Determinants of leaders' success: Toward an integrated model of personality, beliefs, behavior, and diversity

by

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Leaders' Success and Influencing Factors

Summary

Leaders are important organizational members. The impact of leaders' actions in companies is probably greater than actions from any other member in organizations, since they are able to affect attitudes, cognitions, and behaviors of individuals, and processes and performance of teams and organizations. Due to the high impact of leaders, many researchers tried to investigate the following question: What determines a leader's success? The answers are diverse and include leaders' personality (e.g., Guion & Gottier, 1965), behavior (e.g., Fleischman, 1953), and beliefs (e.g., Ajzen & Fishbein, 1980) as well as contingency factors such as diversity (e.g., Fiedler, 1967; Kaiser, Hogan, & Craig, 2008).

Interestingly, although it is highly likely that these factors (leaders' personality, behavior, and beliefs as well as diversity) indeed all affect a leader's success, they have rarely been studied in combination (e.g., Avolio, 2007). In the pursuit to better understand leaders' success and its influencing factors, this dissertation used an integrated approach to investigate the role of leaders' personality, leaders' beliefs, leaders' behaviors, and diversity, and their links to each other in predicting leaders' success (see the Figure on the next page). Thereby, I proposed that personality and behavior should be investigated in combination, that certain behaviors are more or less effective in different situations, and that leaders' beliefs might affect their behavior. These predictions were examined in three papers in which different parts of the model have been tested.
First, I present a meta-analysis, in which I studied the role of the Big 5 personality traits and the sub-dimensions of the transformational leadership theory on leaders' success. Predicting that the Big Five traits would be related to transformational leadership behavior and leader success, the findings supported the mediating role of transformational leadership and its sub-dimensions in the personality-leader performance relationship. However, the overall transformational leadership measure and the sub-dimensions of transformational leadership were influenced by different combinations of the Big 5 personality traits. For instance, whereas inspirational motivation was positively related to extraversion, openness to experience, agreeableness, and conscientiousness and negatively related to neuroticism, individualized consideration was positively correlated with openness to experience and agreeableness. These findings imply that a simple combination of the transformational leadership sub-dimensions into one overall construct seems to be inappropriate and reveal that organizations can use personnel selection and leadership training to produce effective leaders.
Moreover, this thesis focused on leader-member exchange – a theory that focusses on the one-to-one relationships between leaders and followers (Cogliser & Schriesheim, 2000; Schyns, Maslyn, & Weibler, 2010) – as one process via which transformational leaders influence critical organizational outcomes. Findings of a meta-analysis supported the prediction that leader-member exchange mediates the relationships between transformational leadership and job satisfaction, organizational commitment, and leader performance. Furthermore, the meta-analysis showed that transformational leadership and leader-member exchange contribute to different extents to the outcomes, depending on the type of the outcome. These findings emphasize that it is highly important to distinguish between outcome variables when studying the leadership processes.

Finally, I investigated the role of transformational leadership and leaders' diversity beliefs in predicting anticipated affective, relational, and task-related outcomes in nationality diverse teams. I proposed that transformational leaders in diverse teams influence not only task-related outcomes by promoting information sharing processes (e.g., Kearney & Gebert, 2009), but also affective and relational outcomes by creating a social identity within the team (e.g., Kunze & Bruch, 2010; Van Vugt & De Cremer, 1999). A vignette and an experimental study supported this prediction. Additionally, I predicted that the content of the vision of the leader, in this study the leader's diversity beliefs, determines whether a (transformational) leader has a positive or negative effect in diverse teams. In this respect, the data supported a three-way interaction between nationality diversity, transformational leadership, and diversity beliefs on sub-group perceptions. Participants in homogenous teams perceived less subgroups than did those in diverse teams. Furthermore, participants in diverse teams led by a highly transformational leader with positive diversity beliefs
perceived less subgroups than did those in diverse teams with a high transformational leadership - negative diversity beliefs leader, as well as with in a low transformational leadership - positive diversity leader. Interestingly, we found that members of a diverse team led by a high transformational leader with positive diversity beliefs had similar subgroups perceptions as members of a diverse team led by a low transformational leader with negative diversity beliefs. However, no other three-way interactions were found, which is on contrast with my own and others' predictions (Beyer, 1999; De Hoogh & Den Hartog, 2009; House & Howell, 1992).

Concluding, this dissertation provides an integrative picture pertaining to the different factors that might influence leaders' success. It illustrates that leaders' personality, leadership behavior, diversity, and partially leaders' beliefs influence the success of leaders together rather than in isolation. This research suggests that personality affects leadership success directly and indirectly via transformational leadership behavior; that transformational leadership behavior influences leadership success directly and indirectly via leader-member exchange; that transformational leadership has a positive influence on the link between nationality diversity and leadership success; and that the promising role of leader's beliefs about diversity in the relationship between nationality diversity, transformational leadership, and leadership success needs further research. These findings have important implications for research and organizations in the area of leadership and diversity management.
CHAPTER 1

GENERAL INTRODUCTION
Interest in leadership has increased rapidly over the few last centuries (Bass & Riggio, 2006; Friedrich, 2010; Van Vugt, Hogan, & Kaiser, 2008). This has partly been due to most people having daily experiences with leaders. There are everyday media report on the success and failures of leadership, and on how politicians and presidents lead their countries. Almost everybody has a leader, or has worked with one at some point. Errors in leadership can lead to serious consequences. Consider the unethical behavior of Muammar Gaddafi, who is condemned as a dictator and autocrat whose authoritarian administration violated the human rights of Libyan citizens and supported international terrorism. This example demonstrates the impact of leaders' actions in policy and organizations, which is probably greater than that of any other members in an organization. Leaders are listened to, they enable individuals, teams, and organization to perform well, and have to deal with changes in their day-to-day business (Bass, 1990; Follett, 1926; Lim & Ployart, 2004).

Leadership has been defined in many ways (Avolio, Sosik, Jung, & Berson, 2003; DeRue, Nahrgang, Wellman, & Humphrey, 2011; Morgeson, DeRue, & Karam, 2010; Yukl, 2013). Thus, it is necessary to explicate how I define leadership in my research. When characterizing leadership, I refer to the definition of leadership by Friedrich (2010, p. 5) as the social "influence of others towards a collective goal". The evaluation of this influencing process, in term of leaders' success, has been operationalized in many ways (Kaiser et al., 2008; Morgeson et al., 2010). Therefore, it is highly important to define the meaning of leaders' success in my dissertation. I define this success as followers' and leaders' positive responses to leadership. These responses span the affective (i.e., moods, emotions, and satisfaction), relational (i.e., intrateam harmony and trust in the leader), and task-related domain (i.e., team/leader
Having defined leadership and leaders' success, the question is: What determines a leader's success? Older theories would answer this question by focusing on personality and would state that leaders differ from their followers on major capacities and competencies (i.e., the trait approach; Carlyle, 1888; Guion & Gottier, 1965). Newer theories focus more on the behavior of the leader when attempting to explain the factors that determine a leader's success (Fleischman, 1953; Hemphil & Coons, 1957; Katz, Maccoby, Gurin, & Floor, 1951; Stogdill, 1950; Van Vugt & Ronay, 2013). For instance, evolutionary leadership theorists propose that leadership developed to solve coordination problems among humans (e.g., Van Vugt & Ronay, 2013). Another line of research concentrates on the contingency factors in the leadership process (Fiedler, 1967; Hersey & Blanchard, 1973; House & Mitchell, 1974). This research answers the question pertaining to the predictors of a leader's success by stating that contingency factors, such as differences in situations or team composition (i.e., diversity), have an important impact on the leadership process, since they require the application of different leadership behaviors (Morgeson et al., 2010). Finally, from the beginning of the 1980s, cognitive theories have introduced the importance of leaders' beliefs and attitudes in predicting a leader's success. These theories would propose that the beliefs of the leaders might shape the behavior of the leaders, which, in turn, might influence their followers' reactions and thus leaders' success (Ajzen & Fishbein, 1980; Homan & Jehn, 2010).

Although it is highly likely that these four factors (personality, leadership behavior, diversity, and beliefs) will all influence a leader's success, these variables have rarely been studied in combination (Avolio, 2007; DeRue et al., 2011; Morgeson...
et al., 2010). This is interesting, because we know that personality factors are predictive of behaviors (e.g., De Vries, 2012; De Vries & Van Kampen, 2010; Eysenck, 1970; Fischer & Boer, 2013; Lee, Ashton, & De Vries, 2005; Marcus, Ashton, & Lee, 2013; Organ & Ryan, 1995), that similar behaviors might not be as effective in all situations (e.g., Hersey & Blanchard, 1973; House, 1971; House & Mitchell, 1974), and that behaviors can be shaped by one's attitudes and beliefs (e.g., Ajzen & Fishbein, 1980).

However, as yet there is no comprehensive framework presenting the influencing factors of leaders' success and their link to each other. I aim to introduce such a comprehensive, conceptual framework by integrating these different approaches. I will argue that it is highly important to consider different influencing factors in order to explain leaders' success. Thereby, I propose that one cannot examine personality and behavior separately; that leadership behaviors contribute to different extents to outcomes, depending on the type of the outcome; that certain leadership behaviors are more or less effective in different situations; and that leaders' beliefs and attitudes are factors that might influence their behavior. Afterwards, I will provide the outline of my thesis.

**Leaders' Success: Toward an Integrated Model**

In predicting leaders' success, I organize the potential influencing factors of this success (personality, leadership behavior, diversity, and their beliefs) into an overall framework, which is depicted in Figure 1.1. In this model, I focus on those personality traits that explain most of the variance in personality and leadership behaviors that represent the most popular ones in recent years (Bass, 1985; Judge, Bono, Ilies, & Gerhardt, 2002a; van Knippenberg & Sitkin, 2013).
First, with regard to leader personality, I zoom in on the Big 5 personality traits (Costa & McCrae, 1992; Goldberg, 1990), which provide a useful structure to organize personality (Judge et al., 2002a). Second, with regard to leadership behaviors, I mainly focus on transformational leadership, which has been put forward as one of the most influential leadership behaviors in recent years (Judge & Piccolo, 2004; van Knippenberg & Sitkin, 2013). Additionally, I focus on leader-member exchange (Graen, 1976) as a potential mediating process of transformational leadership. Additionally, with regard to the importance of the leadership context, I examine the role of team nationality diversity to test the idea that the effectiveness of transformational leadership depends on the diversity level within a team. Diversity is a crucial predictor work teams’ functioning (van Knippenberg, De Dreu, & Homan, 2004), and in this respect I focus on nationality diversity because it is highly prevalent in organizations (Dahlin, Weingart, & Hinds, 2005). Finally, I include the beliefs and attitudes of the leader pertaining to diversity to address the importance of examining how leader attitudes determine the effectiveness of transformational leadership behaviors (Homan & Jehn, 2010; Janz, Buengeler, Eckhoff, Homan, & Voelpel, 2012).

\[\text{FIGURE 1.1. An Integrative Model of Leader' Success.}\]
In the following, I provide a short overview of the most important leadership theories of the last century. Thereafter, I focus on the main theories of my dissertation and, finally, I explain the comprehensive model that I test in my studies.

**FIVE STAGES OF RESEARCH ON LEADERSHIP**

The second half of the 20th century produced many leadership models (Friedrich, 2010). Figure 1.2 presents an overview of the most influential leadership theories, classified into five stages: the trait theory of leadership (*Great man theory*); behavior theories; contingency theories; path-goal, situational, and relational theories; and the cognitive approach, the full-range leadership theory, and evolutionary leadership theory. I provide a short overview of these theories, but elaborate on the transformational leadership theory in the framework of the full-range leadership theory, the trait theory, leader-member exchange, and situational and cognitive theories, since these constitute the focus of my dissertation.

![Figure 1.2: Five Stages of Leadership](adapted from Friedrich, 2010)

Starting in the 19th century, leadership researchers have considered the differences between various people in terms of their leadership capacity (*Great man theory*).
theory/trait theory; Carlyle, 1888; Galton & Eysenck, 1869). Trait theorists state that there is a formula of traits, which distinguishes between effective leaders, ineffective leaders, and non-leaders (e.g., Carlyle, 1888; Galton & Eysenck, 1869; Judge & Cable, 2004; Van Vugt et al., 2008). Most studies that investigated the links between personality traits and leaders' success used the Big 5 factor model of personality, which is an appropriate tool for structuring personality traits (Barrick & Mount, 1991; Costa & McCrae, 1992; John & Srivastava, 1999; Judge et al., 2002a). This theory offers a five-factor structure of personality containing the factors neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1992; Goldberg, 1990). Using the Big 5 personality traits, several studies and meta-analyses supported the prediction that personality determines leaders' success (Barrick & Mount, 1991; 2005; Kirkpatrick & Locke, 1991).

Nevertheless, from the beginning of the 1950s, researchers acknowledged that leader behavior plays an important role in predicting leader' effectiveness (Hemphil & Coons, 1957; Stogdill, 1950). The studies of the Ohio State University (Fleischman, 1953; Halpin & Winer, 1957; Hemphil & Coons, 1957) and of the University of Michigan (Katz et al., 1951; Likert, 1961) were particularly influential and built the foundation of this approach (Friedrich, 2010). They distinguished leader behavior in respect of whether it concerned the task (i.e., production orientation) or the person (i.e., employee orientation). This theory is still relevant for the understanding of leadership (Burke, Stagl, Klein, Goodwin, Salas, & Halpin, 2006; DeRue et al., 2011), although it is also criticized for having too many categorizations of leadership behaviors, for assessing leadership behavior mostly from the followers' perspective, and for not considering situational factors, such as structure and power differences (Friedrich, 2010).
Hence, theories developed in 1960 consider the importance of the situation for the leadership process. For instance, the *LPC contingency model of leadership* assumes that leaders' effectiveness can be explained by focusing on the interaction between the leader's motivational tendencies (task vs. relationship motivated) and contextual factors (i.e., good leader-member relations, structure; Fiedler, 1967; 1978). The main criticism concerning this model is that it does not explain the processes that can explain why different combinations of motivational and situational factors influence leaders' success (Friedrich, 2010).

Another situational theory is the *path goal approach*, which builds on the above criticism, and introduces the idea that the situation influences leaders' behavior and thus their followers' path towards reaching high performance or job satisfaction (House, 1971). House (1971; see also House & Mitchell, 1974) identified four leadership behaviors that leaders could use, depending on the situation and their followers' motivational needs to perform well: supportive, directive, participative, and achievement-oriented leadership. The path goal approach contributes to research by showing that leaders can employ specific leadership behaviors in specific situations to improve their followers' functioning. This approach provides insights into how to train leaders. However, findings provide inconsistent support for this theory, which might be caused by the fact that this theory did not consider the possibility that leaders display a mixture of leadership behaviors depending on the situation (Friedrich, 2010).

Based on this assumption, the *situational approach* states that leaders employ a mixture of supportive, directive, delegating, and coaching behaviors to react to different situations (Hersey & Blanchard, 1973). The mixture of different leadership behaviors depends on the development level of the followers. This approach, as well
as the path goal and contingency approaches can be used for leader training programs, but fail to explain the role of individual needs and desires (Friedrich, 2010).

The relational approach (mainly leader-member exchange theory; Danserau, Graen, & Haga, 1975; Deluga, 1994; Graen, 1976) aims to address this criticism by considering the dyadic relationship between leaders and followers. This approach predicts that a leader has different relationships with different followers and that the quality of these relationships determines the outcomes on the individual, team, and organizational levels. The main criticism of this model has been its measurement, as it is difficult to assess whether the relationships between leaders and followers are positive or negative (Friedrich, 2010). However, leader-member exchange theory has made a substantial contribution to the research on individualized leadership and trust building (Graen & Uhl-Bien, 1995; Schriesheim, Castro, & Cogliser, 1999; Van Vugt et al., 2008).

From the end of 1980, leadership research dealt with cognitive processes and theories. The cognitive resource theory (Fiedler, 1986; Fiedler & Garcia, 1987) describes how cognitive resources (i.e., intelligence), leader behavior (i.e., directive leadership), and leadership situations (i.e., interpersonal stress) interact with each other to affect follower performance. Researchers stated that leadership situations moderate the link between traits and follower performance. The main criticism of this model has been its failure to consider mediating variables that could explain how the different variables affect the performance of followers (Yukl, 2013).

Another influential cognitive theory is the implicit leadership theory. Researchers, such as Lord and Maher (1991, see also Eden & Leviatan, 1975; Shondrick, Dinh, & Lord, 2010), focused on the importance of followers' beliefs and assumptions regarding their definition of effective leaders. More specifically, they
proposed that followers' stereotypes about traits, skills, and behavior determine whom they perceive to be a successful leader (Yukl, 2013). These implicit leadership models and stereotypes are believed to bias followers' observations and responses to questionnaires, which can complicate the interpretation of survey research results (Lord & Maher, 1991; Eden & Leviatan, 1975; Spisak, Homan, Grabo, & Van Vugt, 2012; Yukl, 2013).

Around the same time, the full-range leadership theory was introduced by Burns (1978) and further developed by Bass and his colleagues (cf. Avolio & Bass, 1991; Avolio, Waldman, & Yammarino, 1991; Bass, 1985; 1998; Bass & Avolio, 1994; Hater & Bass, 1988). This theory comprises transformational, transactional, and laissez-faire leadership behavior and would argue that leaders display each of these leadership behaviors to a certain degree (Bass & Riggio, 2006).

Finally, since the beginning of the century, evolutionary leadership theory researchers such as Van Vugt (see Van Vugt & Ahuja, 2011; Van Vugt & Ronay, 2013) established new hypotheses in leadership research. They propose that the "human mind is the product of a process of evolution through natural selection" (Van Vugt & Ronay, 2013; p. 2). Furthermore, they argue that the human mind contains specialized psychological mechanism, which enable humans to solve problems through leadership and followership (Van Vugt & Kameda, 2012).

To summarize, many influential leadership theories have been developed over the last century. These can be classified as approaches that focus on the personality of leaders (trait theory), on the behavior of leaders (behavioral approach, leader-member exchange, full-range leadership model, and evolutionary leadership theory), on the influence of contingency factors (LPC contingency model of leadership, path-goal approach, and situational approach), and on the cognitions of followers or leaders.
(cognitive resource theory and implicit leadership theory). In my dissertation, I concentrate on each of these main approaches by including leaders' personality traits in terms of the Big 5, leaders' behavior in terms of the transformational leadership behaviors and leader-member exchange, a contingency factor in the meaning of diversity, and cognitions in terms of leaders' beliefs about diversity. In the following, these approaches from different stages and with different foci will be explained in more detail and are thereafter integrated into the conceptual model on the basis of which hypotheses will be formulated.

**Personality – Big 5**

People all have different personalities that could determine their success, relationships, careers, and wellbeing (Schultz & Schultz, 1997). The highly predictive value of personality has led to much research attention to how various people differ from each other and how these differences influence their lives. Personality traits are "relative stable characteristics that influence the way a person acts in certain situations" (Beeler, 2010, p. 90), and are easier to assess than habits that are less generalizable (Allport, 1966), or states that might change over time (Eysenck & Eysenck, 1980).

Researchers had already developed the trait theory of leadership before 1950 (Great man theory; Carlyle, 1888; Galton & Eysenck, 1869). Trait theorists maintained that leaders and non-leaders differ in their personality traits. The trait theory was questioned after severe criticism from researchers, who argued and showed that personality traits are not predictors of leaders' success (Guion & Gottier, 1965; Mann, 1959; Reilly & Chao, 1982; Stogdill, 1948). This criticism was alleviated by Judge and colleagues (2002a), who argued that the negative results of the trait approach could be caused by a lack of an organized structure of the
personality traits. They thus proposed using the organized structure of the Big 5 theory to study the trait theory of leadership.

The Big 5 factor model of personality is a structured tool for measuring personality traits (Judge et al., 2002a). Each of the Big 5 traits is characterized by more specific dimensions or traits. Conscientiousness can be described as the tendency to be well-organized, to behave in a responsible way, and to be goal-oriented; neuroticism is the tendency to be anxious, sad, and insecure; extraversion is defined as the tendency to be talkative, ambitious, and socially dominant; agreeableness can be described as the tendency to be kind, flexible, and cooperative; while openness to experience is the tendency to be creative, autonomous, and unconventional. This structure was confirmed across various methods of measurement, cultures, and settings (Digman, 1990; McCrae, Costa, del Pilar, Rolland, & Parker, 1998).

Since the introduction of the Big 5 personality theory, many studies and meta-analyses have supported the trait theory of leadership (Barrick & Mount, 1991; 2005; Kirkpatrick & Locke, 1991). These studies confirm that conscientiousness is an especially strong predictor of a leader's success, whereas the relationships between leaders' success and neuroticism, extraversion, agreeableness, and openness to experience are seen as less consistent (i.e., only for some situations or jobs), or are even found to be negative (i.e., for neuroticism; Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Kamdar & Van Dyne, 2007; Tett, Jackson, & Rothstein, 1991).

In sum, in terms of the Big 5 personality traits, personality is an important factor for determining leaders' success, and within this framework conscientiousness is believed to have the strongest direct influence. However, research undertaken from
1950 argues that leaders’ behavior is also a predictor of leaders’ success (e.g., Hemphil & Coons, 1957; Stogdill, 1950). One especially effective form of leadership behavior is transformational leadership (e.g., Bass, 1985; Burns, 1979). This leadership behavior is a component of the full-range leadership and will be described together with the other components (i.e., transactional leadership and laissez-faire leadership) in the following section.

**Behavior - Full-Range Leadership Theory**

Transformational leadership is characterized as a meaningful and creative exchange between leaders and their team members (Bass, 1985; 1990; Kearney & Gebert, 2009), and is composed of four sub-dimensions (Avoli, Bass, & Jung, 1997; Bass, 1985; Bycio, Hackett, & Allen, 1995). Idealized influence comprises role modeling behavior, identification with and internalization of a leader's vision, values and missions. Inspirational motivation implies behavior, which motivates and inspires followers by providing them with meaningful and challenging work. Intellectual stimulation includes behaviors that stimulate followers by reframing problems, pushing them to develop creative and innovative ideas, and approaching old situations in new ways. Individualized consideration covers leader behavior that focuses on the individual needs of followers, which includes providing a supportive climate and new learning opportunities (i.e., coaching). The sub-dimensions inspirational motivation and idealized influence have been often combined as charismatic leadership (e.g. Bono & Judge, 2004). However, researchers are in conflict about whether this leadership behavior is a component of transformational leadership or a distinct leadership style (Bass & Avolio, 1994; Conger & Kanungo, 1998; House & Podsakoff, 1994). Whereas Conger and Kanungo (1998) stated no real difference between charismatic and transformational leadership, noted Bass and Avoilo (1994)
that charisma is a component of the broader construct transformational leadership.

Transactional leadership originally includes four sub-dimensions: contingent reward, active management by exception, passive management by exception, and laissez-faire leadership. Contingent reward focuses on rewards contingencies and exchange relationships (Burns, 1978). Leaders provide followers with tangible or intangible rewards in exchange for the satisfactory fulfillment of their task. Leaders utilizing active management by exception monitor their followers' work actively and take corrective actions when needed (Bass & Riggio, 2006; Bono & Judge, 2004). Leaders who utilizing passive management by exception wait passively for mistakes and errors in the work process and only intervene when a problem becomes serious (Bass & Riggio, 2006). Leaders who score high on laissez-faire leadership avoid making decisions, wait before taking action, and are absent during important situations (Judge & Piccolo, 2004). Although laissez-faire leadership was originally included in transactional leadership, as it has some features in common with passive management by exception, recent theorizing states that it represents the absence of leadership and should therefore be treated as a separate construct (Bass, 1998; Judge & Piccolo, 2004; Van Vugt, Jepson, Hart, & De Cremer, 2004).

Related to the discussion on the extent to which laissez-faire leadership can be distinguished from transactional leadership, researchers have discussed the differentiation between the individual sub-dimensions of transformational leadership sub-dimensions (e.g., Howell & Hall-Merenda, 1999; van Knippenberg & Sitkin, 2013). One group of researchers recommends that, due to the high correlations between the different sub-dimensions, the overall construct should be used for transformational leadership (Bass, 1985; Howell & Hall-Merenda, 1999; Judge & Piccolo, 2004). Another group criticizes this approach for not presenting theoretical
arguments that explain how (a combination of) the sub-dimensions relate to the overall transformational leadership construct (see also Sutton & Staw, 1995; van Knippenberg and Sitkin, 2013). In sum, a final decision on the proper use of the sub-dimensions of transformational leadership is not made yet. I thus use both approaches in my dissertation. Thereby, I also differentiate between idealized influence and inspirational motivation and do not combine these sub-dimensions to charismatic leadership in order to be able to examine how both sub-dimensions behave individually in my model.

Independent of the discussion on the distinctiveness of the full-range leadership sub-dimensions, a large amount of empirical evidence has demonstrated the utility and validity of transformational leadership across different settings, sectors, and situations (Avolio & Bass, 2004; Avolio & Yammarino, 2002; Bass, Jung, Avolio, & Berson, 2003; De Groot, Kiker, & Cross, 2000; Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Lowe, Kroek, & Sivasubramaniam, 1996). Similarly, contingent reward leadership has proved to be as effective as transformational leadership for certain outcomes, such as follower motivation, job satisfaction, and leader performance (e.g., Judge & Piccolo, 2004). Conversely, active and passive management by exception, as well as laissez-faire leadership, are seen as ineffective leadership behaviors with very limited positive, neutral, or even negative effects on effectiveness (e.g., Dumdum et al., 2002; Judge & Piccolo, 2004).

Together, the full-range leadership sub-dimensions are an important part of leadership research (Judge & Piccolo, 2004; van Knippenberg & Sitkin, 2013), whereby transformational leadership has been suggested as especially effective for a wide range of outcomes across different settings, sectors, and situations. The relationships between the transactional leadership sub-dimensions/ laissez-faire
leadership and leadership success are found to be less strong (i.e., active management by exception) or are found to be only as effective as transformational leadership for certain outcomes (i.e., contingent reward leadership). Thus, I concentrate on transformational leadership, although I acknowledge the high importance of the transactional leadership sub-dimensions.

The relational approach in terms of leader-member exchange, is another highly influential leadership theory (Danserau et al., 1975; Deluga, 1994; Graen, 1976), that has recently been linked to transformational leadership (e.g., Dulebohn et al., 2012).

**BEHAVIOR - LEADER-MEMBER EXCHANGE**

Leader-member exchange is based on the relational approach and is characterized by the role-making process between leaders and each of their followers (Danserau et al., 1975; Deluga, 1994; Graen, 1976). The main principle of this theory is that leaders develop exchange relationships with their followers. These relationships are not equal for all subordinates regarding aspects of quality, and develop over time via role negotiation (Graen & Uhl-Bien, 1995). More specifically, leaders develop relationships that differ in quality with different subordinates. These relationships can range from a low to high-quality leader-member exchange (Graen, 1976). Leaders convey role expectations to their followers, and these followers react to this role prescriptive by rejecting, embracing, or renegotiating it. Their affective, relational, and task-related responses (i.e., high vs. low job satisfaction; good vs. bad performance) depend on the quality of the relationship with their leader. In return, the leader provides different material (i.e., more salary) and non-material (i.e., interesting tasks) rewards, which depend on their followers' behavior.

Many studies have confirmed the effectiveness of leader-member exchange and have found positive relationships between leader-member exchange and a wide range
of outcomes, such as performance, job satisfaction, and organizational commitment (e.g., Bernerth, Armenakis, Feild, Giles, & Walker, 2007; Epitropaki & Martin, 2005; Gerstner & Day, 1997). Therefore, like transformational leadership, leaders-member exchange can be seen as a behavioral predictor of leaders' success. However, according to contingency and situational theories, the effectiveness of leaders does not only depend on leadership behavior, but varies according to the different team, organizational, or situational factors that might individually influence the use of different leadership behaviors (Avolio, 2007; Eisenbeiss, van Knippenberg, & Boerner, 2008; Fiedler, 1967; Hersey & Blanchard, 1973; House, 1971; Morgeson et al., 2010). Hence, in the following, I introduce diversity as one possible contingency factor, as it is believed to be important to meet the challenges for organizations in the fast changing working environment (e.g., Van Veen & Marsman, 2008).

**CONTINGENCY FACTOR - DIVERSITY**

Diversity is defined as the degree to which there are differences between team members (van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Research differentiates between several types of diversity in teams to classify different dimensions of diversity (Kearney & Voelpel, 2012; van Knippenberg & Schippers, 2007), for instance, between easily detectable surface-level diversity (i.e., age, gender) and deep-level diversity (i.e., attitudes, personality), which is harder to identify.

Diverse team members own different information, knowledge, and perspectives (van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). The social identity theory has stated that these dissimilarities between team members can yield negative intragroup processes (i.e., conflicts, discrimination, stereotyping; Williams & O'Reilly, 1998), since people tend to prefer
working with others who are relatively similar to themselves (Berscheid & Walster, 1978). However, differences might also empower team members to be creative and to solve problems effectively, since diverse teams can use all their differences to accomplish a task (van Knippenberg et al., 2004).

These two different processes that diversity can instigate are likely to require different types of leadership than the processes that occur in homogeneous teams. For instance, diverse teams might have a stronger need for leaders who push them to use their differences and who build a social identity within the diverse teams, whereas homogenous teams might need leaders who focus on other processes, such as finding strength in the conformity of values, personalities, and working approaches. In sum, diverse vs. homogenous teams might require the application of different types of leadership to tap the full potential of both types of teams. However, the behavior of leaders is likely to also depend on the leaders' beliefs and attitudes regarding diversity. In the following, I describe the potential influence of leaders' diversity beliefs on diverse and homogenous teams.

**Cognitions - Leaders' Beliefs**

Since the beginning of 1990, research has confirmed the relevance of cognitive processes for the leadership process (e.g., Fiedler, 1986; Lord & Maher, 1991; Yukl, 2013). These cognitive processes include beliefs about and attitudes towards specific topics and can be very different from beliefs and attitudes of other people. In my dissertation, I refer to Dweck's (2008, p. 391) definition of beliefs as "mental representation of nature and working of the self, of their relationships, and of their world". These beliefs might (a) change with experiences, (b) be consequences of direct observation, (c) be influenced by outside sources, or might (d) be self-generated via inference processes (Ajzen & Fishbein, 1980).
This dissertation investigates the beliefs and attitude of leaders regarding the situational factor diversity. These beliefs about diversity can be defined "as the beliefs about the value of diversity for group functioning" (Homan, Greer, Jehn, & Koning, 2010, p. 478). Diversity beliefs can be either positive (i.e., the use of different perspectives, information, and skills is an asset for the team) or negative (diversity leads to many problems; van Knippenberg et al., 2004; van Knippenberg, van Ginkel, & Homan, 2013).

