

# Transformational Leadership's Effectiveness in Organizational Change

Three Empirical Studies Deepening the Understanding  
of the Relationship between  
Transformational Leadership and Employees' Commitment to Change

## **Dissertation**

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To Jan  
for making me feel optimistic and safe  
during all times of change.

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### III. List of Abbreviations

AIC	Akaike's information criterion
AVE	average variance extracted
$\beta$	beta-coefficient
cf.	confer
CFA	confirmatory factor analysis
CFI	comparative fit index
$\Delta$	delta
df	degrees of freedom
$d_{ppc}$	effect size for pretest-posttest control group designs
e.g.	for example
et al.	et alii
EFA	exploratory factor analysis
F	statistic for significance of multivariate model
$\eta^2$	effect size for analysis of variance
HLM	hierarchical linear modeling
ICC	intraclass correlation coefficient
i.e.	that is
M	mean
MLR	maximum likelihood robust
N	sample size
n	size of subsample
ns	not significant
p	level of significance
p.	page
PLS	partial least square
$R^2$	squared multiple correlation coefficient
RM ANOVA	repeated measurement analysis of variance
RMSEA	root mean square error of approximation
$R_{wg}$	index of interrater agreement
SD	standard deviation
S.E.	standard error



SEM	structural equation modeling
SRMR	root mean square residual
t	test statistic for Student-t-distributed data
TLI	Tucker-Lewis-Index
Q <sup>2</sup>	index of cross-validated redundancy
$\chi^2$	chi square coefficient
z	test statistic for standardized normal distributed dat

# 1. Introduction

**"This is the world of white water where we have to change to survive; where we have to develop to thrive; and, paradoxically, where the very act of change increases the risk that we won't survive."**

**(White, Hodgson, & Crainer, 1996, p. 1)**

Due to the global economy's growing complexity and competitiveness, organizations face the necessity of continuous change. As Burke (2002) mentions: "To survive, especially in the long run, organizations must change and adapt to their environments." (p. 11). As continuous change is a major success factor for organizations (Gilley, McMillan, & Gilley, 2009; Howkins, 2001), practitioners and researchers have long been searching for factors that support the success of change initiatives. During the last decades, the spot of interest was laid on attitudes and reactions of employees as they are the main recipients and translators of change in the workplace (Armenakis & Harris, 2009; Burke, 2002; Kotter, 1996; Levinson, 1976; Smollan, 2006). Beyond employees' reactions to change, *commitment to organizational change* has been identified as a key predictor of the successful implementation of change initiatives (Cunningham, 2006; Herold, Fedor, & Caldwell, 2007; Herscovitch & Meyer, 2002; Jaros, 2010; Machin & Fogarty, 2010; Meyer, Srinivas, Lal, & Topolnytsky, 2007; Michaelis, Stegmaier, & Sonntag, 2009; Michaelis, Stegmaier, & Sonntag, 2010). In change management literature, derived from the change manager discussion, change leaders have been emphasized as tipping the scales of employees' positive reactions to change (Kotter, 1996). Over the past years, the nature of change has shifted from a linear, process-based view (Lewin, 1951) to a complex and continuous, thus reappearing phenomenon. Consequently, the focus of change scholars' interest shifted from change-specific leadership behavior to enduring leadership behavior affecting change (Sun, 2009), which consequently also received much attention beyond the potential organizational antecedents of commitment to change (Beer & Nohria, 2000; Chawla & Kelloway, 2004; Michaelis et al., 2009; Nevesa, 2011; Parish, Cadwallader, & Busch, 2008; Rodda, 2007; Waldman, Ramirez, House, &

Puranam, 2001). According to the results of several studies, enduring or cross-situational leadership behavior of team leaders bears the strong potential to positively (e.g., Ford, Weissbein, & Plamondon, 2003) or negatively (e.g., Bommer, Rich, & Rubin, 2005) influence followers' reactions to change.

Among leadership theories, *transformational leadership* has been identified as highly relevant in the context of change, because its core elements are visionary inspiration and motivation of followers, which leads to a higher amount of openness to change, abilities to cope with ambiguous situations as well as risk taking behaviors (Pawar & Eastman, 1997; Yukl, 2004). Still, only rare studies directly link transformational leadership to employees' attitudes towards change. For example, Bommer et al. (2005) showed that transformational leadership behavior reduces employees' cynicism about organizational change, and Nemanich and Keller (2007) found that transformational leadership increases employees' acceptance of a large-scale merger. Also, there are few empirical investigations which examine the direct link between transformational leadership and commitment to change firsthand. This might be due to the fact that transformational leadership is defined and confirmed as a cross-situational leadership behavior (Herold, Fedor, Caldwell, & Liu, 2008), rooted in leadership research, whereas commitment to change has arisen from the situational-specific change leadership research. However, results of some studies point to the importance of transformational leadership as a predictor of employees' commitment towards change. In their groundbreaking study, Herold et al. (2008) revealed a positive effect of transformational leadership on employees' commitment to change, augmenting the influence of change-specific leadership behavior. In line with these findings, Michaelis et al. (2010) found a significant impact of transformational leadership on innovation implementation behavior, mediated by commitment to change. Also, Yu, Leithwood, and Jantzi (2002) provided support for the positive relationship between transformational leadership and commitment to change in the context of schools.

## **1.1 Goals of the Dissertation and Research Questions**

Even though these studies provide encouraging support for the hypothesis that transformational leadership supports employees' positive reactions towards change,

especially commitment to change, yet there is only little knowledge about the impact of transformational leadership on the different facets of commitment to change (affective, normative, and continuance commitment to change) which have been found to be differentially effective with regard to change-supportive behavior of employees (Herscovitch & Meyer, 2002). Thus, the first goal of this dissertation is to confirm former results that there is a relation between transformational leadership and commitment to change and to contribute to empirical knowledge about the impact of transformational leadership on the different facets of commitment to change.

Moreover, there is few empirical research regarding linking mechanisms of the relationship between transformational leadership and commitment to change. One of these rare studies has lately been conducted by Seo et al. (2012), who found positive and negative affect of employees to mediate the effect of transformational leadership and commitment to change. Still, there is a massive gap in literature that needs to be filled with empirical evidence about further variables that play a role in linking transformational leadership and commitment to change. As the understanding of intervening processes of the relationship of a cross-situational leadership behavior and situational specific reactions to change is highly relevant for the successful implementation of a change, further research is needed which examines individual mediating process factors that are shown as relevant in change literature (e.g. job insecurity, Sverke, Hellgren, & Näswall, 2006). Accordingly, the second goal of this dissertation is to confirm the impact of further change-relevant variables that mediate the relation between transformational leadership and commitment to change.

Additionally, there is initial evidence that the impact of transformational leadership on commitment to change depends on some context variables. For example, Herold et al. (2008) found that transformational leadership is mostly effective under the condition that the change has significant personal impact on employees. Also, Hermann and Felfe (2012) showed that transformational leadership is stronger related to commitment to change when employees are possessed with more resources and less stressors. As with mediating variables, yet there is still a lack of further knowledge about moderating variables, with regard to individual as well as organizational context factors. Because the knowledge about moderators is highly important to enable organizations to provide a supportive surrounding for leaders having to deal with continuous change (Jaros,

2010), the third goal of this dissertation is to reveal the influence of further context variables, which moderate the relationship between transformational leadership and commitment to change.

Furthermore, although several studies from the leadership literature indicate specific effects of different behavioral dimensions of transformational leadership on outcome variables – for example *articulating a vision* on affective organizational commitment (Podsakoff, MacKenzie, Moorman, & Fetter, 1990), as well as on extra effort (Densten, 2002), and *individual consideration* on extra effort and on job satisfaction (Rowold, 2006) – little is known about the distinct relationships between the behavioral dimensions of transformational leadership and commitment to change. Because leaders' activities need to be chosen with care due to time restrictions, it is important to detect the relevant behaviors effecting employees' reactions to change. Thus, the fourth goal of this dissertation is to provide an answer to the question which transformational leadership behavior(s) play(s) a major role in positively affecting employees' commitment to change.

Moreover, based on findings that leaders' attitudes influence the effectiveness of their leadership behavior (Bommer et al., 2005), research is needed to find out whether leaders' own attitudes towards change moderate the relationship between transformational leadership and employees' commitment to change. This deeper insight into the role of leaders' attitudes to change would provide organizations with important knowledge about the necessity of an early involvement of leaders in the change rather than only delegating change-relevant leadership tasks.

Also, researchers and practitioners have long asked for possibilities to develop leaders to act more successful during change (e.g., Higgs & Rowland, 2001). One consequence from literature is that leaders should be developed by training and coaching (Higgs & Rowland, 2001). On the one hand, for example Higgs and Rowland (2001) showed that effective change leadership behaviors can be trained. On the other hand, there is empirical evidence that transformational leadership behaviors can as well be developed (e.g., Abrell, Rowold, Mönninghoff, & Weibler, 2011; Barling, Weber, & Kelloway, 1996). Yet there is no study that investigates whether transformational leadership development results in the increase of change-specific success criteria.

Accordingly, the fifth goal of this dissertation is to shed light on the effect of a transformational leadership training with regard to employees' commitment to change and ratings of the success of the change.

Based on the existing research and addressing its aforementioned gaps, the present dissertation contributes to the existing literature by investigating the three following research questions in three empirical studies. Please note that the research questions' detailed outlines of their theoretical and practical relevance as well as theoretical background are presented in chapters three, four, and five, linked to the respective study.

Research questions:

- 1) Does transformational leadership relate to affective, normative and continuance commitment to change and how are these relationships mediated and moderated by the change-related variables trust in top management and job insecurity?
- 2) How do the different dimensions of transformational leadership contribute to affective commitment to change and how does leaders' own affective change commitment influence these relationships?
- 3) Does a training of transformational leadership enhance leaders' transformational leadership, employees' commitment to change and supervisors' rating of the success of the change initiative? How do business-focused personality traits of training participants contribute to the effect of the training intervention?

## **1.2 Outline of the Dissertation**

The primary goal of this dissertation is to provide insight into the relationship of cross-situational transformational leadership and employees' situational-specific reaction towards a change, here, their commitment to change. This goal is pursued 1) by providing a summarized overview about the existing theoretical background, 2) by presenting three empirical studies addressing the three different research questions, including specific introduction, theoretical background, study method, results and

discussion of findings, and 3) by providing an overall discussion of the findings of all three studies as well as addressing contributions and limitations of this dissertation.

Chapter one, the *Introduction*, raises the research questions of this dissertation based on existing gaps in literature.

Chapter two, the *Theoretical Background*, seeks to give a summarized overview of the theoretical assumptions and existing findings regarding the relevance of leadership in implementing change. Combining the change leadership and organizational leadership literature, transformational leadership and its relevance in the context of continuous change is outlined.

Chapter three presents the first empirical study (*Study I - The Impact of Transformational Leadership on Followers' Commitment to Change – Mediating and Moderating Effects*), addressing the first research question: “Does transformational leadership relate to affective, normative and continuance commitment to change and how are these relationships mediated and moderated by the trustworthiness of the top management and job insecurity?” As it is for all studies presented in this dissertation, a more detailed introduction and theoretical background with regard to the specific research question are provided, followed by the development of hypotheses. It is hypothesized that transformational leadership positively relates to affective and normative commitment to change and that it is negatively related to continuance commitment to change. Moreover, it is stated that the trustworthiness of top management mediates the relationship between transformational leadership and affective and normative commitment to change. Also, job insecurity is hypothesized to mediate the relationship between transformational leadership and continuance commitment to change, as well as to moderate the relationships between transformational leadership and affective and normative commitment to change. Using a cross-sectional design, data were captured once by survey method, resulting in a heterogeneous sample of German employees with a total  $N = 160$ . The hypotheses are tested by structural equation modeling using the partial least square methodology (PLS, Ringle, Sarstedt, & Straub, 2012). Results show a significantly positive relation between transformational leadership and affective commitment to change, fully mediated by trust in the top management. Also, job insecurity is found to fully mediate the negative

impact of transformational leadership on continuance commitment to change. Moreover, results indicate that job insecurity moderates the relations between transformational leadership and affective and normative commitment to change.

In chapter four, the second study is presented (*Study II - The Influence of Leaders' Commitment to Change on the Effectiveness of Transformational Leadership in Change Situations - A Multilevel Investigation*), answering the research question: "How do the different dimensions of transformational leadership contribute to affective commitment to change and how does leaders' own affective change commitment influence these relationships?" Using Podsakoff et al.'s (1990) conceptualization of transformational leadership, it is hypothesized that the dimensions *articulating a vision*, *providing an appropriate model*, *fostering the acceptance of group goals*, *communicating high performance expectations*, *providing individual support*, and *initiate intellectual stimulation* all positively relate to affective commitment to change. Further, it is supposed that leaders' own affective commitment to change moderates the effect of those transformational leadership behaviors, by which leaders openly express own attitudes, norms and values to team members, i.e. *articulating a vision* and *providing an appropriate model*. Hypotheses are tested with a cross-sectional multilevel design using 38 teams from different German organizations with a total of 177 participating team members. Results show that, when testing an overall model, solely *providing individual support* has an impact on employees' affective commitment to change. Moreover, *providing an appropriate model* is shown as positively contributing to followers' affective commitment to change when leaders' own affective commitment to change is high.

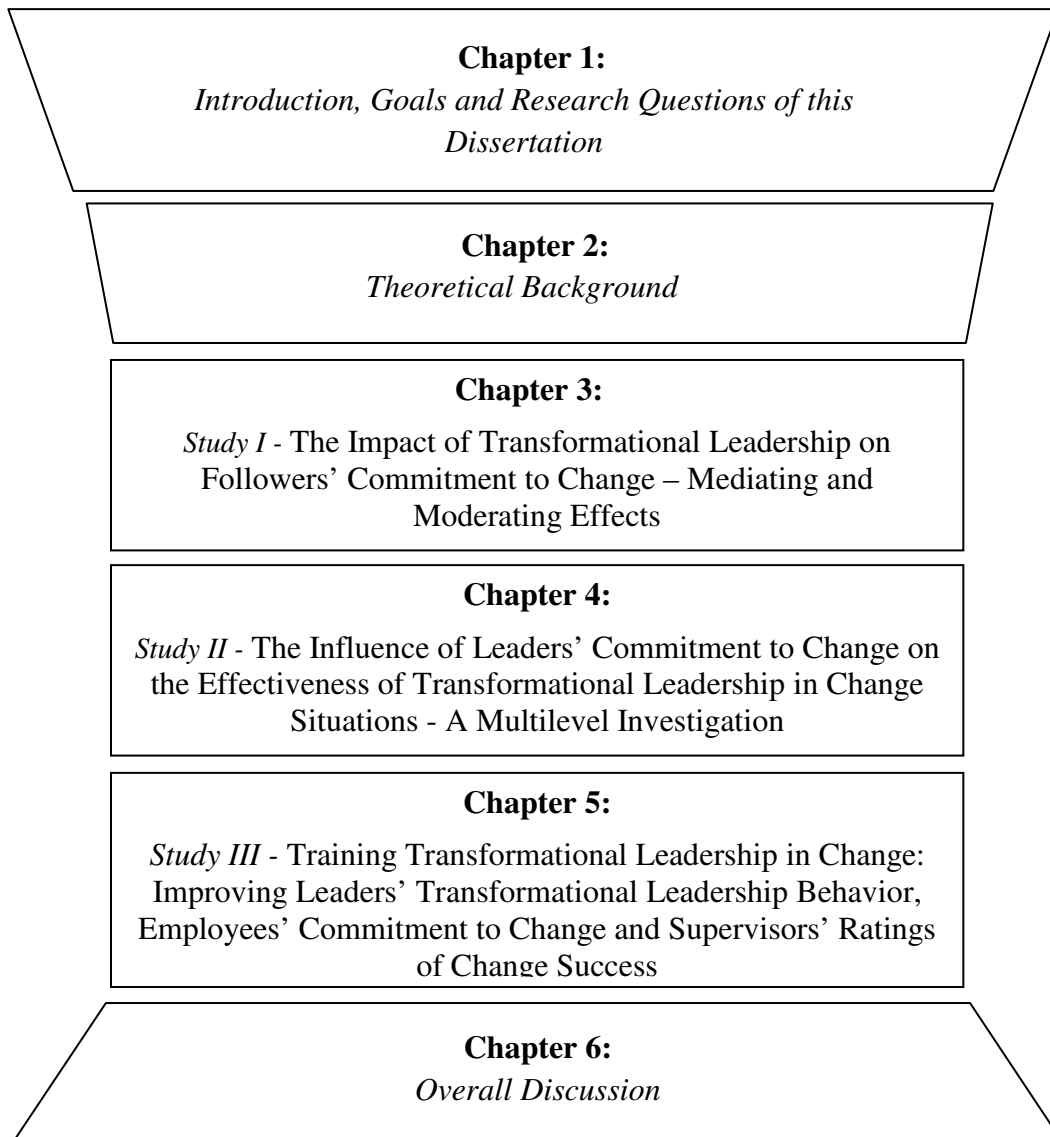
Chapter five, presenting the third study (*Study III - Training Transformational Leadership in Change: Improving Leaders' Transformational Leadership Behavior, Employees' Commitment to Change and Supervisors' Ratings of Change Success*), aims at answering the third research question: "Does a training of transformational leadership enhance leaders' transformational leadership, employees' affective commitment to change and supervisors' appraisal of the success of the change? How do business-focused personality traits of training participants contribute to the effect of the training intervention?" Based on existing empirical research, it is hypothesized that a two-day transformational leadership training results in increased transformational leadership



behavior (rated by employees), higher levels of employees' commitment to change (rated by employees) and increased success appraisal of the change (rated by leaders' superiors). Moreover, it is assumed that the business-focused personality traits *engagement*, *social competence*, and *cooperation* positively contribute to the development of the evaluation criteria. Hypotheses are tested using a pretest-posttest control group design with 26 leaders in the experimental group and seven leaders in the control group. The training intervention results in a significant improvement of transformational leadership behavior and success appraisal of the change. With regard to employees' commitment to change, a positive tendency of the training's effectiveness is confirmed. The analyses further reveal that highly cooperative leaders improved stronger in transformational leadership behavior than low cooperative leaders. Moreover, employees of leaders high in cooperation report greater increase of commitment to change than employees of leaders low in cooperation.

Chapter six offers an *Overall Discussion* about the studies' findings. Here, findings of the presented studies are summarized in an overall conclusion; contributions as well as limitations are addressed, and implications for further research are outlined. Also, implications of this dissertation for practice are presented.

Figure 1 aims at providing an overview about the dissertation's chapters and contents.



*Figure 1.* Overview of the chapter structure of the dissertation.

## 2. Theoretical Background

Organizational change has been one of the major interests of practitioners and scholars during the last decades. On the one hand, this is because the ability to adapt to a changing environment has become one of the most relevant success factors for organizations (Howkins, 2001; Nohria, Joyce, & Roberson, 2003; Waldman et al., 2001). Today's organizations face multiple changes like the ongoing globalization of markets, the speed of technological changes and information flow as well as global crises that shatter the fundamentals of markets. Consequently, a successful restructuring of the organization or a technology adaptation, for instance, are necessary (Drucker, 1954; Gilley et al., 2009). On the other hand, the interest in the process and management of change has risen because failure of change initiatives seems to be more common than their success (e.g., Higgs & Rowland, 2005; Kotter, 1996; Meaney & Pung, 2008). With regard to the necessity of changes and the lack of related success stories, numerous recommendations have been published on how to effectively implement change. These share the assumption that a successful implementation of change initiatives is based on both management activities (e.g., project management, planning, technical and financial background) and leadership activities (dealing with emotions, social aspects), of whom leadership is seen as the dominant, important activity (Starke, Sharma, Mauws, Dyck, & Dass, 2011; Kotter, 1996). This assumption is grounded in the multitude of theoretical and empirical studies which show that employees' attitudes and reactions heavily determine the success of change initiatives (cf., Oreg, Vakola, & Armenakis, 2011). As Levinson (1976) notes: „Most organizational change flounders because the experience of loss is not taken into account. When the threats of loss are so severe as to increase people's sense of helplessness, their ability to master themselves and their environments decrease. To undertake successful organizational change, an executive must anticipate and provide means of working through that loss” (p. 83). Thus, leaders are seen as playing an extraordinary important role in successful implementation of change.

## 2.1 Classical Models of Change Leadership

Two of the most cited models of implementing change are Lewin's (1951) classical three stage model and Kotter's (1996) eight-step model of leading change. Lewin (1951) proposed that change should be implemented by *unfreezing* (breakup of traditional structures and practices, information and participation of organizational members), *movement* (implementing change) and *refreezing* (embedding new practices in the status quo). Based on this general framework, the eight steps of Kotter (1996) contain *establishing a sense of urgency* (shift employees' attention on what *needs* to be changed and which benefits they would gain from change), *forming a powerful coalition* (identify key employees to support the change), *creating a vision* (providing a clear direction for the change effort by formulating an appealing vision based on values), *communication* (repeated sharing of the vision with employees, addressing employees' ambiguities), *empowering* (providing training and coaching related to the change), *planning and creating short-term wins* (setting short-term targets that are achievable), *consolidating* (analyzing the process with regard to sustainability), and *institutionalizing* (implementing the change in day-to-day work). Even though these classical models contain practically important and helpful advices for implementing change, there are several critical points that have been addressed in subsequent research. Firstly, the models lack a theoretical and empirical foundation, as they merely base on the authors' experiences with implementing change (Liu, 2010). Secondly, even though leaders are addressed as bearing the power to create successful changes, the models only focus on top level leaders or external change managers. Even though other leaders (e.g., team leaders) are supposed to be included in the process, they are not seen as key elements of the change implementation. This is surprising given the fact that direct leaders are the first representatives of organizational activities and goals for employees; moreover they have the closest contact to employees, both in terms of spatial nearness and interaction time. Thirdly, several authors criticize that the models depict a linear process, therewith denying the complexity of changes (e.g., Higgs & Rowland, 2005).

## 2.2 Complex Approaches to Change Leadership

Addressing the aforementioned critical points, subsequent work has created a more complex view on change and effective leadership behavior during change. Complex change is no longer described as a linear process with different steps that need to be conducted to secure success. It is rather seen as a dynamic development of reappearing activities and reactions on all levels of an organization, and as continuous adaptation of initial plans due to the variable consequences of the diverse change activities at different levels of the organization. Following this assumption, for example, Higgs and Rowland (2005) note that change implementation should no longer be considered to be led centrally; rather there should be a general direction of the change and a few simple guiding rules. Based on the self-organizing nature of complex change, which cannot be controlled, leaders on all levels need to spontaneously cope with unpredictable outcomes of the several (social) interactions that go along with the change. In their study, Higgs and Rowland (2005) showed that complex change leadership approaches outplay straight forward (linear) ones in their effectiveness implementing change. Moreover they found that the change approach ‘Emergence’, which assumes a change to be locally differentiated (spreading and diffusing, initiated anywhere in the organization, importance of lateral connections) is more effective than the change approach ‘Master’, which defines a top-down controlling and managing change leadership behavior and explicit project management. Higgs & Rowland (2005) defined three areas of effective leadership behaviors in the context of complex change: “Factor 1: *shaping behavior* ((1) What leaders say and do. (2) Making others accountable. (3) Thinking about change. (4) Using an individual focus.), Factor 2: *framing change* ((1) Establishing ‘starting points’ for change. (2) Designing and managing the change journey. (3) Communicating guiding principles.), [and] Factor 3: *creating capacity* ((1) Creating individual and organizational capabilities. (2) Communicating and creating connections.)” (p. 135). The work of Higgs and Rowland (2005) addresses several limitations of the classical models such as considering a complex instead of a linear structure of changes and including all levels of management in successful change leadership. Still, their work is, as the classical models are, limited by the fact that only a leader-centric view (what should leaders do?) is used, which merely excludes an employee-centric perspective (what motivates followers to embrace change?) and neglects the importance of context effects such as followers’ attitudes towards change

(Armenakis & Harris, 2009). Thus, based on the consideration of interactive effects of change related activities (such as leader behavior) and organizational responses in the complex manner of change, many other authors have begun to deep into the employee-centric research on a micro-level of analysis, broadening the scope of literature on successful change implementation with regard to employees' attitudes and reactions towards change.

### **2.3 Followers Attitudes and Reactions towards Change**

As change affects all levels of an organization and is mostly initiated in a top-down-process (Miles, 2001), employees' are the main recipients of a change. Just as being confronted with the change, employees' are also the ones who have to implement and live the change. As such, their attitudes and resulting behaviors towards the change heavily determine its success (Herscovitch & Meyer, 2002). There is yet a wide range of literature addressing followers' attitudes and reactions towards change (for a complete overview see Oreg, Vakola, & Armenakis, 2011). In the relating literature, the most prominent reactions from a negative perspective are *resistance to change*, and *cynicism against change*. Oreg (2003) defined *resistance to change* as "an individual's tendency to resist or avoid making changes, to devalue change generally, and to find change aversive across diverse contexts and types of change" (p. 680). Thus, the author states that resistance towards change comprises behavioral, cognitive, and affective components. Lines (2004) found that resistance to change can be reduced by enabling participation of employees in the change process. Oreg (2006) revealed that the tendency to be resistant towards change depends on employees' personality, and that resistance, in turn, increases employees' turnover intentions, and decreases job satisfaction and commitment. Also on the negative part of the continuum of attitudes towards change, *cynicism against organizational change* has been revealed as playing an important role in the failure of change implementation (Reichers, Wanous, & Austin, 1997). It is defined as "a pessimistic outlook for successful change and blame placed on 'those responsible' for lacking the motivation and/or the ability to effect successful change." (Wanous, Reichers, & Austin, 2000, p. 135). Wanous et al. (2000) found cynicism against organizational change to be predicted by ineffective leadership behavior and lack of participation in decisions and to result in reduced motivation to

support change efforts. Even though these negative attitudes and reactions are able to explain why change initiatives fail and provide recommendations on how to prevent organizations from negative reactions of employees, they do not reveal recommendation what to do to motivate employees to actively support the change.

Based upon this lack of positive reactions of employees facing change, employees' *commitment to change* has been introduced and identified as a predominant predictor of supportive behavior towards change and change success (e.g., Herscovitch & Meyer, 2002). Commitment to change is defined as a positive bond to the change initiative, more specifically "a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative." (Herscovitch & Meyer, 2002, p. 475). Commitment towards change has been conceptualized twofold: Firstly, it was introduced solely as an affective and positive attitude, displaying a one-factorial measure (e.g., Yu et al., 2002). Secondly, Herscovitch and Meyer (2002) developed commitment to change based on the concept of organizational commitment as comprising the elements *affective*, *normative*, and *continuance* commitment to change. Affective commitment to change displays the emotional desire to support the change and the belief about its positive consequences; normative commitment to change is conceptualized as being formed by the normative opinion that one should act in line with the change goals due to moral obligations; and continuance commitment to change implies the motivation to avoid individual costs that might emerge when opposing the change. Because the Herscovitch and Meyer conceptualization (2002) has received strong acceptance in the relating literature (e.g., Herold et al., 2008), it is also used in the present studies.

Research regarding commitment to change has mostly focused on affective commitment to change as it has been found to be strongest related to success criteria like increased employees' supportive behavior towards change (Herscovitch & Meyer, 2002; Meyer et al., 2007), strengthened coping resources and reduced turnover intentions (Cunningham, 2006), and innovation implementation behavior (Michaelis et al., 2009). Commitment to change has been revealed to be affected by antecedents like personality factors such as locus of control (Chen & Wang, 2007; Lau & Woodman, 1995), attitudes such as openness to change (Chawla & Kelloway, 2004) as well as leader behavior (Ford et al., 2003).

Accordingly, during the last 10 years there are several studies that provide insight into the importance of employees' attitudes and reactions towards the change's success as well as their dependence on leaders' behaviors. Because direct leads have the most contact to their followers, the impact of direct leads' behavior is mostly examined in these studies, enriching the change leadership literature that focused simply on top managements' behavior.

## **2.4 Enlarging the Scope of Effective Leadership in Change by Transformational Leadership**

Because the research presented above is rooted in the change management literature, relevant change leadership behaviors have been examined with regard to the borders of the change context. This perspective is limited given the fact that changes are no longer discontinuous processes with a beginning and an end, but reappearing situations that are no longer exceptions (Sun, 2009). Thus, focusing on specific change leadership behaviors that are effective in timely limited change processes, bears the risk to not address followers' needs appropriately. In fact, a leadership behavior that is only shown during a change and promotes the fixation of new habits at the end of the process (as promoted in all 'classical' change leadership models) might rather result in resistance of employees because of the disappointment that another change already takes place. These thoughts have gained support by the work of Herold et al. (2008), who found that change-specific leadership behavior does not result in employees' support of the change. As such, the change leadership literature has been broadened up to integrate effective situational unspecific ('cross-situational') leadership behaviors that bear the potential to be effective during continuous change.

Because *transformational leadership* has been found to be highly effective during numerous situations and contexts, but primary enfolds its success in the context of change or crisis (Bass & Riggio, 2006), it has lately found its way into the spotlight of change scholars interest (e.g. Herold et al., 2008, Bommer et al., 2005). In the following section, the concept of transformational leadership and its relevance is introduced.

The concept of *transformational leadership* has received an extraordinary amount of interest during the last 30 years among leadership scholars (Antonakis, Avolio, &



Sivasubramaniam, 2003; Judge & Piccolo, 2004). Originally based on qualitative studies of Bernhard Burns (1978), who introduced the concept with regard to behaviors of inspirational politicians, the roots of today's transformational leadership are grounded in the work "Performance beyond expectation" of Bernhard Bass (1985). Bass defined transformational leadership as a leadership behavior that encourages followers to perform beyond the levels of expectations by transforming their values and egocentric goals to higher order targets for the sake of the team and the organization (Avolio, 1999; Bass, 1998). This transformation is reached by inspiring followers' intrinsic values by the higher-order meaning of their work (Shamir, House, & Arthur, 1993), and initiating identification with and trust in the leader (Podsakoff, MacKenzie, & Bommer, 1996). More specifically, Bass and Avolio (2004) described transformational leadership as consisting of four behaviors: *Inspirational motivation*, *idealized influence*, *intellectual stimulation*, and *individualized consideration*. Leaders showing inspirational motivation share the higher-order meaning of work with their team members and develop and articulate an emotional, positive and appealing vision of the future. They provide optimism and are able to translate their own enthusiasm to followers (Bass, 1997). Idealized influence describes a leadership behavior that is based on providing an attractive role model for team members; that is, leaders set high standards of values and behaviors that make followers want to identify with the leader. According to its definition, the dimension was divided into two facets: *Idealized influence attributed* and *idealized influence behavior*. The attribution component describes that followers identify with their leader because they ascribe positive characteristics, for example, trustworthiness to their leader. Idealized influence behavior depicts the active behavior of the leader, e.g. setting examples of work standards, and expressing high expectations (Bass, 1999). Intellectual stimulation is reached when the leader actively challenges followers to think in new ways and to question the status quo. Leaders foster creativity of team members by providing scope for independent problem solving before offering solutions and they encourage a positive dealing with failures. By individualized consideration, the leader outlines the value of team members and treats them with respect. Also he provides support for employees in an individual manner, that is, the leader is attentive toward individual differences and adapts his leadership behavior accordingly. Also, training and coaching is offered to followers to support their individual development (Bass, 1999).

This conceptualization of transformational leadership is displayed with four factors in the *Multifactor Leadership Questionnaire* (MLQ, Bass, 1985; Bass & Avolio, 2000), the most prominent instrument to measure transformational leadership. Even though the MLQ and its relating dimensions of transformational leadership are used in numerous studies, some problems of the inherent factor structure of the transformational leadership behaviors remain unclear (Yukl, 1999). For example, several studies exist that provide no support for the postulated factor structure (e.g., Tejeda, Scandura, & Pillai, 2001). Also, following Yukl (1999), the original concept is based on inductive processes (factor analyses), the underlying theoretical distinction of the dimensions of transformational leadership was treated secondarily. Consequently, the four behaviors depicted in the factor structure of transformational leadership contain diverse behaviors, which are summed up in one dimension (for example idealized influence contains role modeling behavior/attribution, expressing values and norms as well as articulating high performance expectations). Accordingly, several authors suggest different factor structures of transformational leadership (e.g., Podsakoff et al., 1990; Tejeda et al., 2001; Tepper & Percy, 1994). One of these developments of the original concept received much attention in literature, the conceptualization of Podsakoff and colleagues (1990). Based on a detailed literature review on transformational leadership research, they developed a six-factor model that contains the behaviors *articulating a vision* (developing and expressing an appealing picture of the future of the team), *providing an appropriate model* (leading by example), *fostering the acceptance of group goals* (creating team-spirit among team members), *high performance expectations* (expressing high performance expectations in challenging situations towards followers), *intellectual stimulation* (encouraging team members to develop own ideas), and *individual support* (treating team members with respect and with regard to their individual feelings). These behaviors are measured by the *Transformational Leadership Inventory* (TLI, Podsakoff et al., 1990). Because the construct validity (discriminant and convergent validity) of the TLI has lately received strong support in a German context (Krüger, Rowold, Borgmann, Staufienbiel, & Heinitz, 2011), and the TLI has been used in important change-related research (Herold et al., 2008), this dissertation uses the above described six-factor conceptualization of transformational leadership.

