

**Leading Teams in an International Project Context:  
The Effectiveness of Transformational and Transactional  
Leadership**

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## Abstract

Several scholars have argued that the effects of transformational leadership vary according to the context in which it is executed. In this study, we examined the effectiveness of transformational and transactional leadership on job satisfaction and team performance, and the effectiveness of transformational and transactional leader behaviors in different levels of environmental dynamism. We also tested tolerance for ambiguity as a moderator on the relationship between transformational leadership and work adjustment. All results were collected from international assignees working in multinational project teams in the oil and gas industry. Results from multiple hierarchical regression analyses ( $N = 286$ ) revealed a strong, direct effect of both transformational and transactional leadership on job satisfaction and team performance. Simple slope analyses showed that both leadership dimensions were effective in low, medium, and highly dynamic work environments. Transformational leadership was a moderately strong predictor of work adjustment, while tolerance for ambiguity showed a weak, but significant positive relation with work adjustment. Team members' tolerance for ambiguity did not have an impact on the effectiveness of transformational leadership on work adjustment. Our results provide support for the applicability and effectiveness of transformational and transactional leader behaviors in a variety of work environments. One implication from this study is that multinational corporations should develop transformational and transactional leadership skills among team leaders on international assignments.

## Introduction

The globalized, fast paced knowledge era creates new challenges for leaders in multinational corporations (Barkema, Baum, & Mannix, 2002), and today an increasing number of corporations establish international projects around the world. In these international project organizations leaders often have to navigate in ambiguous, volatile, and unpredictable work environments. Parallel to this development, researchers have for a long time encouraged research on contextual influences on leadership (Pawar & Eastman, 1997). Despite of this, recent research has shown that this claim has not yet been met (Porter & McLaughlin, 2006), and that leadership research in specific contexts is still needed (Liden & Antonakis, 2009; Lim & Ployhart, 2004). Initial research on transformational and transactional leadership in project-based organizations indicate a high relevance to project contexts (Keegan & Den Hartog, 2004). Transformational leader behaviors, characterized by dimensions such as inspirational motivation and intellectual stimulation, are found to influence important organizational outcomes such as projects' goal achievement (Elkins & Keller, 2003; Keller, 2006). The current study is conducted in an international project context, and builds upon three theoretical premises. First, while the relationship between transformational leadership and positive individual outcomes has been supported in numerous studies, we concur with researchers highlighting the importance of more empirical research on the relationship between transformational leadership and team outcomes (Kozlowski & Bell, 2003; Peterson, Smith, Martorana, & Owens, 2003). Recently, authors have also proclaimed that the role of transactional leadership has been underestimated in contemporary leadership research (N. P. Podsakoff, Podsakoff, & Kuskova, 2010). As teams are considered a fact of life in nearly all organizations (Brannick & Prince, 1997; Gupta, Huang, & Niranjana, 2010), and work teams are increasingly diverse (van Knippenberg & Schippers, 2007), the effects of leadership on team-level outcomes need empirical attention. This current study investigates how transformational and transactional leadership affects job satisfaction and team performance. Second, many researchers state the suitability of transformational and transactional leadership will differ according to the context (De Hoogh, Den Hartog, & Koopman, 2005; Ensley, Pearce, & Hmieleski, 2006; Smith, Montagno, & Kuzmenko, 2004). At the same time, several decades of research signify the relevance of transformational leader behaviors in a wide range of contexts (Avolio & Yammarino, 2002; Bass, 1997; Bass & Riggio, 2006; Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999). One objective of this study is to

contribute to an increased understanding of how transformational and transactional leadership interact with contextual characteristics in an international project environment, and its possible impact on team performance. Third, we investigate whether leadership acts as a facilitator towards work adjustment on international assignments, as suggested by Kraimer, Wayne, and Jaworski (2001), and whether team members' tolerance for ambiguity moderates this relationship. Low levels of job satisfaction and work adjustment are argued to be one of the main reasons for premature termination of international assignments (Black & Gregersen, 1999). Considering the costly company loadings of international assignment failure (Takeuchi, Yun, & Russel, 2002), and the increasing rates in the international assignee population, as stated by the Global Relocation Trends Survey (GMAC, 2008), we claim findings from this study will be highly relevant for multinational corporations.

### *Transformational and Transactional Leadership*

The scientific study of leadership has developed through changing paradigms during its history (e.g., House & Aditya, 1997), where several theories and models have tried to describe and explain the concept of leadership. Although the leadership research field is still diverse and somewhat scattered, contemporary reports suggest a movement towards a more holistic leadership approach (Avolio, Walumbwa, & Weber, 2009). Transformational and transactional leadership has been an extraordinary popular research topic for the last decades, and was first introduced by Burns (1978) based on his qualitative analysis of political leaders. He postulated that some leaders had the ability to transform people to maximize their performance. House (1977) proposed that leaders influence followers through their charismatic appeal. Transformational leadership theory (Bass, 1985) was later presented as a wider theory about specific leadership behaviors and their influence on performance. Today transformational leadership theory includes several specific leadership behaviors: *idealized influence/inspirational motivation, individualized consideration, and intellectual stimulation* (Avolio, Bass, & Jung, 1999; Avolio & Yammarino, 2002; Bass, 1999; Bass & Avolio, 1994). Transformational leadership builds upon transactional leadership, which is characterized by the continuing and mutual exchange process between a leader and a follower, a standard process in everyday management (Burns, 1978). According to Bass (1985), transactional leadership results in followers meeting their leaders' performance expectations, followed by appropriate rewards when these are met. Transformational leadership behaviors extend these

transactional leadership behaviors by exercising high performance expectations, vision, arousal of motives, and positive evaluations of subordinates (House, 1996). In other words, the effectiveness of transformational leadership is believed to excel transactional leadership. This has been called the *augmentation effect* (Bass, 1997, 1998), an effect that has received empirical support at both group and organizational levels (e.g., Gang Wang, Oh, Courtright, & Colbert, 2011). Through these behaviors, transformational leaders align team members' goals and values, and foster collective optimism, team efficacy, and identification with the team (Bass & Riggio, 2006). The theoretical rationale is that the execution of such behaviors should lead to high performance among employees and organizations (e.g., Bass, 1985; Bass & Avolio, 1994).