Researchers have rarely examined how leaders' diversity beliefs or cognitions in general influence followers' behavior and, thus, outcomes (Homan & Jehn, 2010; Janz et al., 2012). In this respect, I argue that the effects of leadership behaviors in diverse teams might be influenced by the attitudes leaders have in respect to diversity (Homan & Jehn, 2010). Leaders likely behave according to their diversity beliefs and their behavior. In turn, leaders' behavior might affect followers' behavior and thus the functioning of diverse teams (Haslam, Reicher, & Platow, 2011; Yukl, 2013). Together, I predict that the responses of the followers regarding diversity, in term of affective, relational, and task-related outcomes, will likely be positive when leaders communicate positive diversity beliefs and negative when negative diversity beliefs are communicated.

**GOAL: AN INTEGRATED MODEL OF LEADERS' SUCCESS**

In sum, I argue that leaders' personality, behavior, and beliefs, as well as team diversity are important determinants of leaders' success. As it is unlikely that these four factors influence leaders' effectiveness independently from each other, integrating these factors into a comprehensive framework is a logical new step in leadership research (see Figure 1.1; Avolio, 2007; DeRue et al., 2011; Morgeson et
I aim to investigate the potential that leaders' personality, leadership behavior, beliefs, and diversity have to enhance their success, and how the integration of these factors can contribute to their success over and above the individual effects that they have.

The integration of the influencing factors of leaders' success will be achieved by means of three studies in which different parts of the my research model will be tested. More specifically, my dissertation aims to answer four questions in the three studies:

a) What impact do the four factors (i.e., traits, behaviors, context, and cognitions) have on leaders' success? (Chapters 2, 3, 4)

As stated above, leaders' personality, behavior (transformational leadership and leader-member exchange), as well as team diversity has been shown as important factors in influencing leaders' success. Thus, I propose in line with previous research that these factors individually determine leaders' success (Avolio & Bass, 2004; Barrick & Mount, 1991; Bernerth et al., 2007; De Vries et al., 2006; Epitropaki & Martin, 2005; Judge & Piccolo, 2004; Kamdar & Van Dyne, 2007; van Knippenberg et al., 2004;). Moreover, leaders' beliefs (diversity beliefs) have been investigated rarely so far (Homan & Jehn, 2010; Janz et al., 2012). However, the theorizing above supports the idea that the diversity beliefs of the leader also influence leaders' success individually (Haslam et al., 2011; van Knippenberg et al., 2004; 2013; Yukl, 2013).

b) How does the interplay between leaders' personality and the transformational leadership behaviors influences leaders' success? (Chapter 2)

As shown in Figure 1.1, I predict that the Big 5 personality traits affect leaders' success directly and indirectly via the transformational leadership sub-dimensions.
Studies on and meta-analyses of the Big 5 personality traits and their relationships to leaders' success have shown that conscientiousness is a strong direct predictor of leaders' success (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Barrick et al., 2001). Conversely, the relationships between the success of the leaders and the other four Big 5 personality traits have been found to be less consistent (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Barrick et al., 2001). These less clear-cut links could possibly be explained by the indirect effects of these personality traits on leaders' success via transformational leadership behaviors (see also Cavazotte, Moreno, & Hickmann, 2012; DeRue et al., 2011). Given the empirical evidence that links the Big 5 personality traits to transformational leadership (e.g., Bono & Judge, 2004) and work outcomes (Barrick & Mount, 1991; 2005; Kirkpatrick & Locke, 1991), it seems reasonable to expect that the transformational leadership sub-dimensions could be a factor via which the Big 5 personality traits influence organizational outcomes (Cavazotte et al., 2012). I contribute to leadership research by connecting the traits with the transformational theory of leadership (i.e., Bono & Judge, 2004) and extend previous studies (e.g., Bono & Judge, 2004) by taking all the sub-dimensions of the transformational leadership theory into account. I hypothesize that the Big 5 personality traits are predictors of the different sub-dimensions of transformational leadership, and that these links between the Big 5 personality traits and transformational leadership behaviors can differ depending on the trait and on the specific leadership dimension. For instance, it is likely that inspirational motivation is more strongly influenced by personality traits which promote the positive expression of vision and missions, such as extraversion, whereas traits that inhibit the categorization of followers (i.e., leaders treat followers with less prejudice), such as openness to experience, are more likely to predict individualized consideration.
c) How does leader-member exchange mediate the relationships between transformational leadership and outcomes? (Chapter 3)

When focusing more closely on transformational leadership behaviors, one might wonder how this type of leadership affects organizational outcomes: directly or indirectly? I propose that leadership behavior not only affects leaders' success directly (i.e., performance, follower motivation; Judge & Piccolo, 2004), but that transformational leadership might also affect outcomes indirectly through mediating mechanisms (Avolio, 2007; Morgeson et al., 2010; see also van Knippenberg & Sitkin, 2013 for an overview of transformational leadership and its mediators). My thesis contributes to research on the mediating processes of transformational leadership by investigating the role of leader-member exchange as a mediator in the transformational leadership-outcome relationship (Dulebohn et al., 2012; Wang, Law, Hackett, Wang, & Chen, 2005). Recent research has argued and supported leader-member exchange as an important underlying process through which transformational leaders influence individuals, teams, and organizations (e.g., Dulebohn et al., 2012; Shusha, 2013; Wang et al., 2005). However, I extend this mediational hypothesis and propose that the mediational impact of leader-member exchange will be stronger for relationship- vs. task-oriented outcomes, whereas the direct effect of transformational leadership will be stronger for task- vs. relationship-oriented outcomes. Leader-member exchange is more relationship-oriented than transformational leadership is (Deluga, 1994; Graen, 1976). Therefore, depending on the outcome of interest, transformational leadership and leader-member exchange will contribute differentially to the outcome measures. For instance, it is likely that job satisfaction is more strongly influenced by the indirect effect of transformational leadership via leader-member exchange than by transformational leadership's direct effect, because
relationships are an important factor in how followers experience their work situation (Brower, Schoorman, & Tan, 2000). Conversely, it is likely that the direct effect of transformational leadership contributes more to organizational commitment than the indirect effect of transformational leadership via leader-member exchange, since the identification and internalization processes that will be activated by transformational leaders are likely to be more influential for promoting followers' organizational commitment than positive relationships between followers and leaders.

d) How do transformational leadership and leaders' diversity beliefs influence the diversity-outcomes relationship? (Chapter 4)

I predict that contingency factors, such as team diversity, might influence the link between transformational leadership behavior and leaders' success (i.e., Kearney & Gebert, 2009). Research has argued that diverse teams benefit specifically from transformational leaders, since they might promote the positive effects of diversity and prevent the potential negative effects by fostering information sharing and hindering harmful categorization processes (Harrison & Klein, 2007; Kearney & Gebert, 2009; Kearney, Gebert, & Voelpel, 2009; Shin & Zhou, 2009). Therefore, I posit that diversity will have beneficial effects on outcomes in diverse teams if the leader is highly transformational, but will have negative effects on outcomes if the leader is not transformational. In this respect, I extend diversity and leadership research by investigating the effect of transformational leadership in managing diversity on not only task-related (as done in previous research; e.g., Kearney & Gebert, 2009), but also on affective and relational responses to diversity.

Moreover, I follow the call of researchers to investigate leaders' cognitions in the leadership process (Homan & Jehn, 2010; Janz et al., 2012). I hypothesize that the promising effects of transformational leaders in diverse teams might be influenced by
the leader's beliefs about diversity (e.g., Homan & Jehn, 2010). Transformational leaders provide followers with a vision and probably act in accordance with this vision in their function as a role model (Avolio & Bass, 2004). It is highly probable that transformational leadership's advantage or disadvantage for diverse teams depends on the content of the vision (e.g., Beyer, 1999; House & Howell, 1992). By contributing to previous research, I introduce a factor (i.e., diversity beliefs) that is likely to co-determines the content of that vision, and which may consequently affect the followers' responses. I predict that the effect of transformational leadership on outcomes will be positive if the diversity beliefs of leaders are positive, but negative if these beliefs are negative.

To summarize, my dissertation will provide an integrated model of the influencing factors of leaders' success by addressing these four research questions. More specifically, I predict that personality influences leaders' success directly and indirectly through the transformational leadership behaviors; that transformational leadership affects leaders' success directly and indirectly via leader-member exchange; that diversity influences the link between transformational leadership and outcomes, and that the effects of transformational leaders in diverse teams depend on the diversity beliefs of leaders. Thereby, this work contributes to leadership and diversity literature by linking the trait approach to the behavioral approach, by considering all sub-dimensions of the transformational leadership theory, by acknowledging the importance to differentiate between different kind of outcomes, by highlighting the relevance of considering a wide range of outcomes for theory development, and by investigating the cognitions of leaders. In the following, I provide an outline of this dissertation.
Dissertation Overview

This dissertation comprises three empirical chapters written as articles to be published separately in scientific journals. As the three chapters reflect my collaboration with my co-authors, I used "we" instead "I" throughout these chapters. Together, the three chapters paint a comprehensive picture of how leaders' success is influenced by the combination of their personality, leadership behavior, diversity, and their diversity beliefs. All three empirical chapters describe the respective theoretical background, the methods used, the results obtained, and discuss the specific findings. After the three empirical chapters, the findings will be integrated and discussed, which will include the limitations and future research implications.

We investigate the previously introduced Research Question a) – What impact do the four factors (i.e., traits, behaviors, context, and cognitions) have on leaders' success? – in the different Chapters. As such, we examine personality in Chapter 2, leadership behavior in the Chapters 2-4, and diversity as well as leaders' diversity beliefs in Chapter 4.

Furthermore, in Chapter 2, entitled "How the Sub-Dimensions of Transformational Leadership Mediate Leaders' Personality-Performance Relationship," which is based on a meta-analysis, we examine how leaders' inherent personality and leadership behaviors predict leaders' success (addressing Research Question b: How does the interplay between leaders' personality and the transformational leadership behaviors influences leaders' success?). Previous research has mostly linked the Big 5 personality traits to an overall transformational leadership measure, as well as to leader performance, although research has recently stressed that a combination of the sub-dimensions of transformational leadership to an overall measure it is not appropriate (van Knippenberg & Sitkin, 2013). We will build on this
criticism and provide a first empirical test of how the sub-dimensions of the transformational leadership theory are affected by the Big 5 personality factors and how they influence leaders' performance.

Whereas Chapter 2 deals with the antecedents and consequences of the transformational leadership sub-dimensions, the third Chapter examines how transformational leadership influences individuals, teams, and organizations. Chapter 3, entitled "Examining the Mediating Role of Leader-Member Exchange in the Relationship between Transformational Leadership and Different Outcomes," investigates the role of leader-member exchange as a mediator of the transformational leadership-organizational outcomes relationships (addressing Research Question c: How does leader-member exchange mediate the relationships between transformational leadership and outcomes?). We suggest that LMX could act as a mediator of these relationships, but that, depending on the type of outcomes, transformational leadership and leader-member exchange each make a strong but different contribution to the outcome measures. Meta-analytic structural equation modeling is applied to test this prediction.

In the next chapter, we introduce the crucial role of the context in predicting transformational leadership effectiveness by focusing on nationality diversity. Furthermore, the role of leaders' beliefs in determining the effectiveness of transformational leadership in managing national diverse teams is introduced. Based on a vignette and an experimental study, Chapter 4, entitled "Managing Diversity: The Role of Leader's Behaviors and Beliefs," examines the prediction that transformational leadership alone and together with leaders' diversity beliefs can influence the effects of diversity (addressing Research Question d: How do transformational leadership and leaders' diversity beliefs influence the diversity-
outcomes relationship?). We argue that transformational leaders have positive effects on affective, relational, and task-related outcomes in diverse teams, since they build a social team identity and foster information sharing (Kearney & Gebert, 2009; Kunze & Bruch, 2010). Furthermore, we address the lack of studies on the influence of leaders' diversity beliefs in managing diversity. We propose that leaders' diversity beliefs might affect team members through the behavior of transformational leaders (Homan & Jehn, 2010; Janz et al., 2012). By considering these issues, we take a crucial step toward solutions for effective diversity management.

Finally, Chapter 5 reviews the overall empirical work and presents a general discussion of the major findings, the limitations of the dissertation, as well as the theoretical and practical implications for future research on the influencing factors of leaders' success.
CHAPTER 2

HOW THE SUB-DIMENSIONS OF TRANSFORMATIONAL LEADERSHIP MEDIATE LEADERS' PERSONALITY-PERFORMANCE RELATIONSHIP

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ABSTRACT

Although transformational leadership construct has received a great amount of research attention, it is still unclear whether transformational leadership is a unitary or a multi-dimensional construct. The current meta-analysis of 58 studies aims to bring the field a step further and examines the sub-dimensions of transformational leadership, and their link to personality traits and to leader performance. Results showed that the Big 5 personality traits were directly linked to an overall transformational leadership measure and to its sub-dimensions, as well as indirectly to leader performance, which confirmed that personality traits affect leaders' effectiveness via these leadership behaviors. Interestingly, however, the overall transformational leadership measure and the sub-dimensions of transformational leadership were influenced by different combinations of the Big 5 personality traits. These findings emphasize the importance for examining the sub-dimensions of transformational leadership separately to get a deeper understanding of the nature and the antecedents of these leadership behaviors.

Keywords:
Personality traits; Transformational leadership; Leader performance
INTRODUCTION

Over the past 30 years, transformational leadership has become one of the most investigated and influential leadership theories in work and organizational psychology literature (Bono & Judge, 2004; Judge & Piccolo, 2004; Kearney & Gebert, 2009; Lowe, Kroec, & Sivasubramaniam, 1996). The main reason for this influence is the growing importance of transformational leadership in the modern work environment (Lim & Ployhart, 2004). However, regardless the strong impact of transformational leadership in research and practice (Bass et al., 2003; Burke et al., 2006; De Groot et al., 2000; Judge & Piccolo, 2004), transformational leadership theory still suffers from some important conceptual issues (van Knippenberg & Sitkin, 2013). One of these issues is the disagreement about the conceptual definition of transformational leadership (van Knippenberg & Sitkin, 2013).

Although transformational leadership comprises of four sub-dimensions (idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration; Avolio & Bass, 2004) many researchers argue about the distinctiveness of them (Bycio et al., 1995; Carless, 1998; Tejeda, Scandura, & Pillai, 2001; Tepper & Percy, 1994; van Knippenberg & Sitkin, 2013). On the one hand, researchers state that the sub-dimensions of transformational leadership are often highly intercorrelated, and therefore do not warrant distinguishability (Yukl, 2013). Furthermore, these researchers acknowledge that while the dimensions may have merit theoretically, they do not have adequate discriminant validity to defend examining them separately, which speaks to transformational leadership as a unitary construct (Bycio et al., 1995; Carless, 1998; Tejeda et al., 2001; Tepper & Percy, 1994).

One the other hand, researchers emphasize the importance of the distinct examination of the sub-dimensions of transformational leadership (Sutton & Staw, 1995;
van Knippenberg & Sitkin, 2013). These researchers believe that the choice to examine the sub-dimensions of transformational leadership together as one construct is merely driven by empirical arguments, rather than by sound theoretical arguments with regard to how (a combination of) the sub-dimensions relate to the overall transformational leadership construct (Sutton & Staw, 1995). For example, van Knippenberg and Sitkin (2013) state there is no theory pertaining to whether an additive (i.e., sub-dimensions are summed to create an overall transformational leadership measure) or an interactive approach (i.e., any dimensions of transformational leadership becomes more effective the more the leader express other sub-dimensions of transformational leadership) should be applied when combining the transformational leadership sub-dimension into one overall construct. Furthermore, they propose that it is likely that different sub-dimensions of transformational leadership influence different outcomes via different mediators, thus arguing for the multi-dimensional nature of transformational leadership (van Knippenberg & Sitkin, 2013).

This meta-analysis was conducted with the intention to help bring the field a step further with regards to this puzzle regarding the uni- or multi-dimensionality of the transformational leadership construct. Similar to van Knippenberg and Sitkin (2013), we argue that the different sub-dimensions of transformational leadership should distinguished, because they are likely to have different origins, that is, personality antecedents. For instance, it is reasonable that intellectual stimulation will be more strongly influenced by personality traits which stimulate followers to think "out of the box", such as openness to experience, whereas individualized consideration is likely to be more strongly predicted by traits that promote caring behavior of leaders, such as agreeableness. To investigate the hypothesis that the transformational leadership sub-dimensions have different origins - speaking to transformational leadership as a multi-
dimensional construct - we link transformational leadership to the Big 5 personality traits (Costa & McCrae, 1992; Goldberg, 1990). As such, we provide the first meta-analytic work that considers all sub-dimensions of transformational leadership and their link to the Big 5 personality traits with the goal to examine whether there is a general positive/negative correlation between the traits and the sub-dimensions or that there are differential relationships between certain traits and certain sub-dimensions of transformational leadership. Furthermore, we examine the sub-dimensions of transformational leadership and their link to leader performance to see whether the sub-dimensions influence outcomes to a different degree, which again would speak against transformational leadership as a unitary construct.

In doing this, we do not only argue that the sub-dimensions of transformational leadership are differently linked to the Big 5 personality traits, but also that the personality traits affect leadership behavior directly and effective leader performance indirectly via its effects on leadership behaviors (e.g., Bono & Judge, 2004; Cavazotte, et al., 2012; DeRue et al., 2011; Hetland & Sandal, 2003; Rubin, Dierdorff, Bommer, & Baldwin, 2009). Previous studies have investigated the mediating role of transformational leadership (e.g., Cavazotte et al., 2012; DeRue et al., 2011), but they failed to distinguish between the different sub-dimensions of transformational leadership. To address the lack of research on the sub-dimensions of these leadership behaviors, we will examine all the sub-dimensions of transformational leadership separately, rather than combining them into overarching measures of charismatic, or transformational leadership (as seen in Bono & Judge, 2004; Cavazotte et al., 2012; DeRue et al., 2011; Hetland & Sandal, 2003; Judge & Piccolo, 2004; Lim & Ployhart, 2004; Rubin et al., 2009; Van Woerkom & De Reuver, 2009). In sum, we aim to get a deeper understanding of how the sub-dimensions of transformational leadership are affected by the Big 5, which could give us a clearer
picture regarding the origin of these leadership behaviors and insights in how they work differently as mediators on the Big 5 - leader performance relationship.

**PERSONALITY AND LEADER PERFORMANCE**

The Big 5 framework poses a five factor structure of personality containing the factors neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (Costa & McCrae, 1992; Goldberg, 1990). Summarizing the findings of several studies and meta-analyses regarding the Big 5 and performance of employees and leaders, it has been shown that *conscientiousness* is an especially strong predictor of performance (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Judge et al., 2002a; Kamdar & Van Dyne, 2007; Tett et al., 1991). This effect is understandable, because when a person is well-organized, behaves in a responsible way, and is goal-oriented, it is likely that she/he will perform well (Barrick et al., 2001). Moreover, most meta-analyses have shown that *neuroticism* is negatively related to job performance in almost all kind of jobs (e.g., Barrick et al., 2001). It is indeed hard to imagine a job for which being anxious, sad, and insecure would have positive effects on performance (Barrick et al., 2001). Agreeableness, extraversion, and openness to experience also seem to be predictors of performance, but only for some conditions, jobs, and groups. For example, Barrick and Mount (1991) confirmed that *extraversion* is a predictor of performance in jobs where personal interactions are needed, because in jobs in which people have to acquire new clients, money, or manager functions it is necessary to be talkative, ambitious, and socially dominant. Openness to experience and agreeableness also have positive, weak relationships to performance. Those, who are high in *agreeableness*, are trusting, kind, flexible, and cooperative (Costa & McCrae, 1992; Mount & Barrick, 1995). These characteristics are found to be important in situations or jobs where personal interactions and cooperation are required (Barrick & Mount, 1991;
Barrick, Stewart, Neubert, & Mount, 1998). Similarly, *openness to experience* is also proposed to be related to performance in special situations. For instance, situations that deal with training or learning experiences are positively linked to highly open individuals, who show more creativity, autonomy, unconventionality, and thoughtfulness. It seems likely that these individuals are more willing to engage in trainings and learning experiences (Barrick et al., 2001).

In sum, previous research has shown that conscientiousness is a strong direct predictor of leader performance, whereas the relationships between the other personality factors and performance are less clear-cut (i.e., only under some conditions) or even found to be negative (i.e., for neuroticism). Therefore, we decided to only propose a hypothesis for conscientiousness. Previous research has mostly focused on the link between followers' personality traits and followers' performance (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Barrick et al., 2001; Kamdar & Van Dyne, 2007), whereas only a few investigated leader's personality traits in relation to leader performance (e.g., Judge et al., 2002a). However, leaders are highly relevant in organizations (leaders are listened to; enable individuals, teams, and organization to perform well; Bass, 1990; Follett, 1926) and it is thus essential to investigate which factors influence the performance of the leader. Therefore, we decided to consider leader performance and propose in line with previous findings for the relationship between the Big 5 and follower performance that conscientiousness will in general have the strongest overall direct effect on leader performance.

*Hypothesis 1: Conscientiousness will be positively related to leader performance.*

We do not have specific hypotheses for the other four traits, because we expect that their relationships with leader performance will be more indirect by influencing leadership behaviors (see also Cavazotte et al., 2012; DeRue et al., 2011). In the
following section, we will describe the included leadership behaviors and the relationships between the Big 5 personality traits and these behaviors. Then we elaborate on our prediction that leadership behavior could be a mediator between the Big 5 and leader performance.

**TRANSFORMATIONAL LEADERSHIP AND LEADER PERFORMANCE**

Transformational leadership was introduced by Burns (1978) and Bass (1985; 1990; 1998) and composes four sub-dimensions. *Idealized influence* implies role modeling behavior, identification with the leader and internalization of leader's vision, values and missions through the emotional impact of the charismatic leader. *Inspirational motivation* includes behavior of motivation by providing meaning to the task of the follower, fostering optimism through leader behavior, and inspiring followers through symbolic actions. *Intellectual stimulation* comprises of behaviors which stimulate followers by reframing problems, push them to develop creative and innovative ideas, and approach old situations in new ways. *Individualized consideration* covers leader behavior which includes providing a supportive climate and new learning opportunities (coaching). Over the past three decades, transformational leadership has become one of the most investigated leadership theories in work and organizational literature and many studies have found a positive relationship between overall transformational leadership, its sub-dimensions and performance (Avolio & Bass, 2004; Bass et al., 2003; Burke et al., 2006; Chan & Chan, 2005; De Groot et al., 2000; Dumdum et al., 2002; Judge & Bono, 2000; Judge & Piccolo, 2004; Lowe et al., 1996; Shao & Webber, 2006).

**PERSONALITY AND TRANSFORMATIONAL LEADERSHIP**

Personality traits have a profound influence on people's motivations, behaviors, and perceptions, including values, antisocial behavior, and organizational citizenship behavior (Eysenck, 1970; Fischer & Boer, 2013; Krueger, Hicks, Patrick, Carlson, Iacono, &
McGue, 2002; Lord, De Vader, & Alliger, 1986; Marcus et al., 2013; Ones, Dilchert, Viswesvaran, & Judge, 2007; Organ & Ryan, 1995) due to their dispositional character. This evidence points towards a link between personality and leadership behavior. However, the question is: Which traits predict what sub-dimensions of transformational leadership?

With the present meta-analysis, we will update the most recent and extensive meta-analysis on transformational leadership done by Bono and Judge (2004). Since their meta-analysis was published, many new studies have been conducted with regards to the Big 5 and leadership behaviors, which we will include in our meta-analysis. Furthermore, they examined idealized influence and inspirational motivation together as charismatic leadership, whereas we contribute to this work by investigating the relationship between the Big 5 and all sub-dimensions of transformational leadership separately.

Neuroticism. Neuroticism and its opposite pole emotional stability reflect the tendency of emotional adjustment. Individuals who score higher on neuroticism have a strong predisposition to experience emotionally instability including feelings of fear, sadness, defense, insecurity, and guilt, whereas emotional stable people are relaxed and tempered (Costa & McCrae, 1992; McCrae & Costa, 1991). Research showed that neuroticism is strongly related to low self-esteem and self-efficacy (Bono & Judge, 2004; Judge, Erez, Bono, & Thoreson, 2002b). In this respect, Northouse (1997) argued that self-confidence of a person is a requirement for enacting leadership behavior. Therefore, individuals high on neuroticism should likely avoid leadership responsibilities (Bono & Judge, 2004) and will be less likely to "involve themselves in their followers' effort" and needs (i.e., do not show individualized consideration; Bass, 1985, p. 173). Additionally, we predict that these individuals are unlikely to be perceived as a role model due to their uncertainty (i.e., do not exhibit idealized influence), are too insecure to provide followers
with a vision (i.e., do not show inspirational motivation), and will be too fearful to undertake change efforts (i.e., do not exhibit intellectual stimulation; Bono & Judge, 2004).

**Extraversion.** Extraversion reflects the tendency to be outgoing, active, talkative, and optimistic (Costa & McCrae, 1992), whereby enthusiasm and assertiveness are seen as the two most important aspects of this personality trait (DeYoung, Quilty, & Peterson, 2007). It is likely that people who score higher on extraversion are more comfortable to set a direction in their function as a role model due to their expressiveness and dominance in interaction with others (i.e., show idealized influence; House & Howell, 1992; McCrae & Costa, 1987; Watson & Clark, 1997). Furthermore, extraversion is connected with positive emotionality (House & Howell, 1992; McCrae & Costa, 1987; Watson & Clark, 1997), which likely enables leaders to express their visions and missions in a positive manner (i.e., exhibit inspirational motivation). Moreover, individuals high on extraversion are likely to stimulate interactions between followers and as a result will be intellectually stimulating due to their tendency to enjoy change (Bono & Judge, 2004). Extraversion is positively linked to narcissism (e.g., Emmons, 1984; Raskin & Hall, 1981; Vazire, Naumann, Rentfrow, & Gosling, 2008), which might imply that extraverted people have lower tendencies to care about others and to foster good relationships. Therefore, we argue that people who score higher on extraversion will exhibit less individualized consideration compared to people scoring low on extraversion.

**Openness to experience.** Persons who are open to experience can be described as creative, autonomous, unconventional, curious, flexible, and thoughtful (McCrae & Costa, 1987; McCrae, 1994). Having an open mindset might allow individuals to see more individual differences between other people (Homan et al., 2010) and treat them with less limitations and prejudice (Flynn, 2005). Therefore, we predict that leaders who
score higher on openness will be concerned about their followers individually (i.e., show individualized consideration), and thus will be more liked and accepted as a role model (i.e., exhibit idealized influence). Furthermore, open and creative people are good at developing and articulating an attractive vision, because they are imaginative and creative (i.e., show inspirational motivation; John & Srivastava, 1999; McCrae & Costa, 1987). Additionally, they are able to cope with organizational change as well as see new approaches for problem solving and to think "out of the box" due to their resourcefulness and flexibility (i.e., exhibit intellectual stimulation; John & Srivastava, 1999; McCrae, 1994). The relationship between openness and intellectual stimulation is further supported by work on openness and creativity, which shows that openness to experience is positively linked to divergent thinking and creativity, which are characteristics of intellectual stimulation (e.g., George & Zhou, 2001; Schilpzand, Herold, & Shalley, 2011).

**Agreeableness.** Agreeableness reflects the tendency to be warm, generous, kind, and gentle (Graziano & Eisenberg, 1997; McCrae & Costa, 1987), to be trusting and modest, and to avoid conflicts (Costa & McCrae, 1992; Graziano, Jensen-Cambell, & Hair, 1996). The referent power literature shows that people who are liked by others due to friendship, similar values, or kindness are more likely to be followed than people who are less liked (Busch & Wilson, 1976; Hinkin & Schriesheim, 1989; Martin, 1978). Agreeable leaders do have this "positive" characteristic and as a result, we predict that followers feel more attracted to these leaders and will accept them as role models (i.e., show idealized influence). Furthermore, high agreeable people might express visions in a positive way due to their kindness and cooperativeness (i.e., exhibit inspirational motivation), and will be concerned with others' needs and interests (i.e., show individualized consideration). Finally, agreeable leaders value harmony, prefer
cooperation, and avoid getting into arguments and conflicts (Graziano et al., 1996; Van Kleef, Homan, Beersma, & van Knippenberg, 2010). As a result, we propose that these leaders will promote less stimulation of their followers, because they stress the importance of conformity, which might instigate low divergence of ideas, and inhibition of and "out of the box" thinking (i.e., show less likely intellectual stimulation).

Conscientiousness. Finally, conscientiousness encompasses responsibility, achievement orientation, dependability, and deliberation (McCrae & Costa, 1987). This trait is one of the most investigated in work and organizational psychology (Bono & Judge, 2004). Individuals who score high on conscientiousness have the tendency to work hard as well as have a sense of direction and self-discipline (Costa & McCrae, 1992). There are no reasons to believe that highly conscientious people will exhibit a positive vision or be inspiring in general (Bono & Judge, 2004), because conscientious leaders use more rational appeal to motivate followers (Cable & Judge, 2003), whereas idealized influence and inspirational motivation are more strongly connected to emotions (Bono & Ilies, 2006). Additionally, we argue that highly conscientious people are less likely to stimulate "out of the box" thinking, to take change efforts, and to care especially about their followers due to their structured and linear way of working, which helps them avoid making detours and spending more time than necessary on an issue (i.e., show less intellectual stimulation and individualized consideration).

The reasoning put forward above leads us to predict somewhat different relationship than those reported in Bono and Judge's meta-analysis (2004). More specifically, in contrast to hypotheses and findings of Bono and Judge (2004), we propose the following: We predict no relationship between extraversion and individualized consideration, because extraverted people are too busy with themselves to care about their followers. Moreover, we state that agreeableness is not related to intellectual
stimulation, because agreeable leaders avoid conflicts and discussing different opinions, which is not beneficial for thinking "out of the box". Finally, we propose null-relationships of conscientiousness with transformational leadership, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

In this respect, it is important to first stress that Bono and Judge (2004) combined idealized influence and inspirational motivation into charismatic leadership. As our predictions are more specified, this partly explains why we predict somewhat different relationships. Additionally, the use of more rigorous research designs to study transformational leadership since 1995 (Judge & Piccolo, 2004) might create more differential effects with regards to the different sub-dimensions of transformational. As our hypotheses are driven by sound theory (van Knippenberg & Sitkin, 2013) with regards to how personality traits influence people's behavior, we believe that our predictions, although not completely in line with the findings of Bono and Judge (2004) are likely to hold up within our meta-analysis.