Transformational leadership has been found to be effective with regard to numerous criteria. As the concept was defined as motivating employees beyond the borders of

their self-interest, subjective motivational outcome criteria have been in the spotlight of research firsthand. Thus, transformational leadership was found to be related to criteria such as affective commitment towards the organization (e.g., Avolio, Zhu, Koh, & Bhatia, 2004; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002), as well as measures of extra effort (e.g., Yammarino & Bass, 1990) such as organizational citizenship behavior (e.g., MacKenzie, Podsakoff, & Rich, 2001; Piccolo & Colquitt, 2006). Moreover, transformational leadership was found to increase job satisfaction (e.g., Bass, 1998; Fuller, Morrison, Jones, Bridger, & Brown, 1999; Walumbwa, Lawler, Avolio, Peng Wang, & Kan Shi, 2005), and to reduce stress and burnout symptoms of employees (Gill, Flaschner, & Shachar, 2006; Seltzer, Numerof, & Bass, 1989). Also performance measures were used to confirm the leadership style's relevance. Thus, performance of the leader (e.g., Yammarino, Spangler, & Bass, 1993), unit performance (e.g., Bass, Avolio, Jung, & Berson, 2003), team performance (e.g., Jaussi & Dionne, 2004; Howell & Frost, 1989), and individual performance (e.g., Dvir, Eden, Avolio, & Shamir, 2002; Waldman, Bass, & Einstein, 1987) were found to be related to transformational leadership. As these measures of performance merely rely on subjective data, further research was conducted that confirms the effectiveness of transformational leadership with regard to objective success criteria such as organization's financial performance (Barling et al., 1996; Howell & Avolio, 1993). Summarizing the existing findings, the effectiveness of transformational leadership has also been shown in several meta-analyses (DeGroot, Kiker, & Cross, 2000; Dum Dum, Lowe, & Avolio, 2002; Fuller, Patterson, Hester, & Stringer, 1996; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996).

The success of transformational leadership with regard to the diverse outcome criteria called for investigating mediating processes of these relationships: As highly relevant and in support for the literature, identification with the leader, and increased self-efficacy were found to explain effects of transformational leadership (Shamir et al., 1993). Also, Avolio, Zhu, Koh, and Bhatia (2004) revealed the mediating role of employees' empowerment (higher amount of autonomy, and competence); and Sparks and Schenck (2001) presented additional support for the hypothesis that transformational leadership is successful due to the creation of a higher meaning of the work. Moreover, transformational leadership was found to reveal its influence by

positively influencing trust in the leader (e.g., Podsakoff et al., 1996), and trust in management and colleagues (e.g., Den Hartog, van Muijen, & Koopman, 1997).

Besides the examination of mediating processes, research has also already dealt with the impact of context variables that affect the effectiveness of transformational leadership (Antonakis et al., 2003). Even though transformational leadership has been found to be effective across diverse situations, organizations and even cultures (Bass, 1997), there are still conditions that facilitate the emergence and effectiveness of transformational leadership (Yukl, 2002). For example, Felfe (2005) showed that the success of transformational leaders depends on the space and social distance between leader and followers: The more interactional contact takes place and the more similarities exist between leaders and followers, the more effective transformational leadership is.

Most important, an unstable and changing environment was found to enhance the effectiveness of transformational leadership. Following the initial assumptions of Bass (1985), who noted that transformational leadership is able to unfold its virtue under the condition of low structure, several authors suggest that transformational leadership lands on fertile soil especially during times of uncertainty, crisis and change (e.g., Pawar & Eastman, 1997; Yukl, 2002). As ambiguous situations create insecurity, dissatisfaction and disenchantment among followers, a leadership behavior is more likely to be successful that provides new intrinsic motivation by communicating an inspirational vision of the future. Also, as unstable situations create an environment of disorientation, employees' are more likely to identify with the values and goals of the leader (and the organization) to retrieve direction and orientation. Moreover, with regard to the fact that transformational leaders develop and offer new ways of doing things, Yukl (2002) notes: "The impact of unconventional strategies is greater when followers perceive that conventional approaches are no longer effective" (p. 243). Several empirical results support the assumption that transformational leadership is effective during times of ambiguity such as transformation and change. For example, Hinkin and Tracey (1999) as well as Waldman, Javidan, and Varella (2004) showed that the emergence and effect of some transformational leadership behaviors is heavily supported by high amounts of ambiguity perceived by employees. Also, in their longitudinal study, Waldman et al. (2001) revealed that idealized influence behavior

only resulted in financial success when the context was perceived as insecure and dynamic.

Thus, within the massive body of leadership theories, transformational leadership is the one which is closely connected with the context of change. As such, transformational leadership can be defined as change-oriented leadership behavior (Eisenbach, Watson, & Pillai, 1999) and transformational leaders might be viewed as agents for the change (Bass & Riggio, 2006). Accordingly, the cross-situational transformational leadership approach might be able to heavily contribute to the change leadership research especially with regard to the complex (decentralism of change leadership on all levels of the organization, spontaneous reactions of leaders to unanticipated outcomes of the change and flexible adaptation of initial plans) and continuous (reappearing change challenge) nature of today's organizational changes.

Taken together, the present work aims at providing deeper knowledge about successful change by enriching the change leadership research with elements of organizational leadership research, and therewith providing highly relevant suggestions for managers, leaders and human resources professionals, confronted with an environment of complex and continuous changes.

In the following chapters 3, 4, and 5 the three studies, which address the above mentioned research questions empirically, are presented in detail.

# **3. Study I - The Impact of Transformational Leadership on Followers' Commitment to Change – Mediating and Moderating Effects**

## **3.1 Introduction**

The ability to continuously change and adapt to the environment has become the major success factor for organizations on the globalized market (Howkins, 2001; Nohria et al., 2003; Waldman et al., 2001). As people's individual reactions to change initiatives heavily determine the goal achievement of these changes (Burke, 2002; Smollan, 2006), scholars' and practitioners' interest has focused on a people-oriented perspective of change (Armenakis & Harris, 2009; Nevesa, 2011). Especially important seems to be individuals' commitment to organizational change (Fedor, Caldwell, & Herold, 2006; Herscovitch & Meyer, 2002). Besides studies about positive consequences of commitment to change, such as change supportive behavior or innovation implementation behavior (Meyer et al., 2002; Michaelis, 2010), there is already a considerable amount of studies answering the question about antecedents of commitment to change, for example individual factors such as employees' self efficacy (Herold et al., 2007), characteristics of the change such as change favorableness (Fedor et al., 2006), or beliefs and attitudes regarding the organization such as trust in top management (Michaelis et al., 2009), or job insecurity (Kalyal, Berntson, Baraldi, Näswall, & Sverke, 2010) (for an overview about studies investigating antecedents and consequences of commitment to change see Jaros, 2010). As the behavior of direct leaders has been extracted as one of the major factors that influence change recipients' reactions towards change (Armenakis & Harris, 2009; Burke, 2002; Groves, 2005; Higgs & Rowland, 2005; Kotter, 1996), it is not surprising that leadership has also been considered as an important predictor of commitment to change (Chawla & Kelloway, 2004; Ford et al., 2003; Michaelis et al., 2009; Nevesa, 2011; Parish et al., 2008). Here, the focus moved from situational-specific change leadership behavior to a situational outlasting leadership behavior, which had been widely discussed in leadership research – the concept of transformational leadership (Bass, 1985). Even though there is a

compelling amount of research on transformational leadership and its benefits for individuals and organizations (Judge & Piccolo, 2004), there are only few studies which directly link transformational leadership to change related attitudes and reactions. For example, Bommer, Rich, and Rubin (2005) showed in their longitudinal study that transformational leadership significantly reduces employees' cynicism towards change. Nemanich & Keller (2007) revealed that transformational leadership has a positive effect on acceptance of a merger, mediated by support for creative thinking. Moreover, there are also some initial studies which provide support for the positive relationship of transformational leadership and employees' commitment to change, for example studies of Yu et al. (2002), Conway and Monks (2008), Herold et al. (2008), Hinduan, Wilson-Evered, Moss, and Scannell (2009) and Michaelis et al. (2010). Besides supporting the relationship of transformational leadership and commitment to change, some of the studies additionally aim at revealing moderating effects that influence the relationship: Herold, Fedor, Caldwell, and Liu (2008) found that transformational leadership behavior positively affects affective commitment to change only under the condition of the change having a high impact on the job. Hinduan et al. (2009) examined the moderating effect of employees' openness to change as an individual context factor but found no significant effect. Thus, even though the link between transformational leadership and commitment to change seems to be of empirical relevance, yet moderating effects are hardly elaborated. Moreover, mediating variables of this relationship are still almost undiscovered in the existing research. Additionally, almost all studies combining transformational leadership and commitment to change focus either on a global measure of commitment to change or on the affective component of the Herscovitch and Meyer (2002) model. There is only one study by Hinduan et al. (2009) that provides insight in the distinct effects of transformational leadership on all three dimensions of commitment to change: affective, normative and continuance commitment to change. Consequently, due to the rare amount of existing research the aim of the present study is to considerably broaden the knowledge about variables that moderate and/or mediate transformational leadership's impact on all facets of commitment to change. In the following section, the theoretical background of the proposed model is presented.

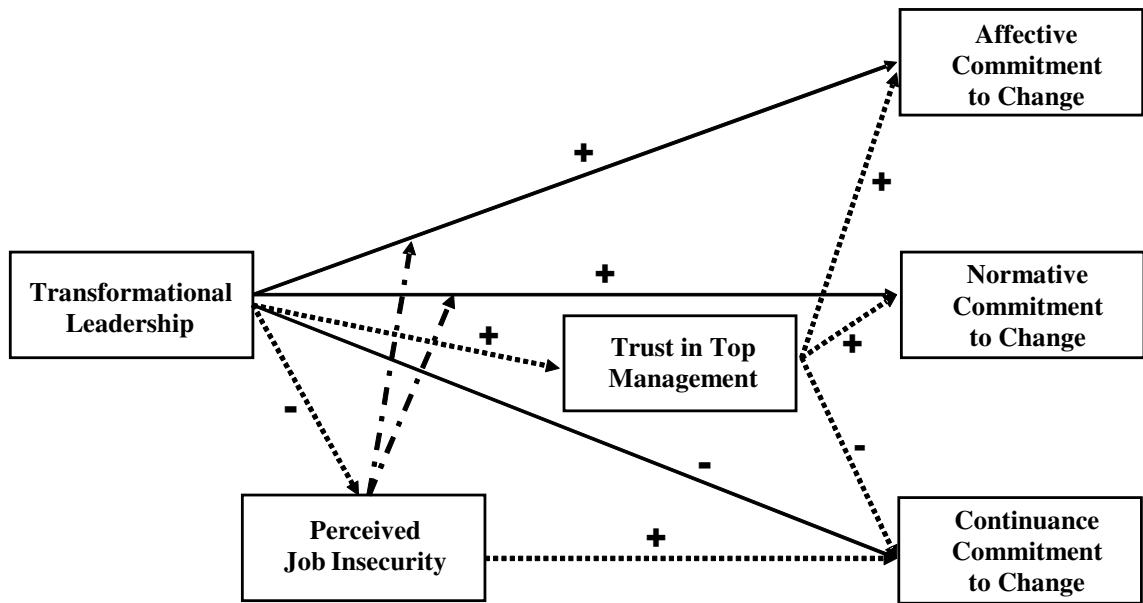


Figure 2. Overview of the proposed model of study I. Direct lines indicate direct effects, dotted lines display indirect effects. (+) indicates a positive effect, (-) a negative effect.

### 3.2 Theoretical Background

#### *Commitment to Organizational Change*

Commitment to change has been extracted as an important antecedent of behaviors supporting change initiatives (Fedor et al., 2006; Herscovitch & Meyer, 2002; Jaros, 2010). It is defined as “a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative” (Herscovitch & Meyer, 2002, p. 475). Thus, commitment to change describes the intention or willingness of individuals to actively support the change initiative (Herold et al., 2008). This is especially important because change can evoke major negative emotions, cognitions and behavioral intentions in individuals which are directly or indirectly affected by the change, based on the fear of losing established standards (Vakola, Tsaousis, & Nikolaou, 2004). Thus, commitment towards a change implies not only the reduction of fear but additionally the transformation of negative emotions, cognitions and behavior intentions into their positive counterpart.



Derived from the original concept of organizational commitment, Herscovitch and Meyer (2002) developed three types of commitment towards change: affective, normative and continuance commitment to change. Affective commitment to change is seen as an emotional bond to the change initiative, indicating a high personal involvement in its goals and intentions, whereas normative commitment to change indicates the feeling of moral obligation to support the change. In contrast to these generally positive links to change, continuance commitment to change describes a bond towards change based on the perception of a lack of other opportunities. Thus, change recipients with high continuance commitment to change act rather passively in the context of change and do not actively engage in the change process, which might even lead to hidden resistance. Therefore, continuance commitment to change is not seen as a positive mind state in the context of change and should be treated distinct from the other commitment dimensions (Herscovitch & Meyer, 2002).

### ***Transformational Leadership and Commitment to Organizational Change***

Transformational leaders' behavior is conceptualized as 'transforming' individual values and intentions of employees for the sake of the organization – by communicating an appealing vision of the future, functioning as a role model of high integrity, fostering group goals, expecting high performance, and by individually supporting and intellectually stimulating team members (Bass, 1985; Podsakoff et al., 1996). Thus, transformational leadership produces higher levels of identification with the leader, the team and the organization (Shamir et al., 1993), which results in an outstanding number of positive consequences such as increased performance, organizational commitment and work satisfaction (Fuller et al., 1999; Judge & Piccolo, 2004; Lowe et al., 1996).

In the context of change, transformational leaders positively influence followers to share and identify with a vision associated with the change initiative. A vision, in turn, has been modeled as a fundamental antecedent of affective commitment to change (Coetsee, 1999). Also, transformational leaders are able to provide orientation and emotional support (Bass & Riggio, 2006) and to reduce anxiety and fear by individually supporting each team member in the change situation and stimulating team members to think about the change in a different way, for example the future possibilities and opportunities that go along with the change. Moreover, by individual consideration,

transformational leadership reduces aversive stress in employees (Rowold & Schlotz, 2009), which might lead to an increased level of positive emotional resources to support a change process. By building congruence of individuals' values with organizational values, emotionally supporting each team member and highlighting positive emotions connected with the change, transformational leaders increase followers' affective commitment to change. As stated above, this positive effect was already supported by some pieces of research.

*Hypothesis 1a (H1a): Transformational leadership will be positively related to affective commitment to change.*

Although some findings support the effect of transformational leadership on *affective* commitment to change, there is only rare research about the relationship between transformational leadership and *normative* and *continuance* commitment to change, respectively. The relationship between transformational leadership and normative commitment to change refers to transformational leaders functioning as role models to their followers. Transformational leaders show a high level of integrity and engagement for the team, inspire and strongly support each team member individually. Thus, according to social exchange theory (Whitener, Brodt, Korsgaard, & Werner, 1998) they foster the norm of reciprocity in their followers to act in a similar way towards their leader (Gouldner, 1960). Because supervisors are seen as agents of the organization (Nevesa, 2011), this reciprocity enlarges to the organizational goals, for example major change initiatives. Therefore, transformational leaders increase followers' moral obligation to support their organization's change initiative, resulting in normative commitment towards change.

*Hypothesis 1b (H1b): Transformational leadership will be positively related to normative commitment to change.*

Continuance commitment to change is distinct from affective and normative commitment to change, both representing antecedents of supportive behavior, but based on the lack of other opportunities or the fear of negative consequences (Herscovitch & Meyer, 2002). As such, employees with high continuance commitment to change feel committed to the change, but the commitment is weak as it disbands as soon as other opportunities arise or the fear of negative consequences diminishes. Consequently,

continuance commitment does not lead to a supportive behavior towards the change (Herscovitch & Meyer, 2002) nor does it result in an acceptance of the change (Iverson & Buttigieg, 1999). In contrast, it bears the risk that possibly negative attitudes and emotions towards the change are hidden from the team and/or the leader which results in the lack of opportunity for the leader to address this attitude. Consequently, as continuance commitment does not contribute to the effective implementation of a change, leaders' goal is to reduce the fear of negative consequences for the sake of building a 'positive' commitment by open dialogue rather than taking the risk of hidden opposition against the change.

By intellectual stimulation, transformational leaders raise creativity in employees, to deal with challenging situations in new effective ways (Cheung & Wong, 2010). Also, by communicating trust in their followers' abilities to master difficult tasks and situations, transformational leaders foster followers' self efficacy which was found to positively affect effective coping with change (Judge et al., 1999). Creativity and a set of effective coping mechanisms offers employees' facing a major change initiative an increased amount of behavioral possibilities, therewith reducing the perception of having no other possibilities than supporting the change. Thus:

*Hypothesis 1c (H1c): Transformational leadership will be positively related to continuance commitment to change.*

### ***Mediating and Moderating Effects***

Besides leadership, there is a considerable amount of variables that have been identified as possible antecedents of commitment to change. Beyond characteristics of the change itself (e.g., job impact, Herold et al., 2008; change favorableness, Fedor et al., 2006), most of the examined effects are employees' individual perceptions of their organizational surrounding, such as leadership behavior, structural distance and top management's communication (Hill, Seo, Kang, & Taylor, 2011). In reference to the work of Oreg (2006), who identified trust in top management and job insecurity as important variables which determine whether change recipients are likely to embrace or refuse changes, Michaelis et al. (2010) investigated trust in top management as a predictor of commitment to change, and revealed a strong effect, and Kalyal et al. (2010) found job insecurity to weaken commitment to change. Even though trust in top

management and job insecurity seem relevant for the development of commitment to change and additionally have been discussed to be affected by leadership behavior, yet, to date, there is still research missing that uses these variables for elaborating the relationship between transformational leadership and commitment to change. In the following section, trustworthiness of top management and job insecurity are introduced as mediators of the relationship between transformational leadership and commitment to change. Afterwards, the hypotheses of moderating effects of job insecurity are derived.

### ***Trustworthiness of Top Management***

Even though a change initiative influences all levels of organizations, the initial decision about its contents and consequences is mostly made by the organization's top management (Miles, 2001). Thus, it seems important for increasing commitment towards change that employees perceive their top management as: a) possessing skills and competencies necessary for the successful achievement of its responsibilities (ability), b) considering followers' needs and motives in its decisions rather than following a solely profit oriented way (benevolence), and c) pursuing principles (e.g. 'fairness') in its actions that are valued by employees (integrity). The perception of ability, benevolence, and integrity form the appraisal of top management's trustworthiness, which has been defined as an antecedent of trust in top management (Mayer & Davis, 1999; Mayer, Davis, & Schoorman, 1995).

If employees consider their top management as being able to make appropriate decisions for the benefit of the company, and consider benevolence towards employees as a guiding principle, employees are more likely to recall positive interpretations of top management's decisions, also regarding organizational change initiatives. Moreover, they may grow faith in and even proud of the change initiative that keeps their organization future oriented – so that there will be a valuable benefit for their organization and themselves (Michaelis, 2010). Thus, the positive feeling based on employees' perception that their top management is trustworthy is likely to foster their affective change commitment.

Moreover, according to social exchange theory, followers consider their top management as trustworthy with regard to integrity if the perceived social exchange process that goes beyond the contractual relationship between top-management and

employees is intact (Whitener et al., 1998). Social exchanges may involve economical benefits (e.g., information and advice) or psychological benefits (e.g., social support). Thus, if the expected exchange of extrinsic and intrinsic benefits is balanced, employees feel a moral obligation to support management's projects and intentions in exchange to other given benefits. Therefore, trustworthiness of top management is assumed to have a positive effect on normative commitment to change.

Also, if followers perceive their top management as trustworthy with regard to its benevolence and integrity, they are more likely to engage in risk taking behavior (Mayer et al., 1995). In the context of change, this might either result in an increased 'positive' commitment towards the change (affective and normative commitment), but also in a reduced fear of negative consequences when openly opposing the change, which leads to reduced continuance commitment.

It can further be assumed that top management functions as a mediator of the influence of transformational leadership on all three facets of commitment to change. It has been given support in several studies that transformational leadership effectively fosters follower's trust in their leaders (Butler, Cantrell, & Flick, 1999; Gillespie & Mann, 2004; Podsakoff et al., 1996). Because leaders are responsible to communicate organizational goals to their subordinates, they are perceived as the link between employees and the organization's top management (Tan & Tan, 2000). Therefore, leaders function as top management's representatives in the direct contact with the organization's employees (Konovsky & Pugh, 1994). By trusting their transformational leader, followers therefore are very likely to transfer this feeling of trust to the perception of trustworthiness of the institution their leader is representing – the top management. Consequently, transformational leadership positively effects employees' appraisal of top management's trustworthiness, which, in turn, affects employees' affective, normative and continuance commitment to change. Thus:

*Hypothesis 2 (H2): Trustworthiness of top management will mediate the relationship between transformational leadership and affective (H2a), normative (H2b) and continuance (H2c) commitment to change.*

## *Job Insecurity*

Job insecurity is defined as “subjective phenomenon based on the individual’s appraisal of uncertainties in the immediate work environment, which implies that the feeling of job insecurity may differ between individuals even if they are exposed to the same objective situation” (Hellgren, Sverke, & Isaksson, 1999, p. 181). Thus, job insecurity is subjective in nature and, additionally, has to be distinguished from the objective fear of a job loss: “Job loss is immediate, whereas job insecurity is an everyday experience involving prolonged uncertainty about the future” (Sverke, Hellgren, & Näswall, 2002, p. 243). Research has shown a wide range of individual consequences of job insecurity, such as reduced well-being and state of health (Barling & Kelloway, 1999; Hartley, 1991) as well as consequences that affect organizational success such as employees’ work satisfaction, job involvement, work effort, success, turnover intentions and organizational commitment (see Sverke et al., 2002, for an overview). Moreover, focusing on the consequences of job insecurity in the context of change initiatives, studies have shown significant effects of job insecurity on resistance to change (Noer, 1993; Oreg, 2006; Rosenblatt & Ruvio, 1996) and on openness towards change (Chawla & Kelloway, 2004). Thus, there is some evidence that the feeling of an insecure employment situation is counterproductive in change situations.

Consequently, it seems likely that job insecurity has a direct effect on continuance commitment to change: By increasing anxiety of job loss or job change, job insecurity reduces employees’ feelings to be able to choose whether or not support the change initiative. Thus, in line with findings of Kalyal et al. (2010), employees are likely to show higher levels of continuance commitment to change as a strategy to reduce the subjectively perceived possibility of job loss or job changes. Although there is some evidence that job insecurity increases continuance commitment to change, it has never been investigated as a potential mediator of the reducing effect of transformational leadership on continuance commitment to change. There are several reasons for this mediation: Firstly, transformational leaders should be able to reduce prolonged uncertainty about the future – an inherent part of job insecurity – by providing orientation and safety through communicating a vision of the future and by conveying confidence in the future through personal role modeling behavior. Secondly, transformational leaders encourage followers by intellectual stimulation to think about

the future in different ways – thus breaking the circle of negative thoughts and emotions of anxiety. Thirdly, by providing individual emotional support, transformational leaders might be able to convince followers about their personal worth for the organization, which also reduces perceived job insecurity. Based on the reasons stated above it is hypothesized:

*Hypothesis 3 (H3): Perceived job insecurity will mediate the relationship between transformational leadership and continuance commitment to change.*

Moreover, besides the stated mediation effect, perceived job insecurity functions as a contextual factor that negatively influences the positive effect of transformational leadership on the positive commitment dimensions affective and normative commitment to change. Job insecurity is likely to reduce or even eliminate positive expectations towards the change initiative because change might be identified as the threat itself. Thus, perceived job insecurity should weaken the ability of transformational leaders to highlight the positive consequences of the change. Moreover, employees who suffer from a high level of job insecurity are cognitively and emotionally thrown back on their basic individual needs of safety and of reliable expectations (Barling et al., 1996). Additionally, because perceived job insecurity increases aversive stress in individuals (Hartley, 1991; Joelson & Wahlquist, 1987; van Vuuren, Klandermans, Jacobson, & Hartley, 1991), it reduces flexibility to adapt to changing situations. In this state of mind, it seems far more difficult to be perceptible for transformational leaders' efforts as pronouncing the higher-level worth of the change initiative, resulting in reduced affective commitment to change. Additional to the reduced capacity of alternative positive interpretations of the change, it might be difficult for employees with high insecurity to identify with their leaders in general, who might not be seen as affected by the negative consequences of the change same as the followers. Thus, followers lose the feeling of owing something to their leader. Therefore, also the positive impact of transformational leadership on normative commitment to change, based on the norm of reciprocity, is likely to be reduced under the condition of high job insecurity. Consequently it is hypothesized:

*Hypothesis 4 (H4): Perceived job insecurity will moderate the effect of transformational leadership on affective (H4a) and normative (H4b) commitment to*

*change in such a way that for followers perceiving lower levels of job insecurity, transformational leadership has a stronger, positive relationship with affective and normative commitment to change than for followers perceiving higher levels of job insecurity.*

### **3.3 Method**

#### ***Setting and Participants***

Data for this study were obtained from employees from a wide range of different organizations in Germany. Respondents of the survey were either gained through different internet platforms or through direct approach via e-mail. In each way, the research nature of the study was presented, as well as participation guidelines (i.e., voluntary and anonymous) were explained. Participants got directions for how to assess a website that contained the online survey and all additional information concerning the research project. Because the study was posted in several locations, a response rate could not be calculated. The survey was fully completed by 160 respondents, all of them German, the majority of them (64%) male. Average age of participants was 37.5 years ( $SD = 6.6$ ) with an average job tenure of 6.4 years ( $SD = 10.7$ ). They differed in employment status (full time vs. part-time), type (profit/non-profit) and size of organizations they were working for. Also, branches of organizations were diverse (Information Technology (IT), IT Consulting, Banking, Health Care, Civil Service, etc.), with a majority of respondents working in the IT sector.

In the survey, respondents were asked to think about and to specify one specific major change initiative in their organization, which currently affected their work or had been implemented in the near past. It was highlighted that respondents should concentrate on the one chosen change when filling out the commitment to change questionnaires to mitigate the risk of confusion and mix of survey target (Jaros, 2010). Reported major changes were projects of organizational restructuring (e.g. new team structure, new organizational structure), change of leadership (e.g. new direct lead or new top-management), changes in work processes (e.g. new time structure, new clients) and technological changes (e.g. new computer system, new software).



Thus, results of this study are based on a diverse sample of German employees, with a majority of full-time employed male participants working in the IT sector (profit-organizations) facing different major changes in their workplace.

### ***Measures***

*Transformational Leadership.* The Transformational Leadership Inventory (TLI, Podsakoff et al., 1990) was used in the German version of Heinitz and Rowold (2007) to assess the extent to which the respondents view the transformational leadership behavior of their direct lead. The TLI measures 6 dimensions of transformational leadership and one dimension of transactional leadership with 26 items. Transformational leadership dimensions are: *Articulating a vision* (5 items), *providing an appropriate model* (3 items), *fostering the acceptance of group goals* (4 items), *high performance expectations* (3 items), *providing individualized support* (4 items), and *intellectual stimulation* (3 items) (Podsakoff et al., 1996). The transactional dimension *contingent reward* (4 Items) was not used because of the aim of the study. Items all start with “My direct leader...,” with sample items being “...paints an interesting picture of the future for our group.”, “...encourages employees to be team players” or “...challenges me to think about old problems in new ways”. For this study, all 22 items measuring the 6 different dimensions of transformational leadership were used as indicators for an overall measure of transformational leadership, with Cronbach’s  $\alpha = .93$ .

*Commitment to Change.* Respondents’ affective, normative and continuance commitment towards a specific change initiative was measured using a German translation of the Commitment to Change Questionnaire, developed by Herscovitch and Meyer (2002). The original questionnaire showed good quality criteria, also concerning construct and external validity. The 18 items (six for each dimension of commitment to change) of the original questionnaire were translated into German following the translation-back-translation procedure (Brislin, 1980). The internal consistency (Cronbach’s Alpha) and discriminative power (Item-total correlation) of all items was tested in a pretest ( $N = 30$ ) followed by particular changes in formulation. Cronbach’s  $\alpha$  was .92 for affective commitment to change, .77 for normative commitment to change and .79 for continuance commitment to change. To confirm the model fit of the factor

structure of the measure, I performed a Confirmatory Factor Analysis (CFA). Several fit indices were computed additionally to  $\chi^2$  and Akaike's Information Criterion (AIC) - values: The root mean square error of approximation (RMSEA), the comparative fit index (CFI), the Tucker-Lewis-Index (TLI) and the standardized root mean square residual (SRMR). Recommended values indicating excellent model fit are  $> .90$  for TLI and CFI and  $< .08$  for RMSEA (Hu & Bentler, 1999). Results showed appropriate overall fit for the postulated three-factor model of commitment to change:  $\chi^2 = 116.47$  (51),  $AIC = 194.47$ ,  $RMSEA = .09$ ,  $CFI = .94$ ,  $TLI = .92$ .

*Trustworthiness of Top-Management.* Trustworthiness of top management was measured using 5 translated and partially adapted items taken from the *Interpersonal trust at work-Questionnaire* originally developed by Cook and Wall (1980). Items were: "Management can be trusted to make sensible decisions for the firm's future", "Management at work seems to do an efficient job", "Management makes candid efforts to incorporate their employee's perspective into its decisions", "Management will always attempt to treat me fairly" and "Altogether, I consider the management trustworthy". To avoid confusion, participants were explicitly asked to focus on the top management of their organization, the person(s) that is/are most likely to decide about major change initiatives. The factor structure of the adapted questionnaire was examined using Exploratory Factor Analysis (EFA). As expected, one factor emerged that accounted for 73% of the variance. Also, a CFA revealed good overall fit of the construct's model:  $\chi^2 = 9.53$  (5),  $AIC = 39.53$ ,  $RMSEA = .08$ ,  $CFI = .99$ ,  $TLI = .99$ . Moreover, internal consistency of the 5 items was high, as expected, Cronbach's  $\alpha = .95$ .

*Job Insecurity.* Based on the literature about the assessment of job insecurity (Ashford, Lee, & Bobko, 1989; Borg, 1992; Brandes et al., 2007; Semmer, 1984), a 15-item questionnaire was developed that contained items exploring quantitative and qualitative job insecurity. After investigating the item's quality in the pretest, 4 items formed the final questionnaire. Items were: "I feel secure in my present job" (reverse scored), "I fear I might lose my job", "I'm afraid my job will be less significant in the future", and "The prospect of losing my occupation worries me". EFA revealed a one factor structure of the scale. The 4 items accounted for 66% of the variance. The overall fit was acceptable due to the novelty of items:  $\chi^2 = 14.17$  (2),  $AIC = 38.17$ ,

$RMSEA = .20$ ,  $CFI = .96$ ,  $TLI = .88$ , as well as internal consistency with Cronbach's  $\alpha = .83$ .

Items of all constructs were measured on a five-point Likert scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

### ***Data Analysis***

Data analyses to test the hypotheses were conducted with partial least squares (PLS), a structural equation modeling (SEM) technique that uses a component-based approach to estimation. The analysis was performed using the software SmartPLS 2.0.M3 (Ringle, Wende, & Will, 2005). PLS as a non-parametric estimation technique was seen as more appropriate for this study than other SEM methods because of several reasons: First, the use of PLS is recommended when the sample size is relatively small. Second, because PLS does not assume multivariate normality, it is possible to test moderator effects, which are formed as multiple product terms and are therefore not multivariate normally distributed (Chin, Marcolin, & Newsted, 2003). Third, by using the multiple product indicator approach for creating the moderator term (Chin et al., 2003) and therefore creating a high amount of indicators, it was important that sample size was not constrained by the number of product indicators as it would be the case for maximum likelihood estimations, which require larger sample sizes as the amount of indicators increases (Chin & Newsted, 1999).

