the same diversity dimension as moderators of the link between group-focused transformational leadership and team performance yields different results. Hence, this model takes a crucial step toward integrating the transformational leadership and team diversity literatures.

The third study draws on an experimental sample of student teams in an educational setting to examine the interactive relations of a leader’s role, a leader’s characteristic, and a team’s diversity in the context of a training study. Whereas effective leadership has been argued to be especially capable of stimulating diverse teams’ performance (Kearney & Gebert, 2009), diversity training may be another means to help realize the potential of informational differences in diverse teams (Van Knippenberg et al., 2013), and, under the right circumstance, may even further enhance leadership’s beneficial impact. Chapter 4 entitled “Train the Leader or the Team? How Leader Learning Goal Orientation Influences Training Target’s Effect on the Performance of Educationally Diverse Teams” aims to answer the question of whether providing the leader or the team with diversity training is more conducive to an educationally diverse team’s performance. Albeit much research has focused on team training, the role of leaders as potentially even more promising training subjects has remained unconsidered. This is surprising given that leaders guide their teams toward goal attainment and powerfully affect team processes and outcomes (Zaccaro et al., 2001). We argue that training leaders better secures performance quality of educationally diverse teams when these leaders score high on a trait that is crucial for enabling learning and high-quality solutions: learning goal orientation. Given leaders’ influential role in their teams, learning goal-oriented leaders may better enable a full implementation of teamwork strategies which – through enhancing the salience and utilization of differences – may positively affect performance quality of their diverse teams. When leaders are less motivated to
promote learning-related goals in their teams, training educationally diverse teams may better ensure that teams use their varied informational resources to enhance solution quality. This study expands prior research’s focus on linking diversity and leadership behaviors (e.g., Homan & Greer, 2013; Shin & Zhou, 2007) by examining how the interplay of diversity, a leader’s trait, and a leader’s role as a training subject predicts team effectiveness.

Whereas the first three studies investigate diversity within teams and how this relates to leadership, the fourth study considers diversity more implicitly, namely in terms of the diversity between young leaders and their teams that arises from an increasingly aging workforce, and what forms of leadership this requires. In Chapter 5 entitled “How Leaders Can Compensate for Younger Age: Contingent Reward and Participative Leadership as Moderators of the Leader Age-Turnover Link”, we interactively connect a leader’s status-related characteristic (age) and a leader’s behaviors (contingent reward and participative leadership) to predict turnover within customer service and sales teams. Turnover is indicative of a team’s sustainable functioning (Nishii & Mayer, 2009) and is thus conceptualized as a form of team effectiveness (Cohen & Bailey, 1997). Drawing on the theoretical framework of leadership identity construction as social process in organizations (DeRue & Ashford, 2010), the study’s reasoning starts from the notion that especially younger, non-prototypical (as compared to older) leaders face serious challenges with respect to obtaining approval for their supervisory position, both from within their teams and from within their organization. Whereas diminished voluntary turnover may indicate team members’ approval of their younger leader, increased involuntary turnover as part of effective performance management may reflect younger leaders’ reaction to endangered team functioning which may help them stabilize their position within the organization. By influencing teams on the basis of status-independent position power, contingent reward is assumed to increase younger leaders’ success in modulating these two turnover forms. By contrast, participative leadership is not expected to entail these benefits to younger leaders as it relies on status-dependent personal power. This research shows that the choice of leader behavior (contingent reward or participative leadership) powerfully affects whether a leader status-related characteristic (younger leader age) is positively or negatively linked to team effectiveness (turnover).

Chapter 6 reviews the overall empirical work presented in this dissertation and provides a general discussion of its major findings and theoretical and practical insights in light of the dissertation’s goal, namely the integration of leadership and team diversity to predict team effectiveness. This is concluded by referring to this work’s limitations and implications for future research on leadership, team diversity, and team effectiveness.