**Hypothesis 2:** Neuroticism will be negatively related to (a) overall transformational leadership, and to its sub-dimension (b) idealized influence, (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration.

**Hypothesis 3:** Extraversion will be positively related to (a) transformational, (b) idealized influence, (c) inspirational motivation, and (d) intellectual stimulation, and be unrelated to (e) individualized consideration.

**Hypothesis 4:** Openness to experience will be positively related to (a) overall transformational leadership, and to its sub-dimension (b) idealized influence, (c) inspirational motivation, (d) intellectual stimulation, (e) and individualized consideration.
Hypothesis 5: Agreeableness will be positively related to (a) transformational, (b) idealized influence, (c) inspirational motivation, (e) individualized consideration, and be unrelated to (d) intellectual stimulation.

Hypothesis 6: Conscientiousness will be unrelated to (a) overall transformational leadership, and to its sub-dimension (b) idealized influence, (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration.

PERSONALITY, TRANSFORMATIONAL LEADERSHIP BEHAVIORS, AND LEADERS' PERFORMANCE

The prediction that transformational leadership behavior could be a mediator between the Big 5 and leader performance has been supported since the beginning of the century (e.g., Cavazotte et al., 2012; DeRue et al., 2011; Rubin et al., 2009; Van Woerkom & De Reuver, 2009; Zaccaro, Kemp, & Bader, 2004). The main argument is that personality traits predict specific leadership behaviors which in turn impact on leaders’ performance. Researchers argued that the mediating role of transformational leadership is especially plausible considering the conceptual and empirical links between personality and transformational leadership (Bono & Judge, 2004; Kirpatrick & Locke, 1991; Terman; 1904; Zaccaro et al., 2004), personality and performance (Barrick & Mount, 1991; 2005), and transformational leadership and performance (Avolio & Bass, 2004; Bass, 1985; Judge & Piccolo, 2004). According to this work, the Big 5 personality traits influence leader performance indirectly via their link to transformational leadership behavior, such as the capacity to influence, inspire, transform, change, and care for followers (Cavazotte et al., 2012). As stated above, most previous studies investigated transformational leadership as an overall construct (Cavazotte et al., 2012; DeRue et al., 2011; Rubin et al., 2009; Van Woerkom & De Reuver, 2009; Zaccaro et al., 2004).
whereas we will distinguish between the four sub-dimensions of transformational leadership.

Furthermore, based on previous work showing that the overall construct of transformational leadership as well as its sub-dimensions are positively related to leader performance (Antonakis & House, 2004; Avolio & Bass, 2004; Judge & Bono, 2000; Judge & Piccolo, 2004; Kearney & Gebert, 2009), we predict that all four sub-dimensions of transformational leadership will act as a mediator in the Big 5-leader performance relationship, but with slight differences. These are caused by the proposed differences in the relationships between the Big 5 personality traits and the sub-dimensions (see Hypotheses 2 to 6). We predict, for instance, that high values in leaders' extraversion foster inspirational motivation and lead in turn to positive leader performance, whereas individualized consideration is unrelated to extraversion and will not especially foster this behavior, when examining extraversion of the leader as a predictor of leader performance.

Hypothesis 7: The relationships between the Big 5 personality traits and leadership performance are mediated by (a) transformational, (b) idealized influence, (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration.

METHODS

IDENTIFICATION AND SELECTION OF STUDIES

The studies included in this meta-analysis were identified via a search of the literature (Academic Search Premier, EBSCO, EconLit and PsycINFO, multi-source search) for studies published between 1887 and 2012 using the keywords personality, Big 5, neuroticism, extraversion, openness, agreeableness, conscientiousness,
transformational leadership, and performance. The first author also submitted a request for additional relevant or unpublished (to exclude the file drawer problem, which occurs often in research; Csada, James, & Espie, 1996; Rosenberg, 2005) material to the "Organizational Behavior Division Listserv" of the Academy of Management and contacted authors who had recently published in the area of the Big 5 and leadership. This search produced more than 1400 studies. We excluded theoretical and review articles and included studies in which the relationships between at least two of the variables were investigated and sufficient statistical data (correlations based upon independent samples; correlations were coded as effect sizes) were reported. Some articles included samples of different organizations or different countries (e.g., Piccolo, Bono, Heinitz, Rowold, Duehr, & Judge, 2012). In these cases, the samples were treated as separate studies.

In all, we used 58 (k) out of these studies for the meta-analytic review (see Appendix A for an overview of the included studies and Appendix B for the references). We included studies in which leaders' personality traits were either rated by the leaders themselves or by their followers. Personality traits were assessed with measurement instruments like the NEO-Five Factor Inventory (Costa & McCrae, 1992) or the HEXACO-PI-R (Ashton & Lee, 2008; De Vries, Lee, & Ashton, 2008). Furthermore, our analysis included studies in which the follower, the leader, or the superior provided ratings of transformational leadership behavior. The Multifactor Leadership Questionnaire (Avolio, Bass, & Jung, 1995) was the most commonly used measure of transformational leadership. For associations with the overall transformational leadership concept, we calculated effect sizes based on correlations with the overall transformational leadership score or aggregated the correlations using sub-dimensions of transformational leadership. In the latter case, we used the correlation between each of the leadership sub-
dimensions and the Big 5 (as well as leader performance) to calculate a composite correlation (Hunter & Schmidt, 1990). For instance, to calculate the correlation between overall transformational leadership and neuroticism for the study done by Antonakis and House (2004), we averaged the correlations of neuroticism with idealized influence, inspirational motivation, intellectual stimulation as well as individualized consideration. Leader performance was rated by followers, observers or superiors and was measured for instance by 360-degree feedbacks (Strang & Kuhnert, 2009); ratings of Management Performance Appraisal, a report which is conducted once a year for every leader; the in-role behavior 7-item scale of Williams and Anderson (1991); and items such as "How capable is the person you are evaluating as a leader?" (De Hoogh, Den Hartog, & Koopman, 2005).

The first author coded all the studies and resolved any ambiguities (i.e., rater leadership) regarding study inclusion or coding via consensus with her co-authors. Furthermore, inter-rater agreement on the coded variables (i.e., effect sizes) was assessed by an independent trained rater who coded 5% of the included studies. Inter-rater agreement was sufficiently high (93%).

Table 2.1 gives an overview of these characteristics and shows that most research was conducted in the United States and utilized a survey method. The samples comprised mainly male leaders and an equal number of male and female followers, who were on average younger than their leaders. Examining the context of the studies, our analysis showed that the studies were mostly conducted in business contexts, followed by university and army contexts. Furthermore, studies investigated their research question mostly at the individual or dyad level. The response rate of participation was high.
META-ANALYSIS: META-ANalytic STRUCTURAL EQUATIONS Modeling

TECHNIQUE

By the end of the last decade, most meta-analyses with correlational data investigated bivariate relationships only, despite the fact that many research questions require multivariate analyses (Schulze, 2007). One technique which allows the examination of such complex research questions and the testing of theoretical models is called meta-analytic structural equation modeling (MASEM). MASEM (Cheung, 2008; 2010; Cheung & Chan, 2005; 2009; Viswesvaran & Ones, 1995) is a combination of meta-analysis (Aguinis, Pierce, Bosco, Dalton, & Dalton, 2010; Hafdahl, 2007) and structural equation modeling (Hoyle, 1995), is one of the emerging techniques in statistical developments for meta-analyses (Schulze, 2007), and is one of the recommended practices put forward in psychological science’s new statistics guidelines (Cumming, 2014).

First, we meta-analyzed the correlation of all associations in order to create a pooled correlation matrix (i.e., correlations between neuroticism and transformational leadership, openness to experience and leader performance etc.). Next, we applied structural equation models to the obtained pooled correlation matrix in Mplus6 (Muthen & Muthen, 2002). We tested one model for each transformational leadership behavior (a) to assess whether conscientiousness predicts leader performance, (b) to test how the different transformational leadership behaviors are predicted by personality and (c) to conclude if and how the transformational leadership behaviors mediate the relationship between personality and leader performance (see Figure 2.1 for overall transformational leadership and Figure 2.2 for the sub-dimensions of transformational leadership). Additionally, we tested the combined model including the paths of all Big 5 personality traits on the four sub-dimensions of transformational leadership and their association with
performance in one model (Figure 2.3). This combined model examines how the transformational leadership sub-dimensions influences the interplay between leader personality and performance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean year publication</td>
<td>2005</td>
<td>5.39</td>
<td>1991</td>
<td>2012</td>
</tr>
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<td>Mean leader age</td>
<td>38.23</td>
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<td>Mean follower age</td>
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<td>9.11</td>
<td>19.00</td>
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<td>Mean leader male (%)</td>
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<td>23.23</td>
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<td>100.00</td>
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<tr>
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<td>53.93</td>
<td>24.95</td>
<td>8.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Mean response rate leader (%)</td>
<td>62.89</td>
<td>23.02</td>
<td>10.60</td>
<td>95.00</td>
</tr>
<tr>
<td>Mean response rate follower (%)</td>
<td>57.63</td>
<td>23.73</td>
<td>18.00</td>
<td>87.00</td>
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</tbody>
</table>

**Note.** In terms of the categorical variables, the numbers in the table represent the frequencies of reports on the variables. a The frequencies do not add to 58 because some studies did not provide this information.

MASEM enables the comparison of different models by estimating path coefficients and evaluating models using overall fit indicators. We followed the usual cutoffs of fit indices to evaluate the overall model fit (Kline, 2005, 2010). Acceptable overall model fit was concluded if the cutoff values for TLI and CFI were .95 or above, the values for RMSEA and SRMR were 0.05 or below, and model Chi-square to degrees of
freedom ratio below 3 (Vandenberg & Lance, 2000). In addition, we estimated the significance of the indirect effects of transformational leadership using confidence intervals (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2008).

RESULTS

We examined the sample-size weighted random effect sizes for the relationships between the Big 5 personality traits, the different transformational leadership behaviors and leader performance to use them as input in the subsequent SEM analyses. Table 2.2 reports the sample-size weighted correlations (r), and 95% confidence intervals. We found small but consistent positive relationships between leader performance and extraversion (r = .13), openness to experience (r = .13), conscientiousness (r = .16) as well as insignificant links to agreeableness (r = .07) and neuroticism (r = -.06).

Furthermore, the overall transformational leadership measure had a high positive relationship to leader performance (r = .49). The sub-dimensions of transformational leadership were all positively - but to varying degree - related to leader performance (idealized influence, r = .34; inspirational motivation, r = .44; intellectual stimulation, r = .55; individualized consideration, r = .47).

Contrary to our hypotheses, we found non-significant links between neuroticism and transformational leadership (r = -.08), idealized influence (r = -.03), inspirational motivation (r = .02), intellectual stimulation (r = .09), and individualized consideration (r = -.03). In line with our hypotheses, extraversion showed positive relationships with transformational leadership (r = .20), idealized influence (r = .19), inspirational motivation (r = .18) as well as insignificant links to intellectual stimulation (r = .08) and individualized consideration (r = .09). Openness to experience was positively related to transformational leadership (r = .20) and all its sub-dimensions (idealized influence, r =
.14; inspirational motivation, \( r = .19 \); intellectual stimulation, \( r = .15 \); individualized consideration, \( r = .19 \). The relationships between agreeableness and transformational leadership \( (r = .19) \), idealized influence \( (r = .20) \), inspirational motivation \( (r = .15) \), and individualized consideration \( (r = .15) \) were all positive and in line with our predictions. Furthermore, we obtained no effect of agreeableness on intellectual stimulation \( (r = .05) \).

Contrary to our hypothesis, we found a positive relationship between conscientiousness and transformational leadership \( (r = .16) \) as well as idealized influence \( (r = .08) \). Furthermore, the links between conscientiousness and inspirational motivation \( (r = -.01) \), intellectual stimulation \( (r = -.04) \), and individualized consideration \( (r = .02) \) were all insignificant and in line with our predictions.

Additionally, we tested the homogeneity of effect sizes (i.e., idealized influence and leader performance; neuroticism and transformational leadership etc.) with the Q-test statistic to analyze whether each effect size was consistent across the studies (see Hedges & Olkin, 1985). Our analysis showed the absence of homogeneity for the different relationships. However, no systematic moderator effects were found for method (i.e., rater of performance) and study variables (i.e., design, country). Furthermore, all subsequent SEM analyses were repeated using effect sizes corrected for unsystematic moderator influences and no differences in the results were found².

**HYPOTHESES TESTS**

Figures 2.1-2.3 show the models regarding the Big 5, the different transformational leadership behaviors and leader performance. In line with *Hypothesis 1*, we found that - above all leadership behaviors - leader performance was positively associated with conscientiousness. Overall, we obtained standardized path coefficients ranging from .09 to .18 for the conscientiousness- leader performance relationship.

²These results can be obtained from the corresponding author upon request.
Hypotheses 2-6 were concerned with the relationships between the Big 5 and the transformational leadership behaviors. Figure 2.1-2.2 show the standardized path coefficients for these relationships. Contrary to what was predicted in Hypothesis 2, neuroticism was positively related to inspirational motivation (H2c) and intellectual stimulation (H2d), whereas it was not related to the overall transformational leadership measure (H2a), idealized influence (H2b), and individualized consideration (H2e). In line with Hypothesis 3, we found positive relationships of extraversion with the overall transformational leadership measure (H3a), idealized influence (H3b), inspirational motivation (H3c), and intellectual stimulation (H3d) as well as no relationship with individualized consideration (H3e). In line with Hypothesis 4, openness had positive relationships with transformational leadership (H4a) and all its sub-dimensions (H4b-H4e). We could find also partial support for Hypothesis 5 showing that agreeableness was significantly positively related to overall transformational leadership (H5a), idealized influence (H5b), inspirational motivation (H5c), individualized consideration (H5e) and not related to intellectual stimulation (H5d). Finally and in line with our Hypothesis 6, conscientiousness was not related to idealized influence (H6b) and individualized consideration (H6e). In contrast to our hypothesis, we obtained a positive relationship between conscientiousness and the overall measure of transformational leadership (H6a) as well as negative relationships with inspirational motivation (H6c) and intellectual stimulation (H6d).

Hypothesis 7 was concerned with the mediating role of the different transformational leadership behaviors and has been assessed by evaluating different fit-indices. Model fits for the mediating models of the different leadership behaviors were very good for overall transformational leadership (RMSEA = .01; SRMR = .01; CFI = 1.00; TLI = 1.00; \( \chi^2 = 4.66, df = 4 \)), inspirational motivation (RMSEA = .04; SRMR = .01; CFI = 1.00; TLI = 1.00; \( \chi^2 = 14.83, df = 4 \)), idealized influence (RMSEA = .02; SRMR = .01; CFI = 1.00; TLI = 1.00; \( \chi^2 = 2.31, df = 4 \)), intellectual stimulation (RMSEA = .01; SRMR = .01; CFI = 1.00; TLI = 1.00; \( \chi^2 = 1.32, df = 4 \)).
.01; CFI = .99; TLI = .97; \( \chi^2 = 16.60, df = 4 \), and individualized consideration (RMSEA = .03; SRMR = .01; CFI = .99; TLI = .97; \( \chi^2 = 13.78, df = 4 \)) as well as good for idealized influence (RMSEA = .04; SRMR = .02; CFI = .97; TLI = .92; \( \chi^2 = 19.24, df = 4 \)) and intellectual stimulation (RMSEA = .05; SRMR = .02; CFI = .97; TLI = .91; \( \chi^2 = 26.75, df = 4 \)). Additionally, we tested the significance of the indirect effects for the different personality traits on leader performance via transformational leadership (overall and sub-dimensions). Table 2.3 provides an overview of the 95% confidence intervals for the different indirect effects. We found significant indirect effects on leader performance for extraversion, openness to experience, agreeableness, and conscientiousness via transformational leadership; for extraversion, openness to experience, and agreeableness via idealized influence; for neuroticisms, extraversion, openness to experience, agreeableness, and conscientiousness via inspirational motivation; for neuroticism, openness to experience, extraversion, and agreeableness via intellectual stimulation; and for openness to experience and agreeableness via individualized consideration. Thus, Hypothesis 7a (transformational leadership), 7b (idealized influence), 7c (inspirational motivation), 7d (intellectual stimulation), and 7e (individualized consideration) regarding the mediating role of leadership on the Big 5-leader performance relationship were supported.

Finally, we evaluated the interplay between personality, transformational leadership, and leader performance by simultaneously testing all sub-dimensions of transformational leadership by taking their intercorrelations into account (Figure 2.3). Table 2.2 shows the effect sizes between the transformational leadership sub-dimensions, which were highly positively. Figure 2.3 focuses on the leadership-performance links of the combined model (the Big Five- transformational leadership links were equivalent to the links tested in the separate models, see Figure 2.2). The model fit of this model was
very good (RMSEA = .04; SRMR = .01; CFI = 1.00; TLI = 1.00; $\chi^2 = 14.63, df = 4$).

Contrary to the separate models, we found that idealized influence was not significantly related to leader performance in the combined model.
Table 2.2. Meta-Analytic Review of Study Variables

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Note: Pf = leader performance; N = neuroticism; E = extraversion; O = openness to experience; A = agreeableness, C = conscientiousness; TFL = transformational leadership; II = idealized influence; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized consideration. \( r \) = pooled correlation. CI = confidence interval.

\( *p < .05 \)  \( **p \leq .001 \).
<table>
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<th>Variables</th>
<th>Neuroticism</th>
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<th>Openness</th>
<th>Agreeableness</th>
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<td>[.06, .10]</td>
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Figure 2.1. Model of the Effects of the Big 5 on Leader Performance mediated by Transformational Leadership.

*Note. Standardized path-coefficients are presented. *p < 0.05.
FIGURE 2.2. Models of the Effects of the Big 5 on Leader Performance mediated by the Transformational Leadership Sub-Dimensions.

Note: Standardized path-coefficients are presented. *p < 0.05.
Figure 2.3. Combined Model of the Effects of the Big 5 on Leader Performance mediated by the Transformational Leadership Sub-Dimensions.

Note. Standardized path-coefficients are presented. *p < 0.05.


**DISCUSSION**

Researchers been in disagreement about whether transformational leadership is a unitary or a multi-dimensional construct (Bycio et al., 1995; Carless, 1998; Tejeda et al., 2001; Tepper & Percy, 1994; van Knippenberg & Sitkin, 2013). Both ideas (i.e., unitary vs. multi-dimensional) have received support from previous research, making the effective quest for an answer crucial. The present meta-analysis intended to bring the field a step further in finding an answer to the question. Thereby, this meta-analysis contributes to previous work in a couple of ways. First, we answered the call made by van Knippenberg and Sitkin (2013) for the separate investigation of the different transformational leadership sub-dimensions. In line with our predictions, these sub-dimensions are indeed differentially related to the Big 5 personality traits. A simple combination of these sub-dimensions into one overarching construct might severely limit our understanding of the development and outcomes of leadership behaviors. This implies that combining the sub-dimensions of transformational leadership to an overall measure without a theoretical justification seems to be inappropriate (van Knippenberg & Sitkin, 2013). Second, we updated the work of Bono and Judge (2004) by examining all the sub-dimensions of transformational leadership and by including recent findings pertaining to the relevant constructs. This was necessary, because research designs have continuously improved since then (Judge and Piccolo, 2004), which might result in a more detailed outlook regarding the leadership behaviors and their relationships to antecedents and consequences.

**THEORETICAL AND PRACTICAL IMPLICATIONS**

**Personality and transformational leadership.** Our results provided insights in how the overall transformational measure and its sub-dimensions are related to the
different Big 5 personality traits. In line with our predictions, which were built on the reasoning by van Knippenberg and Sitkin (2013), it seems important to develop hypotheses on sound theory, rather than assuming that a high correlation between the different sub-dimensions warrants analyzing them as an overarching construct. This argument is supported by our findings revealing that transformational leadership and its sub-dimensions are predicted by different personality traits. For instance, in contrast to our hypothesis as well as the findings of Judge and Bono's (2004), neuroticism was positively related to inspirational motivation and intellectual stimulation, whereas no significant relationships were found between neuroticism and the other transformational sub-dimensions and the overall measure. Although the path-coefficients for inspirational motivation and intellectual stimulation were small, we were surprised about their direction. A possible theoretical explanation could be that because people who score high on neuroticism are insecure about the workplace or their tasks, they tend to be sensitive to contextual and interpersonal influences and therefore may give followers the opportunity to participate, making them relatively autonomous with regards to putting forward ideas and exhibiting tasks, so that the followers feel intellectually stimulated. People who actively give input in form of ideas and approaches, could maybe be seen as especially visionary, because they deliver a lot of new approaches and strategies to further develop team processes. Additionally, the provided autonomy and participation might instigate the idea that everyone is in this together, creating a stronger believe in and commitment to a vision.

Furthermore and in line with our hypotheses, extraversion was positively associated with the overall transformational leadership measure, idealized influence, inspirational motivation, and intellectual stimulation, whereas it was not related to
individualized consideration. Bono and Judge (2004) had no specific hypothesis regarding individualized consideration, but predicted a positive relationship of extraversion with overall transformational leadership. Our results showed that this procedure is suboptimal, because individualized consideration is not predicted by extraversion, whereas the other sub-dimensions are predicted by extraversion; therefore, the sub-dimensions should not be subsumed under one category considering differential dispositional antecedents. This finding might be explained by considering research on extraversion and narcissism, which showed that these constructs are positively related to each other (e.g., Emmons, 1984; Raskin & Hall, 1981; Vazire, Naumann, Rentfrow, & Gosling, 2008), implying that extraverted leaders might have the tendency to focus on themselves rather than being concerned about their followers or promoting good relationships.

Considering the findings regarding openness and its positive relationship to transformational leadership and all its sub-dimensions, we could conclude that openness to experience might be a very important in light of the emergence of transformational leadership, although we acknowledge that the effect sizes were relatively small (between .07 and .17). This is especially interesting in times when openness values are becoming increasingly important (Wanberg & Banas, 2000). People in organizations have to deal with topics that might require high openness – such as demographic change and globalization (Graen, Hui, & Taylor, 2006) – and research has shown that openness to change, which is highly correlated with openness to experience, is essential to meet these challenges (Seppälä, Lipponen, Bardi, & Pirttilä-Backman, 2012; Wanberg & Banas, 2000). Therefore, we call for a more in-depth examination of the openness-transformational leadership relationship, because we believe that both theory and practice could benefit from it.
As predicted, agreeableness is not related to all sub-dimensions in the same manner. The positive relationships to idealized influence, inspirational motivation, and individualized consideration are well understandable, because it is not difficult to imagine that kind, warm, and generous leaders will be liked, accepted as a role model, impress their vision in a positive way, and help followers when they are needed (Bono & Judge, 2004; Busch & Wilson, 1976; Hinkin & Schriesheim, 1989; Martin, 1978). In contrast to previous work, we predicted and showed that agreeableness and intellectual stimulation were not related to each other. This finding might be explained by the work showing that agreeable persons have a strong preference for cooperation and harmony, which could hinder critical exchange about perspectives and therefore, divergent thinking (Graziano et al., 1996; Van Kleef et al., 2010).

The strongest empirical evidence of our prediction for a distinct investigation of transformational leadership sub-dimensions was provided by the results pertaining to conscientiousness, which was previously believed to be positively related to all sub-dimensions as well as to the overall construct of transformational leadership. Based on theoretical argument with regards to conscientiousness, we proposed, however, that leaders who score higher on conscientiousness are very structured, do not make detours, and use rational instruments (Cable & Judge, 2003), so that they do not foster divergent thinking, will not especially care about their followers, and will not be very inspiring (Bono & Judge, 2004). Supporting this argument, we found no relationship between conscientiousness and idealized influence and individualized consideration. Moreover, conscientiousness was negatively related to inspirational motivation and intellectual stimulation. This shows that conscientious leaders and their structured and organized way of working are even worse for providing and
articulating a vision as well as to think "out of the box" than we had expected. The behaviors described in both sub-dimensions require a minimum amount of time to develop. However, leaders who are very structured, organized, and self-disciplined, might take less room and time to immerse in these behaviors, making the negative link understandable. Interestingly, considering the results regarding conscientiousness and the sub-dimensions of transformational leadership, it is striking that we found a positive relationship with the overall transformational leadership construct. To further examine this we performed some additional analyses in which we examined whether different operationalizations of the transformational leadership construct act as a potential explanation for these effects. We compared studies that reported the effect size between conscientiousness and an overall transformational leadership measure with studies that reported different sub-dimensions of transformational leadership, which we then combined into an overall transformational measure. We found that the combined measures of transformational leadership showed lower correlations ($r = .11$) than studies that used an overall transformational leadership measure ($r = .25$). These findings imply that the specific measure that is used influences the correlation between conscientiousness and transformational leadership. The question then becomes what the overall transformational leadership measure captures differently in contrast to a measure in which the sub-dimensions are combined. Future research should investigate what these measures capture and how they differ from those that measure overall transformational leadership, and whether these measurement differences can account for the differential effects between personality traits and sub-dimensions of leadership behaviors.

Summarizing, our findings stress that the differentiation between the different sub-dimensions of transformational leadership should become standard in leadership
research, because the transformational leadership sub-dimensions are differentially related to personality traits. As most studies and meta-analyses still operationalize this concept as an overall measure (Cavazotte et al., 2012; DeRue et al., 2011; Judge & Piccolo, 2004) this is an important aspect to take into account for future research. A clear illustration of the problems associated with combining the sub-dimensions into an overall construct, can be found in our findings regarding conscientiousness and its different effects on the sub-dimensions of transformational leadership. Future research using this separation-approach could provide a deeper understanding of transformational leadership and its nomological net which contributes to the development of a theory pertaining to which combinations of different sub-dimensions actually feed into an overall transformational leadership measure.

**Transformational leadership and leader performance.** We discussed the relationships between the Big 5 personality traits and the transformational leadership behaviors and will now give a short overview of the relationship between transformational leadership and leader performance. The findings regarding these relationships were in line with previous research and showed that transformational leadership had strong positive effects on leader performance (Dumdum et al., 2002; Judge & Piccolo, 2004). The effects sizes for the sub-dimensions of transformational leadership differ substantially, so that idealized influence showed the lowest and inspirational motivation the strongest impact. The difference between idealized influence and inspirational motivation was especially obvious when examining all Big 5 personality traits, all the sub-dimensions of transformational leadership, and leader performance together. We found that idealized influence was not significantly related to leader performance in the combined model and that inspirational motivation was the strongest predictor of leader performance. This difference is
especially interestingly, because both sub-dimensions have been seen as having the strongest conceptual overlap and as a result have often been combined into a charismatic leadership measure (e.g., Bono & Judge, 2004; van Knippenberg & Sitkin, 2013). Our findings imply that this practice should be reconsidered, as both sub-dimensions do not seem to produce coherent effects. However, theory and practice can be further advanced by focusing on the development of leadership behaviors, because we have seen that leadership behavior is a predictor for leader performance.

As stated by Avolio et al. (2003; see also Burke & Day, 1986), research has not found a training yet which results in effective management behavior. This could be a fruitful approach for further research. Understanding this would also contribute to practice, because organizations could start to further advance their development programs to get the best performing leaders.

**Personality, transformational leadership behaviors, and leaders' performance.** Previous research has seldom taken the perspective that personality can have direct as well as indirect effects on leaders' performance into account, whereas our theorizing proposed that both personality as well as leadership behaviors would affect leader performance. Taking our findings regarding the mediating hypotheses into account this prediction can be supported for some leadership behaviors. We found that transformational leadership, idealized influence, inspirational motivation, intellectual stimulation, and idealized consideration mediate the relationships between the Big 5 personality traits and leader performance. It would be worthwhile for further research to examine which other factors influence this process. In this respect, research regarding the Big 5 and performance has shown that some personality traits influence performance only under some conditions.
(Barrick & Mount, 1991; Tett et al., 1991). The same might be found for their indirect effects. For instance, is it likely that those Big 5 personality traits, which foster intellectual stimulation behavior, will be activated mostly in situations in which creativity is needed, or that individualized consideration behaviors are more strongly connected to personality traits rather in jobs in which it is necessary to care about people's needs.

**Personality and leader performance.** Finally, considering our findings regarding conscientiousness and leader performance, we could show that the direct effect of conscientiousness adds significantly to leadership behaviors in enhancing leaders' performance. Therefore, we argue that conscientiousness is highly important for leader success by influencing it more directly than indirectly through leaders' behavior. This finding is relevant both for theory and practice. Leaders who are structured, goal-oriented and work hard will be more likely evaluated as effective. Understanding the significance of focusing on some important distinct personality traits in the selection process could help organization to improve their often used traits-based procedures (e.g., Fulmer & Conger, 2004) to identify the best performing leaders (DeRue et al., 2011).

**Practical implications.** Organizations can approach their goal to have effective leaders from two directions - personnel selection and leadership training. These procedures and programs can be applied each by itself or of course also combined. The combination has the advantage that development programs can respond to each individual. Our meta-analysis showed that different personality trait combinations affected the transformational leadership sub-dimensions and these leadership sub-dimensions all had positive effects on leader performance. Therefore, there are several approaches to reach the goal of developing well performing leaders.
Development programs might consider first the personality of the leaders and focus then on the suitable leadership behavior. For instance, our meta-analysis has shown that openness and agreeableness are predictors of idealized consideration, so that leaders with high values in these personality traits might benefit from a training that focusses on individualized consideration elements, because they have this leadership behavior probably inherent, but it has to be activated.

LIMITATIONS AND STRENGTHS

Our meta-analysis has some limitations that should be noted. A meta-analysis is restricted to the numbers and qualities of studies which are available. Although our research aimed to study the sub-dimensions of transformational leadership (van Knippenberg & Sitkin, 2013), as we predicted differential effects for these dimensions, this limited the amount of studies we could incorporate in our meta-analysis. Therefore, we tested our hypotheses with a relative small sample of studies. The effect sizes for the Big 5 personality traits and the leadership behaviors were small (notably even smaller than in the meta-analysis of Bono and Judge, 2004). This could have been caused by the fact that other personality traits or possible antecedents are stronger predictors of transformational leadership than the Big 5 traits. However, because the Big 5 traits have consistently been found to relate to transformational leadership, and our findings again show similar effects, we are convinced that our research does give us important insights and brings the field further.