### **3.4 Results**

Results presented in Table 1 include descriptive statistics, scale reliabilities, and zero-order correlations among the study's variables.

Hypotheses were tested by using PLS. First, the appropriateness of the measurement model was further assessed. All indicators loaded significantly on their respective latent variable; loadings ranged from .67 to .93 and were therefore considered as appropriate (Fornell & Larcker, 1981). Also, composite reliability for all constructs was highly acceptable ( $> .85$ ). Thus, all constructs in the model showed high reliability. As shown in Table 1, average variance extracted by each construct was beyond the emphasized quality criteria of 50% for all variables (Fornell & Larcker, 1981), indicating good

convergent validity. Discriminant validity is given if the root average variance extracted for one construct exceeds the correlations of this construct with all other constructs (Carmines & Zeller, 1979). Because the average variance extracted (diagonal values) was higher than the intercorrelations (values in each of the respective columns), discriminant validity could also be obtained for all constructs.

*Table 1.* Study I: Means, Standard Deviations, Alpha Coefficients, Intercorrelations of Constructs and Root Average Variance Extracted by Constructs

Construct	<i>M</i>	<i>SD</i>	$\alpha$	Intercorrelations						
				1	2	3	4	5	6	
1. Transformational Leadership	3.50	0.68	.93	(.79)						
2. Affective Commitment to Change	3.72	1.05	.92	0.19*	(.85)					
3. Normative Commitment to Change	3.42	0.80	.77	0.11	0.57**	(.82)				
4. Continuance Commitment to Change	3.17	0.99	.79	0.20*	0.23**	0.20*	(.84)			
5. Trustworthiness of Top Management	3.18	1.10	.95	0.33**	0.58**	0.40**	-0.28*	(.91)		
6. Job insecurity	2.48	1.12	.83	-0.19*	0.20*	-0.02	0.28**	-0.21**	(.81)	

*Note.* Values on the diagonal represent estimates of root average variance extracted by each construct; \*  $p < .05$ ; \*\*  $p < .01$ .

To test the hypotheses (see Figure 2), the direct effects of transformational leadership on affective, normative and continuance commitment to change (H1a-c) were examined in a first step, without integrating mediating and moderating variables in the model. The significance levels of path coefficients were assessed with 1000 bootstrap runs, allowing individual sign changes in the subsamples. As expected, PLS showed a significant positive relationship of transformational leadership and affective commitment to change ( $\beta = .23, p < .05$ ) and a significant negative relationship with continuance commitment to change ( $\beta = -.23, p < .05$ ). Thus, Hypotheses 1a and 1c could be confirmed. Hypothesis 1b was not confirmed because the relation between transformational leadership and normative commitment to change was not significant ( $\beta = .13, ns$ ).

In a second step, the complete model with moderation and mediation effects was tested. Table 2 summarizes results of the PLS analysis. The mediating effect of trustworthiness of top management and job insecurity, proposed in hypotheses 2 and 3 were tested using the procedures recommended by Baron and Kenney (1986). Accordingly, mediation is present when the paths from the independent variable to the mediating variable and from the mediating variable to the dependent variable are significant and the direct effect of the independent on the dependent variable disappears (full mediation) or decreases (partly mediation) in the presence of the mediating variable. Supporting Hypothesis 2a, transformational leadership was significantly related to the mediator variable trustworthiness of top management ( $\beta = .35, p < .001$ ) which in turn showed a significant relationship with affective commitment to change ( $\beta = .56, p < .001$ ). When trustworthiness of top management was included, transformational leadership ceased to have a significant direct effect on affective commitment to change ( $\beta = .02, ns$ ), indicating a full mediation. In sum, the indirect effect of transformational leadership on affective change commitment was .20 ( $.35 \times .56, SE = 0.04$ ). As a formal test of the mediation, I conducted a Sobel test by dividing the indirect effect by its standard error (Sobel, 1982) and compared the resulting  $t$  statistic with a critical value from the T-distribution. Results supported a significant indirect effect of transformational leadership on affective commitment to change via trustworthiness of top management (Sobel  $t = 4.92, p < .05$ ).

Because transformational leadership was not found to be significantly related to normative commitment to change in the first step of analysis, the initial precondition for mediation was not given; therefore tests for mediation were not conducted, Hypothesis 2b could not be confirmed.

The mediation effect of trustworthiness of top management (H2c) and job insecurity (H3) concerning continuance commitment to change was tested simultaneously – as proposed in the model. Results showed that transformational leadership was significantly negative related to job insecurity ( $\beta = -.22, p < .05$ ), which in turn was significantly positive related to continuance commitment to change ( $\beta = .23, p < .05$ ). Also, trustworthiness of top management was significantly negative related to continuance commitment to change ( $\beta = -.20, p < .05$ ). The direct relationship between transformational leadership and continuance commitment to change disappeared, when trustworthiness of top management and job insecurity were added to the model as mediators (path coefficient = .09, *ns.*), indicating full mediation. The indirect effect of transformational leadership on continuance commitment to change was  $-.07$  ( $.35 \times -.20, SE = 0.01$ ) mediated by trustworthiness of top management (Sobel  $t = -4.73, p < .05$ ) and  $-.05$  ( $-.22 \times .23, SE = -0.02$ ) mediated by job insecurity (Sobel  $t = -2.40, p < .05$ ).

In sum, trustworthiness of top management fully mediated the effect of transformational leadership on affective commitment to change. The effect of transformational leadership on continuance commitment to change was fully mediated by trustworthiness of top management as well as job insecurity.

The moderating effect of job insecurity (Hypothesis 4) was tested as part of the overall model. Interaction terms were formed by cross-multiplying all standardized items of each construct, following recommendations by Chin et al. (2003) for measuring interactions by using the product indicator approach. Results of bootstrapping revealed significant results for both moderation effects of job insecurity on the transformational leadership-affective commitment to change relationship ( $\beta = -.26, p < .05$ ) and on the transformational leadership-normative commitment to change relationship ( $\beta = -.25, p < .05$ ).

Results of hypotheses testing are summarized in Table 2.

Table 2. Results of PLS Analysis of Study I

Hypothesized Proposed Path	$\beta$	$T$
Hypotheses 1 (First-step-model without mediating and moderating constructs)		
a) Transformational Leadership $\rightarrow$ Affective Commitment to Change	0.23	2.56*
b) Transformational Leadership $\rightarrow$ Normative Commitment to Change	0.13	1.06
c) Transformational Leadership $\rightarrow$ Continuance Commitment to Change	-0.23	2.54*
Hypotheses 2 (complete model)		
Transformational Leadership $\rightarrow$ Trust in Top-Management	0.35	5.16**
a) Trust in Top-Management $\rightarrow$ Affective Commitment to Change	0.56	8.26**
Transformational Leadership $\rightarrow$ Affective Commitment to Change	0.02	0.46
c) Trust in Top-Management $\rightarrow$ Continuance Commitment to Change	-0.20	2.51*
Hypotheses 3 (complete model)		
Transformational Leadership $\rightarrow$ Job Insecurity	-0.22	2.54*
Job Insecurity $\rightarrow$ Continuance Commitment to Change	0.25	2.65*
Hypotheses 2c & 3		
Transformational Leadership $\rightarrow$ Continuance Commitment to Change	0.09	1.34
Hypotheses 4 (complete model)		
a) Transformational Leadership x Job Insecurity $\rightarrow$ Affective Commitment to Change	-0.26	2.48*
b) Transformational Leadership x Job Insecurity $\rightarrow$ Normative Commitment to Change	-0.25	3.37*

Note. \*  $p < .05$ ; \*\*  $p < .01$ ;  $\beta$  = standardized path coefficient.

A median split was used for job insecurity as well as transformational leadership to plot the interactions. Figure 3 shows the moderation effect of job insecurity on the transformational leadership-affective change commitment relationship, and Figure 4 represents the moderation effect on the transformational leadership-normative commitment to change relationship. Figure 3 shows that, in contrast to expectations, high job insecurity does not weaken the relationship between transformational leadership and affective commitment to change. Instead, under the condition that job insecurity was high, transformational leadership had a stronger impact on affective commitment to change than if job insecurity was low. Consequently, Hypothesis 4a could not be confirmed.



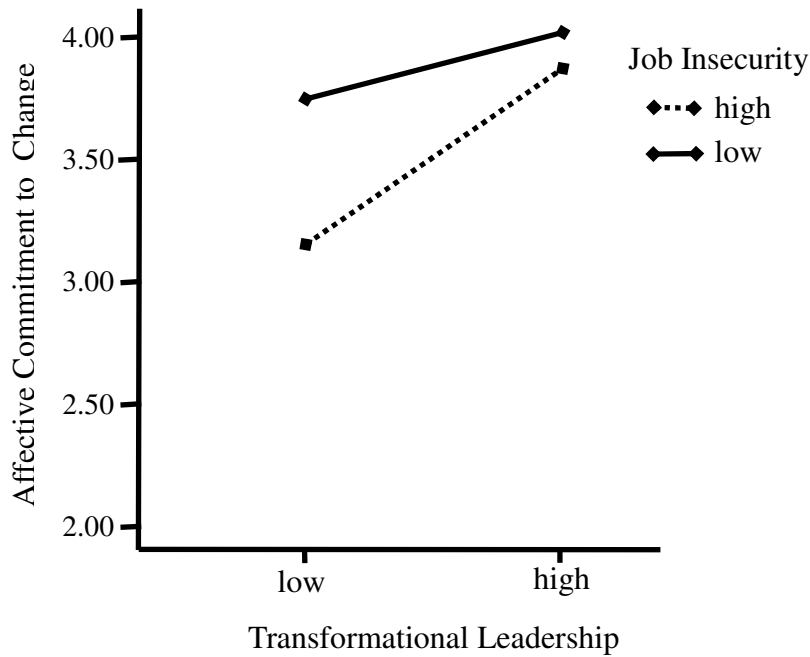


Figure 3. The interaction between transformational leadership and job insecurity on affective commitment to change.

A different picture emerges for normative commitment to change: Figure 3 shows that transformational leadership did only have a positive relationship with normative commitment to change when job insecurity was low, confirming Hypothesis 4b.

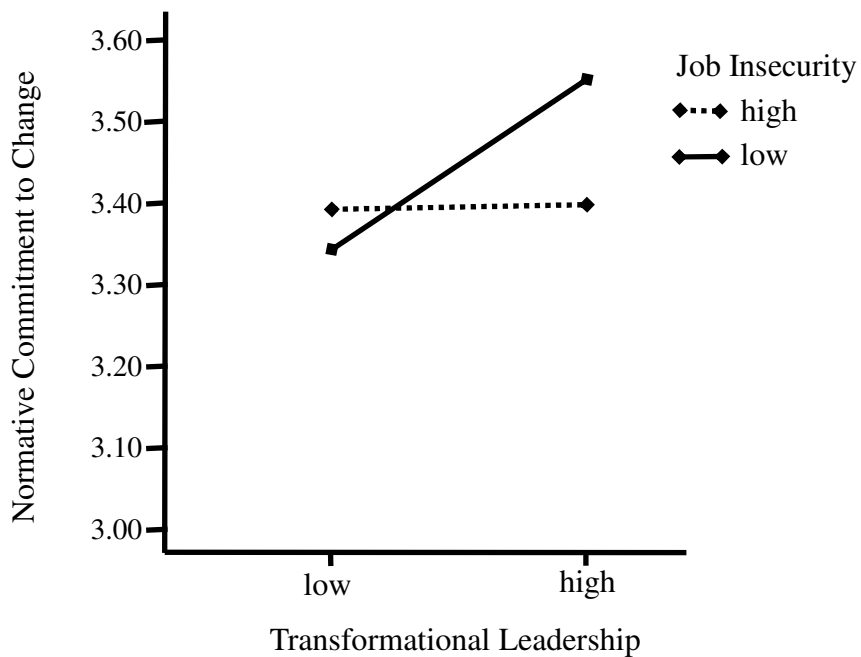


Figure 4. The interaction between transformational leadership and job insecurity on normative commitment to change.

In sum, the proposed model with mediation and moderation effects accounted for 42% of the variance of affective commitment to change, 4% of normative commitment to change and 12% of continuance commitment to change. To further assess the predictive power for the proposed research model in PLS, I estimated the  $Q^2$  index based on the Stone-Geisser procedure. The Stone-Geisser test ( $Q^2$ ) measures how well the observed values are reconstructed by the model. Predictive relevance of a model is given when the cross-validated redundancy ( $Q^2$ ) is  $> 0$  for its dependent variables (Chin & Newsted, 1999). Using the Blindfolding procedure, predictive relevance of the proposed model for affective commitment to change ( $Q^2 = 0.29$ ), normative commitment to change ( $Q^2 = 0.04$ ), and continuance commitment to change ( $Q^2 = .08$ ) could be obtained.

### **3.5 Discussion**

The present study enlarges the people-oriented change research (Armenakis & Harris, 2009) by providing information about different antecedents of different facets of commitment to change on the basis of a diverse sample not restricted to one organization. It offers further support for the impact of transformational leadership, which is recognized as a leadership behavior not specifically limited to change situations. Most important, the study clarifies mediating and moderating processes. It shows that transformational leaders indirectly influence followers' commitment to change by effecting employees' beliefs such as trustworthiness of top management and job insecurity. Moreover, it reveals that the effect of transformational leadership on affective and normative commitment to change is moderated by followers' job insecurity.

Results reveal, as expected, that transformational leadership has a significant positive impact on affective commitment to change, confirming previous studies (Conway & Monks, 2008; Herold et al., 2008; Michaelis, 2010). Also, it can be shown that transformational leadership has a significant negative impact on continuance commitment to change. In contrast to expectations, the positive effect of transformational leadership on normative commitment to change cannot be confirmed. Possibly, followers' perception of moral obligation towards the leader, which is based

on norms of reciprocity, has been reduced due to the exceptionality of change situations. More specifically, because norms are based on many interactions in several situations, they might not have been transferred to the change situations. Thus, even though a leader is perceived as transformational, the exceptional change situation might at first demand for leaders' exceptional demonstration of integrity and support to build up a 'new' feeling of moral obligation towards the leader. Interestingly, results regarding transformational leadership's impact on followers' normative commitment to change are contrary to results of Hinduan et al. (2009), who showed a significant positive effect on normative commitment to change. Thus, another possible explanation for the non-existing relationship between transformational leadership and normative commitment to change might be the cultural setting of the present study: Different to Hinduan et al. (2009), who based their findings on a non-western-setting (Indonesia), this study took place in Germany, which is a much more individualistic cultural context (Hofstede, 2002). In this setting, the challenge of the change situation might lead to a concentration of individual needs ('I need') rather than following normative standards ('one should'), diminishing the impact of transformational leadership on normative commitment to change.

Most important, this study demonstrates the importance of mediators, such as trustworthiness of top management and job insecurity. Results indicate that the cross-situational transformational leadership behavior exhibits its influence via fostering employees' perception of trustworthiness of the perceived initiators of the change, which might have a more direct impact on employees' feelings and risk calculations during a change situation. Additionally, the impact of transformational leadership on continuance commitment to change is mediated by perceived job insecurity. This supports the assumption that by reducing follower's subjective fear of job loss or job change, transformational leaders are able to reduce continuance commitment to change as a dysfunctional strategy to cope with this ambiguity (Kalyal et al., 2010).

Additionally, job insecurity is revealed as moderating the relationship of transformational leadership and normative commitment to change. As expected, the relationship is weaker when job insecurity is high. Consequently, the diminishing effect of job insecurity on the transformational leadership - commitment to change relationship does only appear for the felt moral obligation to support the change,

because norms of reciprocity perceived by followers' towards their leaders are likely to be eliminated by their job insecurity.

In contrast, high job insecurity is found to lead to a stronger relationship between transformational leadership and the affective component of commitment to change. Possibly, as job insecurity displays an individual crisis, it may raise the need for transformational leadership in followers and makes it most successful (Avolio, Waldman, & Yammarino, 1991). Under the condition of high anxiety, transformational behaviors like individualized support or fostering a team spirit might be most successful to create an emotional bond to the change initiative.

### ***Limitations and Directions for Future Research***

Besides the contributions of the present study, there are several limitations to be mentioned: Firstly, even though the model bases on theoretical development, the cross-sectional design of the study limits the causal interpretation of results. Besides solving the causality problem, using a longitudinal design in future studies would reveal highly interesting information about the impact of transformational leadership in different time-stages of the change process. For example, it is possible that transformational leadership is highly effective in the early stages of a change initiative, when people are more receptive for a positive vision and intellectual stimulation, whereas in late stages cynicism and resistance might have established due to negative consequences of the change, preventing transformational leadership from having a positive effect.

Secondly, related to the directions above, another limitation is that I did not control for the time stage of the change respondents reported about. Moreover, even though participants were explicitly asked to think about a current major change initiative or one that had been implemented in the near past, and to specify the change, I did not control for a possible time gap between the change and the survey. Consequently, one needs to be aware of the possibility that the self-appraisal of change commitment might have been influenced by retrospective distortion. Also, I did not control for other descriptive aspects of the change initiatives, such as job impact or type of change. In sum, future studies should consider these 'demographic data of the change' like time stage of the change or type of change in model building.

Thirdly, results might be influenced by common method bias since all constructs were measured using self reports of followers (Spector, 2006). In the study, strategies like collecting data from different sources or integrating time lags between predictor and criterion measurement (Podsakoff et al., 1996) could not be integrated, due to the approach of a wide diversity of participants by online-survey. However, data show only moderate intercorrelations between constructs, which indicates that common method bias can be neglected. To test for common method bias retrospectively, the mediation model (relationships between transformational leadership and followers' commitment to change, mediated by trustworthiness of top management and job insecurity) was compared to a one-factor solution (all items loading on one common method factor – Harman's single factor test, Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Results revealed a significantly better fit of the complex model ( $\chi^2 = 869.915$  (453),  $AIC = 11747.26$ ,  $RMSEA = 0.08$ ,  $CFI = .88$ ,  $TLI = .87$ ,  $SRMR = 0.09$ ) compared to a one factor solution, representing all items loading on one common method factor ( $\chi^2 = 2764.86$  (464),  $AIC = 13686.22$ ,  $RMSEA = 0.18$ ,  $CFI = .32$ ,  $TLI = .27$ ,  $SRMR = .20$ ). Nevertheless, I cannot entirely smooth out concerns about the validity of the results due to same source and common method bias. Consequently, future studies should investigate the relationship between transformational leadership and commitment to change using strategies to control for common method bias beforehand.

Fourthly, by using the described design and operationalization of the construct 'job insecurity', it cannot be told whether it is a mind state participants already had to struggle with when the changes were set up or if it is a consequence of the changes. Nevertheless, results indicate that employees' job insecurity is relevant for the effectiveness of transformational leadership in the change situation, independent of its origin. Moreover, the negative effect of transformational leadership on job insecurity demands further elaboration with regard to a moderating effect of an objective job threat. More precisely, under the condition of an objective threat of one's job by the change initiative, it might be possible that, by providing certainty about the future (that one might lose his jobs) transformational leadership does not weaken or even increase follower's job insecurity.

### ***Practical Implications***

The findings from this study have several managerial implications. First and foremost, the study supports the success of transformational leadership in fostering affective and reducing continuance commitment to change. Thus, transformational leadership is also effective in the specific change situation, because it influences followers' change-specific attitudes such as trustworthiness of top management and job insecurity. Therefore, it is particularly important for companies facing continuous major changes to promote transformational leadership behavior by development activities, feedback methods and also by adaptation of selection processes of leaders.

In addition, managers should consider the mediating processes by which transformational leadership takes its effect. For example, to increase direct leaders' positive effect on trustworthiness of top management, organizations should take care to establish direct leaders as stable representatives of top management by promoting their responsibility and protecting them from infiltration by next level managers.

Also, time for interaction with followers is needed for leaders to actually perform transformational leadership. Specifically to reduce job insecurity, time for individual supporting followers is necessary. Thus, since transformational leadership effects proximal change variables also in times in-between change initiatives, management should provide a time budget, not only in change periods but continuously.

Also, leaders themselves should foster their awareness of being highly important for followers' perception of change – with their day to day leadership behavior they have the power to tip the scales of change initiatives' success.

## **4. Study II - The Influence of Leaders' Commitment to Change on the Effectiveness of Transformational Leadership in Change Situations - A Multilevel Investigation**

### **4.1 Introduction**

The ability of organization to constantly change and adapt to their environment has been found as a major success factor (Nohria et al., 2003; Spector, 2007). Even though changes are necessary to keep track with the globalized markets, they confront organization's members to manage difficult challenges. Research has largely shown, that employees' attitudes and behaviors towards restructuring, outsourcing, technological change etc., represent the most important predictors of a change's success (Armenakis, 1993). Beyond other relevant attitudes towards change (e.g., acceptance of change, resistance to change, cynicism towards change), *commitment to change* has been extracted as being closely related to employees' supportive behavior towards change (Herscovitch & Meyer, 2002; Meyer et al., 2007; Seo et al., 2012), and is therefore considered as an important key to successful change initiatives (Jaros, 2010). Drawing the focus of antecedents, leaders' *transformational leadership* behavior has been found in different studies to positively affect employees' commitment to change (e.g., Herold et al., 2008; Seo et al., 2012; Yu et al., 2002). Even though these studies provide some initial support for the relationship of transformational leadership and followers' commitment to change, the practical impact of these studies is limited by the fact that transformational leadership is investigated as an aggregated leadership behavior, providing no insight whether and how the distinct transformational leadership behaviors of leaders (e.g. articulating a vision, individual support), contribute to the appearance of followers' affective commitment to change. Moreover, although the crossover effect of leaders' attitudes and reactions (leaders' attitudes impact followers' work attitudes) has received reasonable attention in the literature (Bommer et al., 2005; Dick, Hirst, Grojean, & Wieseke, 2007; O'Neill et al., 2009), to date leaders' own commitment towards change has not been taken into account as bearing the potential to moderate the effectiveness of leaders' behaviors towards followers' commitment to

change. Thus it remains unanswered if transformational leadership can only unfold its full potential in positively influencing followers' commitment to change if leaders bear a high commitment to the change themselves.

Consequently, the present investigation aims at expanding the current knowledge about the contribution of transformational leadership on employees' commitment to change in two ways: Firstly, while existing studies have focused on transformational leadership as an aggregated measure, little is known about which behavioral facets of transformational leadership are able to influence commitment to change specifically. Secondly, to date there is no study investigating the effect of leaders' commitment to change on these relationships. By using a multilevel design and multiple sources of data, the study's goal is to answer the question whether leader's commitment to change moderates the effectiveness of those transformational leadership behaviors that transfer leaders' attitudes and values to followers (articulating a vision and providing an appropriate model). In the following section, the theoretical background and derivation of hypothesis are presented. Figure 5 provides an overview about the proposed multilevel model.

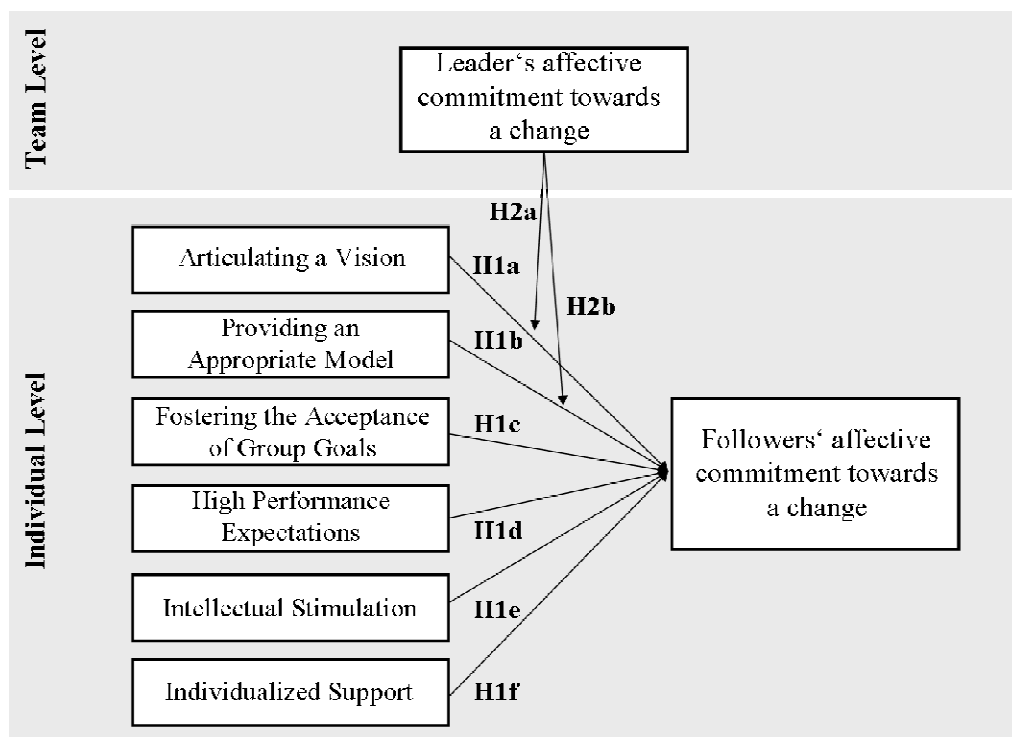


Figure 5. Overview of the multilevel model of study II.



## 4.2 Theoretical Background

### *Employees' Affective Commitment to Organizational Change*

The success of organizational change initiatives strongly depends on employees' acceptance and support (Armenakis & Harris, 2009; Fedor et al., 2006; Smollan, 2006). Thus, researchers have developed and investigated consequences and antecedents of several constructs of employees' reactions towards change, for example attitudes towards change (Vakola et al., 2004; Vakola & Nikolaou, 2005), resistance to change (Ford, Ford, & D'Amelio, 2008; Oreg, 2006; Oreg et al., 2008), cynicism towards change (Reichers et al., 1997; Wanous et al., 2000), readiness for change (Armenakis, 1993; Cunningham et al., 2002; Holt, Armenakis, Feild, & Harris, 2007) and openness to change (Miller, Johnson, & Grau, 1994; Wanberg & Banas, 2000). Recently, special interest has been invested in the concept of *commitment to change*, which is defined as "a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative." (Herscovitch & Meyer, 2002, p. 475). Herscovitch and Meyer (2002) developed three facets of commitment to change (affective, normative, continuance) based on their original model of organizational commitment. Even though all types seem to be of distinct relevance (Hill et al., 2011; Hinduan et al., 2009), I concentrate in this study on affective commitment to change because a) its positive influence to change's success is best established (e.g., Cunningham, 2006; Michaelis et al., 2010), and b) it shows strongest relationships with transformational leadership (Herold et al., 2008).

Affective commitment to change reflects "a desire to provide support for the change based on a belief in its inherent benefits" (Herscovitch & Meyer, 2002, p. 475). According to this definition, commitment to change is different to other forms of commitment (e.g., towards the organization) in its inherent direction towards a dynamic process – the change initiative (Jaros, 2010). Thus, affective commitment to change represents an emotional bond to the change initiative, which goes along with the personal involvement and supportive behavioral intention to support its goals and intentions (for an overview about the development of the concept see Jaros, 2010). There is already a considerable amount of studies which confirms the positive influence of commitment to change. For example, Herscovitch and Meyer (2002) as well as Meyer et al. (2007) showed that commitment to change significantly predicts behavioral support for the change (compliance, cooperation, championing). Also, results of

Michaelis et al. (2009) revealed that commitment to change predicts innovation implementation behavior while Cunningham (2006) identified commitment to change as reducing turnover intentions, by increasing employees' abilities to effectively cope with the change. As a result, even more studies have engaged in the examination of individual and organizational antecedents of commitment to change, such as locus of control (Chen & Wang, 2007) and self-efficacy (Herold et al., 2007), change favorableness (Fedor et al., 2006), job impact (Herold et al., 2008), structural distance and top management's communication (Hill et al., 2011), as well as leadership (Chawla & Kelloway, 2004; Michaelis et al., 2009; Nevesa, 2011; Parish et al., 2008).

### ***Transformational Leadership***

In its definition, transformational leadership is seen as the most active leadership behavior that aims at transforming or aligning followers' self-interests to higher levels of concern for the sake of the group or the organization (Avolio & Bass, 1988; Bass, 1985). Thus, transformational leaders motivate and inspire followers to identify with the leader and the organization. Consequently, transformational leadership has been found to be effective regarding numerous criteria such as employee effectiveness, satisfaction, organizational commitment, and extra effort (Judge & Piccolo, 2004; Lowe et al., 1996), as well as objective organizational success criteria (Rowold & Heinitz, 2007). Transformational leadership was conceptualized differently during the last decades. In its most recognized conceptualization, Bass (1985) developed four dimensions of transformational leadership, which were labeled *idealized influence*, *inspirational motivation*, *intellectual stimulation*, and *individualized support*. Podsakoff et al. (1990) further developed this original model based on a broad literature review of transformational leadership conceptualizations in the actual leadership research, resulting in six components of transformational leadership: *articulating a vision* (leader communicates an appealing vision of the future of the group), *providing an appropriate model* (leader functions as a role model in his behaviors, which are consistent with the values exposed by the leader), *fostering the acceptance of group goals* (leader works for creating a team spirit among his team members), *high performance expectations* (leader sets high working standards by communicating trust in followers that they are able to achieve this high goals), *individualized support* (leader expresses respect and concern about followers' needs and feelings), and *intellectual stimulation* (leader encourages

followers to think about assumptions and attitudes about work-related issues in new ways).

The present study uses Podsakoff et al.'s (1990) six dimensions of transformational leadership for two reasons: First, the contents of the single dimensions can be more easily and explicitly linked to leadership behaviors that have been identified as heavily important during change (e.g., articulating a vision: Coetsee, 1999; Kotter, 1996). In support for its relevance, the Podsakoff et al. (1990) concept has been used in related outstanding studies, such as in the Herold et al. (2008) work. Second, in contrast to other conceptualizations like the Multifactor Leadership Questionnaire, the construct validity (discriminant and convergent validity) of the six factor conceptualization has lately received great support (Krüger et al., 2011), thus indicating its advantage and appropriateness.

### ***Transformational Leadership and Employees' Commitment to Change***

In contrast to change leadership, which has been conceptualized as distinct leadership behavior in change situations (Herold et al., 2008), transformational leadership is seen as a situational unspecific leadership style whose success has been shown throughout diverse situations and contexts (Judge & Piccolo, 2004). Thus, combining change management and leadership research, the question arises whether the comprehensive transformational leadership style has direct effects on change-related responses of followers. Resulting research suggested significant influence of leaders' transformational leadership behavior on followers' reactions in change situations, such as commitment to change (Herold et al., 2008; Hill et al., 2011; Hinduan et al., 2009; Michaelis et al., 2010; Yu et al., 2002).

According to Shamir et al. (1993), transformational leadership behaviors activate several motivational processes in followers which lead to the transformation of followers' self-interests towards an interest or commitment towards higher organizational targets, such as organizational change targets. In the following section, the six transformational leadership behaviors that will be hypothesized to foster followers' commitment to change will be presented.

*Articulating a vision.* Transformational leaders communicate a positive, appealing and emotional vision of the future of the team. By illustrating a positive vision that

combines the values of organization's targets with followers' higher order values and goals (e.g., 'success', 'team work', 'quality', 'meaning'), leaders raise the attraction (Ford & Ford, 1994) or intrinsic valence (Shamir et al., 1993) of these higher order organizational targets. As these targets become meaningful to followers, they become part of followers' self-concept. As such, followers identify with these targets and, to maintain self-consistency, work exceptionally hard (beyond the borders of expected dedication) to support their success (Shamir et al., 1993). As such, articulating a transformational vision is likely to foster followers' commitment towards higher-order organizational targets, such as change initiatives.

*Hypothesis 1a (H1a): Articulating a vision will be positively related to followers' commitment to change.*

*Providing an appropriate model.* Transformational leaders are perceived as role models that provide guidance and orientation by communicating their own values and following these values in their day-to-day behavior. Thus, by showing high integrity, they set the fundament of followers' trust in their leader (Dirks & Skarlicki, 2004; Podsakoff et al., 1996). Additionally, because leaders are seen as representatives of the organization, followers who perceive their leader as a transformational role model are more likely to trust their organization's top-management, which in turn has been shown as a dominant predictor of followers' change commitment (Michaelis et al., 2009). As such, by fostering orientation in turbulent times and strengthen trust in the leader and the top management to act in line with communicated values even in times of change, role modeling behavior carries the potential to positively influence followers' change commitment.