Research has shown that transformational leadership correlates with a wide range of positive outcomes for employees, work teams, and their organizations. For example, transformational leadership is connected to subordinates' satisfaction with a leader and job satisfaction (Bass, 1985; Howell & Frost, 1989; Koh, Steers, & Terborg, 1995; Nemanich & Keller, 2007), performance (Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio, & Shamir, 2002), organizational commitment (Avolio & Yammarino, 2002; Barling, Weber, & Kelloway, 1996), lower levels of job stress (P. M. Podsakoff, MacKenzie, & Bommer, 1996), organizational citizenship behavior (Piccolo & Colquitt, 2006; P. M. Podsakoff, MacKenzie, Moorman, & Fetter, 1990), and innovation implementation behavior (Michaelis, Stegmaier, & Sonntag, 2010). In their literature review on the effects of transformational leadership in research and development organizations, Elkins and Keller (2003) found empirical support for linking transformational leadership behaviors to project success. In a meta-analytic study, Judge and Piccolo (2004) found that transformational leadership had strong effects on follower satisfaction with the leader, and medium effects on follower motivation and leader effectiveness. Altogether, these findings provide support for the effects of transformational leadership on a range of positive outcomes.

Some scholars have suggested that transformational leadership behaviors should be ideal in any setting, industry, or culture (Avolio & Yammarino, 2002; Bass, 1997; Bass & Riggio, 2006). Based on responses from 62 different countries, the Global Leadership and Organizational Behavior Effectiveness research program (GLOBE; House, Hanges, Javidan, Dorfman, & Gupta, 2004) found cultural differences in descriptions of characteristics of an outstanding leader. However, the *charismatic/value based* leadership and the *team-oriented*

leadership dimensions were regarded as contributing to a leaders' success in nearly all cultural contexts. As a result, these two leadership dimensions are now regarded as universally endorsed, suggesting managers around the world generally presume these behaviors contribute to being an outstanding leader (Den Hartog, et al., 1999). These dimensions have strong similarities with the transformational leadership theory (e.g., Bass & Riggio, 2006), providing additional support for universality of the transformational leadership paradigm.

As some transformational leader behaviors are recognized as universally applicable and effective in a range of contexts, transactional leadership is also found to be effective in various contexts. The predictive validities of contingent reward are significant in several meta-analyses (Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). Past and recent research has shown that transactional leadership has positive effects on followers, performance and trust in the leader (Waldman, Bass, & Einstein, 1987; Whittington, Coker, Goodwin, Ickes, & Murray, 2009). However, transactional leadership is found to be more effective in a business setting than in college, military, and public sector contexts (Judge & Piccolo, 2004). This current study aims to elaborate on conclusions about universality by examining the effectiveness of transformational and transactional leadership in an international project context.

### *Job Satisfaction*

While some studies investigating the relationship between transformational leadership and job satisfaction have failed to find significant relations between the two variables (Judge & Bono, 2000), most studies have found clear support for the existence of a positive relationship (Bono & Judge, 2003; Medley & Larochelle, 1995; Morrison, Jones, & Fuller, 1997; Nemanich & Keller, 2007; P. M. Podsakoff, et al., 1990). Further, the predictive validity of transformational leadership on job satisfaction has been positive throughout several meta-analytic reviews (Dumdum, Lowe, & Avolio, 2002; Fuller, Patterson, Hester, & Stringer, 1996; Judge & Piccolo, 2004; Lowe, et al., 1996). This is an indication of a strong connection between transformational leadership and job satisfaction. The aforementioned research on transformational leadership and job satisfaction has been conducted in diverse organizational settings, ranging from business to governmental to non-profit sectors (Bono & Judge, 2003).

Based on extensive research showing a consistent and positive relationship between transformational leadership and job satisfaction (e.g., Bono & Judge, 2003), we expect to find support for the following hypothesis:

**Hypothesis 1:** Transformational leadership is positively related to job satisfaction.

In their meta-analysis, Judge and Piccolo (2004) found moderately strong effects of transformational leadership on follower job satisfaction, while transactional leadership (contingent reward) showed stronger effects on this criterion variable. The motivational effects employees experience based on feedback and reward from their leader may be a substantial factor for his or her job satisfaction, which has been supported by recent research (Vecchio, Justin, & Pearce, 2008). Also, N. P. Podsakoff, Podsakoff and Kuskova (2010) argued that the value of contingent reward is often underestimated in leadership studies. As contingent reward is a transactional leadership behavior, we postulate the following hypothesis:

**Hypothesis 2:** Transactional leadership (contingent reward) is positively related to job satisfaction.

### *Team Performance*

Leadership is not limited to leading individuals alone; it also includes leadership of work teams as a whole. More specifically, individualized consideration, intellectual stimulation, and vision provide teams with direction and motivation towards high performance (Hackman, 2002). One branch of the leadership and team research has indicated that transformational leadership has a direct effect on team performance (e.g., Bass, et al., 2003; Kahai, Sosik, & Avolio, 2003). A meta-analysis by Burke et al. (2006) found that transformational leadership behaviors were positively related to perceived team effectiveness. Other researchers have argued the relationship between transformational leadership and team performance is indirect, through mediators such as team empowerment (Jung & Sosik, 2002; Özaralli, 2003), team potency (Schaubroeck, Lam, & Cha, 2007), team cohesion and team conflict (Gupta, et al., 2010), shared vision and team reflexivity (Schippers, Den Hartog, Koopman, & van