Furthermore and as mentioned above, it would be valuable to test how situational factors could influence the mediating models. Potential relevant situational factor could be the structure of work (Humphrey, Nahrgang, & Morgeson, 2007). For instance, it may be expected that leaders of assembly-line workers do not have to be
especially visionary or inspiring to be high performing, whereas in project teams, which deal with innovations, it should be good to have leaders who introduce divergent thinking as an asset for developing innovative and creative ideas. Other structural variables, which could be worthwhile to investigate, are requirements of the specific job, the time to work on specific tasks, and the organizational structure, such as the hierarchical levels or power distance. Furthermore, it could be also worthwhile to investigate the mediating role of leadership behavior besides transformational leadership theory, such as leader-member exchange, ethical leadership, or participative leadership. For instance, leader-member exchange (Graen, Novak, & Sommerkamp, 1982a) is likely to be affected by neuroticism and agreeableness, because the insecurity of neurotic leaders could inhibit the exchange between leaders and followers, whereas the kindness of more agreeableness leaders might foster leader-member exchange.

CONCLUSION

With this meta-analysis we intended to address the issue regarding the distinctiveness of the transformational leadership construct. We examined how the different transformational leadership sub-dimensions are influenced by the Big 5 personality traits and how they work as a mediator in the Big 5- leader performance relationship. Our results provide first meta-analytic evidence that it is important to take the different sub-dimensions into account separately, as we found differential dispositional antecedents and outcome relations. We hope that our findings motivate and inspire researchers to do more research into this field, to enable us to develop a novel theory regarding the origins of transformational leadership as well as in their effects on leader performance.
CHAPTER 3

EXAMINING THE MEDIATING ROLE OF LEADER-MEMBER EXCHANGE IN THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND DIFFERENT OUTCOMES

\[3\] I am particularly thankful to Diana Boer, Astrid Homan, and Sven Voelpel for co-authoring this manuscript. The paper is currently under review.
ABSTRACT

Researchers have recently proposed that transformational leadership is an essential antecedent of leader-member exchange, which is in turn an important underlying process by which transformational leaders can positively affect essential organizational outcomes (i.e., job satisfaction, performance). This meta-analysis provides a meta-analytic assessment of this mediational model that hypothesizes leader-member exchange as a mediator in the relationship between transformational leadership and various outcome measures. Importantly, we extend the mediational hypothesis and propose that the mediational impact of leader-member exchange will be stronger for relationship- vs. task-oriented outcomes, whereas the direct effect of transformational leadership will be stronger for task- vs. relationship-oriented outcomes. The results of this meta-analysis (k = 114) showed that leader-member exchange mediates the relationships between transformational leadership and job satisfaction, organizational commitment, and leader performance. Furthermore, the findings revealed that transformational leadership and leader-member exchange contributed differentially to the outcome measures, depending on the type of outcome. This research uncovers underlying processes of leadership effectiveness, integrates influential leadership theories, and highlights the importance of distinguishing between different outcome measures and the leadership processes facilitating them.

Keywords: Transformational leadership; Leader-member exchange; Job satisfaction, Organizational commitment; Leader performance
INTRODUCTION

Transformational leadership (TFL) has fundamentally influenced leadership research in previous years, and has instigated the increasing use of transformational coaching and training programs (Avolio, 1999; Bass, 1999; Eisenbeiss & Boerner, 2013; Hobman, Jackson, Jimmieson, & Martin, 2011; Tourish, Craig, & Amernic, 2010). The strong impact of TFL in organizations has resulted in an increase of research regarding how transformational leaders influence followers, teams, and organizations (see for a review van Knippenberg & Sitkin, 2013). Recently, researchers have proposed that positive interpersonal relations (leader-member exchange; LMX; Graen et al., 1982a) are one way by which transformational leader’s affect employees’ organizational outcomes.

Some preliminary studies support the mediating role of LMX (Dulebohn et al., 2012; Shushua, 2013; Wang et al., 2005). In our study, we provide not only a meta-analytical assessment of this mediational model, but extend it by investigating the differential influence of the two leadership concepts on relationship- vs. task-oriented outcome. In line with previous research (Dulebohn et al., 2012; Shushua, 2013; Wang et al., 2005), we predict that LMX is one underlying process by which TFL affects organizational outcomes positively. Transformational leaders instigate positive relationships with their followers by caring about, coaching, and mentoring them (Bass & Avolio, 1994). These positive interactions between leaders and followers are in turn supposed to lead to positive outcomes. However, the question is whether the strength of the LMX’ mediating effect is similar for different outcomes, or whether there are variations in the strength of this effect depending on the type of the outcome measure. Answering this question unravels an important puzzle about the relative contribution of two major leadership concepts on organizational outcomes with
different foci (relationship- vs. task-oriented).

We argue that LMX will not automatically affect different outcomes to a similar extent (Boerner, Eisenbeiss, & Griesser, 2007; Liu, Zhu, & Yang, 2010; van Knippenberg & Sitkin, 2013). In other words, whereas TFL might improve LMX, LMX might not be similarly related to different outcome variables. We therefore propose a differential impact model of TFL and LMX, in which we state that the relative contribution of TFL and LMX on the outcome measure depends on the type of outcome. More specifically, we predict that LMX is more relationship-oriented than is TFL (Deluga, 1994; Graen, 1976). Transformational leaders have a strong focus on providing a vision and on motivating team members to perform beyond expectations, rather than merely focusing on the one-to-one relationship with their followers (Bass & Riggio, 2006). Thus, depending on the degree to which the outcome variable of interest is relationship-oriented, TFL or LMX will be a stronger predictor of that outcome variable.

We will investigate our predictions by examining three different outcome measures: job satisfaction, organizational commitment, and leader performance. Employees' job satisfaction is defined as employees' affective reaction to a task, job, or project (e.g., Cranny, Smith, & Stone, 1992; Locke, 1969). Organizational commitment is characterized as the strength of identification with and a person's involvement in an organization (e.g., Porter, Steers, Mowday, & Boulian, 1974). Finally, leader performance is defined as leaders' abilities, skills, and achievement in a defined task (e.g., Fleishman, 1982; Fleishman & Quaintance, 1984). We propose that job satisfaction is the outcome variable, which is mostly connected to the relationship with the leader, followed by organizational commitment, and leader performance – which is more strongly related to the task achievement of the leader.
Based on relational leadership theory (Brower et al., 2000; Uhl-Bien, 2006), we hypothesize that job satisfaction is mainly influenced by positive relationships between followers and their leaders (i.e., LMX). These relationships are characterized by trust, support, and obligations (Brower et al., 2000; Graen & Uhl-Bien, 1995; Liden & Graen, 1980), rather than by TFL behaviors as such. Conversely, we propose that the identification and internalization processes that transformational leaders activate are relatively more predictive of organizational commitment than the positive relationships between followers and leaders. Finally, we predict that TFL is linked more directly to leader performance than linked indirectly via LMX. In this respect, we propose that the indirect effect of TFL via LMX is even less strong for leader performance than for organizational commitment, because leader performance is less related to the relational basis of LMX than organizational commitment is.

**Transformational Leadership Theory**

TFL is a particular effective form of leadership (Bass, 1999; Burns, 1978; Dumdum et al., 2002; Hobman et al., 2011; Judge & Piccolo, 2004), predicting positive outcomes, such as job satisfaction, commitment, and leader performance (Avolio & Bass, 2004; Bass, 1985; Bass & Riggio, 2006; Judge & Piccolo, 2004; Kark & Shamir, 2002; Kearney & Gebert, 2009; Korek, Felfe, & Zaepnerick-Rothe, 2010). Various studies and meta-analyses have supported the positive relationship between TFL and job satisfaction (De Groot et al., 2000; Dumdum et al., 2002; Judge & Piccolo, 2004; Lowe et al., 1996), organizational commitment (De Groot et al., 2000; Rai & Sinha, 2000), and leader performance (Cavazotte et al., 2012; De Groot et al., 2000; Judge & Piccolo, 2004). Transformational leaders thus have a great impact on organizational outcomes. Consequently, TFL is seen as the most influential leadership behavior and proposed to be superior to other leadership behaviors, such as
transactional leadership, or laissez-faire leadership (Bass et al., 2003; Howell & Avolio, 1993; Judge & Piccolo, 2004; Kearney & Gebert, 2009; Lowe et al., 1996).

**LMX and the TFL-outcome relationship.** The LMX theory of leadership focuses on the one-to-one relationships between leaders and followers (Cogliser & Schriesheim, 2000; Schyns et al., 2010). The main principle of LMX is that leaders develop different relationships with their followers, whereby these are not equal in quality for all followers (Gerstner & Day, 1997). More specifically, leaders develop different quality relationships with different subordinates, which can range from low to high-quality LMX (Graen, 1976). Low-quality LMX relationships are defined by routine follower performance, leader's exercise of formal authority, and a feeling of unfairness among followers (Bass, 1990). Followers receive ordinary and standard organizational benefits in return (Graen, 1976; Yukl, 2013). In contrast, high-quality LMX relationships are characterized by mutual trust, support (Liden & Graen, 1980), interpersonal attraction (Danserau et al., 1975), obligations (Graen & Uhl-Bien, 1995), and conscientious followers (Liden & Graen, 1980). Followers receive beneficial rewards in the form of promotion or satisfying positions (Graen & Uhl-Bien, 1995) if they perform favorably.

Based on previous reasoning, we argue that transformational leaders are especially competent in creating positive relationships between themselves and their followers (Bass & Avolio, 1994; Deluga, 1992; Wang et al., 2005). Transformational leaders demonstrate high ethical and moral standards, consider individual needs and feelings, and would never criticize their followers in public (Avioilo & Bass, 2004; Bass, 1985; Bass & Riggio, 2006; Kearney & Gebert, 2009; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). As a result of these behaviors exhibited by transformational leaders, their followers are likely to feel appreciated and feel safe,
which will in turn result in positive relationships between followers and their leaders.

Based on relational leadership theory (Brower et al., 2000; Uhl-Bien, 2006), we argue that these relationships between followers and their leaders influence how followers experience their work. If the quality of the relationships between followers and leaders is high, this results in high job satisfaction of followers and vice versa. Furthermore, high-quality relationships between followers and leaders might also promote followers’ commitment to the organization. If followers have positive experiences with their work, they are likely to be more willing to cooperate in order to make a positive contribution to the work context (Podsakoff et al., 1990), which will become visible in the followers’ high organizational commitment. Moreover, not only followers invest in such a relationship, but also transformational leaders invest strongly in their relationships with their followers by, for instance, caring about them, coaching them when needed, and providing a vision (Bass & Riggio, 2006; Maslyn & Uhl-Bien, 2001). If transformational leaders experience high-quality relationships with their followers, they are also likely to benefit from these good experiences by performing well (Cogliser, Schriesheim, Scandura, & Gardner, 2009). We thus suggest that transformational leaders indirectly influence followers’ job satisfaction, organizational commitment, and their own performance by establishing high quality relationships between themselves and their followers:

*Hypothesis 1: LMX mediates the relationships between TFL and job satisfaction (H1a), organizational commitment (H1b), and leader performance (H1c).*

**Disentangling the relative contributions of leadership: The differential impact model.** Additionally, we propose that despite the mediating role LMX in the TFL-outcome link, these two leadership behaviors are related to outcomes via theoretically separate processes, depending on the type of outcome measure. For
instance, transformational leaders focus on providing a common vision, on identification and internalization processes, on role modeling processes, and on processes that enhance followers’ self-worth (Avolio & Bass, 2004; Bass & Riggio, 2006). Transformational leaders behave in this way to achieve common goals, such as becoming the best performing team, or staying competitive in the day-to-day business. In contrast, LMX focuses more on the development of high-quality relationships with followers (Danserau et al., 1975; Deluga, 1994; Graen, 1976). In turn, these high quality relationships might result in favored outcomes (Bass, 1990). We thus propose that despite their conjoint impact on outcomes (as proposed in Hypothesis 1), a differentiated impact of these behaviors on outcomes can be predicted. Disentangling those conjoint vis-à-vis distinct effects enables novel theoretical insights into leadership processes. We therefore propose the differential impact model of TFL and LMX, arguing that LMX will play a more important role in the TFL - outcome relationship for outcome variables that are more relationship-related.

As a result, we predict that for job satisfaction, the indirect effect of TFL via LMX is stronger than the direct effect of TFL. Job satisfaction can be characterized as followers’ evaluation or experience with their job. These evaluations or experiences of followers are influenced by their immediate leaders (Dulebohn et al., 2012; Ferris, Liden, Munyon, Summers, Basik, & Buckley, 2009; Uhl-Bien & Maslyn, 2003). More specifically, relational leadership researchers state that the quality of the relationships between leaders and followers (i.e., LMX) is critical for the way followers experience their work (Brower et al., 2000). Therefore, we predict that effect of TFL on followers' positive evaluation of their job satisfaction is likely to be driven by LMX rather than by the direct effect of TFL, because TFL is more broadly
focused on achieving a goal than only on followers’ experience with their work.

Conversely, we suggest that the identification and internalization processes which transformational leaders activate the vision that they provide contribute relatively more to organizational commitment than the positive relationships between followers and leaders. High-quality relationships between leaders and followers do not automatically promote followers’ commitment to the organization, because these relationships are more focused on the one-to-one relationships between leaders and followers (Graen et al., 1982a) than on followers’ relationships with the entire organization. Therefore, LMX does not automatically influence commitment to the organization, but rather commitment to leaders. Organizational commitment is likely to result directly from the belief in a vision which transformational leaders provide, such as that all of the organization’s employees want to reach a common goal.

Finally, we predict that TFL has a stronger direct contribution on leader performance than indirectly via LMX. Transformational leaders provide visions and goals for their followers, create expectations that they want to meet, stimulate and inspire them to perform beyond expectations, and offer different problem-solving strategies as well as discuss openly ideas with their followers to foster their creativity and innovativeness (Avolio & Bass, 2004; Bass & Riggio, 2006). Furthermore, transformational leaders act as a role model, allowing followers to orient themselves to their leaders’ behavior. This implies that transformational leaders may behave in a favorable way, for instance, by solving problems in different ways or working hard to meet the agreed expectations. In turn, this might lead to high performance of the leaders themselves. Thus, the TFL behavior will contribute more to leader performance, rather than the positive relationship with their followers. Furthermore, we propose that the direct effect of TFL on leader performance might be stronger than
TFL’s direct effect on organizational commitment and job satisfaction, because leader performance is relatively more task related than relationship related, and should thus benefit less from LMX than job satisfaction and organizational commitment. To summarize, we predict that the influence of TFL and LMX on outcome measures depends on the type of outcome measure to the extent that the indirect influence of TFL via LMX is stronger (compared to the direct effect of TFL) to the degree in that the outcome measure is more relationship-oriented (i.e., creating the following order: job satisfaction, commitment, and leader performance):

*Hypothesis 2: The relative strength of the mediating role of LMX in the relationship between TFL and outcomes is the strongest for job satisfaction, followed by organizational commitment, and leadership performance (H2a), whereas the direct effect of TFL on job satisfaction is the weakest, followed by organizational commitment, and leadership performance (H2b).*

**METHODS**

**IDENTIFICATION AND SELECTION OF STUDIES**

Three different approaches were used to identify relevant articles. First, we searched for studies between 1990 and 2012 in computerized databases (multi-source search), using the key word *leader*. Within electronic databases (Academic Search Premier, EBSCO, EconLit, and PsycINFO), we looked for relevant papers from eight leading journals in the field of leadership, management, and organizational behavior (Academy of Management Journal, Administrative Science Quarterly, British Journal of Management, Journal of Applied Psychology, Journal of Organizational Behavior, Leadership Quarterly, Organization Science, Organizational Behavior and Human Decision Processes). Second, the first author submitted a request for additional
relevant or unpublished material to the Academy of Management's 'Organizational Behavior Division Listserv'. Finally, we contacted authors who had recently published in the area of TFL and LMX. This search produced 945 studies. We excluded theoretical and review articles and included studies in which the relationships between at least two of the variables were investigated and in which sufficient statistical data (correlations based on independent samples; correlations were coded as effect sizes) were reported. Some articles included samples of different organizations or different countries (e.g., Boer et al., 2012). In these cases, the samples were treated as separate studies.

In total, we used 114 \((k)\) of these studies for the meta-analytic review (see the supplementary material for the references of the included studies). The sample size for the effect sizes of the study variables varied from 377 to 11276, which produced a total \(N\) of 56775. We decided to limit the search period for the journals specified above to the years 1990-2012 and use eight leading journals in the field, because this process produced a large number of samples with a total \(N\) of 56775. We decided to base our analyses on this sample obtained with these relatively narrow inclusion criteria, because this already resulted in a very extensive sample. Moreover, there is no theoretical argument why including other journals or earlier time periods should result in finding different correlations or relationships (Van der Linden, Te Nijenhuis, & Bakker, 2010).

Our analysis included studies in which the follower, the leader, or the superior provided ratings of leadership behavior. The Multifactor Leadership Questionnaire (Avolio et al., 1997) is the most commonly used measure of leadership behaviors. To calculate the overall measure of TFL, we calculated effect sizes based on correlations with the overall TFL score or aggregated the correlations using sub-dimensions of
In the second case, we used the correlation between each of the leadership dimensions and LMX (as well as job satisfaction, organizational commitment, and leader performance) to calculate a composite correlation (Hunter & Schmidt, 1990). For instance, to calculate the correlation between the overall TFL measure and organizational commitment for the study by Barling, Weber, and Kelloway (1996), we averaged the correlations of organizational commitment with charisma, intellectual stimulation, as well as individualized consideration. Followers' perception regarding the quality of LMX was usually assessed using the LMX-7, a seven-item five-point Likert-type measure (Scandura & Schriesheim, 1994); the four-item LMX scale that Graen and Schiemann originally developed (1978; see also Graen, Liden, & Hoel, 1982b); and the 12-item multidimensional measure of LMX (LMX-MDM; Liden & Maslyn, 1998).

In addition, our analysis included studies in which followers' job satisfaction and organizational commitment was assessed as well as the performance of the leader. Employees' job satisfaction was measured, for instance, by items such as "Generally speaking, I am very satisfied with this job" (Spector, 1997, see also Warr, Cook, & Wall, 1979). The affective commitment scale by Meyer and Allen (1997) was mostly used to obtain organizational commitment (e.g., Redman & Snape, 2006; Strauss, Griffin, & Rafferty, 2009). Leader performance was rated by leaders themselves, followers, observers or superiors and was measured, for instance, by the number of errors in a special task; the in-role behavior, 7-item scale by Williams and Anderson (1991); and items such as "Compared to others, how would you rate your supervisor's overall performance? " (Naidoo, Kohari, Lord, & DuBois, 2010).

The first author coded all the studies and resolved any disagreements or ambiguities (i.e., rater performance) regarding including studies and the coding via
consensus with her co-authors. Additionally, the inter-rater agreement on the variables (i.e., effect sizes, sample characteristics) was assessed by an independent trained rater 5% of the coded studies and resulted in an agreement of 97%.

Table 3.1 gives an overview of these characteristics and shows that most of the research was conducted in the United States and used cross-sectional survey methods. The samples mainly comprised male leaders and an almost equal number of male and female followers. The participants' response rate was high.

**TABLE 3.1. Summary of Study Characteristics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>SD</th>
<th>M</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean year publication</td>
<td>2004</td>
<td>5.52</td>
<td>1990</td>
<td>2012</td>
</tr>
<tr>
<td>Mean leader age</td>
<td>40.84</td>
<td>5.58</td>
<td>27.70</td>
<td>53.05</td>
</tr>
<tr>
<td>Mean follower age</td>
<td>35.48</td>
<td>6.86</td>
<td>19.00</td>
<td>46.60</td>
</tr>
<tr>
<td>Mean leader male (%)</td>
<td>64.98</td>
<td>24.46</td>
<td>6.00</td>
<td>100</td>
</tr>
<tr>
<td>Mean follower male (%)</td>
<td>52.77</td>
<td>21.71</td>
<td>3.00</td>
<td>100</td>
</tr>
<tr>
<td>Mean response rate leader (%)</td>
<td>68.18</td>
<td>22.03</td>
<td>22.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Mean response rate follower (%)</td>
<td>61.23</td>
<td>20.91</td>
<td>16.70</td>
<td>97.00</td>
</tr>
<tr>
<td>Country</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of study</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>13</td>
<td></td>
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<tr>
<td>Level</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Individual, dyad</td>
<td>101</td>
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</tr>
<tr>
<td>Group</td>
<td>13</td>
<td></td>
<td></td>
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<tr>
<td>Design</td>
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<td></td>
</tr>
<tr>
<td>Cross-sectional</td>
<td>98</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Longitudinal</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: In respect of categorical variables, the numbers in the tables represent frequencies of reports on the variables.*

*The frequencies do not add up to 114 because some studies did not provide this information.*
META-ANALYSIS: META-ANALYTIC STRUCTURAL EQUATIONS
MODELING TECHNIQUE

To test our hypotheses that LMX mediates the relationships between TFL and job satisfaction (H1a), organizational commitment (H1b), and leader performance (H1c), and that the relative contribution of TFL and LMX to the outcome measures depends on the type of the outcome measure (H2a and H2b), we used meta-analytic structural equation modeling (MASEM; Cheung, 2008; 2010; Cheung & Chan, 2005; 2009; Viswesvaran & Ones, 1995). MASEM is a procedure which enables researchers to test theoretical models, although not all the relationships that the theory specifies are included in each primary study (Viswesvaran & Ones, 1995). For example, one study may highlight the relationship between TFL, LMX, and leader performance, while another study focuses on LMX and job satisfaction. MASEM allow us to combine these correlations and to estimation the true score correlations of the relationships between TFL, LMX, and the outcome variables (Dulebohn et al., 2012).

In a first step, we meta-analyzed the correlation of all the associations to create a pooled correlation matrix (i.e., correlations between TFL and leader performance, LMX and job satisfaction, etc.). Next, we applied structural equation models to the obtained pooled correlation matrix in Mplus6 (Muthen & Muthen, 2010). The three mediation hypotheses were construed as indirect effects in order to test the significance of TFL's indirect effect on the three outcome measures (MacKinnon et al., 2002; Preacher & Hayes, 2008). Additionally, in order to evaluate the relative contribution of TFL vs. LMX, we assessed the overlapping of the indirect effect confidence intervals and tested the individual strengths of the path coefficients between the leadership behaviors and the three outcome measures, using the Wald Chi² test (Muthen & Muthen, 2010; Wald, 1943). To conduct these analyses, we used
the harmonic mean of the sample size as recommended by Landis (2013; \( N = 1847 \)).

**RESULTS**

We examined the weighted random effect sizes of the leadership behaviors and outcome variables and reported the number of studies per relationship \((k)\), the sample sizes of the studied leadership measures and outcome variables \((N)\), the sample-weighted correlations \((r)\), and the 95% confidence interval (see Table 3.2). We found a positive effect size between TFL and job satisfaction \((r = .42)\), organizational commitment \((r = .42)\), and leader performance \((r = .40)\), as well as between LMX and job satisfaction \((r = .48)\), organizational commitment \((r = .37)\), and leader performance \((r = .22)\). Furthermore, a positive correlation was obtained between TFL and LMX \((r = 0.71)\).

Furthermore, we tested the homogeneity of the different relationships between the study variables (i.e., LMX and organizational commitment) with the Q-test statistic to test whether each effect size was consistent across the studies (see Hedges & Olkin, 1985). Our analysis showed the absence of homogeneity for the different relationships. However, no systematic moderator effects were found for method (i.e., measurement instrument of TFL) and study variables (i.e., design, type). Furthermore, all analyses were repeated using effect sizes corrected for unsystematic moderator influences and no differences in the results were found.
TABLE 3.2. Meta-analytic Review of the Different Relationships Between the Study Variables

<table>
<thead>
<tr>
<th></th>
<th>k</th>
<th>N</th>
<th>r</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMX &lt;-&gt; Pf</td>
<td>3</td>
<td>377</td>
<td>.22</td>
<td>[-.31, .74]</td>
</tr>
<tr>
<td>LMX &lt;-&gt; Js</td>
<td>34</td>
<td>8020</td>
<td>.48</td>
<td>[.43, .53]</td>
</tr>
<tr>
<td>LMX &lt;-&gt; Co</td>
<td>28</td>
<td>6219</td>
<td>.37</td>
<td>[.33, .41]</td>
</tr>
<tr>
<td>TFL &lt;-&gt; Pf</td>
<td>22</td>
<td>6278</td>
<td>.40</td>
<td>[.29, .51]</td>
</tr>
<tr>
<td>TFL &lt;-&gt; Js</td>
<td>25</td>
<td>11276</td>
<td>.42</td>
<td>[.35, .50]</td>
</tr>
<tr>
<td>TFL &lt;-&gt; Co</td>
<td>23</td>
<td>7834</td>
<td>.42</td>
<td>[.36, .47]</td>
</tr>
<tr>
<td>LMX &lt;-&gt; TFL</td>
<td>5</td>
<td>801</td>
<td>.71</td>
<td>[.62, .80]</td>
</tr>
<tr>
<td>Pf &lt;-&gt; Js</td>
<td>6</td>
<td>3947</td>
<td>.62</td>
<td>[.48, .76]</td>
</tr>
<tr>
<td>Pf &lt;-&gt; Co</td>
<td>3</td>
<td>2005</td>
<td>.20</td>
<td>[-.03, .43]</td>
</tr>
<tr>
<td>Js &lt;-&gt; Co</td>
<td>21</td>
<td>10018</td>
<td>.54</td>
<td>[.46, .62]</td>
</tr>
</tbody>
</table>

Note. LMX = leader-member exchange; Pf = leader performance; Js = job satisfaction; Co = organizational commitment; TFL = transformational leadership; k = number of studies; N = combined sample size; r = sample-weighted correlation; 95% CI = 95% confidence interval.

HYPOTHESIS TEST

In order to test the hypothesis that TFL has an indirect effect via LMX on job satisfaction (H1a), organizational commitment (H1b), and leader performance (H1c), we evaluated the significance of the indirect effect. The 95% confidence interval regarding the indirect effect of TFL on job satisfaction via LMX showed the significance of the indirect effect [.31, .37]. Furthermore, we obtained significant indirect effects of TFL for organizational commitment [.23, .30] and leader performance [.12, .19]. Therefore, Hypothesis 1 is supported.
In order to test the hypothesis that the relative contribution of TFL and LMX on the outcome measures depends on the outcome measure type, we assessed the overlapping of the indirect effect confidence intervals. The differences in the strength of the indirect effects via LMX would be confirmed if the confidence intervals for the different outcome variables do not overlap. In our analysis, the three 95% confidence intervals show no overlap, supporting that TFL has the strongest indirect effect via LMX on job satisfaction, followed by organizational commitment, and then leader performance. This provides support for Hypothesis 2a. To validate these results, we tested the strengths of the individual relationships between the leadership behaviors and the outcome measures with the Wald Chi² test (Muthen & Muthen, 2010; Wald, 1943). The relative contribution, which is shown in the standardized path coefficients, of TFL ($\beta = .16$) on job satisfaction is significantly lower than the effect of LMX ($\beta = .37; \chi^2 = 15.20, df = 1, p < .001$). Furthermore, the relative contribution of TFL ($\beta = .32$) on organizational commitment is significantly higher than the effect of LMX ($\beta = .15; \chi^2 = 9.76, df = 1, p = .01$). In addition, the relative contribution of TFL ($\beta = .49$) on leader performance is significantly higher than the influence of LMX ($\beta = -.13; \chi^2 = 123.91, df = 1, p < .001$). Finally, the direct effect of TFL on leader performance is significantly higher than the influence of TFL on organizational commitment ($\chi^2 = 17.83, df = 1, p < .001$). Thus, Hypothesis 2b is also supported.

**DISCUSSION**

The aim of this study was to investigate the nature of the mediating role of LMX on the TFL-outcomes relationships. Previous studies showed that TFL affects job satisfaction and follower performance indirectly via LMX (e.g., Dulebohn et al., 2012; Shusha, 2013; Wang et al., 2005). Indeed, our findings showed that LMX acts
as a mediator in the TFL-organizational outcomes relationships. However, we qualified this reasoning by showing that depending on the foci of the outcome the mediator function of LMX varies in its strength (e.g., Kark, Shamir, & Chen, 2003). Moreover, it supported our reasoning that TFL will have a stronger direct effect on some outcomes than on others. The present meta-analysis therefore contributes to previous work by providing a first meta-analytic test regarding the importance of outcome differentiation in investigating leadership processes. In line with our prediction, we found that to the degree that the outcome variables become more distant from the positivity of the relationship between leader and follower, the relative contribution of the direct effect of TFL compared to the indirect effect of TFL via LMX becomes stronger. Similarly, to the extent that the outcome measure is more relationship-oriented, the indirect effect of TFL via LMX is a stronger predictor than TFL alone. These finding stress the importance of distinguishing between outcome variables to gain a better understanding of the processes via which TFL influences followers, teams, and organizations.

THEORETICAL IMPLICATIONS

Our results provided insights into how transformational leaders influence followers and themselves. Although it has been stressed that LMX plays an essential mediating role for critical organizational outcomes (Dulebohn et al., 2012), previous empirical research has rarely tested the role of LMX as a mediator of the TFL-outcome relationship (for exceptions see Shusha, 2013; Wang et al., 2005). In line with these few studies, our findings support the reasoning that LMX acts as a mediator in the relationships between TFL and job satisfaction, organizational commitment, and leader performance. These findings can be explained by building on relational leadership research, which states that the relationships between leaders and
followers, and the perception of these relationships, determine critical organizational outcomes (e.g., Brower et al., 2000; Cogliser et al., 2009; Maslyn & Uhl-Bien, 2001).