*Hypothesis 1b (H1b): Providing an appropriate model will be positively related to followers' commitment to change.*

*Fostering the acceptance of group goals.* Because transformational leaders highlight the importance of team spirit to achieve challenging goals and refer to the team's success in the past to achieve analogous goals, team membership is perceived positively by followers and therefore becomes an important part of their self concept. According to social identity theory, the positive interpretation of team membership bears the strengthening of one's positive self-concept (Tajfel & Turner, 2004). Consequently, in change situations which provoke stress by subjective uncertainty and instability, a

positive self-concept is a fundamental predisposition to effectively cope with stress and to spot the positive consequences of change (Judge et al., 1999). Thus, fostering the acceptance of group goals is seen as a potent predictor of commitment to change.

*Hypothesis 1c (H1c): Fostering the acceptance of group goals will be positively related to followers' commitment to change.*

*High performance expectations.* By expressing high performance expectations, transformational leaders enunciate trust in their followers and therein that these expectations can be met. It could be shown that this trust leads to higher self-efficacy among followers (Eden, 1990; Yukl, 1989). In the context of change, employees face multiple challenges resulting from loss of established standards (Vakola et al., 2004). Consequently, if leaders show trust in their followers' ability to master major challenges, team members' self-efficacy is likely to increase, which was shown to positively affect their change readiness (Cunningham et al., 2002), coping with change (Judge et al., 1999), openness to change (Wanberg & Banas, 2000), and commitment to change (Herold et al., 2007). As a result, high performance expectations of leaders are able to strengthen followers' commitment to a specific change.

*Hypothesis 1d (H1d): High performance expectations will be positively related to followers' commitment to change.*

*Individualized support.* According to Lazarus and Folkman's (1984) model of stress and coping mechanisms, individual resources play an important role in how people cope with stressful situations. In change situations, the appraisal and individual reaction towards the change should therefore be dependent on individual coping resources. By individualized support, transformational leaders treat followers with respect, offer support and guidance, show honest understanding of individual feelings, and take personal needs into account (Bass & Riggio, 2006). As such, individual support reduces followers' anxiety and fear as well as aversive stress (Rowold & Schlotz, 2009), resulting in a higher amount of appropriate resources to effectively cope with difficult situations. The perceived capability of challenging situations such as organizational change has important impact of the cognitive and emotional positive interpretations of these situations (Lazarus & Folkman, 1984). Accordingly, Rodda (2007) found a positive relationship of coping resources and followers' commitment to change. Consequently, if transformational leaders decrease stress and increase individual coping

resources in the change situation by individually supporting their team members, they also have an impact of the positive interpretation of the change. Thus, it is hypothesized:

*Hypothesis 1e (H1e): Individual support will be positively related to followers' commitment to change.*

*Intellectual stimulation.* By providing intellectual stimulation, transformational leaders encourage their followers to think about old problems in new ways, to question own beliefs and assumptions, and to reformulate problems as chances (Avolio, Bass, & Jung, 1999). According to Shin & Zhou (2003), being continuously challenged to apply this kind of flexible thinking, "followers are likely to be interested in and to focus on their tasks instead of on external worries and concerns" (p. 704). As such, intellectual stimulation is likely to lead to an increased amount of creativity among followers (Jung, 2001; Shin & Zhou, 2003). Creativity, in turn, leads to the opportunity to positively reframe past experiences and to react adaptive to present and future challenges (Ford, 2002). Consequently, followers who receive continuous intellectual stimulation are able to independently rethink specious negative beliefs and attitudes about a change initiative and to re-interpret problems evolving with the change as challenging opportunities. As such, followers are likely to feel committed towards a change.

*Hypothesis 1f (H1f): Intellectual stimulation will be positively related to followers' commitment to change.*

### ***Moderating Effect of Leaders' Commitment to Change on the Impact of Transformational Leadership Behaviors***

As stated above, leaders' leadership behavior has been considered in several studies as an important predictor of change initiatives' success by influencing followers' reactions. Also, there is already empirical support for a main effect of leaders' attitudes and behaviors on their followers' attitudes and behaviors. For example, van Dick et al. (2007) found that teachers' identification with their school was dependent on their headmaster's identification with the school, leading to higher extra effort to achieve the schools' superior targets. Also, Westman and Etzion (1999) provided support for a crossover effect of leaders' strain on their respective followers. In the context of organizational change, specifically, for example Bommer et al. (2005) highlighted that leaders' cynicism towards organizational change significantly predicts followers'

cynicism towards organizational change, and Rodda (2007) showed that followers' perceptions of upper level support for a change initiative significantly affects followers' commitment to change by enhancing followers' coping mechanisms. Also, Oreg (2006) showed that school principals' openness to change values are negatively related to teachers' resistance to change.

Taken together, there is already some evidence that there are main effects of leaders' leadership behaviors as well as leaders' attitudes and behaviors (towards change) on followers' attitudes and behaviors (towards change). Remarkably, to date there is no study combining these two paths in research by assuming a moderation effect of leaders' commitment to change on the positive relationships of followers' commitment to change with some specific transformational leadership behaviors.

Beyond the transformational leadership behaviors, it is articulating a vision and providing an appropriate model whose impact on followers' commitment towards change is foremost based on leaders' communication of own values and attitudes and modeling these in their behavior to provide inspiration and orientation to followers. Additionally, these leadership behaviors are the ones in which the leader can explicitly address the favored target of followers' commitment – the change initiative. Consequently, the effectiveness of these leadership behaviors in positively influencing followers' change commitment is likely to be dependent on leaders' credibility and authenticity, and appearance of compatible contents in communicating a vision and role modeling behavior.

As stated above, transformational leaders raise followers' commitment to change by articulating an appealing and inspiring vision of the future and therewith increasing the intrinsic value of organizational targets for followers (Shamir et al., 1993). Whether a transformational vision can unfold its inspirational effect seems to be largely dependent on the perceived credibility and authenticity of the transformational leader (Bass & Steidlmeier, 1999). More specifically, it is likely that the effect of communicating a vision relies on the condition if the leader is fully backing the vision's inherent values and goals, and is therefore able to raise enthusiasm beyond followers. That is, a leader's vision will be most effective towards fostering followers' intrinsic motivation to support and to feel committed towards a change initiative if the leader remains true to his distinct attitudes and values and is committed towards the change himself.

Additionally, in order to enroll its inspirational effect, a transformational vision is meant to bring together values and targets of followers and the organization (Shamir et al., 1993). Consequently, whether followers are inspired to follow a specific organizational target depends on the fact if the leader addresses values and targets that back up this specific organizational target. More specifically, based on the assumption that individuals' behaviors (e.g., communication) are shaped by their attitudes (Fishbein & Ajzen, 2010), it is likely that transformational leaders who are committed to an organizational change initiative will promote its benefits by aligning its underlying goals with followers' values in an inspirational vision. In contrast, even though a leader acts transformational by articulating a vision, it is likely that this behavior has less impact on followers' commitment to change if the leader himself is not committed to the change and does therefore not focus in the communicated vision on values that explicitly support the change initiative.

*Hypothesis 2a (H2a): Leaders' commitment to change moderates the impact of articulating a vision on followers' commitment to change. If leaders' commitment to change is high, the impact of articulating a vision on followers' commitment to change will be stronger than if leaders' commitment to change is low.*

Similarly, one might expect the effect of the leadership behavior providing an appropriate model to be moderated by leader's own commitment to change. As Shamir (1993) states, the leader "becomes an image that helps define for the followers just what kinds of traits, values, beliefs and behaviors it is good and legitimate to develop" (pp. 584–585). Thus, whether transformational leaders are able to raise trust and identification in followers by role modeling heavily depends on the authenticity or honesty of their actions (Bass, 1990; Carlson & Perrewé, 1995; Korsgaard, Schweiger, & Sapienza, 1995). Consequently, if leaders are not committed to the change themselves and still pretend to support the change in their behavior due to supervisory expectations, they will fail to display congruent behavior over time and therefore their role modeling behavior will not be perceived authentically by their followers (Simons, 1999). As such, leaders will not be able to raise trust in their followers towards promoted organizational targets such as change initiatives, and followers will be less likely committed to the change. In turn, if leaders' role modeling behavior is perceived as authentically displaying the leader's high commitment to change, and therefore creates trust and credibility among followers, role modeling behavior will have a



positive effect on followers' commitment to change. Additionally, to avoid cognitive dissonance (Festinger, 1957) it is likely that leaders will not display change supportive role modeling behavior if they do not feel committed to the change. Thus, they do not provide a "point of reference and focus for followers' emulation" (Shamir et al., 1993, pp. 584–585) with regard to commitment towards change. In contrast, if leaders are highly committed to the change, their impact on followers' commitment to change via role modeling will be unequally higher.

*Hypothesis 2b (H2b): Leaders' commitment to change moderates the impact of providing an appropriate model on followers' commitment to change. If leaders' commitment to change is high, the impact of providing an appropriate model on followers' commitment to change will be stronger than if leaders' commitment to change is low.*

## **4.3 Method**

### ***Sample and Procedure***

Data for this study were obtained from different organizations in Germany. 30 organizations from different branches were contacted via e-mail by the first author and were offered to participate in the study. Twelve organizations agreed to take part in the study with one or multiple teams, resulting in a total amount of 38 teams. Each team had one team leader, serving as the contact for the study. The survey of the study contained a leader and an employee questionnaire, which were online accessible. In each participating organization, team leaders were asked to participate in the leader survey and send the link to the employee survey to all of their team members. Also, team leaders were asked to specify a change initiative their team was affected by in the near past, and to communicate the survey-relevant change to their team members. Respondents were instructed explicitly to concentrate on the one specific change initiative to minimize the risk of mixing up the survey target (Jaros, 2010). Also, it was pointed out that team members should get back to their team leaders to clarify the relevant change, i.e., if they were not sure about which change to refer to. Also, all respondents were asked to write down the change they were referring to. Thus, it was ensured that team leaders and team members bear on the similar change initiative.

Branches of participating organizations were: Information Technology and Consulting (4, 22 teams), Banking (2, 3 teams), Project Management (1, 3 teams), Health Care (1, 1 team), Civil Service (1, 3 teams), and divers others (3, 6 teams). Size of participating organizations differed between less than 50 employees (1, 3 teams), 50-250 employees (4, 12 teams), and more than 250 employees (7, 23 teams). In sum, 177 team members participated in the study, team size ranged from one up to twenty-one team members, average team size was 4.46. Participating employees' average age was 37.34 ( $SD = 10.02$ ) years, 77% of team members were male. Average job tenure of team members was 6.20 ( $SD = 5.73$ ) years. Team leaders' average age was 41.00 ( $SD = 8.10$ ) years, 85% of team leaders were male. Their average job tenure in the present organization was 9.56 ( $SD = 7.80$ ) years. Reported changes were projects of organizational restructuring (e.g., new team structure, new organizational structure), change of leadership (e.g., new top- management), changes in work processes (e.g., new time structure, new clients), and technological changes (e.g., new computer system, new software).

### *Measures*

*Transformational Leadership.* Team members' perception of leaders' transformational leadership behaviors was measured using the Transformational Leadership Inventory (TLI; Podsakoff et al., 1990) in its German translation by Heinitz and Rowold (2007). The TLI displays the six behavioral components of transformational leadership used in the study: articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, providing individualized support, and intellectual stimulation (Podsakoff et al., 1996). The six-components-model of transformational leadership was developed by Podsakoff et al. (1996; 1990) on the basis of broad literature research on transformational leadership and expert interviews. Even though the psychometric property of the six-factor structure was supported in some studies, it is still important to confirm the scales properties for the present study as the dimensions are treated as distinct predictors of the hypothesized criteria.

A confirmatory factor analysis was performed to assess the model fit. Several fit indices were computed additionally to  $\chi^2$  and Akaike's Information Criterion (AIC) - values: The root mean square error of approximation (RMSEA), the comparative fit

index (*CFI*), the Tucker-Lewis-Index (*TLI*) and the standardized root mean square residual (*SRMR*). Recommended values indicating appropriate model fit are  $> .90$  for *TLI* and *CFI* and  $< .08$  for *RMSEA* and *SRMR* (Hu & Bentler, 1999). Results showed good overall fit for the postulated six-factor model:  $\chi^2 = 329.62$  (194), *AIC* = 8301.67, *RMSEA* = .07, *CFI* = .94, *TLI* = .93, *SRMR* = .06. Each item loading on its hypothesized factor was significant on the .01 level. Further, construct validity could be confirmed due to acceptable average variance extracted (*AVE*)  $> .50$  (Fornell & Larcker, 1981): amount of variance in the manifest items that is captured by the latent factors in relation to the amount of variance due to its measurement error should exceed 50% of all factors. Also, reliability of scales was appropriate with Cronbach's  $\alpha > .69$  for all scales, see Table 4.

The latent dimensions of transformational leadership showed medium to high intercorrelations (see Table 4) but are generally lower than those reported in the initial studies by Podsakoff et al. (1996; 1990). Moreover, discriminant validity could be obtained (root *AVE* for one construct  $>$  correlations of this construct with all other constructs, Carmines & Zeller, 1979) for all dimensions (see Table 4). Only articulating a vision slightly missed the criterion. Thus, to further investigate the appropriateness of the six-factor model, I performed comparative testing of a one-factor model of transformational leadership. In addition, it is investigated whether a four-factor-model with a 'core' transformational dimension (Podsakoff et al., 1990), which combines articulating a vision, providing an appropriate model, and fostering the acceptance of group goals, would exceed the quality of a six-factor model. Both models revealed an inferior fit of data compared to the 6-factor solution (see Table 3). Thus, results of confirmatory factor analysis supported the accuracy of the six-factor structure to measure transformational leadership behavior, and to treat the behavioral components as distinct predictors of the hypothesized criteria.

*Table 3.* Study II: Indices of Model Fit for Different Factor Solutions of Transformational Leadership

	$\chi^2$ (df)	AIC	RMSEA	SRMR	CFI	TLI
1-Factor Solution	800.07 (209)	8742.13	.13	.10	.73	.70
4-Factor Solution	475.44 (203)	8429.49	.09	.07	.88	.86
6-Factor Solution	329.62 (194)	8301.67	.07	.06	.94	.93

*Followers' and Leaders' Affective Commitment to Change.* Leaders' as well as followers' affective commitment to change was measured using Herscovitch and Meyer's (2002) commitment to change questionnaire in a German translation, which was performed following the translation-back-translation procedure (Brislin, 1980). The initial questionnaire measures three facets of commitment to change: affective, normative, and continuance commitment to change, each operationalized by six items. In this study, only the six items measuring affective commitment to change were used. Cronbach's  $\alpha$  was .94 for both leaders' and followers' affective commitment to change. On the individual level measured 'followers' commitment to change' it was possible to perform a CFA, due to appropriate number of data:  $\chi^2 = 51.27$  (9),  $AIC = 2529.06$ ,  $RMSEA = .17$ ,  $CFI = .95$ ,  $TLI = .91$ ,  $SRMR = .04$ . Additionally,  $AVE$  was .68, indicating good convergent validity of the measure.

Also, the one factor structure of leaders' commitment to change was supported by significant factor loadings and  $AVE = .80$ . Discriminant validity could also be obtained for both followers' and leaders' commitment to change (see Table 4). SEM CFA could not be obtained due to too small sample size (38).

Sample items of the questionnaire were: "I believe in the value of this change." or "Things would be better without this change." (reverse scored).

All survey items were completed using a 5-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree").

#### **4.4 Results**

Table 4 summarizes descriptive statistics and zero-order correlations for all variables. Variables in this study were measured on an individual level (followers' affective commitment to change and ratings of leadership) and group level (leader's affective commitment to change). Thus, reported correlation between individual-level and group-level variables display cross-level correlations, because the group level variables' values were disaggregated to each individual in the same group.

Correlations between the six transformational leadership behaviors and followers' commitment to change are medium (Cohen, Cohen, West, & Aiken, 2002), significant

relationships can be found for providing an appropriate model and intellectual stimulation with followers' commitment to change. Leaders' commitment to change shows a significant correlation with followers' commitment to change and medium significant relationships to articulating a vision, providing an appropriate model, fostering the acceptance of group goals, and individualized support.

Table 4. Study II: Means, Standard Deviations, Correlations, and Reliabilities for Study Variables

Construct	M	SD	$\alpha$	Intercorrelations								
				1	2	3	4	5	6	7	8	
<b>Individual Level</b>												
1. <i>Articulating a Vision</i>	3.25	.79	.87	<b>(.75)</b>								
2. <i>Providing an Appropriate Model</i>	3.40	.82	.72	.61**	<b>(.75)</b>							
3. <i>Fostering the Acceptance of Group Goals</i>	3.48	1.00	.91	.78**	.73**	<b>(.85)</b>						
4. <i>High Performance Expectations</i>	3.57	.78	.69	.46**	.26**	.30**	<b>(.66)</b>					
5. <i>Individualized Support</i>	3.91	.82	.87	.50**	.63**	.60**	.04	<b>(.80)</b>				
6. <i>Intellectual Stimulation</i>	3.17	.88	.81	.61**	.50**	.54**	.42**	.34**	<b>(.77)</b>			
7. <i>Followers' Affective Commitment to Change</i>	3.71	1.01	.94	.15	.15*	.10	.12	.23**	.10	<b>(.83)</b>		
<b>Group Level</b>												
8. <i>Leaders' Affective Commitment to Change</i>	4.02	.91	.94	.25**	.20**	.25**	.06	.16*	.13	.38**	<b>(.85)</b>	

Note.  $n = 176$ , except for followers' affective commitment to change ( $n = 175$ ). The values on the diagonal shown in bold are the roots of average variance extracted by the items of each construct; \*  $p < .05$ ; \*\*  $p < .01$ .

## *Analysis*

To investigate the postulated hypotheses, a hierarchical linear modeling analysis (HLM) was conducted by using the software Mplus® (Muthén & Muthén, 2007). Because some of the constructs showed non-normality of the data, the maximum likelihood robust (MLR) parameter was used since it is independent to non-normality (Kaplan, 2004).

Firstly, I tested the *ICCI* of the individual-level outcome variable by using a null model in which no predictors were entered (Model 0). *ICCI* represents the proportion of variance in the outcome variable that is based on the between group difference (Liao & Rupp, 2005). The results of the null model revealed a high between-groups variance in the dependent variable ‘followers’ affective commitment to change’ (*ICCI* = .50). Thus, there is strong evidence that HLM analysis is appropriate since the results of the dependent variable are highly influenced by team membership. Next, the individual-level variables (dimensions of transformational leadership (Model 1)) and the team variable (leader’s commitment to change (Model 2)) were entered. Finally, the cross-level interactions (leader’s commitment to change x articulating a vision, and providing an appropriate model, respectively) were introduced (Model 3). According to Bliese’s (2002) steps for multilevel model building, a necessary precondition for testing cross-level interactions is that there is systematic variance of individual-level slopes across the teams. Thus, in my model, the individual-level slopes employees’ affective change commitment on articulating a vision/providing an appropriate model should vary across groups. Even though examination revealed no significant slope variance (both variances = .001, *ns*), I conducted cross-level interaction tests following the recommendations by LaHuis and Ferguson (2009), who found strong empirical evidence that nonexistent significance of slope variance does not necessarily lead to nonexistent cross-level-interactions. More specifically, the authors pointed out that the statistical power for tests of slope variance is generally low, especially when group size is small, resulting in non-significant slope variance. Because the average group size in our study is 4.46, forming 38 groups (LaHuis and Ferguson recommend at least 50 groups with at least 10 cases per group), I highlighted the theory-based model and carried on with the analysis even though the slope variances were not significant. An overview about results and fit indices of all tested models is presented in Table 5.

Tests of Hypotheses 1a-f (impact of individual-level predictors) and 2a-b (cross-level-interactions, performed as random intercepts-and-slopes-as-outcomes analyses (Luke, 2004)) were conducted as part of the overall model (simultaneous testing of all fixed and random slopes in the same model). Results on the individual level showed that individualized support had a significant positive impact on followers' affective change commitment (*Estimate* = .29,  $p < .05$ ), providing support for Hypothesis 1e. None of the other transformational leadership behaviors could be shown as significant predictors of individuals' affective commitment to change in the overall model. Thus, Hypotheses 1a-d, and f could not be confirmed. To test for common method bias on the individual level, the level 1 theoretical model (relationships between transformational leadership behaviors and followers' commitment to change) was compared to a one-factor solution, measuring a 'common-method-factor' (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). Results revealed a significantly better fit of the complex model ( $\chi^2 = 515.66$  (329),  $AIC = 10504.12$ ,  $RMSEA = 0.06$ ,  $CFI = .94$ ,  $TLI = .93$ ,  $SRMR = 0.06$ ) compared to the one factor solution ( $\chi^2 = 1683.11$  (350),  $AIC = 11629.56$ ,  $RMSEA = 0.15$ ,  $CFI = .55$ ,  $TLI = .51$ ,  $SRMR = 0.15$ ).

Hypothesis 2a postulates a cross-level interaction between followers' perception of their leader's articulating a vision and leaders' self perception of affective commitment towards change. Results of HLM analysis provided no support for this hypothesis (*Estimate* = .06, *ns*). In line with expectations, the cross-level interaction of providing an appropriate model and leader's commitment to change on followers' commitment to change was significant (*Estimate* = .24,  $p < .05$ ). Thus, Hypothesis 2b could be confirmed: The relationship between providing an appropriate model and followers' affective commitment to change was moderated by leaders' commitment to change. Figure 6 depicts the interaction. Employees' affective change commitment was only positively affected by the leadership behavior providing an appropriate model when leaders' affective commitment towards the change was high.

Model adequacy could be confirmed by superior fit of Model 3 compared to less complex models, shown by significant decrease of model deviance (Chi-Square difference test with Satorra-Bentler correction) and decreasing *AIC* (see Table 5). Also, approximate  $R^2$  values (Hox, 2002), indicating the explanatory power of the individual and group level predictors, increase with growing complexity of the model. To assess the overall predictive ability of Model 3, McFaddens Pseudo  $R^2$ -Test was used, which



compares the log-likelihood of Model 3 with the null model. Results indicate that the predictive ability of our model could be increased by 10% compared to a null model.

Table 5. Study II: Model Results

	Model 0		Model 1		Model 2		Model 3	
	Est. (S.E.)	z	Est. (S.E.)	z	Est. (S.E.)	z	Est. (S.E.)	z
<i>Within Level</i>								
Intercept	3.60 (.10)	26.13**	3.58 (.13)	27.71**	3.61 (.11)	33.30	2.52 (.42)	5.95
Articulating a Vision			-0.00 (.18)	-0.02	-0.03 (.17)	-0.14	0.03 (.17)	0.15
Providing an Appropriate Model			0.07 (.09)	0.82	0.07 (.10)	0.67	0.08 (.11)	0.74
Fostering the Acceptance of Group Goals			-0.11 (.13)	-0.86	-0.13 (.13)	-1.01	-0.09 (.12)	-0.79
High Performance Expectations			-0.00 (.07)	-0.01	0.01 (.07)	0.16	-0.03 (.07)	-0.47
Individualized Support			0.29 (.09)	3.11**	0.29 (.09)	3.37**	0.28 (.09)	3.23**
Intellectual Stimulation			0.06 (.07)	0.88	0.06 (.08)	0.83	0.01 (.06)	0.15
<i>Between Level</i>								
Leaders' Affective Change Commitment					0.49 (.15)	3.20**	-0.56 (.24)	-2.32*
Leaders' Affective Change Commitment x Articulating a Vision							0.06 (.16)	0.35
Leaders' Affective Change Commitment x Providing an Appropriate Model							0.24 (.12)	2.04**
<i>Quality Criteria</i>								
$\sigma^2$		.54		.50		.49		.47
$\tau^2_{00}$		.54		.51		.30		.13
$R^2$ (within)		--		.07		.09		.12
$R^2$ (between)		--		--		.44		.76
AIC		448.90		445.73		431.99		428.30
BIC		448.88		445.61		431.86		428.11
Log-Likelihood		-221.45		-213.87		-206.10		-200.15
Correction Factor		1.42		1.23		1.23		1.06
Deviance (free parameters)		442.91 (3)		427.73 (9)		411.99 (10)		400.30 (14)
Increase in Model Fit		$\chi^2 = 13.41, df = 6, p < .05$		$\chi^2 = 13.04, df = 1, p < .05$		$\chi^2 = 18.04, df = 4, p < .05$		

Employees:  $n = 173$ , teams:  $n = 38$ , average team size: 4.55, \*  $p < .05$ , \*\*  $p < .01$  two-tailed tests.

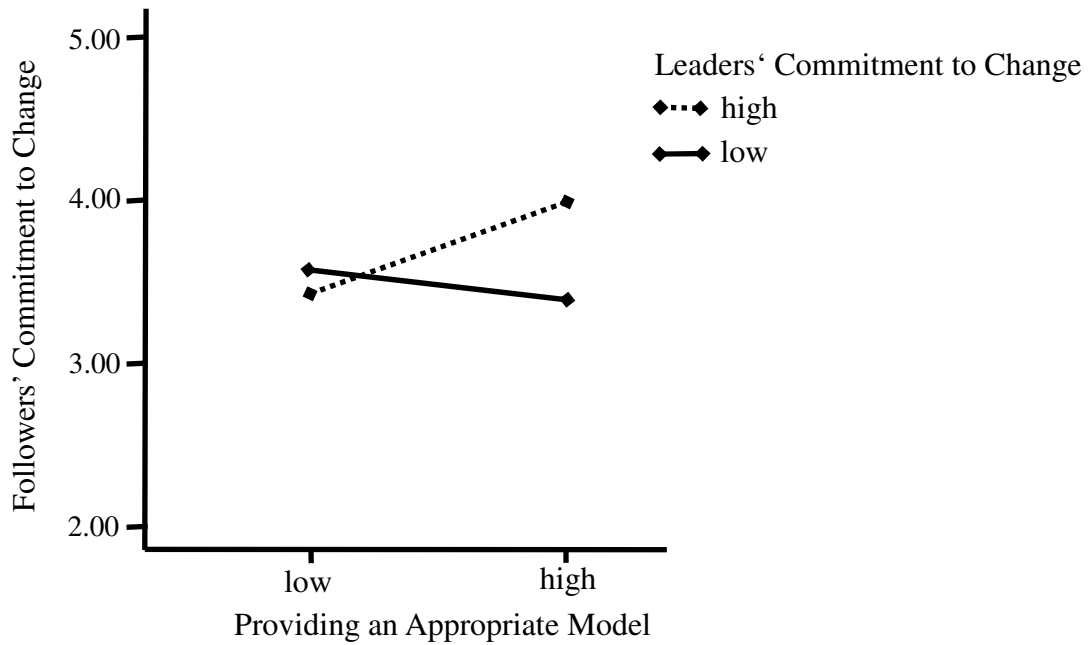


Figure 6. The Interaction of providing an appropriate model and leaders' commitment to change on followers' commitment to change.

#### 4.5 Discussion

Transformational leadership behavior has been found to positively affect employees' commitment to change in a considerable amount of studies. Still, to date, there is no study investigating whether the concept's distinct leadership behaviors contribute differently to high levels of commitment to change and if leaders' own commitment to change affects the impact of some of these behaviors. Therefore, by using a multilevel design and multiple data sources, this study fills a gap in the existing literature and offers new insights: First and foremost important, results highlight that the transformational leadership behavior providing an appropriate model can only reveal successful impact on employees' commitment to change if leaders are committed to the change themselves. As a conclusion, the cross-situational leadership behavior seems to unfold its effectiveness towards employees' reactions to change only if the modeled behavior reflects matching underlying attitudes of the leader. To have a positive effect on employees' commitment to change, leaders have to authentically represent the ideas and goals of the change in their day-to-day behavior to provide orientation and foster trust among followers. The aspect of authenticity of leadership behavior (Korsgaard et

al., 1995; Simons, 1999) seems to play an important role in these relationships. Based on the findings of this study, further research should investigate how and under which conditions the moderation effect depends on the perceived authenticity of role modeling behavior (leaders present a positive model of how to behave in the context of change but are not perceived as authentic), and/or whether the effect bases on the direction of content of the role modeling behavior (e.g., leaders do not show any change-related role model behavior or even show negative change-related role modeling behavior).

Additionally, the present study gives some important directions on how different transformational leadership behaviors contribute to the increase of employees' commitment to change. Results indicate that solely employees' perception of leaders' individualized support explains a significant amount of variance in employees' commitment to change. Thus, if leaders are perceived as respecting followers' individual needs and caring for their feelings, employees are more likely to build a positive bond to the change initiative. This result confirms the work of Nevesa (2010), who found that perceived supervisory support - conceptualized as caring for and valuing employees' individuality - predicts employees' affective commitment to a recently initiated major change initiative. Broaden the informative value of the study, results of the present investigation show that individualized support leaves behind other transformational leadership behaviors in its explorative power. More specifically and in contrast to expectations, none of the other transformational leadership behaviors were found to contribute to employees' affective commitment to change. This is interesting given the fact that especially articulating a vision has been stated as an important predictor of the success of change initiatives in the relating literature (Awamleh & Gardner, 1999; Kotter, 1996), and also shows the closest match with change leadership conceptualizations (Herold et al., 2008). There are some possible explanations of these findings. First, even though I did not find a moderation effect of leaders' commitment to change on the impact of articulating a vision on employees' commitment to change, there might be alternative contextual factors influencing the relationship. For example, Griffin, Parker & Mason (2010) showed that openness to work role change and role breadth self-efficacy moderates the affect of a leader's vision towards change-related adaptivity and proactivity. They argued that some employees (e.g., with low self-efficacy) might be threatened by a vision rather than being inspired to embrace the change. Also, Hermann and Felfe (2012) showed that stressors and resources moderated the relationships between transformational leadership and willingness to change. For

example, when role incongruence of employees is high, there is a significant reduction of the effect of transformational leadership. Second, with regard to the conceptualization of the construct, it could be possible that a general, change unspecific transformational vision might not be linked to the change related construct of employees' commitment to change. Thus, leaders drawing an inspiring picture of the future of the team might not have a strong relationship to employees' commitment to an actual major change, which might reframe, challenge, and diminish employees' general assumptions about the future. Consequently, future investigations should examine the role of a vision's content (change specific versus change unspecific) in the context of change.

### ***Limitations and Directions for Future Research***

There are strengths as well as weaknesses in the present study. Firstly, data represent the real multilevel structure of teams in an organizational context. The revealed cross-level interactions based on multi-source data confirm the validity of results and decrease the possibility of methodological bias. On the other side, the resulting complexity of data capturing leads to a relatively small sample and team size. Furthermore, the sample contains a majority of teams from IT organizations, thus, the degree to which these results can be generalized to other branches, which are possibly less often confronted with major changes, is limited. Future studies should confirm the results of the present study with a broader selection of branches.

Secondly, even though it is a strength of the study that the hypothesized relationships were investigated in the context of different types of changes, it was not controlled for the job-impact or amount of revolutionary aspects of the change for the teams. Consequently, following studies should naturally take into consideration descriptive aspects of the occurring changes, such as job-impact of the change (Herold et al., 2008), the amount of other changes going on (Herold et al., 2007), type of change (e.g., revolutionary vs. evolutionary), duration of the change, time stage of the change, etc. to gain a complete overview about main effects of the change's inherent character on functional or dysfunctional reactions towards a change as well as moderation effects on relationships between predictors and employees' reactions.

Thirdly, even though the structure of data is already complex, I was not able to validate the results by a longitudinal design. This is especially important with regard to

the results at the individual level, whose causal directions, even though grounded theoretically, cannot be interpreted with full certainty. Besides solving the problems of causal validity, longitudinal studies would heavily expand existing knowledge about the effectiveness of leadership behaviors and attitudes in different time stages of a change. One example of a related longitudinal study was lately presented by Hill et al. (2011), who found that transformational leadership does not have a positive relationship with commitment to change after a 12 month period. For the organizational reality in change situations, the distance of measurement points seems to be relatively long in the study, thus its findings support the need to capture data at several time stages by using alternative study methods, for example combining quantitative with qualitative methods such as interviews or diary studies.