Knippenberg, 2008), and knowledge sharing and trust (Lee, Gillespie, Mann, & Wearing, 2010). A recent meta-analysis showed the effects of transformational leadership on team performance were consistent across different performance criteria (Gang Wang, et al., 2011). However, the effects of transformational leadership on team performance is still a key topic for contemporary and future research, especially investigations involving possible moderators and mediators (Dionne, Yammarino, Atwater, & Spangler, 2004; Gupta, et al., 2010). Although there has been indications of leadership being shared and distributed in a team (e.g., Pearce & Sims, 2002), we focus on external team-oriented leadership, which “represents the traditional paradigm and focuses on the influence of a leader who is responsible for, and has authority for, the team’s performance” (Mathieu, Maynard, Rapp, & Gilson, 2008, p. 449).

In line with the theoretical backdrop of meta-studies indicating stronger effects of transformational leadership on team performance compared to individual performance (DeGroot, Kiker, & Cross, 2000; Gang Wang, et al., 2011), we argue that transformational leadership behaviors (i.e., fostering the acceptance of group goals, providing an appropriate model, articulating a vision) and transactional leadership behaviors (contingent reward) will have a positive correlation with team performance. Based on the augmentation effect of transformational leadership over transactional leadership (Bass, 1997, 1998), we expect the effect of transformational leadership to be particularly strong. However, we also concur with researchers calling for an increased interest in the positive effects of transactional leadership (N. P. Podsakoff, et al., 2010). Thus, the following hypotheses are tested:

**Hypothesis 3:** Transformational leadership is positively related to team performance.

**Hypothesis 4:** Transactional leadership (contingent reward) is positively related to team performance.

#### *Dynamic Work Environment*

According to Liden and Antonakis (2009), context should always be considered in leadership research. Several authors have suggested that transformational leadership would be more prevalent and more effective when the environment is unstable, uncertain and turbulent (Bass, 1985; Bass & Riggio, 2006; Osborn, Hunt, & Jauch, 2002; Shamir & Howell, 1999; Waldman & Yammarino, 1999). Waldman and colleagues (2001) found that leader charisma predicted

financial performance under conditions of perceived environmental uncertainty, but not under conditions of certainty. Further, De Hoogh et al. (2004; 2005) found that charismatic leadership was positively related to perceived effectiveness in highly dynamic contexts. Transactional leadership, on the other hand, has been reported to occur more frequently in less volatile environments (Bass, 1985). More specifically, some suggest transformational leadership is more suitable in highly complex projects, while transactional leadership is more effective in less complex projects (Müller & Turner, 2010). When there is a high degree of uncertainty in the surroundings, authors have proposed that followers are more susceptible for charismatic leadership (Shamir & Howell, 1999). In low dynamic work environments the respective leader can provide clarity and describe appropriate response patterns for the team. In highly dynamic work environments, expectations about appropriate response patterns are unclear, there are few cues in the environment about the outcomes associated with specific actions, and team members start to search for cues in the environment to guide their behavior. In these situations, transformational leaders will more easily influence followers through charisma and inspirational motivation (Shamir & Howell, 1999).

Mathieu and colleagues (2008) have argued that future research on team performance should incorporate environmental variables. Consistent with research mentioned above (e.g., Bass & Riggio, 2006), we expect that the effects of transformational leadership behaviors on team performance are stronger when the work environment is perceived as highly dynamic. Contrary, we expect that the effect of transactional leadership on team performance is stronger when the work environment is less dynamic.

**Hypothesis 5:** The relationship between transformational leadership and team performance is positively moderated by dynamic work environment.

**Hypothesis 6:** The relationship between transactional leadership and team performance is negatively moderated by dynamic work environment.

#### *Transformational Leadership, Tolerance for Ambiguity, and Work Adjustment*

When entering a new position, employees on international assignments are required to adjust to life in a different culture, interacting with new colleagues and host nationals, and adapting to a new position with corresponding tasks and responsibilities (Black & Stephens, 1989). It is

argued that multinational corporations often underestimate the challenges related to global staffing and expatriation (Collings, Scullion, & Morley, 2007). Providing the description of an ideal international assignee prototype has been difficult, and authors have encouraged more predictive studies on expatriate success (Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). However, several specific characteristics have been proposed as recommended for international assignments in general (Caligiuri, Tarique, & Jacobs, 2009). Arthur and Bennett (1995, 1997) found that flexibility/adaptability and tolerance were among the key factors contributing to success in their analysis of what managers perceived to be of importance in international assignments. Tolerance for ambiguity, defined as “the tendency to perceive ambiguous situations as desirable” (Budner, 1962, p. 29), is proposed as a key characteristic for successful international assignees. Mol and colleagues (2005) found that tolerance for ambiguity predicted expatriate success, although this relationship was based on only two studies. They also found personality factors such as extraversion and cultural sensitivity, constructs related to tolerance for ambiguity, had a positive contribution on expatriate success. Surprisingly, several researchers have pointed out that tolerance for ambiguity is rarely used in work related research (Furnham & Ribchester, 1995; Herman, Stevens, Bird, Mendenhall, & Oddou, 2010).