However, our findings also confirmed that we should not imply that the mediating role of LMX is equally strong for each relationship between TFL and different outcomes. In line with our predictions, we found that TFL and LMX have differential effects on the three outcome variables of interest. In line with previous reasoning (e.g., Boerner et al., 2003; van Knippenberg & Sitkin, 2013), our findings stress the importance of building hypotheses on sound theory, rather than assuming that the positive effects of TFL are always similarly driven by positive relationships between leaders and followers (i.e., LMX). Notwithstanding, LMX is an important mediator in the TFL-outcome relationships. However, the strength of the LMX mediating process depends on the type of outcome measure. Our findings show that job satisfaction is more strongly influenced by the indirect effect of TFL via LMX than by TFL's direct effect, probably because relationships are an important key factor in how followers experience their work situation (Brower et al., 2000). Conversely, the direct effect of TFL contributes more to organizational commitment than the indirect effect of TFL via LMX. Theoretically, this makes sense because the identification and internalization processes that will be activated by transformational leaders are more essential for promoting followers' organizational commitment than positive relationships between followers and leaders. Similarly, we found that the direct effect of TFL contributes more to leader performance than its indirect effect via LMX. This is plausible, because positive relationships between followers and leaders are likely to be relatively less important than TFL behavior for leader performance. Transformational leaders act as role models for their followers by demonstrating the
desired behavior that makes them behave in a favorable way, allowing their performance to increase.

Furthermore, we found that the indirect effect of TFL via LMX becomes weaker to the degree that the outcome variable becomes relatively less relationship-oriented. That is, the indirect effect is the least strong for leader performance, followed by organizational commitment and, finally, job satisfaction. In this respect, we proposed that LMX is closer to organizational commitment than to leader performance, because identification with the leader might be stronger linked to the relationships between leaders and followers than the proposed role-modeling behavior that assumable drives the effects of leader performance. In conclusion, these findings support the differential impact model of TFL and LMX and contribute to theory development by showing that LMX plays a different strong role in explaining the effects of TFL on various outcomes. Our findings thus not only qualify theorizing pertaining to the processes by which TFL influences important outcomes, they also stress the need for researchers to acknowledge the high importance of the differentiation of the outcome by investigating leadership processes.

LIMITATIONS, FUTURE RESEARCH, AND PRACTICAL IMPLICATIONS

Our meta-analysis has limitations that should be noted and which might provide guidance for future research. First, we did include studies from only eight journals in the field of leadership, management, and organizational behavior (Academy of Management Journal, Administrative Science Quarterly, British Journal of Management, Journal of Applied Psychology, Journal of Organizational Behavior, Leadership Quarterly, Organization Science, Organizational Behavior and Human Decision Processes). However, this strategy resulted in an extensive sample with a total N of 56775. Furthermore, these journals are the top ones in their field and, thus,
the quality of studies should be ensured. Moreover, Van der Linden and colleagues (2010) state that there is no theoretical argument why including other journals should result in finding different correlations or relationships. Together, we are confident that our approach is appropriate and that the including of other journals would not yield other results.

Second, although our goal was to examine how LMX mediates the relationships between TFL and different outcomes in general, it would be valuable to test how situational factors influence the proposed relationships. The structure of work could be a potential relevant situational factor (Humphrey et al., 2007). For instance, work under time pressure could influence the link between TFL, LMX, and outcomes. Transformational leaders who have to work under time pressure might not have the time to build high-quality relationships, or to consider each of their followers' needs, which could result in a weaker relationship between TFL and LMX. This might in turn affect more relationship-oriented outcomes mostly negatively. Similarly, diversity has been found to interact with TFL (Kearney & Gebert, 2009; Shin & Zhou, 2007). In diverse teams, the relational qualities of TFL may play a specifically crucial role, making the mediating role of LMX more prevalent in more diverse rather than in more homogeneous teams. Other structural variables worthwhile investigating could be the requirements of a specific job, the type of the task, and the organizational structure.

In addition, it could be valuable to examine other outcome measures beside the examined ones, such as trust in the leader, conflicts within the team, creativity, and job motivation. For instance, it is possible that the direct influence of TFL on creativity could be stronger than the effect of TFL via LMX, because transformational leaders stimulate interactions between followers, which might push followers to
develop creative and innovative ideas, whereas positive relationships between leaders and followers might not especially promote followers' creativity. Again, we propose that depending on whether the outcome variable is more relationship- or task-focused, the relatively direct influence of TFL vs. the indirect influence of TFL via LMX becomes more important.

Within this paper, we focused on the broad concept of TFL by examining the underlying behaviors used to influence followers as a composite score (Yukl, 2013). Although previous research on TFL has often distinguished four dimensions of behaviors that together constitute TFL (i.e., idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration; Avolio & Bass, 2004), these sub-dimensions of TFL are often highly intercorrelated, and therefore difficult to distinguish (Yukl, 2013). Even though we are confident that our composite approach is the most relevant and appropriate one in the present meta-analysis, we do acknowledge that the different sub-dimensions of TFL might be more or less strongly related to LMX. For instance, individualized consideration - defined as providing support, encouragement and coaching to subordinates - is likely to be more strongly related to LMX as well as relationship-focused outcomes, than, for instance, intellectual stimulation, which is characterized as increasing followers' awareness of problems and making them view problems from a different perspective.

Additionally, our results indicate that transformational leaders might not only be effective by enhancing high quality relationships. Therefore, it would be worthwhile for future research to investigate other variables which might mediate the relationships between TFL and outcomes. These could include identification, internalization, task motivation, and role-modeling processes that transformational leaders are likely to initiate or carry out. Examining these processes would also help
organizations improve their developing and training programs, because when these processes are discovered, organizations could, besides working on LMX enhancing strategies, work on TFL strategies that influence followers, teams, and organizations in other ways.

We believe that our findings also have other relevant implications for organizations, because they suggest that TFL behaviors might enhance the quality of the relationships between followers and leaders. Relatedly, our findings revealed that leaders should, depending on the outcome variable of interest, focus more on TFL or LMX strategies. LMX strategies are likely to enhance relationship-based outcomes, such as job satisfaction, more than TFL strategies. Similarly, TFL strategies that focus on role-modeling will likely promote the improvement of task-related outcomes, such as leader performance, more than LMX strategies. In conclusion, both leadership behaviors are important for organizations and should thus be a part of development programs for leaders. However, research has not yet found a training that effectively teaches leaders to develop high quality relationships, or to apply TFL strategies. This could be a fruitful objective for further research.

CONCLUSION

It has recently been suggested that LMX acts as the process by which transformational leaders influence followers' job satisfaction, organizational commitment, and their performance. The present study provides the first meta-analytic evidence that the relative contribution of TFL and LMX varies, depending on the type of outcome. This implies that distinguishing between different kinds of outcomes when investigating how TFL influences critical organizational outcomes is highly important for theory development. We hope that our findings will motivate and inspire researchers to continue doing research in this field, and to develop stronger
and novel theories on the processes via which transformational leaders affect organizations, and how this knowledge can be applied to organizations.
CHAPTER 4

MANAGING DIVERSITY:
THE ROLE OF LEADER'S BEHAVIORS AND BELIEFS\(^4\)

\(^4\) I am particularly thankful to Astrid Homan and Sven Voelpel for co-authoring this manuscript. The paper is currently under review.
ABSTRACT

Teams are often composed of people from many different nationalities. In order to meet current challenges in day-to-day business, team members must work together effectively and not experience the potential disadvantages of their team's diversity. How can organizations tap the full potential of diverse teams? We suggest that transformational leadership alone and together with leaders' diversity beliefs influence anticipated affective, relational, and task-related team outcomes positively. To test our hypotheses we utilized a scenario study and an experiment, which supported our prediction that transformational leadership promotes the positive effects of diversity and dampens the negative effects. For instance, participants working in a diverse team that a transformational leader led, produced more ideas in an idea generation task than those working in a homogenous team, or those who a non-transformational leader led. Furthermore, we found a three-way interaction effect between diversity, transformational leadership, and diversity beliefs on subgroup perceptions, showing that depending on the leader's beliefs, transformational leadership had relatively positive or negative effects on the degree to which the participants perceived their group to consist of subgroups.

Keywords:
Nationality diversity; Transformational leadership; Diversity beliefs
INTRODUCTION

Nationality diversity and is a highly relevant topic at all organizational levels (Dahlin et al., 2005) and describes the degree to which team members’ differ in their nationality background, (van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007; Williams & O’Reilly, 1998). Besides nationality diversity becoming more prevalent in organizations, nationality diverse teams are believed to be important to meet the challenges in day-to-day business (Triandis, Kurowski, & Gelfand, 1994; Van Veen & Marsman, 2008). Nationality diversity and related differences with regard to cultural backgrounds, experience, and working approaches can enable teams to discuss topics from various perspectives, to solve problems in different ways, and to respond flexibly to fast moving changes in the working environment. However, differences regarding nationality might not automatically result in positive team outcomes, because these can yield poor communication, or generate problems due to different working styles, approaches to hierarchies, and understanding of values. The question thus becomes: Which factors can promote the positive effects of nationality diversity and help dampen the negative effects?

A variety of research has shown that leaders play a key role in enabling individual, team, and organizational performance (Bass, 1990; Follett, 1926). When considering leaders and their influence on individuals and teams, their behavior (Gelfand, Nishii, Raver, & Schneider, 2005; Timmermann, 2000; van Knippenberg et al., 2004) and their thoughts or beliefs (Homan & Jehn, 2010; Janz et al., 2012) are two factors that might have a great impact on team functioning. However, both lines of research are at an early stage of development and require more investigation to develop theories regarding effective diversity management (Homan & Jehn, 2010; Timmermann, 2000; Kunze & Bruch, 2010; van Knippenberg et al., 2004).
First, an empirical examination of the role of leadership behavior in the diversity-outcome relationship provides preliminary support the moderating influence of leadership in diverse teams (e.g., Greer, Homan, De Hoogh, & Den Hartog, 2012; Homan & Greer, 2013; Klein, Knight, Ziegert, Lim, & Saltz, 2011; Nishii & Mayer, 2009; Somech, 2006). For instance, Kunze and Bruch (2010) found that transformational leadership (TFL) moderates the relationship between age-based faultlines and perceived productive energy, such that this effect is positive when levels of perceived TFL are high, but negative when levels of perceived TFL are low. Most work on the role of leadership in diverse teams has focused on TFL, as this leadership behavior is seen as especially promising under challenging, unstable, and turbulent conditions (e.g., Bass, 1985; 1998; Kearney & Gebert, 2009). Researchers have suggested that transformational leaders promote information sharing processes, which in turn lead to higher performance (Kearney et al., 2009; van Knippenberg et al., 2004; Van Vugt et al., 2008). Previous studies have indeed supported the positive influence that TFL in diverse teams has on task-related outcomes, such as performance and creativity (Kearney & Gebert, 2009; Kunze & Bruch, 2010; Shin & Zhou, 2007).

However, these studies have not considered the influence that TFL has on affective outcomes – in terms of feelings regarding the job, team, and organization, such as job satisfaction and turnover intention – and on relational outcomes – in terms of responses to the climate and interactions in the team, such as trust in the leader, communication, conflict, liking of the leader, and subgroup perceptions. The work by Kearney and Gebert (2009) constitutes an exception, as they investigate team identification, which could be labeled a relational variable. Nevertheless, they, like others (for a review see van Knippenberg & Sitkin, 2013), believe that identification
is the driving process via which transformational leaders influence outcomes in diverse teams, such as information elaboration and team performance. As we are focused on dependent variables that are less closely related to the processes that TFL instigates, we did not examine identification in the present research. Furthermore, since diversity not only affects task-related responses to diversity, but also affective and relational responses, we include these types of variables in our examination of TFL within diverse teams (Milliken & Martins, 1996; Williams & O’Reilly, 1998). We propose that transformational leaders influence relationships positively by building a collective social identity within the team, which leads to better relational processes and affective outcomes (Gaertner & Dovidio, 2000; Kearney & Gebert, 2009; Kunze & Bruch, 2010). Together, we predict that transformational leaders have a positive influence on the diversity-outcomes relationships (affective, relational, and task-related outcomes).

Additionally, studies investigating the role of leaders in managing diversity have rarely considered their beliefs regarding diversity (Homan & Jehn, 2010; Janz et al., 2012). We argue that leaders' diversity beliefs and behavior might affect their team members and their behavior, especially if the leader is highly transformational (e.g., Bass, Waldman, Avolio, & Bebb, 1987; Conger & Kanungo, 1987; Podsakoff et al., 1990; Shamir, House, & Arthur, 1988). Team members are likely to act in accordance with leaders' diversity beliefs (positive vs. negative; Homan et al., 2010; van Knippenberg, Haslam, & Platow, 2007), but mainly when their leaders are highly transformational. In sum, we propose that transformational leaders, who have positive diversity beliefs, have a positive impact on the relationships between diversity and affective, relational, and task-related outcomes.
We will test our predictions in a vignette study and an experimental study. Using different methods and samples (students, employees), we link the interactive effects of nationality diversity, TFL, and the leaders' diversity beliefs to affective, relational, and subjective as well as objective task-related outcomes in order to verify our findings. Integrating research on leaders' behavior with research on leaders' beliefs regarding team diversity might provide us with new insights into the best way to manage diversity in teams.

NATIONALITY DIVERSITY

Nationality diversity has been found to have both positive effects (Jehn, Chadwick, & Thatcher, 1997; Kearney & Gebert, 2009; Milliken & Martins, 1996) and negative effects on outcome measures (Hewstone, Rubin, & Willis, 2002; Janz et al., 2012; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Wilder & Simons, 2001). These contradictory findings call for a more comprehensive approach to diversity research, which examines potential moderators in order to better predict the effects of diversity (van Knippenberg et al., 2004). Responding to this call, we investigate the influence of TFL and leader's diversity beliefs in nationality diverse teams, because we argue that TFL and leaders' positive beliefs regarding diversity can potentially help diverse teams achieve the full potential that their differences allow.

TRANSFORMATIONAL LEADERSHIP

TFL not only influences individuals, but also social systems such as teams or organizations (Bass, 1990; Follett, 1926; Judge & Piccolo, 2004; Lowe et al., 1996). Transformational leaders create and articulate a vision for the team, act as a role model, promote the acceptance of team goals, set norms, consider individual needs, stimulate followers to think "out of the box," and address their followers' higher order
needs, so that they are motivated to perform beyond expectations (Avolio & Bass, 2004; Bass, 1985; Kearney & Gebert, 2009, Podsakoff et al., 1990). TFL behavior has been found to have a strong impact on organizational outcomes, such as motivation of the followers and performance (Judge & Piccolo, 2004), and is therefore often seen as one of the most influential and superior leadership behaviors, over and above leadership behaviors such as transactional leadership or laissez-faire leadership (e.g., Howell & Avolio, 1993; Kearney & Gebert, 2009; Lowe et al., 1996).

**Transformational leadership in diverse teams.** As stated earlier, diversity does not automatically have a positive impact on team functioning (Jackson & Joshi, 2011; van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998) and could result in harmful categorization processes, conflicts, and low performance. Highly transformational leaders might be able to eliminate these harmful processes of diversity, while simultaneously fostering diversity's positive effects (Kearney & Gebert, 2009; Kunze & Bruch, 2010). Conversely, leaders low on TFL might not specifically consider these processes, thus allowing social categorization to occur, dampening the exchange of information, and inhibiting cooperation within the team.

Transformational leaders create a social identity by providing an inspiring vision (e.g., Kearney & Gebert, 2009; Kunze & Bruch, 2010). They capture the will of their followers by connecting individual goals with those of the team (Haslam, 2001). Therefore, followers are motivated to work on reaching the collective goal in order to enhance their self-concept (Shamir, House, & Arthur, 1993). In doing so, they share available information, instead of allowing differences to inhibit cooperation within the team (Kearney & Gebert, 2009). Furthermore, transformational leaders promote collective enthusiasm, optimism, and efficacy by
providing inspirational motivation (Shin & Zhou, 2007). Additionally, they consider the personal needs of their followers, so that each of them feels heard and valued with respect to their ideas, proposals, and opinions, as well as feeling that their uniqueness is appreciated (Kearney & Gebert, 2009). At the same time, transformational leaders stimulate the use of different perspectives, approaches, and opinions by emphasizing the importance of these differences for problem solving, creativity, and innovation (Bass & Riggio, 2006). Thus, the team members consider all the information, which might in turn influence task-related outcomes, such as performance or productivity, positively (Kearney & Gebert, 2009; van Knippenberg et al., 2004).

Less than a handful of studies have investigated these potential promising TFL effects on the diversity-outcome relationship (Kearney & Gebert, 2009; Kunze & Bruch, 2010; Shin & Zhou, 2007). However, these studies have done a great job at showing that TFL influences the relationships between different diversity dimensions (i.e., education, age) and task-related outcomes (Kearney & Gebert, 2009; Kunze & Bruch, 2010; Shin & Zhou, 2007). In order to replicate these findings, we included task-related outcomes, such as the anticipated effectiveness of the team/leader, performance, and productivity in our studies. Furthermore, we extend previous studies' focus on task-related outcomes by investigating the influence of TFL in diverse teams on an objective performance measure.

However, as previously stated, diversity also influences affective and relational responses to diversity (Milliken & Martins, 1996; Williams & O'Reilly, 1998). Therefore, it seems highly relevant to investigate the influence of TFL on the relationships between diversity and these outcome variables. We propose that, by building a collective identity within the team, transformational leaders might limit categorization into in-groups and out-groups. Followers will categorize team
members with whom they share the same identity, common goals, and visions as members of their in-group. That is, leaders might instigate re-categorization within the team by creating a broader social category, in which the team, rather than the nationality-based subgroups, is the focal identification unit (Homan et al., 2010; Kunze & Bruch, 2010; Van Vugt & De Cremer, 1999; Yukl, 2013). This process is likely to improve the interpersonal relational processes, thus, for instance, reducing bias regarding the other team members and preventing conflicts (Jung & Sosik, 2002; Kunze & Bruch, 2010). In this respect, research has shown that re-categorization can indeed result in more trust in and liking of former out-group members (e.g., Bettencourt, Brewer, Croak, & Miller, 1992; Brewer, 1979; Homan & Greer, 2013; Turner et al., 1987). Finally, this process also addresses affective outcomes, such as job/team satisfaction, or turnover. Owing to the salient identification with the team, a climate of trust and cooperation is created, in which discrimination, prejudice, and stereotyping are less prevalent. Accordingly, we argue that transformational leaders promote high job and team satisfaction and lessen intentions to leave within diverse teams, because their followers feel safe, valued as a unique person, and that they belong to a team with a good atmosphere.

More specifically, we propose that team diversity can be more strongly positively related to task-related, affective, and relational outcomes than team homogeneity, but only when diverse teams are not lead by a low transformational leader. Diverse team members may exchange their information, which can lead to positive synergetic effects on task-related outcomes. In turn, these outcomes might provide diverse teams with advantages that homogenous teams do not have. Furthermore, a good climate, in which information is exchanged and high outcomes are achieved, might also lead to better affective and relational outcomes than those
achieved by homogenous teams. Transformational leaders might also stimulate the exchange of information and the creation of a good atmosphere in homogenous team as well. However, compared to heterogeneous teams, homogenous teams have less information, perspectives, and approaches to exchange and will therefore perform worse than diverse teams. This lack of performance potential is likely to affect the team's atmosphere negatively, because homogenous teams have fewer perspectives and different approaches to exchange, because there are fewer differences in their team. In turn, the lack of sufficient exchanges of differing opinions, etc. might result in more conflicts, decreasing job satisfaction, and people might be more willing to leave the team. Finally, leaders who are relatively low on TFL may not promote information exchange and might not inhibit social categorization processes within a diverse team. These categorization processes might instigate intergroup bias (e.g., Hewstone et al., 2002; Janz et al., 2012), resulting in conflicts and cooperation problems. Team members might feel less satisfied because they are not valued as a unique member of their team, might be more willing to leave the team, and be less willing to exchange information, which might in turn lead to low performance. We thus hypothesize:

*Hypothesis 1: Individuals in a diverse team led by a more transformational leader will show more positive affective (1a), relational (1b), and task-related (1c) outcomes than those in a diverse team led by a less transformational leader, or those in a homogeneous team led by a low or highly transformational leader.*

**Diversity Beliefs**

In this paper, we define diversity beliefs "as the beliefs about the value of diversity for group functioning" (Homan et al., 2010, p. 478). Diversity beliefs can be
either positive or negative. People with positive diversity beliefs believe that diversity is beneficial for teams, because diverse teams can profit from a broader range of task-relevant knowledge, skills, experiences, and abilities than homogenous teams can (van Knippenberg et al., 2004). In contrast, people with negative diversity beliefs do not believe in the value of diversity and believe that diversity can lead to many problems, such as decreased performance and more conflicts within the team due to their different opinions, attitudes, and approaches (e.g., van Knippenberg et al., 2013).

Previous research has shown that teams with positive diversity beliefs perform better, experience more information elaboration, satisfaction, and identification (Homan et al., 2010; Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, & Van Kleef, 2008; Homan, van Knippenberg, Van Kleef, & De Dreu, 2007; van Knippenberg et al., 2007), than those with either lower diversity beliefs scores, or pro-similarity beliefs (e.g., Ely & Thomas, 2001; Homan, et al., 2007; 2010; Van Dick, van Knippenberg, Hägele, Guillaume, & Brodbeck, 2008; van Knippenberg et al., 2007). We propose that, in addition to team member's attitudes to diversity, leaders are also likely to have a certain belief with regard to the value of diversity for work group functioning. These beliefs are likely to influence their followers, especially when a leader is highly transformational.

**Leaders' diversity beliefs and TFL.** As stated before, organizations should not only focus on leaders' leadership strategies, but also on what they think about diversity and its effects (Greer et al., 2012). Leaders can promote team functioning, but can also influence their team members by shaping their beliefs, values, and desires (Haslam et al., 2011; Yukl, 2013). Therefore, it is highly probable that leaders have the power to form positive attitudes within their team regarding working in a nationality diverse team. However, to date, the role of leaders' diversity beliefs in
shaping diverse team responses has not been investigated, although researchers have
called for this (Homan & Jehn, 2010; Janz et al., 2012). We follow this call by
investigating leaders' diversity beliefs in connection with TFL.

Transformational leaders influence their followers through identification and
internalization processes (e.g., Kelman, 1958). Followers are thus likely to identify
with and internalize the vision of their transformational leaders, which is in turn likely
to shape the behavior of the followers (e.g., Shamir et al., 1993). In this respect, it has
been suggested that whether TFL will be valuable or harmful for teams will depend
on the content of the leader’s vision. For instance, when the vision is poor, radical, or
does not fit the characteristics of the team members, it can have a profound negative
influence on the followers’ functioning (Beyer, 1999; De Hoogh & Den Hartog, 2009;
House & Howell, 1992; Greer et al., 2012).

In our study, we operationalize the content of leaders’ vision as their diversity
beliefs. Imagine a nationality diverse team led by a transformational leader. The
leader communicates his/her vision of nationality diverse teams, and probably also
behaves in accordance with this vision. This behavior can be visualized, for example,
by the time the leader spends with people from different nationalities, by the
information provided to different people, by what the leader communicates to the
team members, by the type of jokes the leader makes, and by how the leader behaves
when conflicts occur. If leaders behave very inclusively by spending the same amount
of time with each nationality group, or by handling conflicts independently from
nationality prejudice, they probably communicate diversity beliefs that are more
positive, than if they were to favor one nationality group over another, or regard
nationality differences as causes of intrateam conflicts (Janz et al., 2012).
We propose that leaders' positive diversity beliefs influence diverse teams in two ways. First, their positive view of diversity will make subgroups perceptions within the team unlikely, because nationality diversity is seen as a valued team aspect. Second, the team will internalize the leaders' positive diversity beliefs, which might lead to a positive outlook on diversity among the team members and a concomitant positive behavior. Importantly, we argue only transformational leaders will have this positive effect, as they are more likely to effectively influence their followers. In other words, we predict that TFL's positive effects within diverse teams will be strengthened if the leader has positive diversity beliefs. Transformational leaders with positive diversity beliefs provide a good example of the favored behavior by stimulating followers to also be inclusive and that all the information present in the diverse team should be used. The effective use of this information is likely to result in better task-related outcomes, and positive inclusive behaviors within the team are likely to be associated with fewer conflicts, good communication, and high satisfaction (better affective and relational outcomes). In contrast, we predict that the positive effects of TFL within diverse teams are reduced if the leader has negative diversity beliefs. These leaders are likely to communicate that diversity in teams leads to problems, such as more conflicts and greater turnover. As a result of their transformational behaviors, their followers are likely to take over these beliefs as well (goal contagion). These internalized negative beliefs regarding diversity are likely to lead to deteriorating affective, relational, and task-related outcomes within diverse teams.

In contrast, if transformational leaders communicate their negative diversity beliefs (i.e., positive beliefs about homogeneity) in homogeneous teams, mentioning that diversity in teams leads to problems, while homogeneity leads to a better team
atmosphere and better performance, their followers are likely to appropriate these beliefs as well. These internalized negative beliefs regarding diversity, but positive beliefs in respect of homogeneity, are likely to lead to increased affective, relational, and task-related outcomes. Similarly, transformational leaders who communicate and exhibit positive diversity beliefs within more homogeneous teams, might harm the outcomes of homogeneous teams, as they believe that their composition is less conducive for good team functioning.

Finally, because the beliefs of team leaders who are relatively low on TFL are less likely to influence/change the beliefs of their followers, we propose that their diversity beliefs are less likely to differentially affect the team outcomes. We thus propose the following three-way interaction:

*Hypothesis 2: There is an interaction between team diversity, TFL, and diversity beliefs regarding their effect on affective (2a), relational (2b), and task-related (2c) outcomes, such that, within diverse teams, TFL behaviors are positively related to the outcomes if the diversity beliefs of leaders are positive, but negatively related to the outcomes if their diversity beliefs are negative. Furthermore, in homogenous teams, TFL and the diversity beliefs of leaders have an interactive effect on affective, relational, and task-related outcomes, such that leaders' TFL behaviors are positively related to the outcomes if their diversity beliefs are negative, but negatively related to the outcomes if their diversity beliefs are positive.*

**Overview of Studies**

We conducted a vignette study (Study 1) and complemented this with a laboratory experiment (Study 2) to test our hypotheses. In the first study, the
participants were presented with scenarios, in which we manipulated the composition of the team, the degree of TFL exhibited by the leader, and the leader's diversity beliefs. Afterwards, the participants indicated their perceptions of the anticipated affective, relational, and task-related team outcomes. This study was done with a multi-national sample of real-life employees, because we argued that these people are able to put themselves in the organizational situation described in the vignette. This enabled us to draw a more realistic picture than by, for example, using a student sample, as students are likely to have limited experience of working in an organizational team. In order to account for the anticipated and imaginative setting of our first study, we conducted a computer-mediated experimental study in which the participants were made to believe they were working with an actual virtual team. Again, we manipulated our variables of interest.

**STUDY 1**

**PARTICIPANTS AND DESIGN**

A total of 132 people – members of the first author's business network (colleagues, her university network, LinkedIn and XING members) – took part in this study. The participants had a diverse nationality background (e.g., German, South African, and Brazilian) and were working in more than ten different business areas (e.g., aerospace and hospital). Of the participants, 71 were female and 61 male (mean age = 28.85, \(SD = 7.70\); mean job tenure = 3.69 years, \(SD = 4.82\)).

The participants were randomly assigned to our 2 x 2 x 2 design, in which we manipulated group composition (diverse vs. homogeneous), TFL (high vs. low), and leader diversity beliefs (positive vs. negative). Owing to the random assignment, we had to exclude 23 people from the homogeneous team condition, because these
participants were non-German (and homogeneity was operationalized as an all-German team). Including them would have created heterogeneity in our homogeneous team condition.

In order to test our hypothesis regarding diversity and TFL, we compared four of the eight conditions: (1) diversity - high TFL; (2) diversity - low TFL; (3) homogeneity - high TFL; (4) homogeneity - low TFL. To test the interaction between diversity, TFL, and diversity beliefs, we focused on the complete experimental design, comparing all 8 conditions.

**PROCEDURE AND MANIPULATIONS**

All materials were presented in English. The first author sent the scenarios (including the surveys) via her business network's mailing list to potential participants. In a first step, the participants were asked to read the scenario. Thereby, they should imagine that they are the person at the center of the situation. The scenario included the following manipulations:

**Diversity manipulation.** The participants had to imagine that they were members of a project team in a large automobile manufacturer. They were told that their team was either homogenous in terms of their nationality (all German), or composed of people from all different nationalities (i.e., French, German, Italian, and American).

**TFL manipulation.** We manipulated the TFL on the basis of the widely-used TFL definitions and measurement scales as provided by Avolio, Bass, and Jung (1999) and Podsakoff and colleagues (1990). In the high TFL condition, the participants read that the leader motivates the team members by ensuring their work has meaning, acts as a mentor by building a supportive climate and offering new learning opportunities, spends time coaching them, provides a vision of what lies
ahead, and would never criticize the team members in public. In the low TFL condition, the participants read that their leader does not stress the team's common goals, visions, and resources when communicating with them, and does not spend a lot of time on motivating, mentoring, and coaching.

**Leaders' diversity beliefs manipulation.** The manipulation of diversity beliefs was based on previous definitions and operationalization of the construct (Homan et al., 2007; 2010). In the positive diversity beliefs condition, the participants read that their leader is positive about the value of different nationalities within the team, believes that working with different nationalities creates an open and good climate, fosters good performance, and increases job satisfaction within the team. In the negative diversity beliefs condition, the participants read that their leader thinks that different nationalities within the team can lead to problems, that diversity creates a closed and negative climate, inhibits good performance, and decreases job satisfaction within the team.

After reading the scenario, all the participants were asked to complete a questionnaire keeping in mind the situation in which they should imagine themselves.

**Measures**

**Manipulation checks.** The effectiveness of the TFL manipulation was assessed using five items, which were adapted from Avolio and colleagues (1999), as well as from Podsakoff and colleagues (1990). An example item is: "The leader of my team spends time coaching me" (scale $M = 4.00$, $SD = 1.75$, $\alpha = .94$). To assess the effectiveness of the manipulation of the diversity beliefs, the participants were asked to put themselves in the position of their leader and to imagine how much the leader would agree with a four-item diversity beliefs scale (e.g., "Nationality diversity is an asset for teams", Homan et al., 2010), (scale $M = 4.81$, $SD = 2.16$, $\alpha = .98$).
**Affective outcomes.** Three items were used to measure *turnover intention* (Shore, Newton, & Thornton, 1990). An example item is: "How likely is it that you will look for a job outside of this organization during the next year?" The three items had different anchors, depending on the wording of the item. This item, for example, was anchored by very unlikely (1) and very likely (7; scale $M = 4.44$, $SD = 1.71$, $\alpha = .92$). Participants who scored high on turnover intention were more willing to quit their job. To measure *job satisfaction*, the participants were asked to rate their satisfaction regarding their job situation by answering five items (e.g., "Your present job in the light of your career expectations"; Bacharach, Bamberger, & Conley, 1991), (scale $M = 2.33$, $SD = 0.78$, $\alpha = .88$).