Fourthly, by investigating the moderation effect of leaders' commitment to change a highly relevant variable for the success of transformational leadership behaviors was integrated. Still, in line with a call from Jaros (2010) it seems necessary for future studies to combine findings of the relating area of research into an overall model. By testing a complex model with distal and proximal (mediating distal) organizational and individual predictors of commitment to change as well as investigating contextual factors of these relationships, we would gain a better understanding and comparative knowledge about how much importance needs to be attached to different factors influencing commitment to change.

### ***Practical Implications***

For team leaders, results underline the importance of individual support as a leadership behavior. It seems especially important for building followers' commitment towards a change that leaders are sensitive for followers' needs and act sensible in the way they treat their team members. In sum, respecting followers in their individuality and taking care of their feelings seems to outlast the effectiveness of other transformational leadership behaviors in the context of change. As a conclusion, it seems reasonable for leaders to set a strong base of individualized support during time, even though there is no actual major change, so that followers can rely on the support of their leader even in difficult situations. Also, it is important that leaders foster the individual relationships with each of their followers. Thus, for a positive interpretation of a change initiative, it seems most effective to get back on leadership behavior that

reflects employee orientation and caring rather than stressing visionary goals and evoking team spirit.

Also, and most challenging, leaders need to become aware of their own commitment towards the change and, going beyond, need to develop a positive bond to the change if they want to be able to act as successful role models. Consequently, the potential of team leaders being a role model of affective commitment to change can only be unfolded if organizations' top management is able to take its middle and low management 'on board of the change boat'. Thus, implementing change needs to explicitly start with these people, who are able to represent a proximate positive role model to organization's employees - the team leaders.

## **5. Study III - Training Transformational Leadership in Change: Improving Leaders' Transformational Leadership Behavior, Employees' Commitment to Change and Superiors' Ratings of Change Success**

### **5.1 Introduction**

Today, change seems to be the only constant in many organizations. Evolutionary as well as revolutionary changes are needed to keep up with fast changing global markets (Burnes, 2004). Even though greatly in demand and therefore handled with attention by practitioners and scientists for decades already, successful change initiatives still represent an alarming minority (Balogun & Hope Hailey, 2004; LaClair & Rao, 2002; Meaney & Pung, 2008). From an employee-centric view, organizations' members' attitudes and behaviors towards change seem to fundamentally predict the success and sustainability of change (Armenakis & Harris, 2009). In search of relevant organizational variables that positively influence team members' attitudes during times of change, several studies have already revealed the impact of leaders' transformational leadership behavior. For example, Yu et al. (2002) found that transformational leadership of school principals is in close relationship with teachers' strategies to manage change, which, in turn, is related to their commitment to change. In line with these findings, Herold et al. (2008) revealed a significant effect of transformational leadership on employees' affective commitment to change in the profit business context, and Rubin et al. (2009) found in their longitudinal study that transformational leadership behavior reduces employees' cynicism about organizational change. Also, Michaelis et al. (2010) showed that transformational leadership has a strong impact on followers' innovation implementation behavior, fully mediated by followers' affective commitment to change. Taken together, results of existing studies indicate an especially stable relationship between transformational leadership and commitment to change. Commitment to change, in turn, was found to significantly predict the success criteria of change initiatives, such as change-supportive actions of employees (Herscovitch & Meyer, 2002). Consequently, Herold et al. (2008) already posed the highly relevant question of whether transformational leadership can be trained to strengthen leaders'



effectiveness in change situations and foster the success of change initiatives. Interestingly, even though there are some studies underlining the possibility of developing transformational leadership via training and/or coaching in the civilian context (Abrell et al., 2011; Barling et al., 1996; Kelloway, Barling, & Helleur, 2000), so far no study exists that explores the effectiveness of transformational leadership training with regard to change-related criteria. Thus, by using a pretest-posttest control-group design, the present study investigates whether a change-related transformational leadership training leads to 1) higher degrees of transformational leadership on the part of training participants, 2) higher levels of affective commitment to change among followers and 3) a more positive appraisal of change success by leaders' superiors. Additionally, even though the personality of training participants has been considered an important predictor of training success (Colquitt, LePine, & Noe, 2000), to date there is no study investigating the role of personality in a transformational leadership training evaluation study. Consequently, in this study, it is examined whether three relevant business-focused personality traits (engagement, social competence, cooperation) influence the success of the conducted development intervention.

## **5.2 Theoretical Background**

### ***Training Transformational Leadership***

The concept of transformational leadership originally developed by Bass (1985) has been widely discussed in literature over the last three decades. It describes an active leadership behavior that combines employee-centric support (*individualized consideration*), the coaching and developing (*intellectual stimulation*) of team members with inspiration through vision (*inspirational motivation*) and acting as a role model that offers the possibility to identify (*idealized influence*). By acting transformationally, leaders are able to transform their followers' egocentric attitudes and needs into a broader, team-focused view, which, in turn, leads to higher levels of motivation and performance on the part of team members (doing things for the greater good; Bass, 1985). Numerous studies underline the effectiveness of transformational leadership with regard to work-related criteria such as organizational commitment (Avolio et al., 2004; Bono & Judge, 2003; Dum Dum et al., 2002; Walumbwa & Lawler, 2003), job satisfaction (Bass, 1999; DeGroot et al., 2000; Judge & Piccolo, 2004), organizational

citizenship behavior (Podsakoff et al., 1990; Wang, Law, Hackett, Wang, & Chen, 2005), and trust in the leader (Podsakoff et al., 1990). Moreover, transformational leadership has been found to stand in close relationship with perceived leadership effort (Yammarino et al., 1993), team effort (Howell & Frost, 1989), innovation implementation behavior (Howell & Avolio, 1993; Michaelis et al., 2010), and financial performance (Barling et al., 1996; Rowold & Laukamp, 2009). In view of its high relevance, the question has often been discussed of whether leaders are able to actively improve in transformational leadership and if organizations can support or initiate this improvement by offering training and/or coaching interventions (Collins & Holton, 2004). Even though relationships have been found between personality traits and transformational leadership (Bono & Judge, 2004), the concept of transformational leadership is grounded in behavioral theory, thus representing behaviors that can be learned (Bass & Avolio, 1992). Due to the difficulties in conducting longitudinal training evaluation studies, still only little empirical evidence exists that confirms the possibility to actively develop transformational leadership in the civilian context. In the first ground breaking study, Barling et al. (1996) showed that leaders improved in intellectual stimulation after they had participated in a transformational training and feedback intervention. Also, Kelloway et al. (2000) found that transformational leadership behavior can be improved by training and feedback of individual transformational behavior. Recently, Abrell et al. (2011) presented results indicating that leaders improved in transformational leadership behavior one year after they had attended a transformational leadership workshop and several peer-based team coaching sessions. Even though these results provide encouraging evidence that transformational leadership can be trained, some additional questions remain unanswered. Firstly, the studies of Barling et al. (1996) and Kelloway et al. (2000) focus on the development of specific aspects of transformational leadership, namely intellectual stimulation and individualized consideration. There is only one study by Abrell et al. (2011) that provides insight into the success of a training that consists of lectures and exercises on all aspects and measures transformational leadership as an aggregated construct. Thus, further research is necessary to enlarge the knowledge about the possibility to train transformational leadership, not only some distinct elements of it. Secondly, all existing studies used a training design that was split in a group-based training (one day) and two or more individual booster sessions, using individual feedback (Barling et al., 1996; Kelloway et al., 2000) or peer-based team coaching (Abrell et al., 2011). Even though

the effectiveness of these designs is proved by the studies' results, the costs of these time-intensive programs (trainer fee, other costs) make it hard for practitioners to implement them in organizations. Accordingly, empirical research should also examine the effectiveness of training programs which are less time-intensive, such as a two-day group training with integrated feedback sessions. Thirdly, existing studies report improvements of transformational leadership after five months (Barling et al., 1996), six months (Kelloway et al., 2000), and more (Abrell et al., 2011). Even though it is a strength of these studies that they provide insights into the sustainability of effects, there is still a lack of knowledge as to whether transformational leadership can also be trained in such way that participants improve after a shorter time-frame, a finding which would again be highly relevant in times of rapid and fast changes. As in this study a highly transfer-oriented training design with a combination of group exercises and individual feedback is used, the success of the intervention should be recognized after a short period of time.

Addressing the aforementioned gaps in the existing literature, the present study uses a time-efficient two-day group-training design, in which all aspects of transformational leadership are trained and whose success is examined with an aggregated measure of transformational leadership. Moreover, its success is evaluated after a short time period of three months.

Given the existing empirical findings and the theoretical foundation that transformational leadership can be developed, it is firstly hypothesized:

*Hypothesis 1 (H1): The two-day transformational leadership training significantly increases subordinates' perception of participating leaders' transformational leadership behavior three months after the intervention.*

### ***Change Related Criteria of Training Success***

Transformational leadership has been found to be predominantly effective in contexts of unstable environment and in organizations with adaptation orientation (Bass, 1985; Pawar & Eastman, 1997). Thus, transformational leadership lands on fertile soil in times of change, in which flexibility of thought and action is needed, and in which employees need to be motivated beyond the boundaries of their self-centered needs in order to work for the sake of higher goals. Interestingly, transformational leadership

was not examined as a predictor of specific change-related criteria such as employees' attitudes towards change until 1996, when Yu et al. found the leadership concept related to employees' commitment to change. This might be due to the fact that change literature and literature on transformational leadership followed two different paths of thinking: In change literature, effective leadership behavior has been named change leadership, which is defined as a timely limited leadership behavior that is seen as necessary to handle change effectively (Kotter, 1996). Transformational leadership, however, is seen as a leadership behavior that is effective in different cultures, contexts, and situations (Bass, 1997). These paths have converged when change initiatives have been no longer seen as limited projects (unfreeze – change – refreeze, Lewin, 1951) but as recurring or even continuous challenges for organizations (Sun, 2009). Thus, transformational leadership moved into the focus of change management scholars as bearing the potential to continuously affect employees' attitudes and reactions towards reappearing change situations. Until now, a few empirical studies have underlined the relationship between transformational leadership and change-specific criteria, such as employees' cynicism about organizational change (Bommer et al., 2005), acceptance of a merger (Nemanich & Keller, 2007), and, most prominently, commitment towards change (Conway & Monks, 2008; Herold et al., 2008; Hinduan et al., 2009; Michaelis et al., 2010; Yu et al., 2002).

Thus, as Barling (1996) noted, research is needed that addresses further variables that might be affected positively by the training of transformational leadership. Interestingly, even though the relationship between transformational leadership and change success predictors has established over the last 10 years, no empirical study exists that examines the effect of a transformational leadership training with regard to change-related criteria. Thus, literature still fails to provide relevant recommendations about how to successfully transfer this knowledge to organizational practice, for example by developing leaders. Consequently, to contribute to the existing literature, in the present study two change-related criteria of the success of a transformational leadership training intervention are examined: employees' affective commitment towards change (rated by employees) and the success of the change initiative (rated by leaders' superiors).

### *Affective Commitment to Change*

The concept of affective commitment towards change has been developed by Herscovitch and Meyer (2002). Specifying the construct of organizational commitment with regard to change targets, it describes the emotional, individual bond between employees and a specific change intervention. Studies show that affective commitment to change (being positively emotionally involved in the change initiative, having a positive attitude towards the goals and underlying meaning of the change) is positively related to success criteria of change, such as the supportive behavior of employees (talking positively about the change with others, acting as a change agent by convincing others of the good of the change etc.; Herscovitch & Meyer, 2002; Meyer et al., 2007). As mentioned above, affective commitment to change has already been found to be affected by transformational leadership behavior (e.g., Herold et al., 2008). This seems evident given the motivational processes transformational leaders are able to initiate.

Firstly, by articulating a compelling vision of the team's future, transformational leaders provide a meaningful, higher-order goal for employees ('this is what we are and this is what we work for'). These higher-order goals are of positive intrinsic valence; thus they become part of employees' positive self concept (Shamir et al., 1993), which, in turn, leads to higher levels of engagement in continuing times of change (Aryee, Walumbwa, Zhou, & Hartnell, 2012), and provides emotional meaning to the ongoing challenges linked to the change (Herold et al., 2008).

Secondly, transformational leaders serve as role models. By communicating their own values and norms ('this is what I stand for'), they provide orientation and trust in turbulent times. If employees trust their leader, they are more likely to feel committed to a change initiative (Michaelis et al., 2010).

Thirdly, transformational leadership results in higher levels of self-confidence on the part of employees, because team members are treated with respect as far as their individual feelings are concerned and are given support to develop their individual strengths. Thus, individual resources to cope with change positively are fostered, which, in turn, increases employees' commitment to change (Rodda, 2007).

Fourthly, by intellectual stimulation, transformational leaders support the employees' flexibility of thinking and competence in problem solving. Thus, creativity

(Shin & Zhou, 2003) as well as self-efficacy (Eden, 1990) are developed that lead to a positive (re-)framing of change initiatives (Cunningham, 2006; Ford, 2002; Herold et al., 2007) and higher levels of commitment to change.

Based on these theoretical and empirical assumptions and findings, in the present study's training intervention, all aspects of transformational leadership are presented with regard to their effects on employees' reactions towards change. Consequently, training participants' employees' perception of their affective commitment to change is investigated as an evaluation criterion of the transformational leadership training. It is hypothesized:

*Hypothesis 2 (H2): The two-day transformational leadership training significantly increases employees' affective commitment to change three months after the intervention.*

### ***Success of the Change Initiative***

As mentioned earlier, research regarding predictors of success (such as commitment to change) or failure (such as cynicism towards organizational change) of change initiatives is grounded in the increasing amount of unsuccessful change initiatives (Armenakis & Harris, 2009). Therefore, more research is needed that actually investigates whether employees' reaction to change, leadership behavior or leadership training interventions really positively influence the ratings of the success of a change initiative. With regard to transformational leadership, existing research underlines the relationship between transformational leadership and employees' affective commitment towards change, which, in turn, was found to positively predict change success criteria such as change supportive behavior (Herscovitch & Meyer, 2002; Meyer et al., 2007) or turnover intentions (Cunningham, 2006). Thus, a heavily relevant distal criterion for the effectiveness of transformational leadership training is the improvement of the success of the actual change initiative.

The success of a change initiative has been measured differently in past empirical studies. First, and mostly used in descriptive studies published by consultancies, superiors (members of the upper management) were asked to rate the achievement of formal goals related to the change (Houben, Frigge, Pongratz, & Trinczek, 2007; LaClair & Rao, 2002; Meaney & Pung, 2008). Meaney and Pung (2008), for example,

found that only 45% of upper management respondents report that their defined change goals have been reached. Also, a study conducted by C4C Consulting (Houben et al., 2007) showed that managers evaluate that 44% of their change initiatives do not reach their relevant goals. Secondly, as mentioned above, change supportive behavior of employees has been investigated as a measure of change success, as active support of the employees helps to avoid resistance to change and therewith failure of the change (Herscovitch & Meyer, 2002). Herscovitch and Meyer (2002) showed that employees with high affective commitment to the change most likely showed 'championing' behavior, such as actively supporting the change towards other team members. Thirdly, as the turnover of employees represents a relevant risk for organizations dependent on highly qualified staff (Huselid, 1995), the number of turnover intentions of employees resulting from a change initiative has been used to picture the success of change initiatives (Begley & Czajka, 1993; Cunningham, 2006). For example, Cunningham (2006) found that affective commitment to change had a reducing impact on turnover intentions of employees facing change, mediated by coping abilities. Fourthly, job satisfaction has been described as a relevant criterion for change success (Begley & Czajka, 1993; Nelson & Cooper, 1995; Yang & Kassekert, 2010). For example, Yang and Kassekert (2010) found that several change initiatives (e.g. contracting out) led to reduced job satisfaction among employees. Fifthly, as the work performance of employees predicts the success of organizations, the change in performance levels due to change initiatives has also been content of some change research (Fitz-ens, 2000). Consequently, in this study the success of the change initiatives is measured as a combination of the criteria 'change goals achievement', 'change supportive behavior', 'turnover intention due to the change', 'job satisfaction', and 'work performance'.

Because organizations' members in upper management are the pilots of strategic navigation, change initiatives are mostly decided and implemented in a top-down process (Miles, 2001). As such, in the present study, superiors of participating leaders (members of the upper management) display the relevant source to rate the success of change initiatives. Moreover, following existing evaluation research on transformational leadership training, different rating sources (e.g. employees *and* superiors) are of great importance in determining the real benefit of the training intervention (Abrell et al., 2011; Barling et al., 1996). Thus, the present study contributes to existing research by integrating different (employees and superiors of participants) sources to evaluate the success of the training.

With regard to the existing literature, I propose that the leadership training, which fosters leaders' transformational leadership, will also have a positive impact on the success of the change, rated by superiors.

*Hypothesis 3 (H3): The two-day transformational leadership training significantly increases superiors' perception of the success of the change initiative three months after the intervention.*

### ***Leaders' Personality as a Moderator of Training Success***

The training evaluation literature identifies participants' personality as an important predictor of the success of a training intervention (e.g., Colquitt et al., 2000; Major, Turner, & Fletcher, 2006). Personality factors like extroversion (e.g., Naquin & Holton, 2002; Rowold, 2007), and conscientiousness (e.g., Colquitt & Simmering, 1998; Martocchio & Judge, 1997) are shown to predict variables like training participants' motivation to learn or transfer motivation, which, in turn, are closely linked to learning performance (e.g., Baldwin, Mgjuka, & Loher, 1991; LePine, LePine, & Jackson, 2004; Martocchio & Webster, 1992; Quiñones, 1995).

With regard to transformational leadership training evaluation, so far no study exists that examines the effect of participants' personality on the training's success. Moreover, personality has so far only been randomly linked directly to training success criteria that display Kirkpatrick's (1976) levels of behavior (third level) and results (fourth level). Moreover, to date personality measures in training evaluations have mostly been described in terms of the BIG-Five, as they display the most prominent theoretical personality factors. However, the use of the BIG-Five conceptualization bears some disadvantages, because they display a global measure of personality, and context-specific effects (e.g. professional vs. private context) cannot be considered (Bing, Whanger, Davison, & VanHook, 2004; Block, 1995). Consequently, as this study examines the impact of personality in the professional context, three business-focused personality factors (*engagement, social competence, and cooperation*) from the Business Focused Inventory of Personality - 6 Factors (BIP-6F; Hossiep & Krüger, 2012) are introduced.

Because of the existing findings which see personality as an important factor in training success, and due to the failure of existing literature to examine its impact with



regard to transformational leadership training effectiveness, the present study investigates three business-focused personality factors as moderators of the participants' development in transformational leadership behavior (behavior level) and change in employees' commitment to change (result level).

### ***Engagement***

The personality trait engagement, which is one factor in the newly developed *Business Focused Personality Inventory*, displays individuals' commitment to professional goals (Hossiep & Krüger, 2011). People with a high degree of engagement show high levels of performance expectations and career orientation (Hossiep & Krüger, 2011). The impact of engagement on training success is obvious based on existing theory: Firstly, the component performance expectation of engagement, as the inventory's validation study reveals, displays the achievement component of the BIG-Five factor conscientiousness, which has been shown in various studies to predict training participants' motivation to learn (e.g., Colquitt & Simmering, 1998) and learning of the trained material (e.g., Martocchio & Judge, 1997). This relationship can be explained by the high level of self-efficacy of people high in conscientiousness. More specifically, people high in conscientiousness possess the self concept to be hardworking to reach set goals (McCrae & Costa, 1987); due to their past experience they trust themselves to be successful (e.g., to be able to learn the trained material). The resulting performance self-efficacy leads to a higher transfer motivation of training participants (Holton, Bates, & Ruona, 2000). Secondly, the component career orientation of engagement was also found to positively influence training success criteria. For example, Noe (1986) has already shown that career planning leads to higher degrees of transfer motivation and transfer, and Cheng and Ho (2001) presented results that indicated that career commitment predicts learning motivation and learning transfer. Also, Rowold (2008) found that career orientation has a strong relationship with transfer motivation. These findings can be explained by the fact that people high in career orientation see training interventions as a possibility to reach their career goals; especially leadership trainings should therefore stimulate high amounts of learning and transfer motivation. Based on the findings described above, participants' engagement is seen to bear the potential to increase the transfer of learned behavior into day-to-day routines, and therewith strengthen 1) employees' perception of their leaders'

transformational leadership behavior and 2) foster employees' commitment to change. It is hypothesized:

*Hypothesis 4 (H4): Leaders' engagement will moderate the effect of the transformational leadership training in such way that leaders high in engagement will stronger develop their transformational leadership behavior (H4a) and their employees will report higher amounts of commitment to change (H4b) compared to leaders low in engagement.*

### ***Social Competence***

Social competence displays the social activity of individuals, including the ability to act competently in social situations (e.g., small-talk, empathy), and the ability to build social relations easily and act with high enthusiasm in social situations (Hossiep & Krüger, 2011). Also, people high in social competence do not mind gaining the attention of a group of people and show high performance in expressive talk and speeches. Accordingly, social competence strongly relates to the BIG-Five factor extroversion (Hossiep & Krüger, 2012). As already shown in some pieces of research, extroversion contributes to the success of training. For example, Naquin & Holton (2002) found that extroverted individuals show more development activities, which is mediated by motivation to learn. Also, Rowold (2007) found that extroversion among call-center training participants positively predicts their motivation to learn and transfer motivation. From a theoretical perspective, social competence, bearing much overlapping content with extroversion, is likely to positively affect the success of a training intervention as it is used in this study, whose design and methods demand active participation (e.g. group discussion, presentation of work results). That is, people high in social competence will be more motivated to actively engage in the present group training intervention and thus will more easily benefit from the training with regard to the implementation of the learned behavior in their day-to-day actions. Moreover, with regard to transformational leadership development, people high in social competence will engage far more easily in transformational leadership behavior than others, because social competencies like expressive talks and speeches (articulating a vision), verbalizing one's own values and norms and actively engaging in groups (providing an appropriate role model), as well as showing empathy and understanding for individual needs (individualized support) are inherent fundamentals of

transformational leadership behaviors (Judge & Bono, 2000). As providing a vision (Kotter, 2003), increasing trust in employees by acting as a role model (Podsakoff et al., 1996), and reducing stress by individual support of team members (Rowold & Schlotz, 2009) are relevant predictors of employees' commitment to change, it is hypothesized:

*Hypothesis 5 (H5): Leaders' social competency will moderate the effect of the transformational leadership training in such way that leaders high in social competency will stronger develop their transformational leadership behavior (H5a) and their employees will report a higher amounts of commitment to change (H5b) compared to leaders low in social competency.*

### **Cooperation**

The personality factor cooperation pictures the preference of individuals to work in a team rather than working alone. Besides, it contains the willingness to integrate in a team and to compromise (Hossiep & Krüger, 2011). As such, cooperation has some overlap with the BIG-Five factor agreeableness, but with the amelioration of team orientation. Cooperation is likely to have an influence on training success because of different theoretical assumptions and empirical findings. Firstly, the goal of cooperative individuals is to work with others for the sake of the team. Consequently, they will be more motivated to learn and to develop their behavior by training, because this is seen as a way of achieving beneficial improvements for the team and the organization. This assumption was confirmed by Naquin and Holton (2002), who found that agreeable individuals showed higher levels of work commitment, which, in turn, was related to higher levels of motivation to learn and the performance outcomes of a training. Secondly, again the training design and methods used in this study (e.g. working together in exercises, supporting each other to develop individual learning goals, sharing experiences and knowledge without competition orientation) are likely to accommodate participants high in cooperation. Moreover, as the training fosters the contact between participants, it is likely that highly cooperative participants keep in touch with colleagues after the training to share experiences in transferring the learned material. As such, they have more support to learn and change their behavior. Thirdly, drawing on results of Bono and Judge (2000) and Rubin et al. (2005), transformational leadership behavior is more accessible by agreeable leaders. This is because highly agreeable (or cooperative) leaders consider team goals more important than egocentric

goals, are motivated to build up a trustful relationship with team members, and are therefore perceived as approachable by their followers (Hogan & Shelton, 1998), which is an important base for developing transformational behaviors like individual support. Fourthly, this close and trustful relationship, as well as the approachability of leaders is helpful especially during change, as the challenge of change can create insecurity or even anxiety among employees (Kalyal et al., 2010). Consequently, cooperative leaders do provide followers with evidence that they will do the best for them in the challenging change situation, thus creating higher amounts of safety and positive attitudes towards change, such as commitment. Moreover, Vakola et al. (2004) found that highly agreeable individuals have more positive attitudes towards change than less agreeable individuals. They argue that agreeable people are more keen to follow organization's targets and less likely to resist. As transformational leaders provide a role model for attitudes and behaviors, those high in cooperation are more likely to have a positive attitude towards change themselves, and therewith are more likely to positively influence followers' commitment to change. Based on these assumptions, it is hypothesized:

*Hypothesis 6 (H6): Leaders' cooperation will moderate the effect of the transformational leadership training in such way that leaders high in cooperation will stronger develop their transformational leadership behavior (H6a) and their employees will report higher levels of commitment to change (H6b) compared to leaders low in cooperation.*

### **5.3 Method**

#### ***Setting and Participants***

The study took place in Germany, where several organizations were contacted to participate. The study goals and the method of data collection were explained to the management and human resources representatives of these organizations. It was offered that participating leaders would receive leadership training (experimental group) or feedback only (control group). In the end, five different organizations decided to take part in the study with a total of 34 team leaders. It was the organizations' managements that decided whether the participating leaders would receive training (experimental

group) or feedback only (control group). Thus, as in many other training evaluation studies, random assignment to groups was not possible in the existing field setting. Again, study goals, the method of data collection, and the training and feedback procedure were explained to participating leaders. Also, the anonymity of data was warranted. All participating leaders worked for midsize profit organizations in the information technology sector which faced ongoing changes such as organizational restructuring or new technological challenges. All participating leaders were team leaders from different departments (programming, consulting, sales, etc.) with responsibility for teams of from one to 21 team members.

26 leaders took part in the training session and formed the experimental group; seven functioned as a control group and only received a written leadership feedback report after data collection was finished. The experimental group consisted of 25 male leaders and one female leader with a mean age of 42 years ( $SD = 9.19$ ); all of them worked full-time. The mean job tenure in the present organization was 11 years ( $SD = 8.51$ ); their mean team size was 10.5 ( $SD = 10.70$ ). The control group was formed by six male leaders and one female leader. The mean age of the control group leaders was 42 ( $SD = 11.13$ ); all of them worked full-time. The mean job tenure was 10 years ( $SD = 7.63$ ); the mean team size was 4.5 team members ( $SD = 2.44$ ). In total,  $N = 156$  team members participated in the study by rating their leaders' transformational leadership and evaluating their own commitment to change. More specifically,  $n = 140$  employees were led by an experimental group leader; they had a mean age of 36.35 years ( $SD = 9.33$ ); 85% of them were male, 15% female. Experimental group team members had a mean job tenure in the current organization of 4.83 years ( $SD = 4.25$ ); 93% worked full time, 7% part time. For control group leaders,  $n = 16$  employees participated in the survey. Their mean age was 39.38 years ( $SD = 11.53$ ); 87.5% of them were male, 12.5% female. The mean employment duration was 5.50 years ( $SD = 3.29$ ); 100% worked full time.

Participating leaders and team members were confronted with different types of change initiatives. In the experimental group, 12 teams faced organizational restructuring (46%), 12 teams were confronted with technological changes (46%) and two teams had to deal with changes of leadership/management (8%). In the control group, five teams experienced organizational restructuring (62.5%), one team underwent either technological changes (12.5%), changes of leadership/management

(12.5%) or other changes (12.5%), respectively. Besides capturing of change contents, team members were asked to 1) evaluate the individual consequences of the change initiative (1 – negative to 5 – positive), and 2) rate the effect of the change initiative on their own work environment (1 (“not at all affected”) to 5 (“very much affected”). For experimental group teams, individual consequences were  $M = 3.34$ ,  $SD = 0.99$  (at  $T_0$ ), and  $M = 3.26$ ,  $SD = 0.82$  (at  $T_1$ ). Their personal affection due to the change was rated with  $M = 2.96$ ,  $SD = 0.99$  (at  $T_0$ ), and  $M = 2.64$ ,  $SD = 1.00$  (at  $T_1$ ). In the control group, teams rated their individual consequences with  $M = 2.69$ ,  $SD = 1.14$  (at  $T_0$ ), and  $M = 3.13$ ,  $SD = 1.19$  (at  $T_1$ ). The effect of the change was evaluated with  $M = 3.36$ ,  $SD = 1.41$  (at  $T_0$ ), and  $M = 3.57$ ,  $SD = 1.02$  (at  $T_1$ ).

It was tested whether the experimental and the control group differed in the reported descriptive variables. For leaders' demographics, no significant differences regarding age ( $T$ -Test:  $t(31) = -.04$ ,  $p = .97$ ), job tenure (Mann-Whitney  $U$  Test:  $z = -.27$ ,  $p = .79$ ), and team size (Mann-Whitney  $U$  Test:  $z = -1.63$ ,  $p = .10$ ) were found. Also, the percentage of male and female leaders did not differ between the groups (Chi-Square Crosstable Test:  $\chi^2(1, 33) = 1.06$ ,  $p = .30$ ).

Also, team members of the experimental group and the control group leaders did not differ regarding age (Mann-Whitney  $U$  Test:  $z = -1.24$ ,  $p = .21$ ) and employment duration (Mann-Whitney  $U$  Test:  $z = -1.15$ ,  $p = .25$ ). The percentage of male and female team members did not differ significantly in the groups (Chi-Square Crosstable Test:  $\chi^2(1, 146) = 0.05$ ,  $p = .82$ ). Furthermore, the percentage of full-time vs. part-time employment status of team members did not differ between groups (Chi-Square Crosstable Test:  $\chi^2(2, 141) = 1.09$ ,  $p = .58$ ).

Further, I examined differences between groups with regard to the change-related variables. No pretest differences between groups appeared for the employees' rating of individual consequences of the change ( $T$ -Test:  $t(28) = -.72$ ,  $p = .48$ ) and personal affection by the change ( $T$ -Test:  $t(23) = .80$ ,  $p = .43$ ). Moreover, changes from  $T_0$  to  $T_1$  in these variables did not differ significantly between groups (change in individual consequences:  $t(27) = 1.03$ ,  $p = .31$ ; change in personal affection:  $t(23) = 1.87$ ,  $p = .08$ ). Also, no differences were found between groups regarding the frequency distribution of content of change (Kolmogorov-Smirnov test:  $z = .75$ ,  $p = .63$ ).

## ***Procedure***

Two weeks before (*T0*) and three months after the training intervention (*T1*) the data collection was conducted. Control group and experimental group data were collected at the same points-in-time. Transformational and transactional leadership, commitment to change and success of change initiative were measured at both points-in-time. The moderator variables engagement, social competency, and cooperation were assessed only once at the first point-in-time.

An online survey was used to obtain the data; all participants were asked to send the E-mail addresses of all their team members and their superior to the author, by whom they had been invited to participate in the survey. Employees and superiors of experimental group participants were informed that the results of the survey were being used to evaluate a training program; participants of the control group were informed that their respective leader/direct report would receive a leadership feedback after the survey had been conducted twice.

## ***Training Intervention***

The training intervention was a two-day training of transformational leadership behavior with explicit relation to change situations. In sum, the 25 participants split up in four training groups. Thus, the training was conducted with five to seven participants.

The transformational leadership training was oriented to Bass' (1999) *Full Range Leadership Training*; thus it contained an overview of the full range leadership theory and a leadership feedback based on the individual transformational leadership survey results of each participant. Enhancing the existing Full Range Leadership Training, the transformational leadership training conducted in this study contained several unique elements. Firstly, the training was adapted to German participants, thus several wordings and exercises were redesigned to secure the acceptance of participants. Secondly, transformational leadership behavior was always presented in close relation to its relevance for affecting employees' reactions towards change. Thirdly, for the first time, all theoretical and practical inputs were updated to the conceptualization of transformational leadership by Podsakoff et al. (1990). Consequently, almost all exercises were newly developed to 1) match a German standard of training exercises, 2)

offer practical input and examples for transformational leadership in change, and 3) to allocate exercises for the six dimensions of transformational leadership.