With the literature predominantly focusing on prerequisite individual characteristics of the international assignee (e.g., Mol, et al., 2005), we concur with previous research stating it is too early to dismiss the leader as a facilitator towards expatriate work adjustment (Kraimer, et al., 2001). Black (1988) found that role ambiguity among international assignees influenced work adjustment. We propose that one of the main responsibilities of a leader on international assignment is to clarify work procedures and performance standards. In addition, research has shown that stress is associated with working in a ambiguous and unfamiliar environment (Stahl & Caligiuri, 2005). As transformational leader behaviors have been found to reduce levels of employee job stress (P. M. Podsakoff, et al., 1996), we expect the potential impact of transformational leadership to be especially relevant to the expatriates’ work adjustment due to the increased complexity following international assignments (e.g., Caligiuri, et al., 2009). We chose not to investigate the possible relationship between transactional leadership and work adjustment. We argue that rewarding and complementing performance is not sufficient to foster higher levels of work adjustment among team members working in an international project context. As previously mentioned, insights into the mechanisms of work adjustment

are highly important for international project organizations due to increasing rates in the international assignee population (GMAC, 2008), and the high costs associated with premature termination of the assignment (Harvey & Novicevic, 2001). We propose that transformational leaders will provide support on issues related to openness and cooperation with employees from different cultural backgrounds, and that transformational leadership will facilitate expatriates' adjustment to their supervisor, their colleagues, and their job responsibilities. We postulate the following:

**Hypothesis 7:** Transformational leadership is positively related to expatriate work adjustment.

Based on a review of expatriate research we state that tolerance of ambiguity will be especially relevant in the investigation of work adjustment among employees on international assignments, as personal preferences towards diversity, change, challenging perspectives and unfamiliarity are argued to have a positive impact on expatriate effectiveness (Mol, et al., 2005). Yukl (1999) has also emphasized that research on transformational leadership should include essential characteristics of the followers, which in our study context is argued to be followers' tolerance for ambiguity. As researchers have called for investigations of possible boundary conditions of the effectiveness of transformational leadership (e.g., Bruch & Walter, 2007), we believe that the ability of transformational leader to improve international assignees' work adjustment will be contingent on the assignees' tolerance for ambiguity. Thus, we test the following hypothesis:

**Hypothesis 8:** Transformational leadership is positively related to expatriate work adjustment, moderated by tolerance for ambiguity.

In sum, transformational and transactional leadership holds many positive promises for desirable outcomes in a wide range of situations and contexts. At the same time researchers have encouraged the investigation of transformational leadership in specific contexts. In this study, we examine and test well-established relationships between transformational and transactional leadership and positive outcomes in an international project setting, and whether the effectiveness of transformational leadership behaviors varies in terms of context complexity. Lastly, we also investigate whether transformational leadership and tolerance for ambiguity interact to explain work adjustment among international assignees.

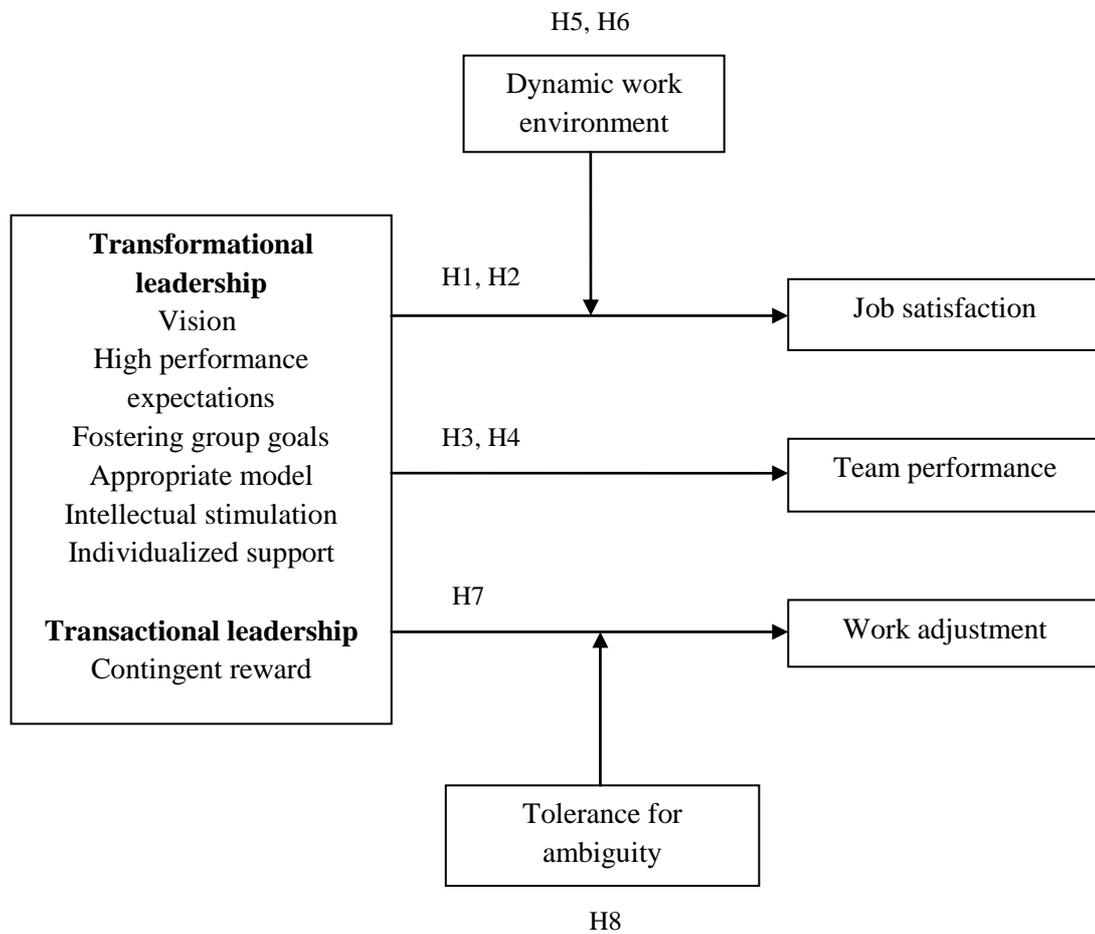


Figure 1. Research model.