**Relational outcomes.** *Trust in the leader* was assessed with six questions based on questionnaires by Podsakoff and colleagues (1990) and Cook and Wall (1980). An example item is: "I have a strong sense of loyalty toward my leader" (scale $M = 4.16$, $SD = 1.61$, $\alpha = .95$). *Communication* was measured with five items based on the scale by De Dreu (2007) and Greer and colleagues (2012), for example, "We have regular contact with each other in this team" (scale $M = 4.38$, $SD = 1.08$, $\alpha = .78$). *Conflict* was assessed by asking the participants to what extent they agreed with seven questions in the Jehn and Mannix (2001) conflict scale. An example item is: "How much relationship tension is there in your work team?" (scale $M = 4.14$, $SD = 1.25$, $\alpha = .90$).

**Task-related outcomes.** We measured the anticipated *effectiveness of the team* with two items from De Dreu and Van Vianen (2001), who adapted their items from a scale developed by Hackman (1983). Items are: "This team is good in coming up with ways to complete their tasks" and "This team deals effectively with uncertainty and unexpected events" (scale $M = 4.60$, $SD = 1.67$, $\alpha = .83$). The
anticipated *performance* of the team was measured with three items from a scale by Hackman and Oldham (1976), for example, "This team performs quantitative well" (scale $M = 4.74, SD = 1.28, \alpha = .79$). The anticipated *productivity* was assessed with six items from Kirkman and Rosen (1999; e.g., "My team responds quickly when problems arise": scale $M = 4.58, SD = 1.41, \alpha = .93$).

**RESULTS**

**Manipulation checks.** *TFL.* An ANOVA confirmed that the participants in the high TFL condition ($M = 5.34, SD = 0.93$) indicated that their leader showed more transformational behavior than did the participants in the low TFL condition ($M = 2.78, SD = 1.40$; $F[1, 132] = 158.38, p = .00, \eta^2 = .55$). The effects of the manipulation of diversity beliefs and diversity on TFL ($F[1, 132] = 2.18, p = .14, \eta^2 = .12; F[1, 132] = 0.00, p = .98, \eta^2 = .00$; respectively) were not significant. Furthermore, the interactions between TFL and diversity beliefs; between TFL and diversity; and between TFL and diversity beliefs and diversity ($F[1, 132] = 0.02, p = .89, \eta^2 = .00; F[1, 132] = 0.05, p = .83, \eta^2 = .00; F[1, 132] = 0.12, p = .73, \eta^2 = .00$; respectively) were not significant. The TFL manipulation was therefore considered successful.

**Diversity beliefs.** An ANOVA showed that the participants in the positive diversity beliefs condition ($M = 6.21, SD = 0.85$) indicated that their leader valued diversity more than the participants in the negative diversity beliefs condition did ($M = 3.64, SD = 2.23$; $F[1, 132] = 77.49, p = .00, \eta^2 = .38$). The effects of the manipulation of TFL and diversity on diversity beliefs ($F[1, 132] = 3.00, p = .09, \eta^2 = .02; F[1, 132] = 2.45, p = .01, \eta^2 = .02$; respectively) were not significant. Furthermore, the interactions between TFL and diversity beliefs; between TFL and diversity; and between TFL and diversity beliefs and diversity ($F[1, 132] = 1.15, p =
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.29, \(\eta^2 = .01\); \(F[1, 132] = 0.55, p = .46, \eta^2 = .00\); \(F[1, 132] = 1.23, p = .27, \eta^2 = .01\); respectively) were not significant. The diversity beliefs manipulation was therefore considered successful.

**Main effects.** The means, standard deviations, \(F\) and \(\eta^2\) values pertaining to the main effects are shown in Table 4.1.

*Diversity.* We found that diversity had a main effect on effectiveness, showing that the participants in the diversity condition expected their team to be more effective than did those in the homogeneity condition.

*TFL.* We found that TFL had significant main effects on a wide variety of outcomes. More specifically, we showed that the participants who were in the high TFL condition indicated lower levels of turnover intention, more job satisfaction, more trust in the leader, a better communication, lower levels of conflicts, a higher team effectiveness, higher performance, and higher productivity than did those in the low TFL condition.

*Diversity beliefs.* We did not identify any main effects regarding diversity beliefs.

**Influence of TFL on the diversity-outcome relationship.** The means, standard deviations, and the planned comparisons are shown in Table 4.2. Hypothesis 1 constitutes a contrast test comparing the high TFL - diverse team condition to the other three conditions. Therefore, in order to test our prediction, we undertook planned contrasts using a one-way analysis of variance procedure, along with Cohen's \(d\) effect size estimates (1988).

*Affective outcomes.* In line with Hypothesis 1a, a planned contrast test of the affective outcomes demonstrated that the participants in the diversity - high TFL condition indicated less willingness to leave the organization and greater job
satisfaction than the other three conditions together (turnover intention $t \[128\] = 5.14, $p = .00, d = 0.91$; job satisfaction $t \[128\] = -3.29, p = .00, d = -0.58$).

**Relational outcomes.** A planned contrast test showed that the participants in the diversity - high TFL condition indicated more trust in their leader, better communication, and less conflict within their team than the other three conditions together, which is in line with Hypothesis 1b (trust in the leader $t \[128\] = -6.53, p = .00, d = -1.15$; communication $t \[128\] = -3.17, p = .00, d = -0.56$; conflict $t \[128\] = 5.36, p = .00, d = 0.95$).

**Task-related outcomes.** In line with Hypothesis 1c, a planned contrast test regarding the task-related outcomes confirmed that participants in the diversity - high TFL condition indicated more team effectiveness, a better performance, and productivity than the other three conditions together (team effectiveness $t \[128\] = -6.12, p = .00, d = -1.08$; performance $t \[128\] = -5.38, p = .00, d = -0.95$; productivity $t \[128\] = -6.23, p = .00, d = -1.10$).

**Interaction effect between diversity, TFL, and leaders' diversity beliefs.** We did not find any interaction effect between diversity, TFL, and leaders' diversity beliefs on outcomes, which is contrary to our Hypothesis 2 (see Table 4.3 for $F$, $\eta^2$, $M$ and $SD$).

**DISCUSSION**

Using a vignette study, we showed that the participants, who imagined being a member of a diverse team led by a transformational leader, indicated better affective, relational, and task-related outcomes than those in the other conditions. This finding confirmed Hypothesis 1 and replicated previous research regarding the importance of TFL in diversity research (Kearney & Gebert, 2009; Kunze & Bruch, 2010; Shin & Zhou, 2007). Furthermore, we extended previous studies by showing that TFL
influences not only task-related outcomes, but also affective and relational outcomes in diverse teams.

Although previous theorizing and empirical work (Homan et al., 2010; van Knippenberg et al., 2007) provided the basis for Hypothesis 2, our data did not support Hypothesis 2, in which we predicted a three-way interaction between diversity, TFL, and leaders' diversity beliefs. The lack of results might be due to the following reasons. First, it is possible that diversity beliefs support the experience of TFL rather than acting as an orthogonal construct. That is, a positive outlook on the challenges that the team might face might be inherent to being a transformational leader. For instance, high transformational leaders, who communicate that they think positively about diversity, confirm their positive attitude about, for instance, solving problems in different ways. Therefore, positive diversity beliefs might be seen as an additional aspect of the leader's transformational qualities, regardless of the team diversity. Follow-up analyses provided some additional support for this explanation, because when we collapsed the data across our team diversity manipulations (i.e., examining the effects of TFL and diversity beliefs without taking our diversity manipulation into account) we found that individuals who were led by a transformational leader with positive diversity beliefs indicated higher values in affective, relational, and task-related outcomes than teams led by non-transformational leaders or leaders with negative diversity beliefs. The results of these analyses can be obtained from the first author.

Second, the participant number in each condition was relatively small – between 16 and 17 participants per condition. Additionally, our use of relatively imaginative vignettes might have resulted in relatively weak findings. In line with this explanation, previous work has shown that actual behavior in specific situations might
differ from the behavior the participants exhibited when they imagined being in that situation (Eifler, 2008; Groß & Börensen, 2009). To address these limitations, we decided to test our hypotheses in an experimentally controlled environment in which the participants were actually placed in an involving team setting. Furthermore, we followed the call by Kearney and Gebert (2009) to investigate objective outcome measures.
### TABLE 4.1. Main Effects of Diversity, Transformational Leadership, and Leaders' Diversity Beliefs on Outcomes in Study 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Diversity</th>
<th>Transformational Leadership</th>
<th>Diversity Beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hom.</td>
<td>div.</td>
<td>low</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td><strong>η²</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td>TI</td>
<td>2.04(1,132)</td>
<td>.02</td>
<td>4.71(1.76)</td>
</tr>
<tr>
<td>JS</td>
<td>0.07(1,132)</td>
<td>.00</td>
<td>2.31(0.72)</td>
</tr>
<tr>
<td>TL</td>
<td>0.81(1,132)</td>
<td>.01</td>
<td>4.00(1.48)</td>
</tr>
<tr>
<td>CO</td>
<td>0.13(1,132)</td>
<td>.00</td>
<td>4.34(1.16)</td>
</tr>
<tr>
<td>CF</td>
<td>0.42(1,132)</td>
<td>.00</td>
<td>4.23(1.14)</td>
</tr>
<tr>
<td>TE</td>
<td>4.61(1,132)*</td>
<td>.03</td>
<td>4.28(1.39)</td>
</tr>
<tr>
<td>PF</td>
<td>0.05(1,132)</td>
<td>.00</td>
<td>4.71(1.17)</td>
</tr>
<tr>
<td>PD</td>
<td>0.06(1,132)</td>
<td>.00</td>
<td>4.55(1.23)</td>
</tr>
</tbody>
</table>

*Note.* hom. = homogenous teams; div. = diverse teams; negat. = negative diversity beliefs; posit. = positive diversity beliefs; TI = Turnover intention; JS = Job satisfaction; TL = Trust in the leader; CO = Communication; CF = Conflict; TE = Team effectiveness; PF = Performance; PD = Productivity. *p < .05, **p ≤ .001.
### Table 4.2. Means and Standard Deviations of Dependent Variable per Condition pertaining to Hypothesis 1 in Study 1 and Study 2

<table>
<thead>
<tr>
<th>Study</th>
<th>Condition</th>
<th>1 Div. high TFL</th>
<th>2 Div. low TFL</th>
<th>3 Homog. high TFL</th>
<th>4 Homog. low TFL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Study 1 TI*</td>
<td>3.47</td>
<td>1.46</td>
<td>5.36</td>
<td>1.27</td>
<td>4.15</td>
</tr>
<tr>
<td></td>
<td>JS*</td>
<td>2.64</td>
<td>0.84</td>
<td>1.94</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>TL*</td>
<td>5.34</td>
<td>1.15</td>
<td>2.95</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td>CO*</td>
<td>4.80</td>
<td>0.90</td>
<td>3.89</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>CF*</td>
<td>3.41</td>
<td>1.08</td>
<td>5.00</td>
<td>1.06</td>
</tr>
<tr>
<td></td>
<td>TE*</td>
<td>5.49</td>
<td>0.89</td>
<td>3.87</td>
<td>1.24</td>
</tr>
<tr>
<td></td>
<td>PF*</td>
<td>5.48</td>
<td>0.94</td>
<td>3.79</td>
<td>1.19</td>
</tr>
<tr>
<td></td>
<td>PD*</td>
<td>5.49</td>
<td>0.97</td>
<td>3.42</td>
<td>1.31</td>
</tr>
<tr>
<td>Study 2 TI*</td>
<td>2.49</td>
<td>0.92</td>
<td>2.76</td>
<td>1.27</td>
<td>2.88</td>
</tr>
<tr>
<td></td>
<td>TS*</td>
<td>5.57</td>
<td>0.75</td>
<td>5.17</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>TL</td>
<td>4.68</td>
<td>1.43</td>
<td>4.27</td>
<td>1.48</td>
</tr>
<tr>
<td></td>
<td>LL</td>
<td>4.84</td>
<td>1.62</td>
<td>4.76</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td>SP*</td>
<td>4.13</td>
<td>1.42</td>
<td>4.10</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>NI*</td>
<td>19.82</td>
<td>6.70</td>
<td>17.46</td>
<td>7.61</td>
</tr>
</tbody>
</table>

*Note.* TI = Turnover intention; JS = Job satisfaction; TL = Trust in the leader; CO = Communication; CF = Conflict; TE = Team effectiveness; PF = Performance; PD = Productivity; TS = Team satisfaction; LL = Liking of the leader; SP = Subgroup perception; NI = Number of ideas. We computed contrasts to test Hypothesis 1 (Condition 1 against condition 1-3 together). Variables marked with an asterisk have shown significant values in the contrast tests ($p < .05$). Condition 1 = diversity and high transformational leadership; Condition 2 = diversity and low transformational leadership; Condition 3 = homogeneity and high transformational leadership; Condition 4 = homogeneity and low transformational leadership.
### Table 4.3. ANOVA Results pertaining to Hypothesis 2 in Study 1

<table>
<thead>
<tr>
<th>Condition</th>
<th>1 Div. high TFL</th>
<th>2 Div. high TFL</th>
<th>3 Div. low TFL</th>
<th>4 Div. low TFL</th>
<th>5 Homog. high TFL</th>
<th>6 Homog. high TFL</th>
<th>7 Homog. low TFL</th>
<th>8 Homog. low TFL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>TI</td>
<td>0.99 (1, 132)</td>
<td>.01</td>
<td>3.24 (1.61)</td>
<td>3.72 (1.27)</td>
<td>5.64 (0.99)</td>
<td>5.15 (1.44)</td>
<td>3.56 (1.83)</td>
<td>4.56 (1.80)</td>
</tr>
<tr>
<td>JS</td>
<td>2.62 (1, 132)</td>
<td>.02</td>
<td>2.59 (0.90)</td>
<td>2.70 (0.77)</td>
<td>1.79 (0.52)</td>
<td>2.06 (0.68)</td>
<td>2.80 (0.69)</td>
<td>2.23 (0.69)</td>
</tr>
<tr>
<td>TL</td>
<td>0.12 (1, 132)</td>
<td>.00</td>
<td>0.45 (1.18)</td>
<td>4.99 (1.09)</td>
<td>3.02 (1.27)</td>
<td>2.90 (1.45)</td>
<td>4.96 (0.87)</td>
<td>4.54 (1.08)</td>
</tr>
<tr>
<td>CO</td>
<td>0.43 (1, 132)</td>
<td>.00</td>
<td>4.89 (1.04)</td>
<td>4.70 (0.71)</td>
<td>4.01 (1.27)</td>
<td>3.79 (1.12)</td>
<td>4.47 (1.18)</td>
<td>5.28 (1.08)</td>
</tr>
<tr>
<td>CF</td>
<td>0.50 (1, 132)</td>
<td>.00</td>
<td>3.28 (0.97)</td>
<td>3.56 (1.19)</td>
<td>5.02 (1.02)</td>
<td>4.78 (1.11)</td>
<td>3.76 (1.12)</td>
<td>3.60 (1.07)</td>
</tr>
<tr>
<td>TE</td>
<td>0.50 (1, 132)</td>
<td>.00</td>
<td>5.36 (1.07)</td>
<td>5.64 (0.62)</td>
<td>3.77 (1.02)</td>
<td>3.95 (1.40)</td>
<td>4.61 (1.50)</td>
<td>4.77 (1.22)</td>
</tr>
<tr>
<td>PF</td>
<td>0.23 (1, 132)</td>
<td>.00</td>
<td>5.35 (1.19)</td>
<td>5.64 (0.52)</td>
<td>3.53 (1.15)</td>
<td>3.98 (1.22)</td>
<td>5.37 (0.89)</td>
<td>5.26 (0.78)</td>
</tr>
<tr>
<td>PD</td>
<td>0.41 (1, 132)</td>
<td>.00</td>
<td>5.42 (1.22)</td>
<td>5.57 (0.60)</td>
<td>3.16 (1.42)</td>
<td>3.63 (1.14)</td>
<td>5.35 (0.88)</td>
<td>5.09 (1.00)</td>
</tr>
</tbody>
</table>

Note. TI = Turnover intention; JS = Job satisfaction; TL = Trust in the leader; CO = Communication; CF = Conflict; TE = Team effectiveness; PF = Performance; PD = Productivity. Condition 1 = diversity, high transformational leadership, and positive diversity beliefs; Condition 2 = diversity, high transformational leadership, and negative diversity beliefs; Condition 3 = diversity, low transformational leadership, and positive diversity beliefs; Condition 4 = diversity, low transformational leadership, and negative diversity beliefs; Condition 5 = homogeneity, high transformational leadership, and positive diversity beliefs; Condition 6 = homogeneity, high transformational leadership, and negative diversity beliefs; Condition 7 = homogeneity, low transformational leadership, and positive diversity beliefs; Condition 8 = homogeneity, low transformational leadership, and negative diversity beliefs. *F*-value marked with an asterisk are significant *p* < .05.
STUDY 2

PARTICIPANTS AND DESIGN

In this study, 124 students and employees from a big university in the Netherlands (mean age = 21.65, \( SD = 3.53 \); 88 female, 36 male) participated for either course credits or EUR 7. The design was the same as in Study 1. We excluded four non-Dutch people, who were randomly assigned to the homogeneous team condition, because homogeneity was operationalized as an all-Dutch team.

PROCEDURE AND MANIPULATIONS

All materials were presented in Dutch. Upon arrival in the laboratory, the participants were seated in individual cubicles behind a computer. First, they filled out a number of pre-questions, which were used to make our group composition manipulation more encompassing and believable.

Diversity manipulation. After filling out the first survey, the participants read that they would work together in a virtual team on a creativity task. They were either told that we were interested in including participants from different nationalities (diversity), or were examining people from different places in the Netherlands (homogeneity) to simulate a real virtual team setting in a company. To ensure that we only examined the effect of nationality diversity and not the effects of other diversity dimensions, age and gender were held constant across all the conditions. The diversity of the team was visualized by means of photos, as well as names, and an indication of the country in which the other team members resided (see Homan et al., 2010, for a similar manipulation of team diversity).
**TFL manipulation.** Next, the participants met their virtual team leader, a 38 years old male consultant (Dutch), who reportedly had to do this experiment in order to obtain a "team work" specialization certificate. Our manipulation of TFL was similar to the manipulation in Study 1 (Avolio et al., 1999; Podsakoff et al., 1990). The leader presented himself, his management style, and told the team members how to work on the team task. In the high TFL condition, the leader stated that he believed that the team should be able to perform very highly on the task; he motivated them to become the best performing team; he offered to communicate the participants' needs, problems, and feelings after the task; and he stressed the importance of thinking "out of the box." In the low TFL condition, the leader stated that it was up to the team members to perform up to standards; he offered to talk with the participants about any task-related questions after the task; he gave no further example; and he stressed that he did not believe in managing interactions within his team.

**Leaders' diversity beliefs manipulation.** The leader also had positive or negative diversity beliefs, which were directly connected to the team diversity manipulation in order to make the statements believable. The leader supposedly observed the information pertaining to the team and its members, and responded to this information. For instance, in the 'diverse team-positive diversity beliefs' condition, the leader stated that he believed "that members of a multicultural team can work together well." Furthermore, he argued that "a team with different nationalities benefits from the different experiences, opinions, and knowledge of the different team members compared to a homogeneous team." Finally, he stated that "a multicultural team environment increases creativity and satisfaction within the team, and creates an open and good climate due to the rich exchange between the team members." Similarly, in the 'homogenous team-negative diversity beliefs' condition, the leader...
stated that he believed "that the team will get along and perform very well on the task, because [he believes] that it is easy for team members from the same nationalities to work together." He argued that "people who are alike don't have to integrate so many different experiences, knowledge, and opinions compared to a multicultural team, that a homogeneous team environment increases creativity and satisfaction within the team, and creates an open and good climate due to the easy exchange between the similar team members."

After meeting the team leader, the students worked on a creativity task for five minutes. We motivated them by telling them that they had the chance to win an e-Reader. Afterwards, they saw a fictitious list of 33 ideas created by their team members. We performed a pre-test to determine an acceptable number of ideas, as well as to provide ideas that were believable in terms of content. Finally, the participants were asked to fill out a second post-questionnaire. They were thoroughly debriefed after the experiment.

MEASURES

The participants had to respond to the items on a 7-point Likert scale, with 1 indicating low and 7 high agreement.

Manipulations. The manipulation of nationality diversity was checked using the following questions: "To which degree are your team members alike with regards to nationality?" and "How diverse is your team with regards to nationality?" (scale $M = 4.10$, $SD = 2.69$, $\alpha = .96$). The TFL manipulation was checked with four items (adapted from Bass and Avolio, 1992), such as "The leader enables others to think about old problems in new ways" (scale $M = 4.10$, $SD = 0.92$, $\alpha = .65$). The manipulation of diversity beliefs was checked using the same four items as in Study 1 (scale $M = 4.41$, $SD = 1.59$, $\alpha = .96$).
Affective outcomes. *Turnover intention* was measured with two of the three items based on the items of Study 1 and adapted to the specific experimental context: "I am willing to work with this team for another experiment" and "I would like to work on a new task with this team" (scale $M = 2.78$, $SD = 1.09$, $\alpha = .85$; Shore et al., 1990). *Team satisfaction* was assessed with three items (adapted from questionnaires by Gladstein [1984] and Thomas, Ravlin, and Wallace [1996]), for example, "I am satisfied with the recognition I get from my team when I perform well on a task" (scale $M = 5.32$, $SD = 0.80$, $\alpha = .80$).

Relational outcomes. To measure liking of the leader we used six items from Van Kleef, Homan, Beersma, van Knippenberg, van Knippenberg, and Damen (2009; e.g., "The leader appears to be a nice person," scale $M = 4.81$, $SD = 1.08$, $\alpha = .89$). To measure trust in the leader we adapted four items from Kirkpatrick and Locke (1996), for example, "I trust our leader completely" (scale $M = 4.50$, $SD = 1.29$, $\alpha = .88$). To measure subgroup perception, we adapted three items (e.g., "My team consists of people who belong to certain subgroups on the basis of salient characteristics") based on questionnaires by Zannutto, Bezrukova, and Jehn (2011), and Homan and colleagues (2010), (scale $M = 3.43$, $SD = 1.45$, $\alpha = .74$).

Task-related outcomes. To obtain an objective performance measure, we assessed the *number of ideas* generated by each participant in the five minutes of the creativity task ($M = 17.45$, $SD = 6.74$). We used the 'blanket task' to measure creativity. Within this task, the participants were asked to provide as many creative ideas as possible for using a blanket within a time-frame of five minutes. Brainstorming tasks, such as the 'blanket task' are common in experimental psychology to measure the creative fluency of participants (e.g., Cheng, Sanchez-
We operationalized the outcome by counting the number of unique ideas.

**RESULTS**

**Manipulation checks.**

*Diversity.* An ANOVA showed that the participants in the homogenous condition \((M = 1.19, SD = 0.50)\) indicated that the nationality composition of their team members was less diverse than the participants in the diverse condition did \((M = 6.42, SD = 0.77; F[1, 124] = 1873.42, p = .00, \eta^2 = .94)\). The effects of TFL and diversity beliefs on the diversity manipulation \((F[1, 124] = 0.03, p = .87, \eta^2 = .00; F[1, 124] = 0.11, p = .74, \eta^2 = .00; \text{respectively})\) were not significant. Furthermore, the interactions between diversity and TFL; between diversity and diversity beliefs; between TFL and diversity beliefs; and between diversity, TFL and diversity beliefs \((F[1, 124] = 0.21, p = .65, \eta^2 = .00; F[1, 124] = 3.50, p = .06, \eta^2 = .03; F[1, 124] = 0.04, p = .84, \eta^2 = .00; F[1, 124] = 0.42, p = .52, \eta^2 = .00; \text{respectively})\) were not significant. The diversity manipulation was therefore considered successful.

*TFL.* An ANOVA showed that the participants in the high TFL condition \((M = 4.39, SD = 0.91)\) indicated that their leader showed more TFL behavior than did the participants in the low TFL condition \((M = 3.80, SD = 0.82; F[1, 124]) = 12.73, p = .00, \eta^2 = .10)\). The effects of diversity beliefs and diversity on the TFL manipulation and the interactions between TFL and diversity beliefs; between TFL and diversity; and between TFL, diversity and diversity beliefs were not significant \((F[1, 124] = 0.22, p = .64, \eta^2 = .00; F[1, 124] = 0.08, p = .78, \eta^2 = .00; F[1, 124] = 1.62, p = .21, \eta^2 = .01; F[1, 124] = 1.28, p = .26, \eta^2 = .01; F[1, 124] = 0.91, p = .34, \eta^2 = .01; \text{respectively})\). The interaction between diversity and diversity beliefs just reached
significance ($F[1, 124] = 3.83, p = .05, \eta^2 = .03$), but the effect size was very small. We therefore concluded that our manipulation was successful.

Diversity beliefs. An ANOVA confirmed that the participants in the positive diversity beliefs condition ($M = 5.81, SD = 0.43$) indicated that their leader valued diversity more than the participants in the negative diversity beliefs condition did ($M = 2.88, SD = 0.75; F[1, 124] = 695.08, p = .00, \eta^2 = .86$). The effects of TFL and diversity on diversity beliefs were not significant ($F[1, 124] = 0.23, p = .64, \eta^2 = .00$; $F[1, 124] = 0.42, p = .52, \eta^2 = .00$, respectively). Furthermore, the interactions between diversity beliefs and TFL; between diversity beliefs and diversity; between TFL and diversity; and between diversity beliefs, TFL and diversity ($F[1, 124] = 0.28, p = .60, \eta^2 = .00; F[1, 124] = 1.69, p = .20, \eta^2 = .01; F[1, 124] = 1.44, p = .23, \eta^2 = .01; F[1, 124] = 0.60, p = .44, \eta^2 = .01$, respectively) were not significant. The diversity beliefs manipulation was thus considered successful.

Main effects. The means, standard deviations $F$, and $\eta^2$ values pertaining to the following main effects are shown in Table 4.4.

Diversity. We found that diversity had a main effect on turnover intention, subgroup perception and number of ideas, indicating that the participants in diverse teams indicated less willing to leave the team, experienced stronger subgroups and produced more ideas in the "blanket task" than did the participants in homogenous teams.

TFL. We found that TFL had no main effects on the outcome variables.

Diversity beliefs. We did not identify any main effects regarding leaders' diversity beliefs on the outcome variables.

Influence of TFL on the diversity-outcome relationship. We only report the significant effects in the following result section. Again, as in Study 1, we
undertook planned contrasts to test Hypothesis 1. The means, standard deviations and
the planned comparisons regarding the significant and insignificant effects are shown
in Table 4.2.

Affective outcomes. In line with Hypothesis 1a, a planned contrast test regarding
turnover intention and team satisfaction demonstrated that the participants in the
diversity - high TFL indicated less willing to leave the team and more team
satisfaction than the other three conditions together (turnover intention $t[120] = 1.96,$
$p = .04, d = 0.36$; job satisfaction $t[120] = -2.13, p = .04, d = -0.39$).

Relational outcomes. A planned contrast test regarding subgroup perception
showed that the participants in the diversity - high TFL condition indicated stronger
subgroup perceptions than the other three conditions together, which was in line with
Hypothesis 1b (subgroup perception $t[120] = -4.16, p = .00, d = -0.76$). In contrast to
Hypothesis 1b, the planned contrast were not significant with respect to liking of the
leader and trust in the leader (liking of the leader $t[120] = -0.17, p = .86, d = -0.03$;
trust in the leader $t[120] = -0.96, p = .34, d = -0.16$).

Task-related outcomes. Confirming Hypothesis 1c, a planned contrast test
confirmed that the participants in the diversity - high TFL produced more ideas than
the other three conditions together (number of ideas $t[120] = -2.51, p = .01, d = -
0.46$).

Interaction effect between diversity, TFL, and leaders' diversity beliefs.
We only report the significant interaction effect in the following section. The means,
standard deviations, and the planned comparisons regarding the significant and
insignificant interactions are presented in Table 4.5. We only obtained a three-way
interaction between TFL, diversity, and leaders' diversity beliefs regarding subgroup
perception, which is partially in line with Hypothesis 2b ($F[1, 124] = 4.37, p = .04, \eta^2$
A comparison of the different conditions in an ANOVA showed that the participants in the diversity condition experienced a stronger subgroup division within their team than the participants in the homogenous condition, but not if the leader was high in TFL and had positive diversity beliefs, or was low in TFL and had negative diversity beliefs.

**DISCUSSION**

We conducted an experiment to follow-up the vignette study and were able to test Hypothesis 1 and Hypothesis 2 in a more realistic research setting. We did not find that TFL and diversity beliefs had main effects on the outcome measures, but we did find that diversity had a main effect on turnover intention, subgroup perception, and number of ideas. Diverse team members indicated less willing to leave the team than do those in homogenous teams. However, this finding seems inconsistent with previous research, because studies that examined the link between actual diversity and turnover showed that this relationship was positive, which means that diversity in teams led to higher turnover rates (e.g., Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991; Wagner, Pfeffer, & O’ Reilly, 1984). We will elaborate on this issue in the general discussion. Furthermore, diverse team members experienced stronger subgroups within their team, which supports previous research (Homan et al., 2010). Additionally, the participants of a diverse team actually produced more ideas than the participants in homogenous teams did, which is an interesting extension of previous work. Creativity is seen as crucial for organizations (Florida & Goodnight, 2005), and it is important to illuminate its antecedents. In line with previous work linking diversity to creativity (e.g., Cox, Lobel, & McLeod, 1991), we also find that members in diverse teams might become more creative. Interestingly, previous work has linked diversity and creativity in actual teams that allow the team members to exchange and
process their divergent viewpoints and ideas (Kurtzberg & Amabile, 2001; Williams & O'Reilly, 1998). In the present study, however, the participants believed that they worked in a diverse team, but they worked on the creativity task alone. Our findings seem to indicate that merely the thought of working in a diverse team might already stimulate creativity in individuals.