On the first day participants received information about the relevance of employees' reactions towards change for the successful implementation of change. Then, transformational leadership was introduced as a general, cross-situational leadership behavior, and its power to influence employees' positive reactions towards change was emphasized. Therefore, all dimensions of transformational leadership (articulating a vision, providing an appropriate model, etc.) and their effectiveness with regard to change situations were explained. Then, participants were asked to collect relevant examples of this behavior either from their own experience or to develop new ideas. By doing so, participants became familiar with the concept of transformational leadership. To put the theoretical contents in context with each participant's individual leadership situation, at the end of the first day each participant received his/her personal leadership feedback report based on the results of the online survey conducted two weeks prior to the training. The leadership feedback report contained the self, the employees' and the superiors' appraisal of all dimensions of transformational leadership. Moreover, results were presented in graphs in relation to a benchmark (relevant organizations), which was based on data collected in other projects during the last five years. Additionally, participants received a report with information about their team members' change commitment. With the leadership and change commitment feedback report, leaders got an overview of their strengths and potentials with regard to transformational leadership behaviors, and also received information about the existing change commitment status in their team. Based on the feedback reports, participants formulated individual development goals with regard to transformational leadership.

The second day of the training intervention was meant to deepen the transformational dimensions with practical exercises. For the dimension individualized support, the trainer introduced a personality model (persolog® Personality Factor Model, Wittmann, 2008) to make participants familiar with the concepts of individual differences in motives and beliefs, especially during change. Participants were then asked to develop strategies about how the different personality types should be led during change. Next, intellectual stimulation was practiced by collecting relevant behavior such as questions with regard to inherent beliefs and attitudes towards change. Behavior strategies regarding high performance expectations were developed by



participants with the help of relevant questions such as “What is high performance in your team?”, “How do you distinguish normal from high performance?”, “During which occasions do you explicitly communicate high performance expectations to your team members?” Then, social identity theory was used to explain the effect of fostering the acceptance of group goals. Here, participants worked out ideas for their teams to strengthen team feeling during change (symbols, actions, etc.). Then, participants learned how to develop and communicate their own vision for the team. Firstly, they were asked about the specific strengths and shared values of their teams; secondly, they developed an attractive goal their team should reach during the next six months. With the help of the whole training group, each participant then presented his vision in a significant picture or slogan. Finally, participants discussed the facet providing an appropriate model during change. Therefore, they were asked to think about their own attitudes towards the change initiative they were actually confronted with. In the discussion, participants developed action guidelines for themselves on how to provide an appropriate model. The second day ended with a goal-setting period – participants redesigned the goals of the first day or developed new goals; the adequacy of the goals was checked in double teams. As a final summation, participants formulated a key note they had taken from the training and gave feedback to the trainers.

In sum, three trainings were conducted with three groups of leaders from the experimental group; all of the trainings were led by the author.

### ***Measures***

*Transformational Leadership.* Transformational leadership was measured using the Transformational Leadership Inventory (TLI, Podsakoff et al., 1996) in its German validated translation by Heinitz and Rowold (2007), which displays the six dimensions of transformational leadership and one transactional scale with a total of 26 items. The discriminant validity of the measure was recently confirmed by Krüger, Rowold, Bormann, Staufenbiel and Heinitz (2011). For this study, only the items measuring transformational leadership were used. Sample items are: “My superior...” “...paints an interesting picture of the future for our group.”, “...encourages employees to be team players.”, “...behaves in a manner thoughtful of my personal needs”. Ratings of transformational leadership were obtained from employees’ perspective on a 5-point Likert scale from 1 (“not at all”) to 5 (“very often”). Internal consistency of

transformational leadership was appropriate at both points in time ( $T0: \alpha = .94$ ,  $T1: \alpha = .94$ ). Also, the normal distribution of data at both measurement points was confirmed by Kolmogorov-Smirnov test.

Employees' ratings of transformational leadership were aggregated in one overall measure of employee appraisal for each leader. Within-group agreement of raters ( $r_{wg}$ ), average deviation of ratings computed relative to the median of items ( $AD_{Md}$ ), as well as intra-class-correlation (single measure:  $ICCI$ , mean measure: Shrout & Fleiss, 1979) were calculated to examine the appropriateness for aggregation. Relevant cut-off values are:  $r_{wg} > .70$  (James, Demaree, & Wolf, 1984), and  $AD_{Md} < .80$  (Burke & Dunlap, 2002). Results show that raters agree on the rating of transformational leadership at both measurement points ( $T0: r_{wg} = .90$ ;  $AD_{Md} = .28$ ;  $ICCI = .39$ ,  $p < .05$ ;  $ICC2 = .72$ ,  $p < .05$ ;  $T1: r_{wg} = .90$ ;  $AD_{Md} = .26$ ;  $ICCI = .44$ ,  $p < .05$ ;  $ICC2 = .76$ ,  $p < .05$ ).

*Commitment to Change.* Commitment to change was measured using the Affective Commitment to Change Scale of Herscovitch and Meyer's (2002) Commitment to Change Questionnaire. The questionnaire provides a valid and reliable measure of commitment to change (Herscovitch & Meyer, 2002). The scale affective commitment to change consists of six items and was translated into German using the translation-backtranslation procedure recommended by Brislin (1980). Change commitment was rated by employees on a 5-point Likert scale ranging from 1 ("do not agree") to 5 ("highly agree"). Internal consistency was appropriate at both measurement points ( $T0: \alpha = .93$ ,  $T1: \alpha = .94$ ). Also, normal distribution of data at both measurement points was confirmed by Kolmogorov-Smirnov test. To confirm the appropriateness of the measure, I performed an exploratory factor analysis (component analysis). One factor emerged; the amount of explained variance by item was 73%. Again, employees' rating of commitment to change was aggregated to an overall value for the team. All indicators showed appropriate loadings from .77 to .90 (Guadagnoli & Velicier, 1988). Results of inter-rater agreement reached the relevant cut-off values for aggregation ( $T0: r_{wg} = .75$ ;  $AD_{Md} = .42$ ;  $ICCI = .36$ ,  $p < .05$ ;  $ICC2 = .70$ ,  $p < .05$ ;  $T1: r_{wg} = .69$ ;  $AD_{Md} = .49$ ;  $ICCI = .40$ ,  $p < .05$ ;  $ICC2 = .73$ ,  $p < .05$ ).

*Success of Change Initiative.* Success of change initiative was examined by using seven items newly developed from literature study on change success appraisals

(Herscovitch & Meyer, 2002; Meyer et al., 2007). Superiors of participating leaders were asked to rate the success of the defined change initiative with regard to the specific team of the relevant leader. The items were: “The change initiative was successful/will probably be successful.”, “The defined goals of the change initiative were/are going to be reached.”, “Team members support the change initiative actively with their behavior.”, “Team members speak positively about the change initiative.”, “The change initiative reduced job satisfaction of team members (reverse scored).”, “Team members’ willingness to perform did not reduce due to the change initiative.”, “Some team members think about resigning as a result of the change initiative.” (reverse scored). Ratings were conducted using a 5-point Likert scale ranging from 1 (“do not agree”) to 5 (“highly agree”). Success of change initiative was only rated by superiors of the experimental group; no control group data could be obtained. Internal consistency for the scale was appropriate at both measurement points (T0:  $\alpha = .84$ , T1:  $\alpha = .71$ ). Also, normal distribution of data at both measurement points was confirmed by Kolmogorov-Smirnov test. Again, exploratory factor analysis was performed to confirm the factorial validity of the scale. Because superior ratings did not exceed  $n = 16$ , employee appraisals of change success (also obtained in the online survey) were additionally taken into account ( $n = 168$ ). One factor emerged; items explained 55% of the factor’s variance. Loadings of indicators were appropriate with .62 - .84.

*Engagement, Social Competency and Cooperation.* Leaders’ engagement, social competency, and cooperation were measured using the German version of the Business Focused Inventory of Personality - 6 Factors (BIP-6F; Hossiep & Krüger, 2012). The BIP-6F is a newly developed and published questionnaire for the measurement of six dimensions of personality: social competency, dominance, engagement, discipline, stability and cooperation. Each dimension is represented by eight work-related items. The BIP-6F shows good validity and reliability of measurements (Hossiep & Krüger, 2012), for example retest reliability was shown to exceed .80 for all factors. In this study, only the factors engagement (e.g., “I thrive on problems that are difficult to solve.”), social competency (e.g., “I am better at getting along with people than most.”), and cooperation (e.g., “Given the choice I would rather work in a team.”) were used. Measurement source were self reports of participants; personality scales were only measured once at T0. Internal consistency was appropriate for all scales (engagement:  $\alpha = .74$ , social competency:  $\alpha = .78$ , and cooperation:  $\alpha = .80$ ). Also, factors were found to be normally distributed examined by Kolmogorov-Smirnov test.

## Analysis

To test Hypotheses 1-3 (training effectiveness), I first performed repeated measurement analysis of variance (RM-ANOVA), which tests the interaction between the change of dependent variables over time and group membership (control vs. experimental group). Thus, ‘time’ was used as the inner factor and ‘group’ as the between factor. A significant interaction (time\*group) indicates that the groups differ in improvement over time. Subsequently, the direction of the effect is demonstrated by graphing the interaction. Moreover, effect sizes that are appropriate to picture the pre-posttest control group design are shown. Following the recommendations made by Morris (2008), I used Carlson and Schmidt’s (1999) “effect size  $d_{ppc}$  based on the mean pre-post change in the treatment group minus the mean pre-post change in the control group, divided by the pooled pretest standard deviation” (Morris, 2008, p. 346).

$$d_{ppc} = c_p \left[ \frac{(M_{post,T} - M_{pre,T}) - (M_{post,C} - M_{pre,C})}{SD_{pre}} \right]$$
$$SD_{pre} = \sqrt{\frac{(n_T - 1)SD_{pre,T}^2 + (n_C - 1)SD_{pre,C}^2}{n_T + n_C - 2}}$$
$$c_p = 1 - \frac{3}{4(n_T + n_C - 2) - 1}$$

In line with Carlson and Schmidt (1999) I refer to Cohen’s (1988) standards of effect sizes. Thus, an effect size of  $d_{ppc} > .20$  is interpreted as a small effect,  $d_{ppc} > .50$  is referred to as medium, and  $d_{ppc} > .80$  is referred to as a large effect (Cohen, 1988).

Secondly, to test only the improvement from  $T0$  to  $T1$  in the experimental group, RM-ANOVA with only inner subject factor ‘time’ was conducted. Results of RM-ANOVA are reported by using  $F$ -statistics of the interaction and direct effects as well as effect size  $\eta^2$ . According to Cohen (1988)  $\eta^2 = .01$  constitutes a small,  $\eta^2 = .06$  a medium and  $\eta^2 = .14$  a large effect.

Thirdly, to investigate the moderator effects of personality, I also performed RM-ANOVA with experimental group data only with ‘time’ as the inner factor and the

personality ratings high vs. low (median split) as the between factor. An interaction effect indicates that improvement over time depends on the personality of participants. Again, interactions are graphed to show the direction of effects.

Due to small sample sizes in experimental and control group and in line with transformational leadership training literature (Dvir et al., 2002), results of RM-ANOVA beyond  $p < .10$  were interpreted as significant.

#### **4.4 Results**

Descriptive statistics and intercorrelations of all study variables at pretest and posttest are presented in Table 6. As a formal test for the appropriateness of conducting RM-ANOVA, the normal distribution of all variables for both groups was examined. Kolmogoroff-Smirnoff tests showed normality for all (aggregated) study variables for both groups at both measurement points. Also, equivalence of variance of groups was supported by results of the Levene test for all study variables.

Table 6. Study III: Descriptive Statistics, Intercorrelations and Internal Consistencies of Study Variables at Pretest and Posttest

Variable	Pretest														
	Experimental Group			Control Group			1	2	3	4	5	6	7	8	9
	N	M	SD	N	M	SD									
<b>1 Transformational Leadership</b> (employee rating)	23 <sup>2</sup>	3.49	.49	7 <sup>4</sup>	4.03	.27	(.94)								
<b>2 Affective Commitment to Change</b> (employee rating)	23 <sup>2</sup>	3.50	.61	7 <sup>4</sup>	3.01	1.13	.45*	(.93)							
<b>3 Success of Change</b> (superior rating)	16	3.42	.64	2	4.21	.10	.22	.52	(.84)						
<b>4 Engagement</b> (self rating) <sup>1</sup>	26	4.33	.71	2	4.68	.80	.02	-.26	.06	(.74)					
<b>5 Social Competency</b> (self rating) <sup>1</sup>	26	4.09	.70	2	4.31	1.50	.49*	.23	.17	.31	(.78)				
<b>6 Cooperation</b> (self rating) <sup>1</sup>	26	4.10	.80	2	2.88	.18	.04	-.12	.20	.23	.34	(.80)			
Posttest															
<b>7 Transformational Leadership</b> (employee rating)	23 <sup>3</sup>	3.61	.53	7 <sup>5</sup>	3.91	.35	.82**	.34	.15	.26	.47*	.15	(.94)		
<b>8 Affective Commitment to Change</b> (employee rating)	23 <sup>3</sup>	3.66	.63	7 <sup>5</sup>	3.38	1.08	.31	.71**	.45	-.16	.13	.14	.40	(.94)	
<b>9 Success of Change</b> (superior rating)	13	4.08	.52	--	--	--	.53	.23	.91**	.36	-.05	-.09	.73**	.43	(.71)

Note: Values in the diagonal represent Internal Consistencies (Cronbach's  $\alpha$ ). Intercorrelations are presented for Experimental group Data. \* $p < .05$ , \*\* $p < .01$

<sup>1</sup>variables measured only at pretest

<sup>2</sup>1-21 ratings (Mean Team Size = 6.08, SD = 5.16)

<sup>3</sup>1-16 ratings (Mean Team Size = 4.91, SD = 4.11)

<sup>4</sup>1-4 ratings (Mean Team Size = 2.29, SD = 0.95)

<sup>5</sup>1-4 ratings (Mean Team Size = 2.14, SD = 0.99)

To test Hypothesis 1, whether employees' ratings of transformational leadership improve after training in the experimental group compared to the control group, RM-ANOVAs were performed. A significant effect was obtained for the interaction 'time\*group',  $F(1,28) = 3.25$ ,  $p = .08$ ,  $\eta^2 = .10$ . The interaction is shown in Figure 7. The effect size  $d_{ppc}$  showed a relevant effect with  $d_{ppc} = .38$ . Also, RM-ANOVA with only 'time' as the inner factor revealed a significant increase of transformational leadership from pretest to posttest for the experimental group,  $F(1,22) = 3.48$ ,  $p = .08$ ,  $\eta^2 = .14$ . Thus, Hypothesis 1 can be accepted.

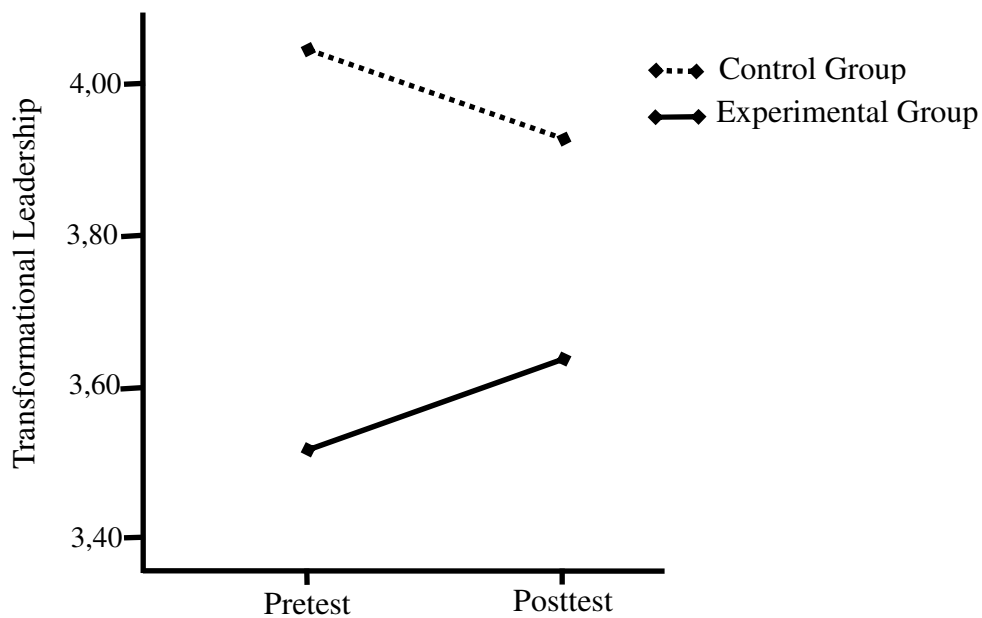


Figure 7. The interaction of measurement time and study group on transformational leadership.

No significant interaction effect of 'time\*group' was found for affective commitment to change,  $F(1,28) = 0.92$ ,  $p = .35$ ,  $\eta^2 = .03$ . The interaction is shown in Figure 8. Because the control group's increase in affective commitment to change was higher than in the experimental group, effect size  $d_{ppc}$  was negative with  $d_{ppc} = -.32$ . RM-ANOVA with only 'time' as the inner factor also did not reveal a significant increase in employees' affective commitment to change from pretest to posttest for the experimental group,  $F(1,22) = 2.74$ ,  $p = .11$ ,  $\eta^2 = .11$ . Thus, Hypothesis 2 cannot be accepted, even though effect size shows a positive tendency of the effect.

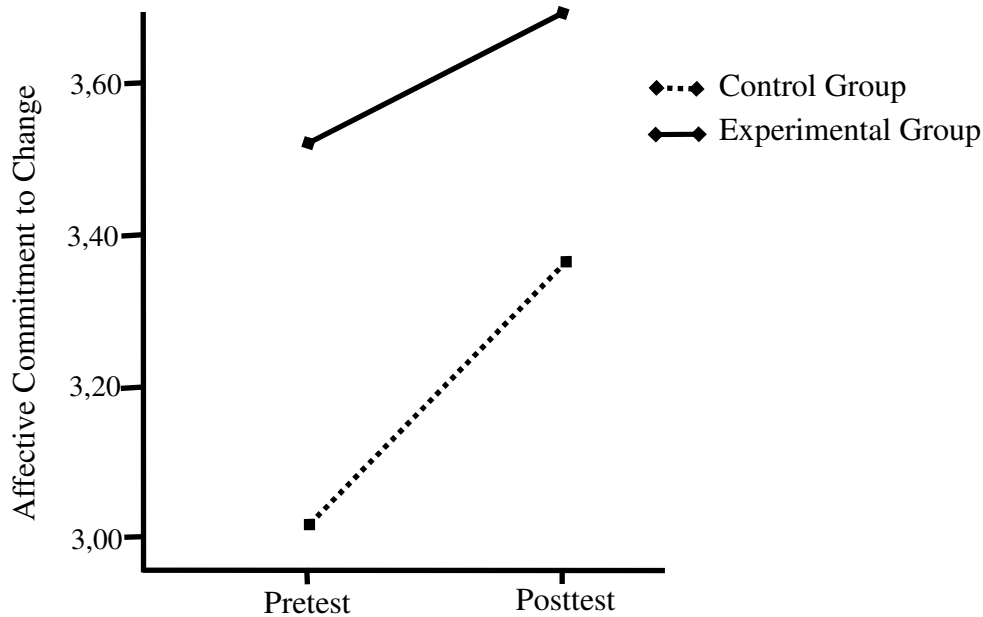


Figure 8. the interaction of measurement time and study group on affective commitment to change.

Because no control group data were available, RM-ANOVA with only ‘time’ as the inner factor was computed to test the hypothesis that leaders’ superiors’ rating of change success increases after training. Results indicated a significant effect from pre- to posttest,  $F(1,10) = 46.82$ ,  $p = .00$ ,  $\eta^2 = .82$ . Thus, Hypothesis 3 can be accepted: The two-day transformational leadership training increases superiors’ perception of success of the change initiative three months after the training.

### ***Moderator Effects***

To test the moderating effects of engagement, social competency and cooperation on the development of transformational leadership and affective commitment to change from pre- to posttest, RM-ANOVAs were conducted as well. For engagement, no significant moderator effects could be obtained for the increase of transformational leadership in the experimental group,  $F(1,21) = 0.28$ ,  $p = .28$ ,  $\eta^2 = .06$ . Also, increase of employees’ affective commitment to change did not differ with regard to the amount of engagement of participants,  $F(1,21) = 0.29$ ,  $p = .60$ ,  $\eta^2 = .01$ . Accordingly, Hypotheses 4a and b cannot be confirmed.



Also, in contrast to expectations, no significant moderator effect of social competency could be obtained on the increase of transformational leadership,  $F(1, 21) = 0.22, p = .88, \eta^2 = .00$ , nor on the development of affective commitment to change  $F(1, 21) = 1.45, p = .24, \eta^2 = .07$ . Thus, also Hypotheses 5a and b must be rejected.

The test of the moderator effect of cooperation revealed a significant effect on the development of transformational leadership,  $F(1, 21) = 3.36, p = .08, \eta^2 = .14$ . As shown in Figure 9, ratings of transformational leadership only increase from pre- to posttest when cooperation of leaders is high. Also, the increase of employees' affective commitment to change was found to depend on leaders' cooperation,  $F(1, 21) = 3.37, p = .08, \eta^2 = .14$ . Figure 10 shows that under the condition cooperation of leaders is low, there is no change in employees' affective commitment to change. In contrast, when cooperation of leaders is high, employees' commitment to change strongly increases from pre- to posttest. Consequently, Hypotheses 6a and b can be confirmed. Employees' ratings of transformational leadership and affective commitment to change increase stronger from pre- to posttest when training participants are high in cooperation.

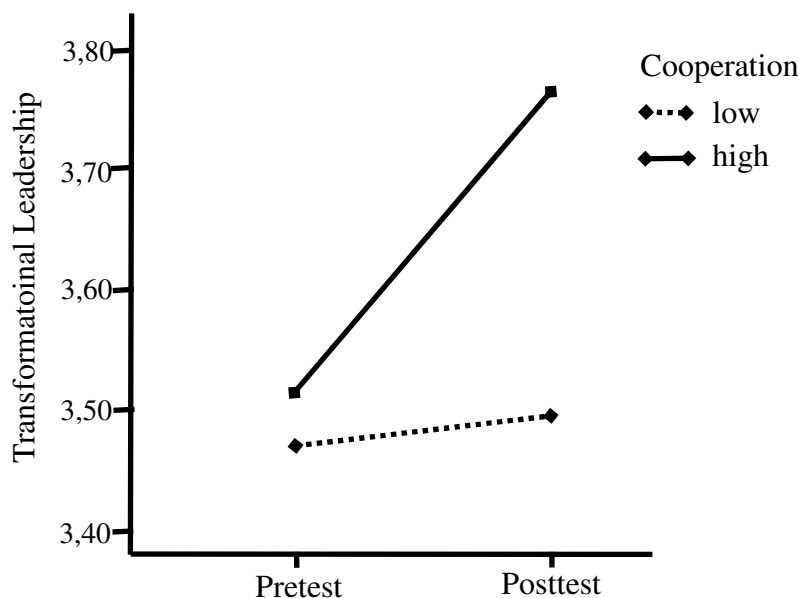


Figure 9. The interaction of measurement time and cooperation on transformational leadership.

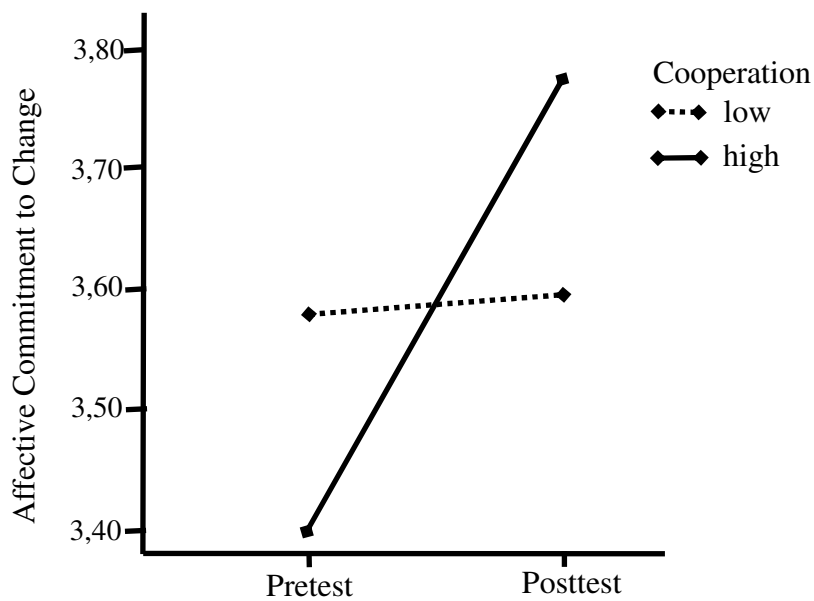


Figure 10. The interaction of measurement time and cooperation on affective commitment to change.

#### 4.5 Discussion

The present study adds important knowledge to the existing literature on transformational leadership development. Firstly, in line with previous findings of Barling et al. (1996), it could be confirmed that, in a civilian, profit business context, leaders are able to improve their transformational leadership by training. As hypothesized, employees' ratings of their leaders' transformational leadership behavior increase significantly after the training intervention. Contributing to existing research of Barling et al. (1996) or Abrell et al. (2011), this result was obtained by using a time-efficient two-day group training, which contained an individual feedback session. Thus, no time- and cost-intensive follow-up interventions were needed to achieve a change in leaders' behavior, which makes the training important for human resources practitioners. Additionally, all aspects of transformational leadership were trained during the intervention, and the improvement of transformational leadership as an aggregated measure could be obtained. Moreover, results appeared after a relatively short time amount of three months, which underlines the training's effectiveness in

times of fast-changing challenges for leaders and employees. Secondly, with regard to the training conceptualization, the present study was the first to use Podsakoff's et al. (1990) conceptualization of transformational leadership as the theoretical foundation of the training. As such, the present study's results, with its limitation to the existing German sample, indicate that the labeling and theoretical foundation of the six dimensions of transformational leadership by Podsakoff (1990) are easily understood by participants and can be smoothly transferred to effective training exercises, resulting in rapid improvements in transformational behavior.

Also, the training's effectiveness was measured by change-specific criteria on a result level, namely employees' commitment to change and the success of the change initiative. Effect sizes indicated that in the experimental group, employees' rating of their commitment to change increased. Even though there was no effect compared to the control group, the main effect shows a tendency that the training of leaders also has an affect on employees' commitment to change. Moreover, for the first time, the training contained input and exercises concerning transformational leadership's effectiveness in change. Findings underline the conclusion that the transformational leadership training positively affected superiors' perception of the success of the change, contributing to existing literature on the effectiveness of transformational leadership in change (e.g., Bommer et al., 2005; Herold et al., 2008).

Further, the present study was the first to examine the influence of training participants' personality on the improvement of evaluation criteria. It could be shown that leaders high in cooperation improved their transformational leadership behavior significantly more than leaders low in cooperation. Also, the development of employees' affective commitment to change was influenced by the degree of leaders' cooperation: The more cooperative leaders were, the more employees' commitment to change increased from pre- to posttest. This finding can be interpreted as resulting from cooperative participants' higher levels of training motivation (Naquin & Holton, 2002), and from the training's methods that demand for cooperation to be effective.

Another strength of the present study lies in its design, as control group data could be obtained for two of the evaluation criteria. This has only rarely been achieved in leadership development evaluation studies so far (Collins & Holton, 2004). Also, results of this study rely on different, rather conservative rating sources (employees' and

superiors' ratings), and display rarely examined evaluation criteria on Kirkpatrick's (1976) third (behavior) and fourth (results) levels of evaluation. Moreover, there was no drop out in data regarding ratings of transformational leadership and employees' commitment to change, and only a small drop out of change success data from *T0* to *T1*, which also consolidates the present findings.

### ***Limitations and Implications for Future Research***

Besides its strengths, the present study also bears some limitations that should be mentioned.

Firstly, the sample is relatively small, which reduces the power of effects. Most important, the small size of the control group might have led to a strong impact of several non-consistent ratings. This is especially important with regard to employees' rating of commitment to change. Here, the control group's rating increased more strongly than the one of the experimental group, resulting in the formal assumption that the training does not have an impact on employees' commitment to change. In fact, these results might have been affected by the small size of the control group. Accordingly, the present study's result should be interpreted as initial insight into a new domain, and should be repeated with groups of a larger size. Also, in line with suggestions of Dvir et al. (2002), as the current sample is based only on male leaders in the experimental group, and as only leaders from IT companies could be won to participate in the study, the external validity of the findings is limited to the present sample. Thus, replication of the study is needed with a more heterogeneous sample with regard to gender and type of business.

Secondly, no random assignment to groups or same group size could be undertaken due to the limitations of the participating organizations. As this is the case in many experimental field studies, and as groups were found not to differ in demographics and change-related criteria (see section Method), conclude that this point does not lead to a fundamental limitation of the external validity of the present results. In fact, some researchers (e.g., Dimitrov & Rumrill, 2003) argue that nonrandomized designs have advantages against randomized designs because they deal with intact groups (as I did in this study) and therefore reduce reactive effects of participants, increasing the external validity of findings. Moreover, the fact that I used intact groups might have also led to stronger effects since intact groups are more used to working together for a common

goal and to sharing experiences and knowledge. Still, findings should be interpreted with regard to the existing field setting, including the distinct criteria of the sample used.

Thirdly, the measures used bear the potential to be influenced by their subjectivity, that is, ratings by employees' and superiors might be affected by response bias (e.g., social desirability bias). This should be considered, in particular, with regard to transformational leadership ratings, as the employees were aware that their leader had participated in a leadership training intervention.

Fourthly, unfortunately it was not possible to obtain control group data for superiors' ratings of the success of the change. As such, it cannot formally be confirmed that the effect relies on the training intervention that was conducted.

Fifthly, even though the short time span of developments in leaders' transformational behavior and superiors' ratings of change success is identified as a strength of the study, results allow no conclusion about the sustainability of developments. As such, future studies should combine elements of the design of the existing study (posttest-measurement after three months) with other approaches, for example later measurements after six months, one year, and 18 months (Abrell et al., 2011; Barling et al., 1996).

Sixthly, I was not able to control for relevant process variables of the change activities such as interactional and procedural justice of the change process (Bernerth, Armenakis, Feild, & Walker, 2007; Foster, 2010; Michaelis et al., 2010), change communication (Conway & Monks, 2008), or employees' participation in the change process (Sarges & Scheffer, 2008). As existing research shows that these variables might have had an effect on employees' commitment to change, they might explain the increased change commitment of control group members. Accordingly, future studies should 1) invest in control for the above mentioned variables and 2) capture relevant change-related activities or occasions that might have taken place between the two measurement points (e.g. new information, workshops, etc.).

Additionally, even though the present study uses multiple rating sources, future research on transformational leadership training should still aim at extending knowledge about its effectiveness with regard to objective evaluation criteria like financial

performance (as Barling et al., 1996, showed in their study). The use of objective success criteria would significantly expand the acceptance of transformational leadership development among human resource practitioners and managers. Moreover, the processes by which transformational leadership are learned and transferred to practice by training participants are worth investigating. Even though there is a considerable amount of research regarding the effects of training and transfer motivation, self-efficacy, and support by superiors and colleagues (for an overview, see Holton, 2003) these variables have not yet been investigated in the context of transformational leadership training evaluation. Also, it would be highly instructive for the development of training methods to reveal those situations, in which behavior practiced in training is transferred to the workplace. As such, future studies could expand evaluation methods by a qualitative element, like follow-up diary surveys or interviews.

### ***Practical Implications***

The important message derived from the present results is to underline that transformational leadership can be improved by training. Thus, human resources experts as well as managers can profit from the knowledge that their organization can improve generally by investing in this kind of training. In positive contrast to other studies, results also show that the investment does not need to be out of the ordinary, as the time- and therewith cost-efficient two-day training method also resulted in improvements of evaluation criteria. Also, the newly developed training design (as presented in the Method section) resulted in a behavior change after a short time period of three months. Consequently, transformational leadership development activities should adapt to this methodology. Moreover, as noted by Avolio (2010), the revealed effect sizes commend for a positive return on investment.

Further, findings suggest that organizations can support the success of their change initiatives by offering transformational leadership training to their team leaders. This is especially important with regard to the fact that change management workshops or leadership trainings and/or coaching often remain the exclusive preserve of the top management, as they are perceived as the salesmen of the change. As such, to create an organization's permanent readiness for change, one effective activity is to train leaders from all organizational levels to integrate more transformational leadership in their day-

to-day leadership behavior. Moreover, organizations should invest in leadership selection to detect, encourage and/or promote leaders high in cooperation, as cooperative leaders were shown to improve significantly stronger in transformational leadership and affecting employees' commitment to change than leaders low in cooperation. Thus, the lone wolf metaphor for successful leaders should be reconsidered.