## Methods

### *Sample and Data Collection*

The survey was distributed to 544 employees working in international projects in a multinational company in the oil and gas industry. In total, 309 employees completed the survey (57 % response rate). To make sure only international assignees were included in our sample, we excluded host nationals working in their home country (e.g., Norwegians working

in Norway), which reduced the sample size from 309 to 286. Of the participants remaining in this study ( $N = 286$ ), 251 (87 %) were male and 35 (13 %) female. Their age ranged from 26 to 64 years ( $M = 47$ ,  $SD = 8.8$ ). Organizational tenure ranged from less than 1 year to 36 years ( $M = 9.7$ ,  $SD = 9.4$ ), while international work experience varied from two months to more than 20 years ( $M = 3.7$ ,  $SD = 3.7$ ). Among the participants, 57 % were team leaders, and 43 % were team members. Nearly all respondents (98 %) worked in teams with more than one nationality represented ( $M = 4.4$ ,  $SD = 2.2$ ). The respondents represented 18 different nationalities, and 87 % were of Norwegian nationality. The participants were located in 28 different countries. The survey was administered in English, the official working language in the corporation.

### *Measures*

The survey was administered to all team members and team leaders in expatriate positions through a web-based solution. Respondents were told that the information they provided would be collected fully anonymously, and that the survey was not an evaluation of individual, project, or company performance. The data were collected as un-nested responses (i.e., not grouped and analyzed in teams) to ensure complete anonymity for the teams and the team leaders. Questions that could identify the team leaders' identity were not included in the survey (i.e., no question about demographic characteristics of the team leader).

*Transformational and transactional leadership.* To measure leadership behaviors, we used the transformational leader behaviors inventory (TLI), developed by Podsakoff et al. (1990). The TLI consists of two leadership dimensions: transformational leadership and transactional leadership. Podsakoff et al. (1990) divided transformational leadership into six key behavioral sub-dimensions: *articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, individualized support, and intellectual stimulation*. However, in line with Avolio and colleagues (1999), Nemanich and Keller (2007), and Pillai and Williams (2004), transformational leadership was treated as one higher order construct in this study. *Transactional leadership* was measured using the contingent reward behavior scale (P. M. Podsakoff, Todor, Grover, & Huber, 1984). The TLI has received good critique in later publications, and high internal consistency, with Cronbach's alpha ( $\alpha$ ) ranging from .84 to .93 (Hardy et al., 2010; P. M. Podsakoff, et al., 1996; Schriesheim, Castro, Zhou, & DeChurch, 2006). The reliability of the transformational

leader behaviors scale in our study was very high ( $\alpha = .96$ ), as was the contingent reward behavior scale ( $\alpha = .91$ ). A sample item for transformational leadership was “My team leader insists on only the best performance” (high performance expectations). A sample item for the contingent reward behavior scale was “My team leader personally compliments me when I do outstanding work”. Respondents were asked to provide an appropriate number on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with their nearest team leader in mind.

*Job satisfaction.* We applied the Job Satisfaction Index developed by Schriesheim and Tsui (1980). This scale is used to measure overall satisfaction with the job. Earlier studies reported respectable internal consistency, with Cronbach’s alpha ( $\alpha$ ) ranging from .73 to .78 (A. Cohen, 1997; Tsui, Egan, & O’Reilly III, 1992). A low internal consistency of job satisfaction ( $\alpha = .66$ ) in our study led to the removal of one item. This increased the reliability ( $\alpha$ ) to .70, a respectable level (DeVellis, 2003). A sample item was “How satisfied are you with the person who supervises you (your organizational superior)”. Likert scale anchors ranged from 1 (*not at all satisfied*) to 5 (*very satisfied*).

*Team performance.* We used the four-item team performance scale developed by Bain, Mann, and Pirola-Merlo (2001), a scale based on research and development project management. The reliability in our study was very good ( $\alpha = .82$ ), according to DeVellis (2003). The scale measures both team process and team outcome, reported as a prerequisite in any comprehensive measure of team performance (Brannick & Prince, 1997). A sample item was “My team has chosen appropriate courses of action to meet project objectives”. Respondents were asked to provide Likert ratings from 1 (*strongly disagree*) to 5 (*strongly agree*).

*Tolerance for ambiguity.* We applied the tolerance for ambiguity scale (Herman, et al., 2010), which was recently developed for international management research. The scale consists of 12 items representing four dimensions: *valuing diverse others*, *change*, *challenging perspectives*, and *unfamiliarity*, but the authors concluded that the construct should be treated as unitary yet multifaceted. They reported an internal consistency ( $\alpha$ ) of .73 (Herman, et al., 2010). In our study, however, the reliability level was not satisfactory ( $\alpha = .64$ ), with two items showing negative inter-item correlations. After removal of two items, internal consistency increased ( $\alpha = .66$ ), but only to a minimally acceptable level (DeVellis, 2003). A sample items was “A good job is one where what is to be done and how it is to be

done are always clear”. Respondents were asked to provide an appropriate number on a Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

*Work adjustment.* Work adjustment was measured with the three-item work adjustment scale ( $\alpha = .79$ ) from the expatriate adjustment scale developed by Black (1988). A sample item included “How adjusted are you to performance standards and expectations in your job”. Respondents were asked to rate their adjustment on a Likert scale from 1 (*not at all adjusted*) to 7 (*very well adjusted*).

*Dynamic work environment.* We adopted De Hoogh and colleagues’ measure of perceived dynamic work environment (De Hoogh, et al., 2005). From this three-item measure we adjusted the third item “To what extent does your work environment offer great opportunities for change” to “To what extent does your work environment frequently change”. The internal consistency in our study was acceptable ( $\alpha = .75$ ). Although more items probably would increase Cronbach’s alpha (Cortina, 1993), a reliability level at .75 is in line with previous measures of similar constructs (Singh, 1986; Waldman, et al., 2001). To clarify interpretations of the work environment concept to respondents, we also included an introductory text. The text was adopted from Waldman et al.’s (2001) measure of perceived environmental uncertainty encouraging respondents to consider economic, social, political, and technological aspects of the environment. A sample item was “What is the extent of challenge in your work environment?” Likert scale anchors ranged from 1 (*not at all*) to 7 (*very much so*).