Additionally, replicating Study 1, we found that, in diverse teams, transformational leaders have a positive effect on affective (Hypothesis 1a), relational (Hypothesis 1b), and task-related (Hypothesis 1c) outcomes. Participants who were members of a diverse team led by a high transformational leader, indicated more satisfaction with their team, experienced that their team was subdivided into subgroups to a greater extent, and produced more ideas than the participants in the other conditions. Furthermore, we could not support Hypothesis 1b pertaining to liking and trusting the leader. We believe that a possible explanation for this lack of effect might be that transformational leaders emphasize the "we" and the teams, but emphasize the relationship between them and their followers less. We will elaborate on this issue and why we found contrary results in Study 1 regarding trust in the leader in the general discussion.

We did not find support for our predicted three-way interactions between diversity, TFL, and leaders' diversity beliefs (Hypothesis 2a, c, and partly Hypothesis 2b). Although these findings are in line with those found in Study 1, we did not find evidence for the alternative explanation put forward in the discussion of Study 1 after performing the same follow-up analyses. That is, we did not find interactions between TFL and the diversity beliefs of the leader regardless of the team diversity. We will elaborate on this issue in more detail in the general discussion. However, partially supporting Hypothesis 2b, we did obtain a three-way interaction effect between
diversity, TFL, and diversity beliefs on subgroup perceptions. The perceptions of the participants in homogenous teams regarding subgroups were independent of TFL, or the diversity beliefs of the leader, and these participants perceived less subgroups than those in diverse teams. Furthermore, the participants in a diverse teams led by a highly transformational leader with positive diversity beliefs perceived less subgroups than those in diverse teams with a high TFL - negative diversity beliefs leader, as well as with in a low TFL - positive diversity leader, which is in line with our reasoning above. Interestingly, and contrary to our prediction, we found that members of a diverse team led by a high TFL leader with positive diversity beliefs had similar subgroups perceptions as members of a diverse team led by a low TFL leader with negative diversity beliefs. We will elaborate on this issue below.
TABLE 4.4. Main Effects of Diversity, Transformational Leadership, and Leaders’ Diversity Beliefs on Outcomes in Study 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Diversity</th>
<th>Transformational leadership</th>
<th>Diversity Beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hom.</td>
<td>(SD)</td>
<td>div.</td>
</tr>
<tr>
<td>TI</td>
<td>5.17*</td>
<td>(1, 124)</td>
<td>.04</td>
</tr>
<tr>
<td>TS</td>
<td>0.67</td>
<td>(1, 124)</td>
<td>.01</td>
</tr>
<tr>
<td>LL</td>
<td>0.01</td>
<td>(1, 124)</td>
<td>.00</td>
</tr>
<tr>
<td>TL</td>
<td>0.01</td>
<td>(1, 124)</td>
<td>.00</td>
</tr>
<tr>
<td>SP</td>
<td>47.85*</td>
<td>(1, 124)</td>
<td>.28</td>
</tr>
<tr>
<td>NI</td>
<td>4.84</td>
<td>(1, 124)</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. hom. = homogenous teams; div. = diverse teams; negat. = negative diversity beliefs; posit. = positive diversity beliefs; TI = Turnover intention; TS = Team satisfaction; LL = Liking of the leader; TL = Trust in the leader; SP = Subgroup perception; NI = Number of ideas. *p < .05, **p ≤ .001.
# Table 4.5. ANOVA Results pertaining to Hypothesis 2 in Study 2

<table>
<thead>
<tr>
<th>Condition</th>
<th>1 Div. high TFL pos. DB</th>
<th>2 Div. high TFL negat. DB</th>
<th>3 Div. low TFL pos. DB</th>
<th>4 Div. low TFL negat. DB</th>
<th>5 Homog. high TFL pos. DB</th>
<th>6 Homog. high TFL negat. DB</th>
<th>7 Homog. low TFL pos. DB</th>
<th>8 Homog. low TFL negat. DB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
<td><strong>M (SD)</strong></td>
</tr>
<tr>
<td>TI</td>
<td>0.67 (.124)</td>
<td>0.01</td>
<td>2.47 (1.00)</td>
<td>2.50 (0.86)</td>
<td>2.86 (1.34)</td>
<td>2.65 (1.32)</td>
<td>2.83 (1.03)</td>
<td>2.93 (0.90)</td>
</tr>
<tr>
<td>TS</td>
<td>0.31 (.124)</td>
<td>0.00</td>
<td>5.81 (0.76)</td>
<td>5.29 (0.67)</td>
<td>5.02 (0.88)</td>
<td>5.33 (1.00)</td>
<td>5.22 (0.85)</td>
<td>5.11 (0.71)</td>
</tr>
<tr>
<td>LL</td>
<td>0.80 (.124)</td>
<td>0.01</td>
<td>5.42 (0.96)</td>
<td>4.20 (1.04)</td>
<td>4.83 (1.36)</td>
<td>4.69 (1.32)</td>
<td>4.76 (0.79)</td>
<td>4.84 (0.73)</td>
</tr>
<tr>
<td>TL</td>
<td>0.52 (.124)</td>
<td>0.00</td>
<td>5.24 (1.36)</td>
<td>4.05 (1.04)</td>
<td>4.11 (1.39)</td>
<td>4.44 (1.32)</td>
<td>4.58 (0.79)</td>
<td>4.86 (0.73)</td>
</tr>
<tr>
<td>SP</td>
<td>4.37 (.124) *</td>
<td>0.04</td>
<td>3.78a (1.63)</td>
<td>4.52a (1.07)</td>
<td>4.59a (1.10)</td>
<td>3.57a (1.29)</td>
<td>2.31a (1.19)</td>
<td>2.53a (1.10)</td>
</tr>
<tr>
<td>NI</td>
<td>0.03 (.124)</td>
<td>0.00</td>
<td>19.83 (6.71)</td>
<td>19.81 (6.92)</td>
<td>16.22 (6.46)</td>
<td>18.76 (8.68)</td>
<td>16.93 (5.12)</td>
<td>15.47 (6.36)</td>
</tr>
</tbody>
</table>

*Note.* TI = Turnover intention; TS = Team satisfaction; LL = Liking of the leader; TL = Trust in the leader; SP = Subgroup perception; NI = Number of ideas. Condition 1 = diversity, high transformational leadership, and positive diversity beliefs; Condition 2 = diversity, high transformational leadership, and negative diversity beliefs; Condition 3 = diversity, low transformational leadership, and positive diversity beliefs; Condition 4 = diversity, low transformational leadership, and negative diversity beliefs; Condition 5 = homogeneity, high transformational leadership, and positive diversity beliefs; Condition 6 = homogeneity, high transformational leadership, and negative diversity beliefs; Condition 7 = homogeneity, low transformational leadership, and positive diversity beliefs; Condition 8 = homogeneity, low transformational leadership, and negative diversity beliefs. F-value marked with an asterisk are significant p < .05. Means within a row with a different subscript differ at p < .05.
GENERAL DISCUSSION

Demographic change and the internationalization of the markets are highly relevant issues in research and organizations (Earley & Gibson, 2002). Organizations try to meet the challenges by using teams with diverse skills in the work process (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). However, the differences between team members should be managed well to promote positive functioning in teams. We proposed that TFL and leaders' diversity beliefs are tools, which can be used to form effective working teams. Thereby, this research aimed to extend previous research in the following ways:

First, research on the interplay between diversity and leadership is still in its infancy and only a few studies have investigated the influence of leadership on the diversity-outcome relationship (e.g., Kearney & Gebert, 2009; Nishii & Mayer, 2009; Somech, 2006). Studies considering TFL have found support for the influence of TFL on task-related outcomes, but have not investigated affective and relational outcomes (e.g., Kunze & Bruch, 2010; Shin & Zhou, 2007). Owing to diversity also influencing these outcomes (Milliken & Martins, 1996; Williams & O'Reilly, 1998), we included these measures in our studies to provide a more comprehensive view of leadership's role in the functioning of diverse teams. Second, using an experimental study, we not only assessed the perceived task-related outcomes as in previous studies (e.g., Kearney & Gebert, 2009), but also an objective task-related outcome measure (creativity task). Third, to date studies have only examined the diversity beliefs of the team members and found support for the assumption that these beliefs matter in the relationships between diversity and outcomes (Homan et al., 2007; van Knippenberg et al., 2008). However, we proposed that leaders' diversity beliefs might also play an
important role in the diversity-outcome relationship, because leaders shape team functioning and processes via their communication and behavior (Bass, 1990; Follett, 1926). Leaders are able to transfer their vision and ideas to their team members (e.g., Greer et al., 2012), which makes it likely that their diversity beliefs will also be transferred to their team members. Our studies only supported this prediction regarding the perception of the team in terms of subgroups. We will elaborate on the possible explanation for these findings later and discuss why we still believe that leaders' diversity beliefs matter.

Using different methods and different samples, in both studies we found that the participants in diverse teams led by transformational leaders, indicated better affective (i.e., satisfaction), relational (i.e., conflicts), and task-related (i.e., number of ideas in a creativity task) outcomes. Finding similar results for the different types of outcomes boosts our confidence in the generalizability of the effects. Transformational leaders help tap the full potential of diverse teams by fostering the use of all the perspectives, ideas, and information inherent in a nationality diverse team (Harrison & Klein, 2007; Kearney & Gebert, 2009). At the same time, transformational leaders ensure that potential harmful categorization processes, such as conflicts due to different perspectives, occur less frequently (e.g., Kunze & Bruch, 2010).

Interestingly, we could not support our prediction for trust in the leader and liking of the leader in Study 2, but found support for trust in the leader in Study 1. In general, we believe that transformational leaders ensure that the team members' individual interest meet the collective interest, formulate a vision for the whole team, and emphasize the importance of everyone on the team working together in order to reach a common goal (e.g., Bass & Riggio, 2006). In other words, they stress teamwork more strongly (i.e., state that everybody should be heard, all people are
relevant to reach the common goal, and conflicts are good for discussing perspectives) than they do the individual relationships between them and their followers. Therefore, transformational leaders might more strongly affect the processes within the team and their feelings with respect to the job, than affect their individual relationships with their followers. Our manipulation of TFL in Study 1 focused on different aspects of TFL, such as giving their followers' work meaning, their role modeling behavior, providing new learning opportunities and a vision. This manipulation covered TFL behaviors, but focused less on the team working together to achieve goals. In contrast, the manipulation of TFL in Study 2 concentrated far more on the team aspects (i.e., As a team, you will be able to perform very highly on this task; It is an extraordinary feeling to work with people who all work towards the same goal.). Therefore, we assume that the more team-focused manipulation of TFL in Study 2 resulted in the finding that members of a diverse team led by transformational leaders do not indicate more trust in the leader and liking of the leader than in the other conditions.

Previous work has suggested that more emphasis should be placed on the role of leaders' beliefs and attitudes in diversity management (e.g., Homan & Jehn, 2010). In this respect, we proposed that the effects of TFL would depend on leaders' diversity beliefs (see also Beyer, 1999; De Hoogh & Den Hartog, 2009; House & Howell, 1992). Surprisingly, and in contrast to our predictions and previous research (e.g., Janz et al., 2012; Yorges, Weiss, & Strickland, 1999), our data did not support the three way-interaction between diversity, TFL, and leaders' diversity beliefs for most of the outcomes.

In Study 2, we only obtained a three-way interaction between diversity, TFL, and leaders' diversity beliefs regarding subgroup perceptions. Members of diverse teams led by a low transformational leader with positive diversity beliefs, or by a high
transformational leader with negative diversity beliefs, showed the strongest perceptions of subgroups. This is partly in line with our prediction, because followers of diverse teams led by a transformational leader who communicates that diversity is negative for team functioning, are likely to initiate categorization processes within the team and make nationality diversity more important for the team members. Similarly, low transformational leaders are unable to effectively transfer their positive diversity beliefs to their team members, which means that the followers are likely to perceive subgroups. In contrast, our findings show that members of a diverse team led by a high transformational leader with positive diversity beliefs, perceived less subgroups, because the highly transformational leader was able to create a common social identity by effectively transferring his or her positive diversity beliefs (Kunze & Bruch, 2010). Surprisingly, members of a diverse teams led by a low transformational leader with negative diversity beliefs also perceived less subgroups. That is not in line with our prediction, because we proposed that low transformational leaders would not be effective. A possible explanation might be that members of diverse teams perceive this leader to be ineffective and do not take him seriously, which might create a common ground within the team based on their negative judgment of the leader. This type of leader (low TFL - negative diversity beliefs) constitutes a strong misfit (e.g., Atwater & Dionne, 2007) with the situation (diverse team) and might require the team to solve the issues themselves and ignore the leader. Unfortunately, we do not have data concerning leader acceptance and legitimization, but future research could examine whether this could be an explanation for our finding. In sum, our findings do not convincingly support the prediction that leader diversity beliefs would aid the processes within diverse teams. However, we believe that more research needs to be done to provide more conclusive evidence on this topic. As the content of a leader's
vision has been found to matter in previous research (Beyer, 1999; De Hoogh & Den Hartog, 2009; House & Howell, 1992; Greer et al., 2012), it might be that more time is needed to observe these effects. Beliefs and attitudes are relatively stable (e.g., Smith, 1990); it thus seems intuitive that these beliefs will not change at once. Followers might need some time to consider their leader's beliefs and may only adopt these over time. Our studies consisted of one-shot interactions over relatively short time spans, making it difficult for the participants to consider their leader's beliefs and their own. Therefore, it would be valuable for future research to investigate the role of leaders' beliefs in a longitudinal design in order to examine the possibility that leaders' diversity beliefs have an effect, but that followers may need time to internalize them.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

We acknowledge the limitations of our research. First, vignette and experimental studies are used to establish causal relationships (Van Dick et al., 2008), but cannot ensure their external validity. Neither were conducted in a quest for external validity (Brown & Lord, 1999; Mook, 1983), but we would advise further research to replicate our findings in actual organizations in order to further validate our findings. It should be noted that previous research (albeit focused only on task-related outcomes) on the influence of TFL in diverse teams reported similar effects in their field studies (Kearney & Gebert, 2009; Kunze & Bruch, 2010). Thus, we have no reasons to believe that our results are limited to vignette and experimental studies.

Second, we focused on nationality diversity, which is a highly relevant topic in organizations (Dahlin et al., 2005). However, researchers have pointed out that, over time, deep-level diversity types, such as values and attitudes, become more influential (Harrison, Price, & Bell, 1998). Therefore, it would be valuable to investigate whether the link between diversity, TFL, and diversity beliefs changes in deep-level diversity
dimensions, such as personality or work values. We are confident that in this specific setting, this surface-level diversity dimension was important to our participants. What happens over time is an empirical question, as surface-level diversity might become less important over time (Pelled, Eisenhardt, & Xin, 1999; Sacco & Schmitt, 2005). Therefore, it would be a fruitful approach for future research to investigate how various surface diversity dimensions (i.e., age, sex) interplay with TFL and diversity beliefs over time.

Furthermore, it would be worthwhile for future research to investigate the inconsistent finding regarding the link between diversity and turnover. Previous studies found a positive relationship between diversity and turnover (Jackson et al., 1991; Tsui, Egan, & O'Reilly, 1992; Wagner et al., 1984), whereas our study showed that anticipated team diversity results in lower levels of turnover intentions than anticipated team homogeneity does. This finding implies that people who believe they are working in a diverse team might not directly think about leaving their team or their organization. However, previous work suggested that when people actually work in a diverse team, they leave this team. Future research should investigate the inconsistent findings and the processes that change intentions to stay into turnover behavior when people actually work in a diverse team. Possible miscommunications or conflicts within diverse teams might be processes that explain the difference between the anticipated and actual interactions in diverse teams.

Finally, our findings seem to indicate that the mere thought of working in a diverse team might be enough to improve creativity in people. Our participants were unable to actually use diversity, because they did not work in real team. Diversity might act as a prime that made participants more creative. It would be worthwhile examining how this priming of diversity works and how this knowledge could be used
in organizations. If priming people by means of diversity is sufficient to enhance creativity, this would have important implications for organizations. For instance, organizations that need creative ideas might highlight the uniqueness/diversity of each team member instead of allowing followers to work in real diverse teams (i.e., age, nationality, values) if they normally do not do so. Moreover, priming individuals by means of diversity, rather than actually making them brainstorm in teams, would also address issues associated with production losses in group brainstorming (Diehl & Stroebe, 1987; 1991; Nijstad, & Stroebe, 2006). Of course, the potential relational and affective benefits of team work would then not be obtained (e.g., Kozlowski & Bell, 2003).

CONCLUSION

Nationality diversity is a highly relevant topic in organizations and should be managed well. The present study investigates two promising tools in diversity management: TFL and leaders' diversity beliefs. In two studies we could show that TFL influences affective, relational, and task-related outcomes in diverse teams, which indicates that TFL might be a useful tool to realize beneficial diversity management. These findings imply that organizations are well advised to identify transformational leaders for diverse teams, or to provide leaders with TFL training for effective diversity management. Unfortunately, we could not support that leaders' diversity beliefs influence the link between nationality diversity, transformational leadership, and outcomes, which speaks against the predicted promising role of leaders' diversity beliefs in diversity management. We hope that our findings motivate and inspire researchers to do more research on these topics and consequently enable us to develop novel theories on the effective management of diversity.
CHAPTER 5

GENERAL DISCUSSION
My dissertation aims to gain a more comprehensive picture of how diversity, and leaders' personality, behavior, and diversity beliefs together contribute to leaders' success. Therefore, the goal of the following chapter is to discuss, at a broader level, how the findings of the three empirical chapters can be connected to each other and how these findings build researchers' and managers' understanding about which factors determine leaders' success. Furthermore, the general limitations of my dissertation will be presented to critically examine to what extent the goal of my dissertation has been reached and what we can convey for future research.

**SUMMARY OF THE MAIN FINDINGS**

Before integrating the major findings across the three empirical papers, the empirical findings of these chapters will be briefly summarized.

**CHAPTER 2: HOW THE SUB-DIMENSIONS OF TRANSFORMATIONAL LEADERSHIP MEDIATE LEADERS' PERSONALITY-PERFORMANCE RELATIONSHIP**

The first empirical study revealed that leaders' effectiveness was influenced by leaders' personality and behavior. The Big 5 personality traits were directly related to an overall transformational leadership measure and its sub-dimensions as well as indirectly to leader performance. Furthermore, the overall transformational leadership measure and the sub-dimensions of transformational leadership were influenced by different combinations of the Big 5 personality traits. For instance, inspirational motivation was affected by neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness, whereas individualized consideration was influenced by openness to experience and agreeableness. These findings hint at some important issues: First, they acknowledge the relevance of combining different leadership models to better predict outcomes. Second, they highlight the importance
of examining the sub-dimensions of the transformational leadership theory separately to gain a deeper understanding of the nature and the antecedents of these leadership behaviors.

**CHAPTER 3: EXAMINING THE MEDIATING ROLE OF LEADER-MEMBER EXCHANGE IN THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND DIFFERENT OUTCOMES**

The second empirical study focused on how transformational leaders influence individuals, teams, and organizations. As predicted, leader-member exchange mediated the relationships between transformational leadership and job satisfaction, organizational commitment, and leader performance. Furthermore, the findings revealed that transformational leadership and leader-member exchange contributed differently to the outcome measures, depending on the type of outcomes. For instance, leader-member exchange had a stronger impact on job satisfaction than on transformational leadership. Conversely, transformational leadership contributed more to leader performance than leader-member exchange. These results clarify the need to differentiate between outcomes measurements.

**CHAPTER 4: MANAGING DIVERSITY: THE ROLE OF LEADER'S BEHAVIORS AND BELIEFS**

The third empirical study examined the role of transformational leadership behavior and leaders' diversity beliefs in managing diverse teams. The results showed that transformational leadership positively influenced anticipated affective, relational, and task-related team outcomes. Furthermore, the three-way interaction between diversity, transformational leadership, and leaders' diversity beliefs affected the subgroup perception of the participants. Participants in homogenous teams perceived less subgroups than those in diverse teams. Additionally, the participants in a diverse teams led by a highly transformational leader with positive diversity beliefs perceived
less subgroups than those in diverse teams with a high transformational leadership -
negative diversity beliefs leader, as well as with in a low transformational leadership -
positive diversity leader. Interestingly, we found that members of a diverse team led
by a high transformational leader with positive diversity beliefs had similar subgroup
perceptions as members of a diverse team led by a low transformational leader with
negative diversity beliefs. These findings reveal the importance of transformational
leadership in managing diversity and clarify the need for more research on how
leaders' diversity beliefs influence diverse teams.

THEORETICAL CONTRIBUTION AND IMPLICATIONS

The main goal of my dissertation is to provide an integrative picture of leaders' success and its influencing factors. I aim to achieve this by answering four questions that all focus on the different influencing factors (i.e., leader personality, behavior, and beliefs, and diversity) and the interplay between them. In the following, the answers to these four questions will be described by considering the previously presented findings. Thereafter, the implications of these four answers for the proposed model will be presented (as visualized in Figure 1.1 in Chapter 1).

RESEARCH QUESTION A) WHAT IMPACT DO THE FOUR FACTORS HAVE ON LEADERS' SUCCESS?

Personality and leaders' success. The question whether leaders' success depends on personality or not has intrigued researchers for many decades (Carlyle, 1888; Cawthon, 1996; Kirkpatrick & Locke, 1991). The introduction of the Big 5 personality trait model (Guion & Gottier, 1965; Mann, 1959; Reilly & Chao, 1982; Stogdill, 1948) shed some light on whether traits predict leader success. In line with previous research, Chapter 2 shows that conscientiousness is the strongest direct
predictor of leaders' performance, following by extraversion and openness to experience, agreeableness, and neuroticism (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Judge et al., 2002a; Kamdar & Van Dyne, 2007; Tett et al., 1991).

**Behavior and leaders' success.** The main focus of my dissertation is to investigate the role of transformational leadership behavior in promoting leaders' success (Chapters 2, 3, and 4). This leadership behavior is seen as a particularly effective one (e.g., Bass, 1990; Judge & Piccolo, 2004; Lowe et al., 1996) and fulfills this expected role throughout the three empirical studies. My dissertation reveals that transformational leadership results in leaders performing highly (Chapters 2 and 3) and result in followers' enhanced affective (Chapters 3 and 4) and relational outcomes (Chapter 4). Furthermore, my research shows that transformational leaders are especially beneficial for diverse teams, as they help promote the positive effects of diversity and dampen its negative effects (Chapter 4; Kearney & Gebert, 2009; van Knippenberg et al., 2004).

Additionally, my dissertation considers leader-member exchange (Chapter 3). Chapter 3 shows that leader-member exchange has a positive influence on several outcomes, but that the strength of the effect depends on the type of outcome. More specifically, leader-member exchange is a relationship-focused leadership behavior. Chapter 3 reveals that the degree of relationship-orientation of the outcome variable of interest determines the strength of the leader-member exchange effect on the outcomes. Leader-member exchange has the strongest influence on job satisfaction, followed by organizational commitment and leader performance. These findings make sense because job satisfaction is more relationship-focused than organizational commitment and leader performance. The relationships between leaders and their followers determine how followers evaluate their jobs (Brower et al., 2000), which
can be expressed in their job satisfaction. Additionally, although organizational commitment has a relationship dimension, it probably depends relatively more on the relationship with the organization than with the leader. Finally, Chapter 3 implies that leader performance is the least relationship-focused compared to job satisfaction and organizational commitment, and is, probably, affected more by other leadership factors (i.e., goals and visions).

**Diversity and leaders' success.** Researchers describe diversity as a "double-edged sword" that can have positive as well as negative effects on critical organizational outcomes, such as performance, satisfaction, turnover, and conflicts within teams (Jackson & Joshi, 2011; Milliken & Martins, 1996; Williams & O'Reilly, 1998). Chapter 4 contributes to diversity literature by revealing that diversity is an antecedent of important organizational outcomes, such as creativity, turnover intention, subgroup perception, and team effectiveness.

Chapter 4 supports previous research by showing team members' perceived diversity results in stronger experience of subgroups within their team, and in an increase in team effectiveness (Homan et al., 2010; Kearney & Gebert, 2009; van Knippenberg et al., 2004). More specifically, Chapter 4 shows that contrary to homogenous teams, diverse teams show higher team effectiveness, which their broader pool of information, experiences, and backgrounds might be explained (i.e., information/decision making approach; Williams & O'Reilly, 1998). This pool of resources might lead to synergetic effects, resulting in higher team effectiveness (Kearney & Gebert, 2009; van Knippenberg et al., 2004; Williams & O'Reilly, 1998). Conversely, these differences regarding the resources, information, and experiences in diverse teams also result in the categorization of diverse team members into outgroups, which leads diverse team members to perceive more subgroups within their
team (i.e., similarity-attraction/social categorization paradigm; Williams & O’Reilly, 1998).

Moreover, it is interesting for research and organizations that the participants of diverse teams in Chapter 4 indicate less willingness to leave the team than do those in homogenous teams. Turnover has critical consequences for organizations in terms of recruiting costs, the time that people need to adapt to a new workplace, and the resultant reduced productivity (Alexander, Bloom, & Nuchols, 1994; Huselid, 1995; Shaw, Gupta, & Delery, 2005; Nishii & Mayer, 2009; Staw, 1980). Therefore, it is important to illuminate the antecedents of turnover. Studies that investigated the relationship between diversity and turnover showed that this relationship was positive, which means that diversity in teams led to higher turnover rates (Jackson et al., 1991; McCain, O’ Reilly, & Pfeffer, 1983; Tsui et al., 1992; Wagner et al., 1984). However, the results of Chapter 4 reveal that anticipated diversity yields lower levels of turnover intentions, which seems inconsistent with previous research.

Furthermore, my research supports the importance of diversity for actual creativity, a critical outcome in organizations (Florida & Goodnight, 2005). Researchers who related the diversity of actual teams to creativity found that diverse teams’ members might become more creative (e.g., Cox et al., 1991; Kurtzberg & Amabile, 2001). Interestingly, my research shows that the mere thought of working in a diverse team might be enough to enhance creativity.

Beliefs and leaders’ success. The role of leaders’ cognitions in terms of their diversity beliefs as a predictor of their success has not been studied very frequently (Homan & Jehn, 2010). In this respect, Chapter 4 aims to investigate how the effects of leadership behaviors in diverse teams might be influenced by the attitudes leaders have in respect of diversity. Scholars have proposed that leaders' diversity beliefs do
not influence their success directly, but through their behavior, which in turn influences followers' behavior and, thus, critical organizational outcomes. The results of my research confirm that leaders' diversity beliefs do not have a direct influence on outcomes, such as performance, satisfaction, and conflicts. This is plausible, since the beliefs of leaders probably need a medium to transfer them to their followers (i.e., leadership behavior). The potential effects of leader' diversity beliefs on the relationship between leaders' behavior and success will be described later.

**Research Question B) How Does the Interplay Between Leaders' Personality and the Transformational Leadership Behaviors Influences Leaders' Success?**

I argue that effective leadership comprises of different factors, such as personality and leadership behavior (DeRue et al., 2011). Scholars have proposed that personality influences leaders' success via leadership behavior, but also directly in terms of conscientiousness. Therefore, I investigated the role of the Big 5 personality traits and the transformational leadership behaviors in predicting leaders' success. Thereby, my research does not only contribute to leadership literature by integrating two different leadership models, but also by updating previous work that has been investigated the link between personality and leadership (Bono & Judge, 2004). Furthermore, my research follows the call by van Knippenberg and Sitkin (2013) for a separate investigation of the different transformational leadership sub-dimensions.

The findings in Chapter 2 show that personality, as well as leadership behavior, contributes to leaders' performance. More specifically, the Big 5 personality traits are directly linked to an overall transformational leadership measure and its sub-dimensions as well as indirectly to leader performance. Furthermore, conscientiousness has a direct effect on leaders' performance over and above
leadership behavior. Finally, I show that the transformational leadership sub-dimensions are influenced by different combinations of the Big 5 personality traits. In sum, my dissertation emphasizes the importance of integrating different leadership models to better predict leaders' success and the relevance of distinguishing between the sub-dimensions of the transformational leadership theory.

**RESEARCH QUESTION C) HOW DOES LEADER-MEMBER EXCHANGE MEDIATE THE RELATIONSHIPS BETWEEN TRANSFORMATIONAL LEADERSHIP AND OUTCOMES?**

On the one hand, transformational leadership behavior is directly linked to leaders' success (e.g., Judge & Piccolo, 2004). On the other hand, transformational leadership influences leader success indirectly through leader-member exchange (e.g., Dulebohn et al., 2012). My research confirms that leader-member exchange mediates the relationships between transformational leadership and job satisfaction, organizational commitment, and leader performance. Furthermore, it contributes to literature by showing that a leadership behaviors do not automatically affect different outcomes similarly (see van Knippenberg & Sitkin, 2013 for an in depth discussion of this issue). My dissertation supports the prediction that leader-member exchange and transformational leadership behavior differ regarding their relationship-orientation and that, depending on the degree of relationship-orientation of the outcome variable of interest, leader-member exchange or transformational leadership will be a stronger predictor of that outcome variable. My research shows that job satisfaction is mainly influenced by positive relationships between followers and their leaders (i.e. leader-member exchange), rather than by transformational leadership behaviors per se. In addition, transformational leadership is more predictive of organizational commitment than are positive relationships between followers and leaders. Finally, I show that
transformational leadership is more directly linked to leader performance than indirectly via leader-member exchange. In this respect, I reveal that the indirect effect of transformational leadership via leader-member exchange is even less strong with regard to leader performance than organizational commitment. Thereby, my dissertation contributes to the literature by emphasizing the relevance of distinguishing between different outcomes measures and the leadership behaviors that enable them.

**Research Question D) How do Transformational Leadership and Leaders’ Diversity Beliefs Influence the Diversity-Outcomes Relationships?**

Diversity management is a highly relevant topic in organizations (Jackson & Joshi, 2011; Milliken & Martins, 1996; Williams & O'Reilly, 1998). Therefore, my research aims to investigate whether transformational leadership and leaders’ diversity beliefs are factors that might promote the positive effects of diversity and hinder the negative effects. The role of transformational leadership in managing diversity has been considered recently, but has rarely been investigated (e.g., Kunze & Bruch, 2010; Shin & Zhou, 2007; Timmerman, 2000). I contribute to the diversity literature by showing that transformational leadership influences affective, relational, and task-related outcomes of diverse teams.