In conclusion, even though the present study needs replication as far as the aforementioned limitations are concerned, the results of this research provide important further insight into the possibility of developing transformational leadership and reveal new details with regard to its positive effects on change-related evaluation criteria. As such, it strongly contributes to existing literature and offers important recommendations for practitioners.

## **6. Overall Discussion**

The following chapter aims at providing a summarization of results of the three empirical studies presented above as well as their contribution to existing research. Moreover, the methodological strengths of the conducted studies, supporting the robustness of findings, are outlined. Also, general limitations as well as resulting avenues for further research will be discussed. The chapter closes with implications for managers and HR practitioners derived from the findings of this dissertation.

### **6.1 Summarization of Findings and Contributions to Existing Research**

The present dissertation contributes to the existing literature in several ways. Firstly, all three studies provide further support for the initial empirical evidence that transformational leadership is positively related to employees' affective commitment to change (e.g., Herold et al., 2008; Seo et al., 2012). Thus, results back up the goal of enriching change leadership research by combining cross-situational leadership theory with situational specific reactions of followers towards change initiatives. The fact that continuous leadership behavior is effective in change is highly relevant with regard to the complex and continuous nature of change, as it demands from leadership behavior to continuously foster employees' positive attitudes towards change, rather than to promote the 'closing' of a change (refreezing) and therewith provide the ground for reactance and disappointment beyond followers when another change is already on its way.

Moreover, continuous leadership behavior bears the advantage that followers can rely on their leaders' course of action and are not challenged with another confusing change – the adaption in leadership behavior, as it is promoted in change leadership theories. With regard to continuous transformational leadership behavior, for example a vision of the team's future, which is formulated independently of the change's situational needs, is a powerful tool to provide orientation in unstable times. Also, reliable and continuous leadership behavior, for example offering individual time for



interaction with team members and providing an appropriate and stable role model during all kind of situational contexts, fosters the authenticity and trust in leaders, which strongly shows its pay-off during times of change (Mishra, 1996).

Secondly, results of Study I contribute to existing literature by highlighting differences in the relationship between transformational leadership and the three facets of commitment to change (affective, normative, and continuance commitment to change). Because the three facets of commitment to change were found to differ in their importance with regard to change success (Herscovitch & Meyer, 2002) and as the different effects of transformational leadership on these facets have solely been emphasized in one other study (Hinduan et al., 2009), the present results provide more detailed insight into these important relationships. Interestingly, results show a positive relationship of transformational leadership with affective commitment to change, no relationship with normative commitment to change, and a negative relationship with continuance commitment to change. Thus, the present findings stand in contrast to results of Hinduan et al. (2009), who showed that transformational leadership was only positively related to normative commitment to change. As the results of Hinduan et al. (2009) rely on a small sample from only one organization, and the present study tests a complete model with all three facets of transformational leadership rather than conducting three regressions, the present study offers more valid insight into the different relationships. In line with existing literature on transformational leadership, the findings of the present study lead to the conclusion that the motivational processes transformational leaders initiate in followers (engaging for the greater good by identifying with the leader and the organization to maintain a positive self-concept and social identity; Bass, 1985; Shamir et al., 1993) are also effective in the context of change. The conclusion that transformational leadership is especially effective with regard to affective commitment to change and that it is not related to normative commitment to change underlines the assumption that transformational leaders are able to foster an emotional bond to the organization's targets, e.g. a change initiative, and therewith initiate a true transformation of values in followers rather than fostering moral obligations to comply with the change. Also, results indicate that transformational leaders are able to reduce ineffective coping mechanisms (continuance commitment) in followers. Still, as research has now offered contrasting results with regard to the relationships between transformational leadership and affective, normative, and

continuance commitment to change, future studies should aim at further validating these findings. This could be conducted, for example, by identifying potential moderating impacts by replication studies on different samples.

Thirdly, the present studies offer further insight with regard to intermediating variables of the relationship between transformational leadership and commitment to change. Enlarging results of a study recently conducted by Seo et al. (2012), who investigated positive and negative affectivity of employees as mediating variables, Study I highlights the importance of variables that have been heavily discussed in change management literature: trustworthiness of top management and job insecurity of employees. As results show that trustworthiness fully mediates the relationship between transformational leadership and affective commitment to change, and job insecurity is found to fully mediate the relationship between transformational leadership and continuance commitment to change, they provide additional knowledge about the processes by which transformational leadership reveals its influence on followers' reactions in change.

Fourthly, the examination of moderators of the relationship between transformational leadership and commitment to change is important to gain further knowledge about the robustness of the relationship across diverse situations and contexts and about intervening circumstances that need to be considered by practitioners. Only rare empirical research exists that investigates context variables which moderate the relationship between transformational leadership and commitment to change (e.g. individual job-impact of the change, Herold et al., 2008; resources and stressors of employees, Hermann & Felfe, 2012). In order to contribute to the rare existing findings, additional moderators of the relationship were tested in two of the empirical studies. In Study I, high job insecurity was found to strengthen the effect of transformational leadership on affective commitment to change. As such, the amount of job insecurity is shown as an important context factor under which transformational leadership is differently effective. Moreover, in Study II, the moderating effect of leaders' affective commitment to change on the relationship between transformational leadership (providing an appropriate model) and affective commitment to change was revealed. The stronger leaders are committed to the change themselves, the stronger the relationship is between employees' perception of providing an appropriate model and their affective commitment to change. Thus, expanding existing literature on direct

effects of leaders' reactions towards change on their leadership behavior in change (Bommer et al., 2005), the present results provide the important information that leaders' reactions influence the effectiveness of their transformational leadership behavior. Consequently, leaders' attitudes and reactions need to be considered by organizations implementing change firsthand.

Fifthly, existing research has not yet examined the different effects of transformational leadership facets (articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectation, intellectual stimulation, and individual support) on employees' commitment to change. As it is highly relevant for leaders in their day-to-day behavior and for the development of leaders to detect leadership behaviors which are relevant in the context of change, the second study strongly contributes to existing knowledge by investigating the six transformational leadership behaviors and their relationship with followers' affective commitment to change distinctly. Results showed that, testing a complete model with all behaviors, only individualized support was significantly related to followers' affective commitment to change. Because leaders need to be in close contact with their followers to be able to provide appropriate individual support, they are able to offer each team member individual leadership behavior during change. These behaviors may include guidance, orientation, and safety for these team members who feel insecure due to the change, or challenging tasks and involvement in decision processes for these team members who feel motivated and energized by the challenging change situation.

Interestingly, different to change leadership approaches (e.g., Kotter, 2003), it is not articulating a vision but rather the continuous valuation of employees and a leadership behavior based on respect and support that is strongest positively related to employees' positive reactions towards change. Thus, the present results show important differences between the effectiveness of cross-situational leadership behavior compared to change-specific leadership with regard to employees' reactions towards change. Consequently, following the approach of Liu (2010), further research should aim at combining change leadership behaviors and transformational leadership behaviors as predictor variables in one model in order to show the relative or combined effectiveness of both approaches.

Sixthly, the third study is the first to offer results of the effectiveness of a transformational leadership training intervention with regard to change-specific criteria.

Thus, findings contribute significantly to existing research by combining approaches that transformational leadership can be trained (e.g., Barling et al., 1996) and the effectiveness of change leadership development programs which result in employees' stronger support for the change (e.g., Higgs & Rowland, 2001). In Study III, the scope on employees' commitment to change was enlarged by leaders' superiors' ratings of the change's success. By doing so, the effect of the transformational training was supported by using an additional conservative and organizationally highly relevant evaluation criterion. Results show that a time- and cost-efficient two-day transformational leadership training significantly increases superiors' ratings of change success. Also, for the first time, personality traits of participants were investigated as a possible moderator of transformational training's success. Highly relevant for the selection and development of leaders, it could be revealed that leaders high in cooperation display stronger improvement in transformational leadership than leaders low in cooperation. Also, employees' of highly cooperative leaders show a stronger increase of affective commitment to change compared to employees of low cooperative leaders. Thus, results offer new important recommendation for individual moderators that influence the effectiveness of transformational leadership training with regard to employees' commitment to change.

Seventhly, the three studies provide further confirmation about the robustness of the relationship between transformational leadership and employees' positive reactions towards change in a non-US-American setting. The present research contributes to existing findings of the applicability of the effect of transformational leadership on followers' commitment to change outside the USA as shown by Hinduan (2009), Meyer (2007), and Michaelis and Sonntag (2010), and underlines the importance of the relationship in a German context. Moreover, as the three studies mostly rely on data from participants employed in the IT sector, the present work outlines the importance of transformational leadership for a business sector whose inherent challenge is continuous change due to technological necessities. It therefore offers valuable knowledge for managers in this dynamic economical surrounding.

### ***Methodological Strengths of the Studies***

The following methodological strengths underline the validity of the present findings.

Firstly, in Study I and II, all postulated relationships were tested with the help of overall models integrating all study variables. Thus, results allow more conservative and relevant conclusions compared to testing single regressions, because overall models provide a more realistic view on the complex determination of outcome variables and because it is possible to test indirect and moderator effects (Harrell, 2001). Moreover, in Study II, a multilevel modeling approach was selected to avoid the disadvantages of aggregation of employees' ratings or disaggregation of leaders' ratings (Heck & Thomas, 1999). Also, the different sources enlarge the explanatory power of Study II as data stem from the relevant sources (leadership behavior from leadership respondents, the employees, and commitment towards change representing an attitude measured as self-appraisal from employees and leaders) and the risk of same source bias is reduced.

Secondly, strength derives from the fact that in all studies relationships are investigated in the context of different changes across multiple organizations. Thus, results allow greater generalizability compared to results relying on one distinct change in one organization. The fact that relationships were found across diverse changes underlines the importance of transformational leadership with regard to complex, continuous change. Thus, it is not important what exactly changes in which organizational context; it rather needs to be considered that all types of change increase employees' insecurity, which fosters the need for active transformational leadership (Herold et al., 2008; Liu, 2010).

Thirdly, Study III uses a complex pretest-posttest-control-group design, which is considered to display the most appropriate methodology for intervention studies (Cook & Campbell, 1979). For example, in advantage of the posttest-only control group design, the pretest-posttest control-group design provides the possibility to control for group differences at pretest, thus prior to the intervention, which reduces the risk of pretest differences biasing posttest differences between groups (Morris & DeShon, 2002). Moreover, the pretest-posttest control group design succeeds a single-group pretest-posttest design, where changes in the outcome criteria at posttest might be

confounded by other variables besides the training intervention. Differently, the pretest-posttest control group design allows for comparing the change from pre- to posttest in the experimental group with the change in the control group, thus providing evidence for the assumption whether the change derives from the intervention or other influential factors (Morris, 2008).

Also, training success criteria in Study III stem from multiple sources (employees and superiors of training participants), which increases the validity of results: employees' and superiors' ratings display the most conservative source to measure training success and yield the most important information about the financial utility of training (Taylor, Russ-Eft, & Chan, 2005). Moreover, the used evaluation criteria display Kirkpatrick's (1998) third and fourth level of evaluation (behavior and organizational results), which are only rarely achieved to examine in training literature and which display the most important success indicators for practitioners, as they provide information about the transfer of learned contents and the benefit of the investment for the organization (Collins & Holton, 2004).

## **6.2 Limitations and Avenues for Further Research**

Beyond the detailed limitations and directions for further research based on the three conducted studies outlined in chapters 3, 4, and 5, there are some general limitations of this dissertation to be mentioned that lead to avenues for further research.

Firstly, even though this is also a strength of the studies with regard to specific recommendations derived from the results, the generalization of the presented results is limited to the used samples. As all data stem from German participants, results may only be generalized to organizations located in western culture countries which are comparable with regard to cultural characteristics (Hofstede, 2002). Moreover, participants were mostly employed by midsize companies. This possibly limits the explanatory power of results for large organizations because midsize companies might be more forced to engage in continuous change to keep pace with the surrounding market. Also, all studies are based on a sample with predominance of male participants. As men's reactions towards change might be different to women's due to men's higher self-esteem and lower anxiety (Feingold, 1994), results might be influenced by the homogeneity of gender in the samples. Additionally, as leaders in the samples were also

almost all male, transformational leadership might be more effective because male employees might identify more easily with male leaders due to higher degrees of perceived similarity (DeRue, Wellman, Nahrgang, & Humphrey, 2011). Moreover, as the sample is heavily based on participants employed by companies of the IT sector, results are limited to a specific organizational culture (dynamic, flexible, service oriented, highly qualified employees) that might be more fertile to transformational leadership than more conservative organizational cultures (e.g., banking, civil service). Also, the studies rely on evaluations concerning midlevel and low-level leaders. Even though a contribution to existing change leadership research, this also borders the results as they cannot be generalized to top management leaders. Consequently, future studies should further enlarge the possibility to generalize the findings by confirming the present results with samples derived from different cultures (also organizational cultures), different-sized companies, gender, business sector, and management level.

Secondly, due to their cross-sectional design, Study I and II do not formally test for causal relationships between transformational leadership and commitment to change, even though the direction is theoretically based. Thus, findings should be supported by further research conducting longitudinal study designs. Moreover, it could be possible with a larger data set to test for the model's reciprocal effects as these display important information about the causal direction of relationships (Wong & Law, 1999).

Thirdly, all relationships tested in the present studies are based on the assumption of linearity. Even though this assumption equals the most prominent approach in leadership research, further studies could add knowledge about the effectiveness of transformational leadership on employees' reactions to change by testing non-linear relationships. For example, as indicated by Griffin et al. (2010), who found leaders' vision to be positively related to employees' proactive change behavior only for employees high in self-efficacy, it might be possible that the relationship between transformational leadership and employees' positive reactions towards change display an inverted U-function. For example, as employees might possess a smaller amount of effective coping resources due to the change's inherent insecurity, a vision which is articulated by the leader might be too challenging for employees during times of change (in terms of requirements from employees) and rather increase anxiety than confidence.

Fourthly, all studies rely on survey data, which bear the risk of biased responses such as social desirability bias (King & Bruner, 2000). Even though all studies secured for anonymity of followers', there might still have been the tendency to evaluate leader's behavior or the change initiative more positively than it really is in order to maintain acceptance of the team who possibly shared their responses informally. On the other hand, evaluations might have been influenced by reactance of survey participants (due to perceived forced-response as employees were requested to participate by their leader). Moreover, Study I and II rely on the same source of data capturing transformational leadership and employees' commitment to change. Thus, I successfully controlled for common method bias after data capturing. Addressing these biases that come along with survey data, future studies should aim at using methods to control for social desirability bias, adding a social desirable scale (Ballard, 1992), integrating control variables like liking of the leader (e.g., Wayne & Ferris, 1990), and reactance due to perceived forced-response (Stieger, Reips, & Voracek, 2007). Also, methods that control for common method bias before data allocation (e.g. survey split) should foster the validity of findings.

Fifthly, even though the studies followed approaches by Oreg et al. (2011), who called for more complete models describing employees' reactions towards change, it was not possible to investigate all possible variables that might be relevant with regard to the relationship between transformational leadership and commitment to change. Thus, although empirical research is always restricted to eligibility, future studies should further increase the complexity of the model. For example, research should aim at testing the relationship between transformational leadership and several relevant reactions towards change (positive: openness to change, commitment to change; negative: cynicism towards change, resistance to change) considering several additional predictor variables which have been revealed as relevant for employees' reactions towards change. These are, for example, characteristics of the change (e.g., change content, Oreg et al., 2011), interactional and procedural justice of change implementation (Herold et al., 2007), anticipated outcome (Wanberg & Banas, 2000), impact of the change on one's job (Herold et al., 2008), change recipients' characteristics (e.g. personality traits of affected employees, such as openness for experience, Judge et al., 1999, or self efficacy, Cunningham et al., 2002).



Sixthly, due to the methodology of the studies (collecting data at one or two measurement points), the dynamic changes in some possible moderating variables could not be considered. These are, for example, the emotional state of employees, which is assumed to pass through different stages during change (e.g. denial, anger, bargaining, depression, and acceptance, Kubler-Ross, 1969) and might be a possible moderator of the effectiveness of transformational leadership with regard to employees' commitment to change. For example, because the present findings of Study I show transformational leadership to be most effective when an emotional stressor (job insecurity) is high, it could be possible that transformational leadership's effect is strongest when followers are in the phase of depression, which is defined as the bottom stage of negative stressors and emotions. Also, it can be argued that a positive vision of the future can only be effective when followers have passed through the 'valley of tears' (have managed the depression phase) and are open for new ideas and directions.

Other possible moderators are, for example, the information status of employees concerning the change, success or failure of aspects of the change initiatives, or development activities that go along with the change. As these variables display dynamic changes of employees' involvement in the change, which might result in changes of their attitudes and emotions towards the change, these dynamic variables might play an important role for the effectiveness of leadership behavior. Moreover it should be considered that also leaders face different stages of emotions or cognitions towards the change or their roles in supporting the change. For example, if organizations fail to consider the individual loss and possible resulting depression phase of leaders and do not support them with information, education, and involvement, the effectiveness of their leadership behavior might suffer as they are not able to provide a positive, change-supporting model for their employees.

Consequently, as dynamic and highly variable moderators might be important when investigating complex changes - besides conducting longitudinal survey studies with three or more measurement points - the application of a mixed methods design would enlarge the knowledge about timely influences on the relationship between transformational leadership and commitment to change. For example, future studies should aim at adding methods like interviews or diary data to the survey data, as these are able to capture the variability in cognitions and emotions of followers and leaders.

Additionally, based on the findings of Study II, which revealed that - when considering an overall model with all facets of transformational leadership - solely individual support has a direct impact on employees' affective commitment to change, other leadership behaviors should additionally take place in future models to be examined. For example, as discussed in chapter three, articulating a vision might not have had predictive power with regard to employees' commitment to change, because transformational visions do not necessarily contain a message directed to the change initiative. As such, change specific leadership behavior (change leadership), which Herold et al. (2008) already outlined to be effective when transformational leadership is low, should additionally be taken into account to reveal the distinct behavioral effects of these leadership styles on employees' reactions towards change. Thus, in line with research conducted by Liu (2010), both leadership styles should be investigated with respect to their combined impact on employees' commitment to change. For example, it can be assumed that transformational leadership sets the ground for positive reactions towards change in employees by continuously providing individual support, but that the transformational leadership behavior should be supported by a change-specific or - change-adapted vision.

Moreover, even though Study I provides insight into variables mediating the relationship between transformational leadership and commitment to change, there is still a lack of knowledge about the underlying psychological processes that take place in employees and enable the success of transformational leadership. Also, resembling a general topic with regard to the effectiveness of transformational leadership criticized by several authors (c.f., Yukl, 1999), there is no study yet that sheds empirical light on the question of which psychological/motivational processes lead to the relationship between transformational leadership and commitment to change. Thus, future research should aim at investigating relating mediators, for example - with regard to social identity theory - the amount of identification with the team or the organization and the positive evaluation of the own membership to the relevant group (Hogg, 2001) and - with regard to self-concept theory - the amount of positive self-evaluation (Shamir et al., 1993).

### **6.3 Implications for HR Practitioners and Managers**

Several practical implications can be drawn from the findings of this dissertation. First and foremost, as transformational leadership was shown to be effective with regard to employees' affective commitment to change in diverse change contexts, organizations facing continuous changes should aim at promoting a leadership culture that fosters transformational leadership. Thus, besides its numerous benefits for organizations such as job satisfaction, commitment, and financial performance, transformational leadership bears high potential to support complex and continuous change. Consequently, even though transformational leadership's prominence in Germany has begun to raise, there is still potential to sustainably implement transformational leadership behaviors in organizations' cultures, for example by integrating it in overall competence models for leaders, performance appraisal systems, leader selection and promotion criteria, as well as leadership development programs. Remarkably, results show that transformational leadership's effectiveness is not restricted to top-level leaders but is rather important for those leaders who have direct contact to employees (e.g. team leaders, department leaders). As such, investments in activities which address all leadership levels across the organization should be enlarged.

Secondly, besides the fact that transformational leadership is effective during numerous situations, organizations should also consider transformational leadership as highly effective when employees face high amounts of job insecurity. This results in the difficult challenge to employ or develop leaders who display a challenging leadership behavior which is characterized by role modeling and visionary speaking. Consequently, organizations need to invest in the acquisition, development and retaining of leaders who stay positive and stable even in a surrounding of high insecurity.

Thirdly, related to the point above, results of this dissertation offer support for the assumption that leaders' own attitude towards change is heavily important for the success of their leadership behaviors. In fact, leaders are only able to foster employees' positive reactions towards change when they exemplify relevant positive behaviors related to the change (e.g. positive speaking about the change, trying to overcome resistance by highlighting positive outcomes of the change, engaging in new change-related behaviors even though routines might be easier firsthand). Consequently, organizations need to make sure that, even in complex changes, leaders are informed

about the change firsthand, and to enable participation in strategic decisions and planning of change-related activities to confirm highest levels of commitment towards change among leaders. Moreover, leaders' supervisors need to take care about their direct reports, as leaders also need an active leadership during times of change. Thus, top-level leaders need to engage in transformational leadership behaviors to support their subordinates and to provide a role model of desirable leadership behavior. Moreover, it is important for organizations to identify those leaders at all levels of the organization that show resistance to change even though they are heavily involved in the process. As a last consequence, leaders who cannot be convinced of the change need to be replaced, as they are able to sabotage the success of change initiatives by influencing their followers negatively.

Fourthly, as results show that individual support of leaders has the strongest relationship on followers' affective commitment to change, organizations should aim at providing an environment for leaders and employees in which individual support is easy to provide. This environment, for example, contains time to interact personally, or a budget for teams to engage in non-profit activities (such as team events). As time repressions are the greatest challenge in the context of a complex and changing environment, organizations need to take care that, even if it seems inefficient for the processes of change, employees need individual time to communicate with their team leader, share their ambiguities and anxieties with him/her and perceive individual support of their leader. To facilitate this supportive environment in a more concrete manner, it should be anchored in leaders' goal agreements with regard to reduced objective individual performance goals of leaders (e.g. personal revenue) and increased explicit qualitative leadership goals such as individual interaction time with each team members and regular team meetings.

Fifthly, as research provides reliable and valid measures of transformational leadership (e.g., TLI, Podsakoff et al., 1990), leader selection activities (e.g. assessment center) should be enriched with a self-appraisal on transformational leadership behaviors; also, these behaviors introduced by Podsakoff et al. (1990) can be transferred to biographical and situational interview questions as well as to behaviors measured by role plays. Moreover, organizations' recruitment should aim at promoting a transformational leadership culture in their employer brand representation in order to

address potential leaders who identify with this kind of leadership and its underlying idea of man.

Sixthly, leaders' promotion inside the organizations should be oriented towards transformational leadership behavior. Based on bottom-up feedback by leadership respondents, i.e. the employees, leaders who are most successful in transformational leadership can be detected and promoted.

Seventhly, results of Study III further support the idea that organizations' investment in transformational leadership development is successful. Most important, the presented training method which combines group-based training and feedback offers a time- and cost-efficient approach to develop leaders' transformational leadership behavior and therewith increase the success of change initiatives. Also, it is revealed that personal development experts should rely on the conceptualization of transformational leadership formulated by Podsakoff (1990), as it displays a framework of leadership behaviors that is easily understood by training participants and that can be smoothly transferred into training exercises and discussions. It should be noted that, because research, for example, points at the success of peer-based team coaching following the training intervention (Abrell et al., 2011), follow-up interventions should be conducted to confirm the sustainability of results. Moreover, personnel development experts should take care that transformational leadership development is not only conducted when 'the house is already rocking'. More specifically, even though there is no 'optimal' point in time, e.g. a steady situation in continuous change, transformational leadership development activities should not be conducted out of a current necessity, but should rather be integrated in the regular development program for all leaders across the organization.

Furthermore, results offer explicit recommendation about the facilitative role of the personality trait cooperation with regard to training success. Consequently, organizations are able to aim at employing or promoting leaders high in cooperation as they are more likely to improve in transformational leadership than leaders low in cooperation. Still, as diversity is important for a leadership team as well, personal development experts (or the trainers) should carefully consider participants' personality when combining training groups or working teams inside a training group. By doing so, participants are able to benefit from each other's strengths.

Finally, organizations need to take care about context factors which boost or diminish the success of the training intervention. For example, (Kauffeld, Bates, Elwood, & Müller, 2008) showed that support by peers and supervisors are fundamentally important for the success of training interventions. Moreover, when the training was initiated by participants' superiors, the training was most successful, and negative appraisal of the training by superiors significantly decreased its effect. Consequently, to increase transformational leadership by training and feedback for the sake of the change's success, transformational leadership behavior should receive support from all levels of the organization and thus, needs to find its place in organizations' explicit and implicit culture.

## **6.4 Conclusion**

Employees' reaction towards change has been and will surely continue to be in the spotlight of change scholars' and practitioners' attention, as it displays the most important source for a change's success. The present studies underline the importance of transformational leadership related to followers' affective commitment to change. Thus, cross-situational, long-term leadership behavior is important for forming followers' reactions towards a - even though continuously reappearing - situational specific change challenge. Results highlight that direct leads (team leaders) are first in line to actively support employees' positive reactions towards change, for example, by positively influencing employees' job insecurity and perception of top management's trustworthiness. As the leadership behavior 'individual support' is revealed as most important for employees' affective commitment to change, organizations also need to learn that the most important role of leaders in change is to emotionally support their team members, which results in higher needs of effective leadership time investments. Further, the relationship between leadership behavior and employees' affective commitment towards change is found to depend on employees' emotional states (job insecurity) as well as leaders' own affective commitment towards change. Consequently, results demonstrate the importance of viewing the relationship between leadership and change success as a complex phenomenon which is influenced by a dynamic system of organizational and individual context factors. Further, and most important for practitioners, results outline the effectiveness of a transformational leadership training with regard to management's rating of the success of the change.

Thus, when leaders are formally supported to increase their transformational leadership behavior by training and feedback, they have higher capabilities to positively influence change. In sum, the present results strongly lead to the conclusion that organizations are not helpless in the context of today's complex, dynamic, and continuous change. Rather, transformational leadership behavior is a powerful tool as it continuously transforms followers' identification with and support for a target of the organization – the change. Thus, if transformational leadership is implemented as a culture component across all levels of the organization, teams are empowered to continuously and successfully raft through the white waters of the organization's change river.

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## Appendix A: Summary

Successful implementation and management of organizational change has already been in the spotlight of scholars' and practitioners' interest for decades. This is due to the increasing importance of adaptation and change based on economic necessities (pace of technological change, globalization of markets, etc.) as well as to the disappointing fact that an enormous amount of change initiatives are determined to fail to reach their intended goals. Consequently, there is an impressive body of research investigating success factors of organizational change. From a microeconomic view, organizations' employees' attitudes and reactions towards change have been identified as the most important predictor of successful organizational change. Beyond the constructs describing positive reactions towards change, employees' *affective commitment to organizational change* was shown as a strong predictor of employees' change supportive behaviors. Moreover, derived from the change management and change leadership literature, leaders' behavior has long been recommended as tipping the scale of successful change. As today's change is complex and continuous in nature, continuous leadership behavior such as *transformational leadership* has lately been identified as being successful during change. Interestingly, it is only recently that transformational leadership has been linked to employees' commitment to change directly. Thus, even though there is initial evidence that continuous transformational leadership positively influences employees' affective commitment to a specific change, there is still a massive gap in literature to be filled with additional knowledge about this relationship.

Thus, the aim of this dissertation is to contribute to existing literature by deepening information about mediating and moderating effects relevant for the relationship between transformational leadership and commitment to change (affective as well as normative and continuance commitment to change), and to shed light on the possibility to increase change success by the development of transformational leadership. This goal is pursued by conducting three distinct studies examining the following research questions respectively:

4) Does transformational leadership relate to affective, normative and continuance commitment to change and how are these relationships mediated and moderated by the change-related variables trust in top management and job insecurity?



5) How do the different dimensions of transformational leadership contribute to affective commitment to change and how does leaders' own affective change commitment influence these relationships?

6) Does a training of transformational leadership enhance leaders' transformational leadership, employees' commitment to change and supervisors' rating of the success of the change initiative? How do business-focused personality traits of training participants contribute to the effect of the training intervention?

In *Study I - The Impact of Transformational Leadership on Followers' Commitment to Change – Mediating and Moderating Effects*, addressing the first research question, it is hypothesized that transformational leadership positively relates to affective and normative commitment to change and that it is negatively related to continuance commitment to change. Moreover, it is stated that the trustworthiness of top management mediates the relationship between transformational leadership and affective and normative commitment to change. Also, job insecurity is hypothesized to mediate the relationship between transformational leadership and continuance commitment to change, as well as to moderate the relationships between transformational leadership and affective and normative commitment to change. Using a cross-sectional design, data were captured once by survey method, resulting in a heterogeneous sample of German employees with a total  $N = 160$ . The hypotheses are tested by structural equation modeling using the partial least square methodology (PLS). Results show a significantly positive relation between transformational leadership and affective commitment to change, which is fully mediated by trustworthiness of top management. Also, job insecurity is found to fully mediate the negative impact of transformational leadership on continuance commitment to change. Moreover, results indicate that job insecurity moderates the relations between transformational leadership and affective and normative commitment to change. More specifically, if job insecurity is high, the relationship between transformational leadership and affective commitment to change is stronger than if job insecurity is low. In contrast, if job insecurity is high, the relationship between transformational leadership and normative commitment to change is lower than if job insecurity is low.

In *Study II - The Influence of Leaders' Commitment to Change on the Effectiveness of Transformational Leadership in Change Situations - A Multilevel Investigation*,

attempting to answer the second research question, it is hypothesized that the transformational leadership dimensions *articulating a vision, providing an appropriate model, fostering the acceptance of group goals, communicating high performance expectations, providing individual support, and initiating intellectual stimulation* all positively relate to affective commitment to change. Further, it is supposed that leaders' own affective commitment to change moderates the effect of those dimensions of transformational leadership, in which own attitudes, norms and values are openly expressed to team members, i.e. *articulating a vision* and *providing an appropriate model*. Hypotheses are tested with a cross-sectional multilevel design using 38 teams from different German organizations with a total of 177 participating team members. Results show that, when testing an overall model, solely *providing individual support* has an impact on employees' affective commitment to change. Moreover, *providing an appropriate model* is revealed as only positively contributing to followers' affective commitment to change when leaders' own affective commitment to change is high.

In *Study III - Training Transformational Leadership in Change: Improving Leaders' Transformational Leadership Behavior, Employees' Commitment to Change and Supervisors' Ratings of Change Success*, aiming at answering the third research question, it is hypothesized that a two-day transformational leadership training results in increased transformational leadership behavior (rated by employees), higher levels of employees' commitment to change (rated by employees) and increased success appraisal of the change (rated by leaders' supervisors). Moreover, it is assumed that the business-focused personality traits *engagement, social competence, and cooperation* contribute positively to the development of these evaluation criteria. Hypotheses are tested using a pretest-posttest control group design with 26 leaders in the experimental group and seven leaders in the control group. The training intervention results in a significant improvement of transformational leadership behavior and supervisors' success appraisal of the change. With regard to employees' commitment to change, a positive tendency of the training's effectiveness is confirmed. The analyses further reveal that highly cooperative leaders improve stronger in transformational leadership behavior than low cooperative leaders. Moreover, employees of leaders high in cooperation report greater increase of commitment to change than employees of leaders low in cooperation.

Summarizing the results, all three studies provide further support for the initial empirical evidence that transformational leadership is positively related to employees' affective commitment to change, backing up the goal of completing change leadership research by combining cross-situational leadership theory with situational specific reactions of followers towards change initiatives. The fact that continuous leadership behavior is effective in change is highly relevant with regard to the complex and continuous nature of change, as it demands from leadership behavior to continuously foster positive attitudes towards change. Consequently, organizations should aim at promoting a leadership culture that supports transformational leadership to facilitate continuous change. As results show that transformational leadership's effectiveness is not restricted to top-level leaders but is rather important for those leaders who have direct contact to employees (e.g. team leaders, department leaders), investments in activities which address all leadership levels across the organization should be enlarged.