*Control variables.* In addition to the scales above, the respondents were asked to provide the number of nationalities represented in their respective work teams, their organizational tenure, and their international work experience. To control for the possible effect of proximity (Antonakis & Atwater, 2002), we asked participants whether they were in the same area/building/floor as their respective team leader. We also asked respondents to indicate how long they have been working with their current team leader, in order to control for tenure as a variable possibly affecting subordinate ratings of their leader.

*Statistical procedures.* The data were assessed for normal distribution to ensure no assumptions were violated. The data was visually inspected and statistically analyzed for skewness and kurtosis. Analysis revealed positive skewness, but values for all the scales were within the accepted range. No outliers were excluded from the further analysis. We replaced missing values by the expectation maximization method. To test our hypotheses, hierarchical regression analysis was used to investigate the relationship between leader behaviors on job

satisfaction and team performance and the moderating role of dynamic work environment on team performance. Hierarchical regression analysis was also used to explore the relationship between transformational leadership, tolerance for ambiguity, and work adjustment. With respect to data aggregation, we calculated the intra-class correlation ( $ICC_1$ ) between expatriates located in different countries and criteria variables. The  $ICC_1$  was .02 for job satisfaction, .01 for team performance, and .02 for work adjustment. The low ICCs indicated that the location clusters did not need further investigation, and that hierarchical linear regression could be applied instead of multilevel regression.

## Results

Table 1 displays the means, standard deviations, and correlations of all study variables. Of the control variables organizational tenure was positively correlated with job satisfaction, while international experience was positively related to work adjustment. As the tenure of the work relationship between team member and team leader increased, expatriates reported a slightly lower job satisfaction. Neither leader distance nor nationalities in the team was significantly correlated with any of the study variables. Table 2 shows the results of all regression analyses on job satisfaction and team performance. Due to high intercorrelations, we entered transformational and transactional leadership in two different steps in Model 1. We entered all control variables in Step 1, followed by transactional leadership in the Step 2, and transformational leadership in Step 3. Results from the first step revealed that organizational tenure ( $\beta = .14, p < .05$ ) and tenure with the leader ( $\beta = -.16, p < .01$ ) significantly predicted job satisfaction. Hypothesis 1 stated transformational leader behaviors would be positively related to job satisfaction. This hypothesis was supported, as transformational leader behaviors ( $\beta = .59, p < .001$ ) was a significant predictor of job satisfaction. The inclusion of transformational leadership explained 40% of the variance in the model ( $R^2 = .40, \Delta R^2 = .35, F = 30.31, p < .001$ ). In Hypothesis 2 we stated that transactional leadership would be positively related to job satisfaction. This hypothesis was also supported ( $\beta = .57, p < .001$ ). In support of hypothesis 3, transformational leadership was positively related to team performance ( $\beta = .48, p < .001$ ), as seen in Table 2, Step 2, in Model 2. Compared to Step 1, the inclusion of transformational leadership explained 32 % of the variance in the model ( $R^2 = .32, \Delta R^2 = .31,$

$F = 18.36, p < .001$ ). This result indicates a medium to large effect size of transformational leadership on team performance (J. Cohen, 1988). Hypothesis 4 stated that transactional leadership would be a significant predictor to team performance. This hypothesis was supported ( $\beta = .43, p < .001$ ). Compared to Step 1, transactional leadership contributed to a 28 % explained variance in the model ( $R^2 = .28, \Delta R^2 = .27, F = 15.35, p < .001$ ).

Hierarchical regression analysis with mean centered interaction variables was used to test Hypothesis 5, namely whether dynamic work environment (DWE) would act as a moderator between transformational leader behaviors and team performance. We entered our control variables in the first step, followed by transformational and dynamic work environment in the second step, and the interaction term (transformational leadership X DWE) in the third step. Results from the third step showed a significant, but *negative* interaction effect of transformational leadership and dynamic work environment on team performance ( $\beta = -.18, p < .001$ ). The inclusion of the interaction term resulted in a small, significant contribution to the model ( $\Delta R^2 = .35, \Delta R^2 = .03, F = 18.30, p < .001$ ). Transformational leadership was associated with higher levels of team performance across all levels of dynamic work environment (see Figure 2). Simple slope analyses (Aiken & West, 1991) revealed the steepest slope was found in low dynamic work environments (simple slope = .37,  $t = 8.3, p < .001$ ), followed by moderate (simple slope = .28,  $t = 8.2, p < .001$ ), and highly dynamic work environments (simple slope = .18,  $t = 4.0, p < .001$ ). Hence, transformational leadership was more strongly associated with higher team performance in *less* dynamic work environments than in highly dynamic work environments, leading to a rejection of Hypothesis 5.