Furthermore, I contribute to leadership and diversity research by investigating the role that leaders' diversity beliefs play in the leadership process. The importance of cognitive processes in general has been confirmed (e.g., Fiedler, 1986; Lord & Maher, 1991; Spisak et al., 2012; Yukl, 2013), but studies have rarely examined leaders' diversity beliefs and their impacts on followers' behavior and, thus, on outcomes (Homan & Jehn, 2010). In the introduction, I proposed that leaders' positive
diversity beliefs have a positive influence on outcomes. However, I was unable to show that the diversity beliefs of leaders influence affective, relational (except subgroup perception), and task-related outcomes through transformational leadership behavior.

**IMPLICATIONS FOR THE PROPOSED MODEL**

The previous section described the relevance of leaders' personality, beliefs, and behavior, as well as diversity for their success and, thereby, represented the findings regarding the different paths of the proposed comprehensive model of leaders' success. In the following section, I will summarize these findings and incorporate them into the overall model.

First, I predicted that the Big 5 personality traits affect the use of transformational leadership behaviors (e.g., Bono & Judge, 2004). Chapter 2 supports this prediction by showing that the Big 5 personality traits are differently linked to the sub-dimensions of the transformational leadership as well as the overall construct. For instance, transformational leadership is affected by extraversion, openness to experience, and agreeableness, whereas intellectual stimulation is influenced by neuroticism, extraversion, openness to experience, and agreeableness. Furthermore, I also proposed that, in terms of conscientiousness, personality might also have a direct impact on leaders' success (Anderson & Viswesvaran, 1998; Barrick & Mount, 1991; Judge et al., 2002a; Kamdar & Van Dyne, 2007; Tett et al., 1991). Chapter 2 confirms that prediction by showing that conscientiousness has a direct effect on leader's success, which adds significantly to leadership behaviors by enhancing leaders' success. In sum, my dissertation indicates that personality is a crucial predictor of leaders' behavior and success.
Second, I proposed that transformational leadership behavior affects leaders' success directly (e.g., Judge & Piccolo, 2004) and indirectly via leader-member exchange (e.g., Avolio, 2007; Morgeson et al., 2010). My research reveals that the transformational leadership sub-dimensions (Chapters 2, 3, and 4) positively affect leaders' success. Furthermore, my research confirms that leader-member exchange is one process through which transformational leaders influence outcomes (Chapter 3; e.g., Dulebohn et al., 2012; Wang et al., 2005). This finding has several implications: First, the exchange between followers and leaders seems highly important for leaders' success. Second, beside leader-member exchange, other variables might mediate the transformational leadership-outcome relationship. More specifically, leader-member exchange has been shown to be an important mediator for relationship-focused outcomes, but a less important mediator for more task-related outcomes. Therefore, other processes might mediate the relationship between transformational leadership and task-related outcomes. This prediction is in line with Chapter 4, which reveals that the exchange between transformational leaders and their followers does not influence all kinds of outcomes, for instance, trust in the leader and liking of the leader — variables that deal with the relationship between leaders and followers. Therefore, other processes than the exchange between followers and leaders might explain the positive effect of transformational leadership. Third and relatedly, I stated that it is highly important to distinguish between different categories of outcomes (Chapters 3 and 4). As described above, Chapter 4 shows that transformational leadership influences a wide range of outcomes in diverse teams positively, except trust in the leader and liking of the leader. This is interesting, as these outcomes were specifically included to determine the relationship with the leader. A possible explanation for the lack of results here might be the fact that transformational leaders
more strongly emphasize that all team members should work together to reach their common goal (e.g., Bass & Riggio, 2006) than the individual relationships between them and their followers would. The findings in Chapter 4 are thus in line with those in Chapter 3, which illustrate that transformational leadership is less closely related to relationship-focused outcomes than leader-member exchange.

Next, I proposed that diversity is a contingency factor of the effectiveness of transformational leadership. My research supports this prediction by showing that transformational leadership influences the link between nationality diversity and different kinds of outcomes (Chapter 4). Therefore, my dissertation contributes to the generalizability of the effects. Furthermore, my research reveals that, with regard to transformational leadership, leaders' diversity beliefs do not have an impact on most of the outcomes (Chapter 4). I only found a three-way interaction between diversity, transformational leadership, and leaders' diversity beliefs regarding subgroup perceptions. In line with the predictions, the participants perceived more subgroups when they were confronted with a heterogeneous team than when confronted with a homogeneous team. However, this effect was qualified by an interaction with transformational leadership and the leader's diversity beliefs. More specifically, and in line with my proposition, the participants of diverse teams led by high transformational leaders with positive diversity beliefs perceived less subgroups. However, and contrary to my prediction, participants who were confronted with a heterogeneous team led by a low transformational leader with negative diversity beliefs also perceived less subgroups within their diverse teams. I suggested that the group members as a whole perceived their leader as ineffective, which resulted in an increased group cohesion, as a possible explanation of these unexpected results. Although the promising role of diversity beliefs in the leadership process within
diverse teams could not be confirmed, I showed that this leader characteristic influenced subgroup perceptions (the variable that is most directly related to reactions to diversity; van Knippenberg et al., 2004). As we know that the categorization of people into an in and out-groups affects the evaluation and liking of team members and the cooperation within a team (e.g., Turner et al., 1987), this variable deserves future research attention. This research might focus on longer term interaction between leaders and followers, in order to increase the likelihood that the beliefs of the leaders can actually be transferred to the followers.

Finally, my dissertation provides some insights into how the sub-dimensions of the transformational leadership theory and the overall constructs of transformational leadership might be used. As explained in the introduction, there are two perspectives regarding the differentiation between the individual sub-dimensions of transformational (focus on the overall construct [Howell & Hall-Merenda, 1999] vs. distinctiveness of the sub-dimensions [van Knippenberg & Sitkin, 2013]). Hence, I used both approaches in my dissertation. In Chapter 2, I keep the sub-dimensions of transformational leadership separate, whereas in Chapters 3 and 4, I use the overall construct of transformational leadership. The results of the different chapters illustrate that different personality traits are differently related to the different sub-dimensions of transformational leadership; that the sub-dimensions of transformational leadership are highly positive related to leader performance; that leader-member exchange mediates the relationship between transformational leadership and outcomes; and that the overall transformational leadership measure has positive effects in diverse teams. Considering the results regarding the sub-dimensions and their different relationships to the personality traits, I conclude that it is highly important to use the sub-dimensions of transformational leadership for theory development. However, in the
beginning of theory testing researchers often want to test their model in general to get an overall picture (i.e., transformational leadership has positive effects on outcomes). Thereby, they might use the overall transformational leadership construct to see if their theory can be confirmed. If that has been done, researchers might test the model with the specific dimensions to be better able to make more precise statements concerning the different aspects of transformational leadership. In sum, both methods might be used depending on the goal of the specific research. My research aims to provide an overarching picture of the influencing factors of leaders' success and thus, both methods have been used depending on which step the theory development within the research was.

Providing this overarching picture of leaders' success, its influencing factors, and their links to each other is a crucial step in theory development. My dissertation reveals that focusing on only one leadership model is inappropriate, because leaders' success is dependent on many different factors. This prediction is in line with previous efforts to integrate leadership models (Avolio, 2007, DeRue et al., 2011; Morgeson et al., 2010). I show a link between personality and the transformational leadership behaviors (Chapter 2); a link between transformational leadership and leader-member exchange (Chapter 3); the positive effects of transformational (Chapters 2, 3, and 4) and leader-member exchange (Chapter 3) on outcomes; and the positive role of transformational leadership behavior (and leaders' beliefs) in managing diversity (Chapter 4). In sum, my dissertation proposes leader success is better predicted by a combination of traits, behaviors, and the context, than by these factors separately.
MANAGERIAL CONTRIBUTION AND IMPLICATIONS

My dissertation provides relevant applied insights into how leaders' personality, behavior, and beliefs, as well as team diversity, can enhance leaders' success. More specifically, it reveals that leaders' success depends on different factors, such as leaders' personality, behavior, and team diversity. This knowledge might be used to develop new Human Resource Management practices, or adapt traditional ones, when selecting (Chapter 2) and developing leaders (Chapters 2, 3, and 4), and for the optimal forming of teams that function well (Chapters 3 and 4).

With respect to the development of successful leaders, the findings of my dissertation suggest that organizations' development programs should consider the personality and the behavior of the leader. In this regard, my research shows that the match between personality and suitable leadership behavior has to be considered. Different leadership sub-dimensions are influenced by different personality traits, which enable organizations to either select people with certain traits (i.e., conscientiousness), or to train leaders to use specific techniques (i.e., inspirational motivation).

Furthermore, my dissertation reveals that different leadership strategies can be used to develop successful leaders. First, organizations might focus on transformational leadership strategies, since these provide benefits for a wide range of outcomes. Second, organizations are well-advised to also focus on highlighting the importance of leader-member relationships, because I have shown that high quality relationships between leaders and followers have an impact on various outcomes.

With respect to teams, the results of my research reveal that organizations are well advised to welcome nationality diversity in teams. My results illustrate that diversity may enhance team functioning and processes under the right circumstances.
Transformational leadership is a factor that helps promote the positive effects of diversity and diminish the negative effects. Organizations should thus select or train leaders who are willing to promote information sharing processes while simultaneously reducing harmful categorization processes, so that teams work together effectively and perceive less conflicts, exhibit good communication, and are satisfied and committed.

Finally, the type of the outcome is closely linked to the choice of the best strategy to promote leaders' success in organizations. Organizations are highly recommended to consider their goals and their criteria regarding leaders' success. Having determined these, they can contemplate the best strategy to reach these goals. There is no individual personality trait, no specific behavior, and no contingency factor that ensures organizational success in all cases and regarding all outcomes. However, defining goals clearly provides organizations with the possibility to choose from a wide range of options for combining the different influencing factors of leaders' success (personality, behavior, contingency factors, beliefs) in order to guarantee leaders' success.

LIMITATIONS AND FUTURE RESEARCH

The results of my dissertation need to be evaluated in light of their limitations, which might provide directions for further research. The studies comprising my dissertation have one constant factor, transformational leadership. Therefore, it was possible to investigate transformational leadership across different designs, samples, and effectiveness measures and, as a result, draw conclusions regarding the generalizability of the results. However, as my dissertation shows, leader-member exchange is likely to be effective as well. Hence, it would be valuable to investigate these behaviors to see whether previous findings are unique in respect of
transformational leadership or are, for instance, generalizable to leadership behaviors that focus on different kinds of exchange between followers and leaders. It is likely that similar links can be obtained between personality, diversity, and beliefs and exchange-focused leadership behaviors (i.e., contingent reward). In turn, this would contradict the uniqueness of transformational leadership.

Another factor in leadership research, which could be valuable for future research, is destructive, unethical, or ineffective leadership (i.e., charismatic leadership that enables leaders to provide a compelling vision, unethical behavior; Shipman, 2010; Tepper, 2007; Treviño, Weaver, & Reynolds, 2006; Van Vugt & Ronay, 2013). A large number of studies have not stressed the high impact of destructive leadership behavior (e.g., Burke et al., 2006). Nevertheless, we very often see the impact that leadership failures have. At one time or another, everybody experiences a leader who acts egoistically, or who ignores other people's needs. People tend to display harmful behavior more often once they are in a position of power or leadership (Mumford, Gessner, Conelly, O'Conner, & Clifton, 1993). In turn, this behavior can result in many negative outcomes, such as counterproductive work behavior and distress (Zellars, Tepper, & Duffy, 2002). However, it is important to acknowledge that obtaining negative results in terms of some types of outcomes does not imply that such leaders might not be successful in other dimensions. Fidel Castro, for instance, was quite successful at keeping his position of power, but his leadership behavior also yielded highly negative outcomes, for example that thousands of people were arrested and executed under his authority (White, 2005). Therefore, it would be valuable to investigate the factors that influence the expression of specific destructive leadership behaviors, as well as how they influence outcomes, the situations that foster their development, whether beliefs and values play a role,
and the tools that could be used to convert destructive leadership to more positive effective leadership.

Furthermore, it would be valuable for future research to investigate additional processes within the comprehensive model to advance theory development. In my research, I follow the call of several researchers to investigate the potential processes that transformational leaders instigate (Avolio, 2007; Morgeson et al., 2010). I show that leader-member exchange mediates the relationships between transformational leadership and outcomes, but that the strength of this effect depends on the outcomes' relationship focus. Therefore, it is likely that transformational leadership does not only work through leader-member exchange, but also through other processes (i.e., identification, motivation).

In addition, it would be interesting for future research to investigate the inconsistent finding regarding the link between diversity and turnover. Previous research suggested a positive relationship between diversity and turnover (Jackson et al., 1991; Tsui et al., 1992; Wagner et al., 1984), whereas the results of Chapter 4 reveal that anticipated team diversity yields lower levels of turnover intentions than anticipated team homogeneity does. This finding implies that people who believe they are working in a diverse team might not directly think about leaving their team or their organization. However, previous work suggested that when people actually work in a diverse team, they leave this team. Why this inconsistency? Further research should investigate the processes that change intentions to stay into turnover behavior when people actually work in a diverse team. Possible miscommunications or conflicts within diverse teams might be processes that explain the difference between the anticipated and actual interactions in diverse teams.
Furthermore, I show that the diversity beliefs of the leaders do not influence affective, relational, and task-related outcomes through transformational leadership behavior. The experiment conducted to investigate the role of leaders' diversity beliefs lasted less than an hour. Nevertheless, beliefs are relatively stable (Smith, 1990) and it is thus conceivable that the participants in my study did not have the time to internalize the leaders' beliefs and to behave according to these beliefs. Changing followers' diversity beliefs might just take more time. Hence, future research should examine leaders' diversity beliefs again in a longitudinal design. Moreover, it would be worth examining the other factors that might influence followers' diversity beliefs and outcomes. The diversity beliefs of their co-workers is a factor that might influence the diversity beliefs of followers. As followers probably spend more time with their co-workers than with their leaders, it is possible that they influence followers' diversity beliefs more. Future research should investigate this assumption.

Considering the dissertation's goal of providing a broader understanding of leader success and its influencing factors, it might be desirable to investigate all the potential influencing factors of leaders' success. Each empirical chapter considers one or two influencing factors related to the possible data and the focus of the studies. Thereby, my dissertation contributes to a better understanding of four important factors influencing leaders' success. However, future research might aim to consider even more influencing factors. For instance, it might be interesting in future research to examine other personality dimensions, such as stress tolerance, self-confidence, and locus of control - all factors that have been found to be important for successful leadership (Beeler, 2010). It would also be interesting to examine the HEXACO (Honesty-Humility [H], Emotionality [E], Extraversion [X], Agreeableness [A], Conscientiousness [C], and Openness to Experience [O]; Ashton & Lee, 2001) in the
leadership process. Several lexical studies have been conducted on personality structure, using several European and Asian languages (Lee & Ashton, 2005). These studies have provided no support for the Big 5 personality structure, but for a six-factor structure of personality, including an additional factor: honesty–humility (Ashton & Lee, 2001). Honesty–humility is the tendency to be fair, earnest, and modest (see Ashton et al., 2004). According to the definition of honesty–humility, it is likely that it will more strongly influence those sub-dimensions of transformational leadership, which focus on the followers and the relationships with them, such as individualized consideration. Conversely, honesty–humility will less likely affect leadership behaviors that deal with the ability to provide a vision such as idealized influence.

Nevertheless, not only personality traits, but also other types of traits, such as cognitive, physical, or interpersonal traits, are important for leaders' success (Judge & Cable, 2004; Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000; Sternberg, 2007; Van Vugt et al., 2008; Yukl, 2013) and might be worth examining in future. For instance, studies have shown that intelligence (Schmidt & Hunter, 1998) influences leaders' success indirectly via transformational leadership (Cavazotte et al., 2012; DeRue et al., 2011). However, these studies have not considered that combining the sub-dimensions of transformational leadership into an overall measure might severely limit our understanding of the development and outcomes of leadership behaviors. In line with my finding that the sub-dimensions of transformational leadership are differentially affected by personality traits (i.e., Big 5), I would propose that intelligence also influences the transformational leadership sub-dimensions differently. For instance, it is likely that intelligence is strongly related to intellectual stimulation, since intelligence might promote leaders'
competence to see a variety of solutions for problems. Conversely, it is conceivable that the relationship between intelligence and individualized consideration is less strong, since there is no strong theoretical argument to link the caring behavior of leaders to their intellectual competence. It would be highly valuable for future research to investigate these predictions, since it would broaden our understanding of how different kinds of traits interplay with leadership behaviors in order to predict leaders' success.

Similarly, it would also be worthwhile examining how the skills of leaders influence their leadership behavior and success. "A skill is the ability to do something well" (Beeler, 2010, p. 97) and includes variables such as emotional intelligence (Gooty, Connelly, Griffith, & Gupta, 2010), the ability to learn (Yukl, 2013), and problem solving (Mumford et al., 2000). It is, for instance, feasible that the ability to solve problems is connected to intellectual stimulation, since this behavior requires leaders to think about different problem-solving strategies and provide these to their followers. Instead, it is unlikely that the ability to solve problems is strongly linked to inspirational motivation, since this behavior probably requires more skills that enable leaders to motivate and inspire their followers.

Finally, it is likely that other contingency factors than diversity influence the link between transformational leadership and different types of outcomes. More specifically, one could examine factors like the structure of the work, the time available to work on a task, or the design of the team work (e.g., Morgeson et al., 2010). For example, if leaders have only limited time to work on a task with their teams, they probably have to prioritize their behavioral strategies in order to reach their goal. They are likely to focus more on the main component of transformational leadership – providing a compelling vision for the future (e.g., Bass, 1985), which
aligns the team members with the team goal, than on caring about their followers, which is less goal-oriented. This example illustrates the importance of contingency factors in the leadership process. However, the relevance of contingency factors is, of course, not only feasible regarding the link between transformational leadership and outcomes, but also regarding the links between transformational leadership, its antecedents, and mediators. For instance, it is conceivable that working under time pressure may also affect the relationship between transformational leadership, leader-member exchange, and outcomes. Transformational leaders who have to work under time pressure might not have the time to build high-quality relationships, or to consider each of their followers' needs, which could result in a weaker relationship between transformational leadership and leader-member exchange. In turn, this might affect more relationship-oriented outcomes negatively.

**CONCLUDING REMARKS**

My dissertation aims to provide a more comprehensive picture regarding leaders' success and its influencing factors. In this respect, leaders' personality, beliefs, and behavior, as well as diversity, have been investigated and incorporated into an overall model of leaders' success. This model has shown that each individual factor contributes to the development of successful leaders (although leaders' beliefs do so only partially). Personality affects behavior, which in turn influences leaders' use of transformational leadership behaviors. Transformational leadership affects outcomes directly, and indirectly via leader-member exchange. Furthermore, my dissertation reveals that diversity influences the relationships between leadership and outcomes. In sum, my dissertation highlights the relevance of investigating different leadership models and of examining underlying processes for various outcomes and in different contexts.
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## APPENDIX

**Chapter 2**

*Studies and correlations included in the meta-analysis*

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### Studies and correlations included in the meta-analysis

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Note. N = sample size of studies; N = neuroticism; E = extraversion; O = openness to experience; A = agreeableness, C = conscientiousness; TFL = transformational leadership; II = idealized influence; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized consideration; Pf = performance. Transformational leadership is calculated over different sub-dimensions.
Chapter 2

References used in the meta-analysis


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CHAPTER 3

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CHAPTER 4 - STUDY 1

Scenarios for the different conditions

Below, you will find a description of a hypothetical situation. Please assume that you are the person at the center of this situation. While reading about the situation, try to imagine yourself in this situation as vividly as you can:

Diversity - high transformational leadership-positive diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very diverse with respect to nationality - 3 of the team members are French, 2 are Germans, 1 is Italian, and 3 are Americans. Your leader (Kim Müller) is positive about the value of the different nationalities within the team. Kim Müller strongly believes that working with different nationalities creates an open and good climate, is positive for performance and increases job satisfaction within the team. Your supervisor stresses common goals, visions and resources of the team in communication with you and the other team members. Kim Müller motivates you and your team member by providing meaning to your work, acts as a mentor by providing a supportive climate and new learning opportunities, spends time coaching you, provides a vision of what lies ahead, and would never criticize you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.

Diversity - high transformational leadership-negative diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team
Diversity - low transformational leadership - positive diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very diverse with respect to nationality - 3 of the team members are French, 2 are Germans, 1 is Italian, and 3 are Americans. Your leader (Kim Müller) is positive about the value of the different nationalities within the team. Kim Müller strongly believes that working with different nationalities creates an open and good climate, is positive for performance and increases job satisfaction within the team. Your supervisor does not stress common goals, visions and resources of the team in communication with you and the other team members. Kim Müller is not very good in motivating you and your team member by providing meaning to your work, does not act as a mentor by providing a
supportive climate and new learning opportunities, spends little time coaching you, doesn't provide a vision of what lies ahead, and sometimes criticizes you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.

Diversity - low transformational leadership - negative diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. The members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very diverse with respect to nationality - 3 of the team members are French, 2 are Germans, 1 is Italian, and 3 are Americans. Your leader (Kim Müller) thinks that different nationalities within the team can lead to many problems. Kim Müller strongly believes that working with different nationalities creates a closed and negative climate, is not so good for performance and decreases job satisfaction within the team. Your supervisor does not stress common goals, visions and resources of the team in communication with you and the other team members. Kim Müller is not very good in motivating you and your team member by providing meaning to your work, does not act as a mentor by providing a supportive climate and new learning opportunities, spends little time coaching you, doesn't provide a vision of what lies ahead, and sometimes criticizes you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.

Homogeneity - high transformational leadership - positive diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team
consists of 8 members and a supervisor. The team is very homogenous with respect to nationality – all your team members are Germans. Your leader (Kim Müller) is not positive about the value of the homogenous nationalities within the team, because Kim Müller guesses it is negative for performance and decreases organizational commitment. Instead, your leader strongly believes that working with different nationalities creates an open and good climate, is positive for performance and increases job satisfaction within the team. Your supervisor stresses common goals, visions and resources of the team in communication with you and the other team members. Kim Müller motivates you and your team member by providing meaning to your work, acts as a mentor by providing a supportive climate and new learning opportunities, spends time coaching you, provides a vision of what lies ahead, and would never criticize you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.

*Homogeneity- high transformational leadership-negative diversity beliefs*

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very homogenous with respect to nationality - all your team members Germans. Your leader (Kim Müller) thinks that the homogeneity of the nationalities within the team is positive, because Kim Müller guesses it is good for performance and increases organizational commitment. Instead, your leader has the opinion that nationality diversity of a team can lead to many problems within this team. Kim Müller strongly believes that working with different nationalities creates a closed and negative climate, is not so good for performance and decreases job satisfaction within the team. Your supervisor stresses common goals,
visions and resources of the team in communication with you and the other team members. Kim Müller motivates you and your team member by providing meaning to your work, acts as a mentor by providing a supportive climate and new learning opportunities, spends time coaching you, provides a vision of what lies ahead, and would never criticize you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.

*Homogeneity- low transformational leadership-positive diversity beliefs*

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. Members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very homogenous with respect to nationality - all your team members are Germans. Your leader (Kim Müller) is not positive about the value of homogenous nationalities within the team, because Kim Müller guesses it is negative for performance and decreases organizational commitment. Instead, your leader strongly believes that working with different nationalities creates an open and good climate, is positive for performance and increases job satisfaction within the team. Your supervisor does not stress common goals, visions and resources of the team in communication with you and the other team members. Kim Müller is not very good in motivating you and your team member by providing meaning to your work, does not act as a mentor by providing a supportive climate and new learning opportunities, spends little time coaching you, doesn't provide a vision of what lies ahead, and sometimes criticizes you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.
Homogeneity: low transformational leadership-negative diversity beliefs

Since a couple of months, you are working in a big car manufacturer company. You work in a project team. The members of the team have to work together a lot. The team consists of 8 members and a supervisor. The team is very homogenous with respect to nationality - all your team members are Germans. Your leader (Kim Müller) thinks that the homogeneity of the nationalities within the team is positive, because Kim Müller guesses it is good for performance and increases organizational commitment. Instead, your leader has the opinion that nationality diversity in teams can lead to many problems within the team. Kim Müller strongly believes that working with different nationalities creates a closed and negative climate, is not so good for performance and decreases job satisfaction within the team. Your supervisor does not stress common goals, visions and resources of the team in communication with you and the other team members. Kim Müller is not very good in motivating you and your team member by providing meaning to your work, does not act as a mentor by providing a supportive climate and new learning opportunities, spends little time coaching you, doesn't provide a vision of what lies ahead, and sometimes criticizes you in public. Right now, your team is working on a project to develop a marketing strategy to stimulate the sales of a new car.
Measures

If not described differently, the response format for the following scales ranged from 1 (disagree strongly) to 7 (agree strongly).

*Measure of transformational leadership*

Five items adapted from Avolio and colleagues (1999) as well as from Podsakoff and colleagues (1990).

1. The leader of my team uses symbols and images to get ideas across.
2. The leader of my team spends time coaching me.
3. The supervisor of my team exchanges with me and the other members of the team about common goals, visions and resources of the team.
4. The supervisor of my team provides a vision of what lies ahead.
5. The leader of my team would never criticize me in the public.

*Measure of diversity beliefs*

Four items from Homan and colleagues (2010).

1. Nationality diversity is an asset for teams.
2. I believe that nationality diversity is good.
3. I enjoy working in nationality diverse team.
4. I feel enthusiastic about nationality diversity.
Measure of team effectiveness

Two items from De Dreu and Van Vianen (2001), who adapted their items from a scale developed by Hackman (1983).

1. This team is good in coming up with ways to complete their tasks.
2. This team effectively deals with uncertainty and unexpected events.

Measure of turnover intention

Three items from Shoren and colleagues (1990). The response format for the following scales ranged from 1 (very unlikely/not very often/not very much) to 7 (very likely/very often/very much).

1. How likely is it that you will look for a job outside of this organization during the next year?
2. How often do you think about quitting your job at this organization?
3. If it were possible, how much would you like to get a new job?

Measure of job satisfaction

Participants were asked to rate their satisfaction regarding their job situation by answering five items from Bacharach and colleagues (1991)

1. The progress you are making toward the goals you set for yourself in your present position.
2. Your present job in the light of your career expectations.
3. Your present job when you compare it to jobs in other organizations.
4. The chance your job gives you to do what you are best at.
5. Your present job when you consider the expectations you had when you took the job.
Measure of team performance

Three items from a scale of Hackman and Oldham (1976)

1. This team performs quantitative well.
2. This team performs with an amount of effort.
3. This team performs qualitative well.

Measure of trust in the leader

Six items adapted from Podsakoff and colleagues (1990) and Cook and Wall (1980).

1. I feel quite confident that my leader will always try to treat me fairly.
2. I have a strong sense of loyalty toward my leader.
3. My leader would never try to gain an advantage by deceiving workers.
4. I have complete faith in the integrity of my supervisor.
5. I would support my leader in almost any emergency.
6. I have strong sense of loyalty toward my leader.

Measure of communication

Five items based on the scale of De Dreu (2007) and Greer and colleagues (2012).

1. Communication is a problem in this team.
2. We have regular contact with each other in this team.
3. There are enough opportunities for members to inform each other about work-related issues.
4. In our team, we are able to quickly obtain necessary information from each other.
5. In this team, we seldom have the time to catch up with each other.
Measure of conflict

Participants were asked to what extent they agreed with seven questions of Jehn and Mannix (2001) conflict scale. The response format for the following scale ranged from 1 (very much) to 7 (not much at all).

1. How much relationship tension is there in your work team?
2. How often do people in your work team have conflicting opinions about the project you are working on?
3. How often do people get angry while working in your team?
4. How much emotional conflict is there in your work team?
5. How frequently do you have disagreements within your work team about the task of the project you are working on?
6. How often are there disagreements about who should do what in your work team?
7. How much conflict is there in your team about task responsibilities?

Measure of team productivity

Six items from Kirkman and Rosen (1999).

1. My team meets or exceeds its goals.
2. My team responds quickly when problems come up.
3. My team completes its tasks on time.
4. My team makes sure that products and services meet or exceed quality standards.
5. My team is a productive team.
6. My team successfully solves problems that slow down our work.
CHAPTER 4 – STUDY 2

Measures

If not described differently, the response format for the following scales ranged from 1 (disagree strongly) to 7 (agree strongly).

Measure of nationality diversity

Two questions.

1. To which degree are your team members alike with regards to nationality?

2. How diverse is your team with regards to nationality?

Measure of transformational leadership

Four items, which have been adapted from Bass and Avolio (1992).

1. The leader provides appealing images about what we can do.

2. The leader enables others to think about old problems in new ways.

3. The leader exchanges with me and the other members of the team about common goals, visions and resources of the team.

4. The leader provides appealing images about what we can do.

Measure of diversity beliefs

The manipulation of diversity beliefs was measured using the same four items as in Study 1 (Homan et al., 2010).
Measure of turnover intention

Two items adapted to the specific experimental context (Shore et al., 1990).

1. I am willing to work with this team for another experiment.
2. I would like to work on a new task with this team.

Measure of team satisfaction

Three adapted items based on questionnaires from Gladstein (1984) and Thomas and colleagues (1996).

1. I am satisfied with the recognition I get from my team when I perform well on a task.
2. Overall, I am satisfied with my team.
3. I am satisfied with the influence I have on the decisions in my team.

Measure of linking of the leader

Six items from Van Kleef and colleagues (2009).

1. The leader appears to be a nice person.
2. The leader has made a positive impression on me.
3. The leader struck me as an unlikable person. (reverse scored)
4. The leader seems nice to get on with.
5. The leader comes across as a pleasant person.
6. I would like to work again with this leader.
Measure of trust in the leader

Four items from Kirkpatrick and Locke (1996).

1. I trust our leader completely.
2. Our leader is trustworthy.
3. I do not believe what our leader says.
4. I find it difficult to trust our leader.

Measure of subgroup perception

Three items based on questionnaires of Zannutto and colleagues (2011), and Homan and colleagues (2010).

1. If I would have to describe my team members, I would do so based on the subgroups I perceive in this team.
2. My team consists of people who belong to certain subgroups on the basis of salient characteristics.
3. I perceive a lot different types of people in my team.