Moreover, this dissertation's studies offer further insight into mediating variables of the relationship between transformational leadership and commitment to change. Study I highlights the importance of variables that have been heavily discussed in change management literature: trustworthiness of top management and job insecurity of employees. As results show that trustworthiness fully mediates the relationship between transformational leadership and affective commitment to change, and job insecurity is found to fully mediate the relationship between transformational leadership and continuance commitment to change, they provide additional knowledge about the processes by which transformational leadership reveals its influence on followers' reactions in change.

Also, Study I and II contribute to the rare existing findings by testing the moderating effects of job insecurity and leaders' affective commitment to change. As transformational leadership is found to be most important when job insecurity is high, organizations need to invest in the acquisition, development and retaining of leaders who stay positive and stable even in a surrounding of high insecurity. Results of Study II offer support for the assumption that leaders' own attitude towards change is heavily important for the success of their leadership behaviors. In fact, leaders are only able to foster employees' positive reactions towards change when they exemplify relevant positive behaviors related to the change. Consequently, organizations need to make sure that, even in complex changes, leaders are informed about the change firsthand, and to

enable participation in strategic decisions and planning of change-related activities to confirm highest levels of commitment towards change among leaders. Furthermore, as results of Study II show that individual support of leaders has the strongest impact on followers' commitment to change, organizations should aim at providing an environment for leaders and employees in which individual support is easy to provide. This environment, for example, contains time to interact personally, or a budget for teams to engage in non-profit activities (such as team events). Additionally, results of Study III further support the idea that organizations' investment in transformational leadership development is successful. Results show that a time- and cost-efficient two-day transformational leadership training significantly increases leaders' transformational leadership behavior and superiors' ratings of change success. Also, for the first time, personality traits of participants were investigated as a possible moderator of transformational training's success. Highly relevant for the selection and development of leaders, it could be revealed that leaders high in cooperation display stronger improvement in transformational leadership than leaders low in cooperation. Also, employees of highly cooperative leaders show a stronger increase of affective commitment to change compared to employees of low cooperative leaders. Consequently, organizations are able to aim at employing or promoting leaders high in cooperation as they are more likely to improve in transformational leadership and to foster employees' commitment to change than leaders low in cooperation.

In sum, the findings of this dissertation strongly lead to the conclusion that organizations are not helpless in the context of today's complex, dynamic, and continuous change. Rather, transformational leadership behavior is a powerful tool as it continuously transforms followers' identification with and support for a target of the organization – the change. Thus, if transformational leadership is implemented as a culture component across all levels of the organization, the success of change initiatives stands on a solid fundament.

# Appendix B: Instructions and Questionnaires applied in Study I

## a) General Instructions

Herzlich Willkommen und vielen Dank für Ihre Teilnahme der Befragung!

Am Lehrstuhl für Personalentwicklung der TU Dortmund führen wir zurzeit ein Forschungsprojekt zum Thema "Führung im Kontext von Veränderungen" durch. Hierzu werden Führungskräfte eingeladen, ihr eigenes Verhalten zu beschreiben, sowie Mitarbeiter, das Verhalten ihrer Führungskraft zu beschreiben.

Auf den folgenden Seiten finden Sie den Fragebogen für Mitarbeiter. Falls Sie als Führungskraft teilnehmen möchten, wechseln Sie bitte zur Führungskräfte-Version.

### Fragebogen für Mitarbeiter

Im Folgenden werden Sie zu verschiedenen Themen befragt, die sowohl Sie selbst als auch Ihr Arbeitsumfeld betreffen. Hierbei geht es insbesondere um das Verhalten Ihrer Führungskraft sowie um Veränderungen in Ihrer Organisation. Bei den Fragen zu Ihrer Führungskraft beurteilen Sie bitte die Person, der Sie zurzeit oder bis vor kurzem bei Ihrer Arbeitsstelle, Praktikumsstelle oder ehrenamtlichen Tätigkeit direkt unterstellt sind/waren (z.B. Ihren Teamleiter).

Wir sind an Ihrer persönlichen Meinung interessiert, daher gibt es keine "richtigen" oder "falschen" Antworten! Bitte lesen Sie die Fragen und Instruktionen *sorgfältig* durch und antworten Sie *spontan*. Bei der Bearbeitung werden Sie möglicherweise den Eindruck gewinnen, dass einige Formulierungen inhaltlich ähnlich sind. Bitte lassen Sie sich dadurch nicht irritieren.

Bitte beachten Sie, dass sich das Antwortformat im Verlauf des Fragebogens ändert!

### Anonymität:

Wir versichern, dass Ihre Daten nur die TU Dortmund erreichen und dort zudem streng vertraulich behandelt werden. Ihre Antworten werden ausschließlich zu Forschungszwecken verwendet.

Sie können das Ausfüllen des Fragebogens unterbrechen. Wenn Sie den Link zu einem späteren Zeitpunkt wieder aufrufen, können Sie an der Stelle fortfahren, an der Sie aufgehört haben.

## **b) Transformational Leadership**

### Instructions

Die folgenden Aussagen beschreiben das Verhalten Ihrer Führungskraft.  
Bitte geben Sie an, inwieweit Sie den Aussagen zustimmen.

### Items (Heinitz & Rowold, 2007)

Die Führungskraft, die ich einschätze, ...

#### 1) Articulating a Vision

- ... ist ständig auf der Suche nach neuen Möglichkeiten für die Abteilung.
- ... zeichnet ein interessantes Bild der Zukunft unserer Arbeitsgruppe.
- ... hat ein klares Verständnis dafür, wohin sich unsere Arbeitsgruppe bewegt.
- ... inspiriert durch ihre Pläne für die Zukunft.
- ... schafft es, andere an ihre Zukunftsträume zu binden.

#### 2) Providing an Appropriate Model

- ... führt eher durch "Taten" als durch "Anweisungen".
- ... ist ein gutes Vorbild, dem man leicht folgen kann.
- ... wird sich nicht mit dem Zweitbesten zufrieden geben.
- ... führt durch beispielhaftes Verhalten.

#### 3) Fostering the Acceptance of Group Goals

- ... pflegt die Zusammenarbeit unter Arbeitsgruppen.
- ... ermutigt ihre Mitarbeiter dazu, „team player“ zu sein (d.h. gruppenorientiert zu arbeiten).
- ... bringt die Gruppe dazu, gemeinsam für ein Ziel zu arbeiten.
- ... entwickelt ein Wir-Gefühl und Teamgeist bei den Mitarbeitern ihrer Abteilung.

#### 4) High Performance Expectations

- ... zeigt offen, dass sie viel von uns erwartet.
- ... besteht auf Höchstleistungen.

#### 5) Individualized Support

- ... handelt, ohne meine Gefühle zu beachten. (R)
- ... zeigt Respekt für meine persönlichen Gefühle.
- ... handelt auf eine Art und Weise, die meine persönlichen Gefühle berücksichtigt.
- ... behandelt mich auf eine Art und Weise, ohne auf meine persönlichen Gefühle Rücksicht zu nehmen. (R)

#### 6) Intellectual Stimulation

- ... hat mir neue Wege gezeigt, an Dinge heranzugehen, die für mich unverständlich waren.
- ... hat Ideen, die mich dazu gebracht haben, einige meiner eigenen Gedanken zu überdenken, die ich vorher nicht in Frage gestellt habe.
- ... hat mich dazu angeregt, alte Probleme auf neue Art und Weise zu bedenken.

#### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## c) Affective, Normative and Continuance Commitment to Change

### Instructions

Im Folgenden geht es um Veränderungen in Ihrer Organisation.

Entscheiden Sie sich bitte zur Beantwortung der folgenden Fragen für eine konkrete, möglichst aktuelle Veränderung, die in der nahen Vergangenheit in Ihrer Organisation stattgefunden hat oder aktuell stattfindet. Diese Veränderung muss nicht die gesamte Organisation und deren Aufbau betreffen, sondern kann auch eine "kleinere" Veränderung sein, z.B. die Entwicklung eines neuen Produktbereichs oder die Zuordnung zu einer neuen Führungskraft. Bitte beziehen Sie sich bei Ihren Antworten ausschließlich auf diese Veränderung und behalten diese bis zum Ende des Fragebogens bei.

Bitte geben Sie in einigen kurzen Stichpunkten an, um welche Veränderung es sich konkret handelt (z.B. neues Management, neue Führungskraft, neue Teamstrukturen, Einführung neuer Qualitätsstandards, Veränderung der Aufbauorganisation oder der Prozesse, Unternehmenszusammenführung, technologische Veränderungen, Einführung eines neuen Computersystems, Einführung eines neuen Gehaltssystems, Änderung der Unternehmenswerte etc.).

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Die folgenden Aussagen beziehen sich auf Ihre persönliche Meinung zu der konkreten Veränderung, auf die Sie sich schon im letzten Teil bezogen haben.

Bitte schätzen Sie ein, inwieweit Sie den folgenden Aussagen zustimmen.

### Items (translated from the Commitment to Change Questionnaire by Herscovitch & Meyer, 2002)

#### 1) Affective Commitment to Change

- Ich glaube an den Wert dieser Veränderung.
- Diese Veränderung ist positiv für die Organisation.
- Ich denke, dass das Management mit dieser Veränderung einen Fehler macht. (R)
- Diese Veränderung hat einen wichtigen Grund.
- Die Situation wäre besser ohne diese Veränderung. (R)
- Diese Veränderung ist nicht notwendig. (R)

#### 2) Normative Commitment to Change

- Ich fühle mich verpflichtet, diese Veränderung zu unterstützen.
- Ich denke es wäre falsch von mir, mich gegen diese Veränderung zu stellen.
- Ich würde mich schlecht fühlen, wenn ich diese Veränderung ablehnen würde.
- Es wäre unverantwortlich von mir, mich gegen diese Veränderung zu stellen.
- Ich würde mich schuldig fühlen, diese Veränderung abzulehnen.
- Ich fühle keine Verpflichtung, diese Veränderung zu unterstützen. (R)



### 3) Continuance Commitment to Change

- Ich habe das Gefühl, dass ich diese Veränderung akzeptieren muss.
- Es steht für mich zu viel auf dem Spiel, als dass ich diese Veränderung ablehnen könnte.
- Ich habe keine Wahl als diese Veränderung zu akzeptieren.
- Es ist für mich mit zu hohen Kosten verbunden, diese Veränderung abzulehnen.
- Es wäre zu risikoreich, mich gegen diese Veränderung auszusprechen.
- Mich gegen diese Veränderung zu stellen ist keine mögliche Option für mich.

#### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## **d) Trustworthiness of Top Management**

### Instructions

Die folgenden Aussagen beziehen sich auf das Top-Management Ihrer Organisation, also die oberste Führungsebene, die Ihrer Meinung nach die strategischen Entscheidungen für Ihre Organisation trifft.

Bitte schätzen Sie ein, inwieweit Sie den Aussagen zustimmen.

Items (translated and adapted from the *Interpersonal trust at work-Questionnaire* originally developed by Cook and Wall, 1980)

- Das Top-Management ist aufrichtig in seinem Bemühen, die Sichtweise der Mitarbeiter bei Entscheidungen zu berücksichtigen.
- Man kann dem Top-Management vertrauen, dass es für die Zukunft der Firma sinnvolle Entscheidungen trifft.
- Das Top-Management macht einen guten Job.
- Das Top-Management wird immer versuchen, mich fair zu behandeln
- Es kommt vor, dass das Top-Management uns bewusst täuscht. (R)
- Ich halte das Top-Management insgesamt für vertrauenswürdig.

### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

### **e) Perceived Job Insecurity**

#### Instructions

Im Folgenden geht es abschließend um Ihre allgemeine Meinung zu verschiedenen Aussagen über Ihre Arbeitsstelle.

Bitte geben Sie an, inwieweit Sie den Aussagen zustimmen.

Items (newly developed Items based on work of Ashford, Lee, & Bobko, 1989; Borg, 1992; Brandes et al., 2007; Semmer, 1984)

- Ich fühle mich sicher in meinem derzeitigen Arbeitsverhältnis. (R)
- Der Gedanke, meine Arbeitsstelle zu verlieren, macht mir Sorgen.
- Ich mache mir Sorgen, dass meine Arbeit in Zukunft weniger wichtig sein wird.
- Die Vorstellung, meine Arbeitsstelle zu verlieren, belastet mich.

#### Rating Scale:

1: stimme gar nicht zu – 5: stimme völlig zu

# Appendix C: Instructions and Questionnaires applied in Study II

## 1) Employee Questionnaire

### 1a) General Instructions

Herzlich Willkommen und vielen Dank für Ihre Teilnahme an der Befragung!

Am Lehrstuhl für Personalentwicklung der TU Dortmund führen wir zurzeit ein Forschungsprojekt zum Thema "Führung im Kontext von Veränderungen" durch. Hierzu werden Führungskräfte eingeladen, ihr eigenes Verhalten zu beschreiben, sowie Mitarbeiter, das Verhalten ihrer Führungskraft zu beschreiben.

Auf den folgenden Seiten finden Sie den Fragebogen für Mitarbeiter. Falls Sie als Führungskraft teilnehmen möchten, wechseln Sie bitte zur Führungskräfte-Version.

Fragebogen für Mitarbeiter

Im Folgenden werden Sie zu verschiedenen Themen befragt, die sowohl Sie selbst als auch Ihr Arbeitsumfeld betreffen. Hierbei geht es insbesondere um das Verhalten Ihrer Führungskraft sowie um Veränderungen in Ihrer Organisation. Bei den Fragen zu Ihrer Führungskraft beurteilen Sie bitte die Person, der Sie zurzeit oder bis vor kurzem bei Ihrer Arbeitsstelle, Praktikumsstelle oder ehrenamtlichen Tätigkeit direkt unterstellt sind/waren (z.B. Ihren Teamleiter).

Wir sind an Ihrer persönlichen Meinung interessiert, daher gibt es keine "richtigen" oder "falschen" Antworten! Bitte lesen Sie die Fragen und Instruktionen *sorgfältig* durch und antworten Sie *spontan*. Bei der Bearbeitung werden Sie möglicherweise den Eindruck gewinnen, dass einige Formulierungen inhaltlich ähnlich sind. Bitte lassen Sie sich dadurch nicht irritieren.

Bitte beachten Sie, dass sich das Antwortformat im Verlauf des Fragebogens ändert!

Anonymität:

Wir versichern, dass Ihre Daten nur die TU Dortmund erreichen und dort zudem streng vertraulich behandelt werden. Ihre Antworten werden ausschließlich zu Forschungszwecken verwendet.

Sie können das Ausfüllen des Fragebogens unterbrechen. Wenn Sie den Link zu einem späteren Zeitpunkt wieder aufrufen, können Sie an der Stelle fortfahren, an der Sie aufgehört haben.

## **1b) Transformational Leadership**

### Instructions

Die folgenden Aussagen beschreiben das Verhalten Ihrer Führungskraft.  
Bitte geben Sie an, inwieweit Sie den Aussagen zustimmen.

### Items (Heinitz & Rowold, 2007)

Die Führungskraft, die ich einschätze, ...

#### 1) Articulating a Vision

- ... ist ständig auf der Suche nach neuen Möglichkeiten für die Abteilung.
- ... zeichnet ein interessantes Bild der Zukunft unserer Arbeitsgruppe.
- ... hat ein klares Verständnis dafür, wohin sich unsere Arbeitsgruppe bewegt.
- ... inspiriert durch ihre Pläne für die Zukunft.
- ... schafft es, andere an ihre Zukunftsträume zu binden.

#### 2) Providing an Appropriate Model

- ... führt eher durch "Taten" als durch "Anweisungen".
- ... ist ein gutes Vorbild, dem man leicht folgen kann.
- ... wird sich nicht mit dem Zweitbesten zufrieden geben.
- ... führt durch beispielhaftes Verhalten.

#### 3) Fostering the Acceptance of Group Goals

- ... pflegt die Zusammenarbeit unter Arbeitsgruppen.
- ... ermutigt ihre Mitarbeiter dazu, „team player“ zu sein (d.h. gruppenorientiert zu arbeiten).
- ... bringt die Gruppe dazu, gemeinsam für ein Ziel zu arbeiten.
- ... entwickelt ein Wir-Gefühl und Teamgeist bei den Mitarbeitern ihrer Abteilung.

#### 4) High Performance Expectations

- ... zeigt offen, dass sie viel von uns erwartet.
- ... besteht auf Höchstleistungen.

#### 5) Individualized Support

- ... handelt, ohne meine Gefühle zu beachten. (R)
- ... zeigt Respekt für meine persönlichen Gefühle.
- ... handelt auf eine Art und Weise, die meine persönlichen Gefühle berücksichtigt.
- ... behandelt mich auf eine Art und Weise, ohne auf meine persönlichen Gefühle Rücksicht zu nehmen. (R)

#### 6) Intellectual Stimulation

- ... hat mir neue Wege gezeigt, an Dinge heranzugehen, die für mich unverständlich waren.
- ... hat Ideen, die mich dazu gebracht haben, einige meiner eigenen Gedanken zu überdenken, die ich vorher nicht in Frage gestellt habe.
- ... hat mich dazu angeregt, alte Probleme auf neue Art und Weise zu bedenken.

#### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## **1c) Affective Commitment to Change**

### Instructions

Im Folgenden geht es um Veränderungen in Ihrer Organisation.

Beziehen Sie sich bitte zur Beantwortung der folgenden Fragen ausschließlich auf die in der E-Mail genannte konkrete Veränderung. Diese wurde von Ihrer Führungskraft vorgeschlagen.

Bitte schätzen Sie ein, inwieweit Sie den folgenden Aussagen zustimmen.

### Items (translated from the Commitment to Change Questionnaire by Herscovitch & Meyer, 2002)

#### Affective Commitment to Change

- Ich glaube an den Wert dieser Veränderung.
- Diese Veränderung ist positiv für die Organisation.
- Ich denke, dass das Management mit dieser Veränderung einen Fehler macht. (R)
- Diese Veränderung hat einen wichtigen Grund.
- Die Situation wäre besser ohne diese Veränderung. (R)
- Diese Veränderung ist nicht notwendig. (R)

### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## **2) Leader Questionnaire**

### **2a) General Instructions**

Herzlich Willkommen und vielen Dank für Ihre Teilnahme am Forschungsprojekt der TU Dortmund!

Am Lehrstuhl für Personalentwicklung der TU Dortmund führen wir zurzeit ein Forschungsprojekt zum Thema "Führung im Kontext von Veränderungen" durch. Hierzu werden Führungskräfte eingeladen, ihr eigenes Verhalten zu beschreiben, sowie Mitarbeiter, das Verhalten ihrer Führungskraft zu beschreiben.

Auf den folgenden Seiten finden Sie den Fragebogen für Führungskräfte. Falls Sie als Mitarbeiter teilnehmen möchten, wechseln Sie bitte zur Mitarbeiter-Version.

#### Fragebogen für Führungskräfte

Im Folgenden werden Sie zu verschiedenen Themen befragt, die sowohl Sie selbst als Führungskraft als auch Ihr Arbeitsumfeld betreffen. Hierbei geht es insbesondere um Ihr Verhalten als Führungskraft sowie um Veränderungen in Ihrer Organisation.

Wir sind an Ihrer persönlichen Meinung interessiert, daher gibt es keine "richtigen" oder "falschen" Antworten! Bitte lesen Sie die Fragen und Instruktionen sorgfältig durch und antworten Sie spontan. Bei der Bearbeitung werden Sie möglicherweise den Eindruck gewinnen, dass einige Formulierungen inhaltlich ähnlich sind. Bitte lassen Sie sich dadurch nicht irritieren.

Bitte beachten Sie, dass sich das Antwortformat im Verlauf des Fragebogens ändert!

#### Anonymität:

Wir versichern, dass Ihre Daten nur die TU Dortmund erreichen und dort zudem streng vertraulich behandelt werden. Ihre Antworten werden ausschließlich zu Forschungszwecken verwendet.

Sie können das Ausfüllen des Fragebogens unterbrechen. Wenn Sie den Link zu einem späteren Zeitpunkt wieder aufrufen, können Sie an der Stelle fortfahren, an der Sie aufgehört haben.



## **2b) Affective Commitment to Change**

### Instructions

Im Folgenden geht es um eine konkrete Veränderung in Ihrer Organisation.

Beziehen Sie sich bitte zur Beantwortung der folgenden Fragen auf die im Vorfeld abgestimmte und in der E-Mail genannte konkrete Veränderung.

Bitte schätzen Sie ein, inwieweit Sie den folgenden Aussagen zustimmen.

### Items (translated from the Commitment to Change Questionnaire by Herscovitch & Meyer, 2002)

#### Affective Commitment to Change

- Ich glaube an den Wert dieser Veränderung.
- Diese Veränderung ist positiv für die Organisation.
- Ich denke, dass das Management mit dieser Veränderung einen Fehler macht. (R)
- Diese Veränderung hat einen wichtigen Grund.
- Die Situation wäre besser ohne diese Veränderung. (R)
- Diese Veränderung ist nicht notwendig. (R)

### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

# Appendix D: Instructions and Questionnaires applied in Study III

*Note:* Instructions and Questionnaires at T0 and T1 are identical. Leaders' personality was measured at T0 only by self-appraisal using the *Business Focused Inventory of Personality - 6 Factors* (BIP-6F; Hossiep & Krüger, 2012); please refer to Hogrefe Verlag GmbH & Co. KG (www.hogrefe.de).

## 1) Employee Questionnaire (Experimental and Control Group)

### 1a) General Instructions

Herzlich Willkommen und vielen Dank für Ihre Teilnahme an der Befragung der TU Dortmund.

Im Folgenden werden Sie zu verschiedenen Themen befragt, die das Verhalten Ihrer Führungskraft, Veränderungen in Ihrer Organisation sowie andere arbeitsrelevante Themen betreffen.

Bei den Fragen zu Ihrer Führungskraft beurteilen Sie bitte Ihren Teamleiter.

Wir sind an Ihrer persönlichen Meinung interessiert, daher gibt es keine "richtigen" oder "falschen" Antworten! Bitte lesen Sie die Fragen und Instruktionen sorgfältig durch und antworten Sie spontan. Bei der Bearbeitung werden Sie möglicherweise den Eindruck gewinnen, dass einige Formulierungen inhaltlich ähnlich sind. Bitte lassen Sie sich dadurch nicht irritieren.

Verwendung der Ergebnisse:

Auf der Basis der gemittelten Ergebnisse dieser Befragung wird ein Führungsstilbericht sowie ein Teamprofil für Ihre Führungskraft erstellt. Beides wird ausschließlich zur Weiterentwicklung Ihrer Führungskraft genutzt. Ihre persönlichen Antworten sind zu keinem Zeitpunkt für Ihre Führungskraft nachvollziehbar. Darüber hinaus werden die Ergebnisse in anonymisierter Form für ein wissenschaftliches Forschungsprojekt verwendet.

Anonymität:

Wir versichern, dass Ihre Daten nur die TU Dortmund erreichen und dort zudem streng vertraulich behandelt werden.

Sie können das Ausfüllen des Fragebogens unterbrechen. Wenn Sie den Link zu einem späteren Zeitpunkt wieder aufrufen, können Sie an der Stelle fortfahren, an der Sie aufgehört haben. Bitte deaktivieren Sie dazu unbedingt die automatische Cookie-Löschung Ihres Browsers.

Bei Fragen wenden Sie sich bitte an Ihre Führungskraft oder an die TU Dortmund. Wir stehen Ihnen gerne für Nachfragen zur Verfügung.

Dipl.-Psych. Carolin Abrell  
TU Dortmund  
Lehrstuhl für Personalentwicklung und Veränderungsmanagement  
Zentrum für Weiterbildung  
Hohe Straße 141  
44139 Dortmund

Die Befragung wird im Abstand von ca. 4 Monaten noch einmal durchgeführt. Um Ihre Informationen aus beiden Befragungen zuordnen zu können, geben Sie bitte einen persönlichen Code nach dem folgenden Muster an:

1. Stelle: Anfangsbuchstabe Ihres Geburtsortes
2. Stelle: 3. Buchstabe Ihres Nachnamens
- 3.+4. Stelle: Ihr Geburtstag (TT)

**Beispiel:**

Geburtsort: Siegen (1. Stelle: S)  
Nachname: Meyer (2. Stelle: Y)  
Geburts**tag**: 05. (3.+4. Stelle: 05)  
Beispiel-Code: SY05

Bitte tragen Sie hier Ihren individuellen 4-stelligen Code (nur Großbuchstaben) ein:

\_\_\_\_\_

## **1b) Transformational Leadership**

### Instructions

Die folgenden Aussagen beschreiben das Verhalten Ihrer Führungskraft.  
Bitte geben Sie an, inwieweit Sie den Aussagen zustimmen.

### Items (Heinitz & Rowold, 2007)

Die Führungskraft, die ich einschätze, ...

#### 1) Articulating a Vision

- ... ist ständig auf der Suche nach neuen Möglichkeiten für die Abteilung.
- ... zeichnet ein interessantes Bild der Zukunft unserer Arbeitsgruppe.
- ... hat ein klares Verständnis dafür, wohin sich unsere Arbeitsgruppe bewegt.
- ... inspiriert durch ihre Pläne für die Zukunft.
- ... schafft es, andere an ihre Zukunftsträume zu binden.

#### 2) Providing an Appropriate Model

- ... führt eher durch "Taten" als durch "Anweisungen".
- ... ist ein gutes Vorbild, dem man leicht folgen kann.
- ... wird sich nicht mit dem Zweitbesten zufrieden geben.
- ... führt durch beispielhaftes Verhalten.

#### 3) Fostering the Acceptance of Group Goals

- ... pflegt die Zusammenarbeit unter Arbeitsgruppen.
- ... ermutigt ihre Mitarbeiter dazu, „team player“ zu sein (d.h. gruppenorientiert zu arbeiten).
- ... bringt die Gruppe dazu, gemeinsam für ein Ziel zu arbeiten.
- ... entwickelt ein Wir-Gefühl und Teamgeist bei den Mitarbeitern ihrer Abteilung.

#### 4) High Performance Expectations

- ... zeigt offen, dass sie viel von uns erwartet.
- ... besteht auf Höchstleistungen.

#### 5) Individualized Support

- ... handelt, ohne meine Gefühle zu beachten. (R)
- ... zeigt Respekt für meine persönlichen Gefühle.
- ... handelt auf eine Art und Weise, die meine persönlichen Gefühle berücksichtigt.
- ... behandelt mich auf eine Art und Weise, ohne auf meine persönlichen Gefühle Rücksicht zu nehmen. (R)

#### 6) Intellectual Stimulation

- ... hat mir neue Wege gezeigt, an Dinge heranzugehen, die für mich unverständlich waren.
- ... hat Ideen, die mich dazu gebracht haben, einige meiner eigenen Gedanken zu überdenken, die ich vorher nicht in Frage gestellt habe.
- ... hat mich dazu angeregt, alte Probleme auf neue Art und Weise zu bedenken.

#### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## 1c) Affective Commitment to Change

### Instructions

Im Folgenden geht es um Veränderungen in Ihrer Organisation.

Beziehen Sie sich bitte zur Beantwortung der folgenden Fragen ausschließlich auf die in der E-Mail genannte konkrete Veränderung. Diese wurde von Ihrer Führungskraft vorgeschlagen.

Bitte geben Sie an, wie stark Sie von dieser Veränderung persönlich betroffen sind oder waren (z.B. ob sich die Veränderung auf Ihren Arbeitsalltag auswirkt).

### Rating Scales:

Ich bin oder war...

1: gar nicht persönlich betroffen – 5: sehr stark persönlich betroffen

**Für mich persönlich** sind/waren die Konsequenzen der Veränderung

1: positiv – 5: negativ

Die folgenden Aussagen beziehen sich auf Ihre persönliche Meinung zu der konkreten Veränderung, auf die Sie sich schon im letzten Teil bezogen haben.

Bitte schätzen Sie ein, inwieweit Sie den folgenden Aussagen zustimmen.

Items (translated from the Commitment to Change Questionnaire by Herscovitch & Meyer, 2002)

Affective Commitment to Change

- Ich glaube an den Wert dieser Veränderung.
- Diese Veränderung ist positiv für die Organisation.
- Ich denke, dass das Management mit dieser Veränderung einen Fehler macht. (R)
- Diese Veränderung hat einen wichtigen Grund.
- Die Situation wäre besser ohne diese Veränderung. (R)
- Diese Veränderung ist nicht notwendig. (R)

### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu

## **2) Leaders' Superiors' Questionnaire (Experimental Group only)**

### **2a) General Instructions**

Herzlich Willkommen und vielen Dank für Ihre Teilnahme an der Befragung der TU Dortmund zur Vorbereitung auf das Führungskräfteseminar, an dem Ihre Ihnen unterstellte Führungskraft teilnimmt.

Im Folgenden werden Sie zum Führungsverhalten der Ihnen unterstellten Führungskraft im Allgemeinen sowie vor dem Hintergrund von Veränderungen im Arbeitsumfeld der Führungskraft befragt.

Ich bin an Ihrer persönlichen Meinung interessiert, daher gibt es keine "richtigen" oder "falschen" Antworten! Bitte lesen Sie die Fragen und Instruktionen sorgfältig durch und antworten Sie spontan. Bei der Bearbeitung werden Sie möglicherweise den Eindruck gewinnen, dass einige Formulierungen inhaltlich ähnlich sind. Bitte lassen Sie sich dadurch nicht irritieren.

Bitte beachte außerdem, dass sich das Antwortformat im Verlauf des Fragebogens ändert!

Sie können das Ausfüllen des Fragebogens unterbrechen. Wenn Sie den Link zu einem späteren Zeitpunkt am gleichen Arbeitsplatz wieder aufrufen, können Sie an der Stelle fortfahren, an der Sie aufgehört hatten.

Bitte füllen Sie den Fragebogen unbedingt bis zum Ende aus. Vielen Dank!

Verwendung der Ergebnisse:

Die von Ihnen eingeschätzte Führungskraft erhält auf Basis dieser Befragung im Rahmen des o.g. Seminars eine Rückmeldung zu ihrem Führungsstil, die sie für eine zielgerichtete Verbesserung nutzen kann.

Darüber hinaus werden die Ergebnisse in anonymisierter Form für ein wissenschaftliches Forschungsprojekt verwendet.

Vielen Dank für Ihre Teilnahme!

Bei Fragen wenden Sie sich bitte an die am Seminar teilnehmende Führungskraft oder an die TU Dortmund. Wir stehen Ihnen gerne für Nachfragen zur Verfügung.

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## 2b) Success of Change Initiative

### Instructions

Im Folgenden geht es um Ihre persönliche Einschätzung des Erfolgs der konkreten, in der E-Mail genannten Veränderung in Bezug auf das Team der Ihnen unterstellten Führungskraft.

Bitte geben Sie an, inwieweit Sie den Aussagen zustimmen.

### Items (newly developed)

- Die Veränderung war erfolgreich.
- Durch die Veränderung denken einige der Mitarbeiter des Teams konkret darüber nach, das Unternehmen zu verlassen. (R)
- Die Ziele, die mit der Veränderung erreicht werden sollten, wurden erfüllt.
- Die Mitarbeiter des Teams sprechen mit ihren Kollegen positiv über die Veränderung.
- Die Veränderung hat die allgemeine Zufriedenheit der Mitarbeiter des Teams mit ihrer Arbeit verringert. (R)
- Die Leistungsbereitschaft der Mitarbeiter des Teams hat sich durch die Veränderung **nicht** verringert.
- Die Mitarbeiter des Teams unterstützen die Veränderung aktiv durch ihr Verhalten.

### Rating Scale

1: stimme gar nicht zu – 5: stimme völlig zu



## **Appendix E: Declaration**

### **Eidesstattliche Versicherung und Erklärung gemäß § 11 Absatz 2) der Promotionsordnung**

Hiermit erkläre ich an Eides statt, dass ich die Dissertation mit dem Titel:

„Transformational Leadership’s Effectiveness in Organizational Change - Three Empirical Studies the Understanding of the Relationship between Transformational Leadership and Employees’ Commitment to Change“

selbständig und ohne fremde Hilfe verfasst habe.

Andere als die von mir angegebenen Quellen und Hilfsmittel habe ich nicht benutzt. Die den herangezogenen Werken wörtlich oder sinngemäß entnommenen Stellen sind als solche gekennzeichnet.

Hiermit erkläre ich, dass ich mich noch keiner Doktorprüfung unterzogen oder um Zulassung zu einer solchen beworben habe.

Die oben genannte Dissertation hat noch keiner Fachvertreterin, keinem Fachvertreter und keinem Prüfungsausschuss einer anderen Hochschule vorgelegen.

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Ort/Datum Unterschrift