Table 1  
*Means, Standard Deviations, Correlations and Reliabilities*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Organizational tenure	9.68	9.36	—											
2. International experience	3.65	3.68	.17**	—										
3. Tenure with leader (months)	5.69	1.99	.02	.11	—									
4. Leader distance	1.31	0.46	.15*	.08	-.11	—								
5. Nationalities in the team	4.40	2.22	.05	.09	.11	-.05	—							
6. Transformational leadership	4.64	0.96	.04	.03	-.13*	-.06	-.02	(.96)						
7. Transactional leadership	4.77	1.04	.02	-.02	-.11	-.03	.00	.78***	(.91)					
8. Job satisfaction	3.96	0.60	.14*	-.02	-.16**	.10	.02	.60***	.58***	(.70)				
9. Team performance	3.73	0.58	.09	-.01	-.07	.02	-.03	.53***	.48***	.51***	(.82)			
10. Dynamic work environment	5.35	1.01	.02	.16**	-.13*	.12*	.00	.26***	.22***	.36***	.30***	(.75)		
11. Tolerance for ambiguity	3.60	0.39	-.01	.05	-.12*	.09	-.08	.18**	.17**	.16**	.23**	.17**	(.66)	
12. Work adjustment	5.73	0.73	.11	.16**	.11	.11	.10	.31***	.27***	.35***	.32***	.17**	.17**	(.79)

*Note.*  $N = 286$  expatriates. Cronbach's alpha reported in parantheses.

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

Table 2  
*Results of Regression Analyses*

Variable	Model 1: Job satisfaction			Model 2: Team performance				
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 4	Step 5
Control								
Organizational tenure	.14 (.00)*	.12 (.00)*	.11 (.00)*	.09 (.00)	.07 (.00)	.08 (.00)	.08 (.00)	.09 (.00)
International experience	-.03 (.01)	-.02 (.00)	-.05 (.00)	.02 (.01)	-.02 (.01)	-.03 (.00)	-.01 (.00)	-.02 (.01)
Tenure with leader	-.16 (.02)**	-.09 (.02)	-.07 (.01)	-.07 (.02)	.02 (.02)	.01 (.02)	.01 (.02)	-.01 (.02)
Leader distance	.07 (.08)	.09 (.06)	.12 (.06)*	.00 (.08)	.02 (.06)	.01 (.06)	.00 (.07)	-.01 (.06)
Nationalities in the team	.04 (.02)	.03 (.01)	.05 (.01)	-.03 (.02)	-.03 (.01)	-.01 (.01)	-.04 (.01)	-.02 (.01)
Step 2: Main effects								
Transformational leadership			.59 (.03)***		.48 (.05)***	.46 (.03)***		
Transactional leadership		.57 (.03)***					.43 (.03)***	.42 (.03)***
Dynamic work environment (DWE)					.18 (.03)***	.15 (.03)**	.21 (.03)***	.18 (.03)***
Step 3: Interactions								
Transformational leadership X DWE						-.18 (.03)***		
Transactional leadership X DWE								-.19 (.02)***
$R^2$	.05	.37	.40	.01	.32	.35	.28	.31
$\Delta R^2$		.32***	.35*** <sup>a</sup>		.31***	.03***	.27*** <sup>a</sup>	.03***
$F$	3.10*	27.77***	30.31***	.82	18.36***	18.30***	15.35***	15.86***

Note.  $N = 286$  expatriates. Standardized regression coefficients are reported (with standard errors in parentheses). <sup>a</sup> $\Delta R^2$  compared to Step 1.

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

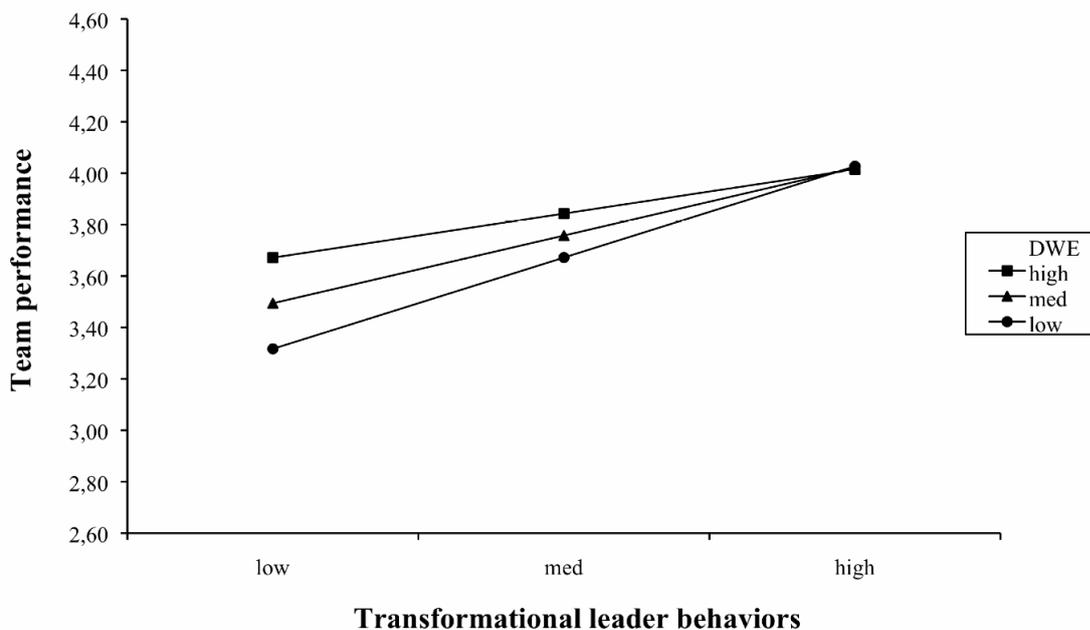


Figure 2. Dynamic work environment as a moderator of the relationship between transformational leadership and team performance.

In Hypothesis 6, we tested whether dynamic work environment would act as a moderator on the relationship between transactional leadership and team performance. In Table 2, Step 4, of Model 2, we excluded transformational leadership and dynamic work environment, and included transactional leadership and dynamic work environment, followed by the interaction term (transactional leadership X DWE) in Step 5. In support of Hypothesis 6, results from Step 5, Model 2, in Table 2, revealed a statistically significant, negative interaction term of transactional leadership and dynamic work environment on performance in the team ( $\beta = -.19$ ,  $p < .001$ ). The interaction term explained an additional 3 % of the variance in the model ( $R^2 = .31$ ,  $\Delta R^2 = .03$ ,  $F = 15.86$ ,  $p < .001$ ). Simple slope analyses (Aiken & West, 1991) revealed a significant slope in low dynamic work environments (simple slope = .32,  $t = 7.4$ ,  $p < .001$ ), moderate dynamic work environments (simple slope = .23,  $t = 6.8$ ,  $p < .001$ ), and highly dynamic work environments (simple slope = .13,  $t = 2.9$ ,  $p < .001$ ). As with transformational leadership, the effect of transactional leadership on team performance was larger in low dynamic work environments (see Figure 3).

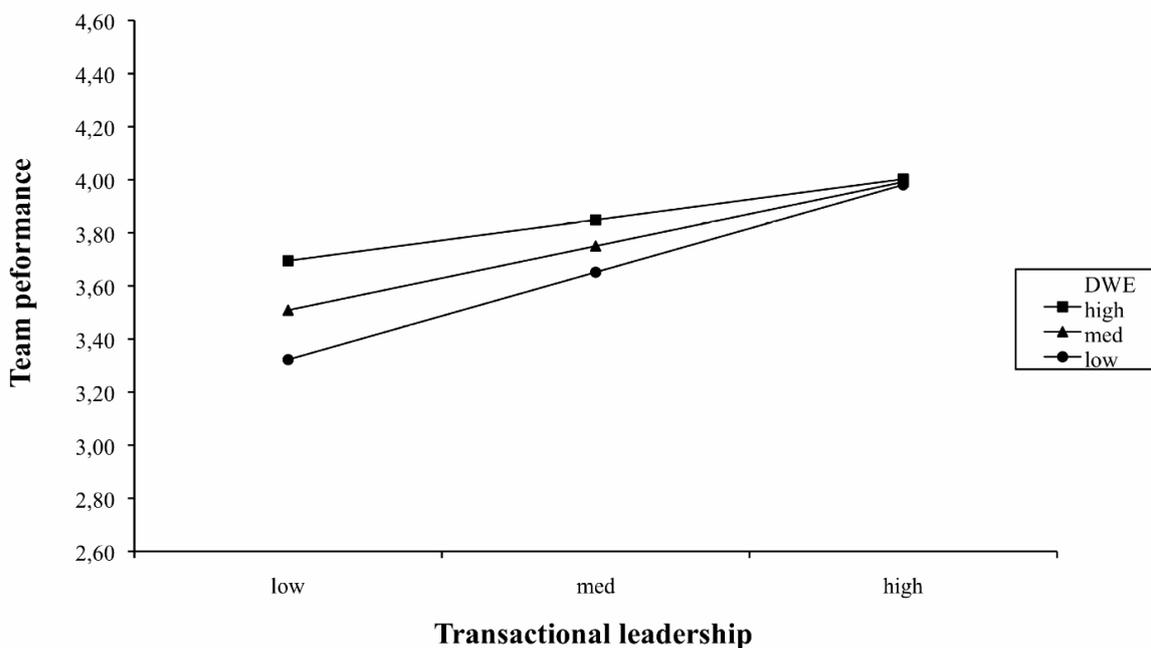


Figure 3. Dynamic work environment as a moderator of the relationship between transactional leadership and team performance.

Table 3 displays all regression analysis on work adjustment. In hypothesis 7, we expected transformational leadership to act as a predictor on work adjustment. As seen in Step 2, of Model 3 in Table 2, this hypothesis was supported ( $\beta = .31, p < .001$ ). Results also supported a weak, but significant main effect of tolerance for ambiguity on work adjustment ( $\beta = .12, p < .05$ ). The inclusion of the main effects in Step 2 explained an additional 12 % of the variance in the model ( $R^2 = .18, \Delta R^2 = .12, F = 8.82, p < .001$ ). Hypothesis 8 stated that tolerance for ambiguity would act as a moderator on the relationship between transformational leadership and team performance. Analyses conducted in step 3 found no support for this relationship ( $\beta = .06, n.s.$ ), leading to a rejection of Hypothesis 8.

Table 3  
*Results of Regression Analyses*

Variable	Model 3: Work adjustment		
	Step 1	Step 2	Step 3
Control			
Organizational tenure	.07 (.00)	.06 (.00)	.06 (.00)
International experience	.13 (.01)*	.10 (.01)	.10 (.01)
Tenure with leader	.09 (.02)	.15 (.02)**	.15 (.02)**
Leader distance	.10 (.09)	.12 (.09)*	.12 (.09)*
Nationalities in the team	.09 (.02)	.10 (.02)	.10 (.02)
Step 2: Main effects			
Transformational leadership		.31 (.04)***	.32 (.04)***
Tolerance for ambiguity (TA)		.12 (.10)*	.13 (.10)*
Step 3: Interactions			
Transformational leadership X TA			.06 (.10)
$R^2$	.06	.18	.18
$\Delta R^2$		.12***	.00
$F$	3.40**	8.82***	7.86***

*Note.*  $N = 286$  expatriates. Standardized regression coefficients are reported (with standard errors in parantheses).  
 \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Discussion

The present study aimed to identify the effectiveness of transformational and transactional leader behaviors in a complex, international project setting. Transformational and transactional leadership were positively related to job satisfaction and team performance. Transformational leadership also facilitated work adjustment. Visionary, team-oriented leaders who provided positive feedback on performance developed satisfied and better-adjusted employees and contributed to higher team performance. Our study found that leaders most often displayed both transformational and transactional behaviors, which is in line with earlier literature describing transactional leadership as a foundation for transformational leadership (e.g., Bass, 1997). Transformational and transactional leader behaviors were positively related to team performance in low, medium, and highly dynamic work contexts. Altogether, these findings provide further support for the universality of the transformational

leadership paradigm, and the positive impact of transformational and transactional leadership in various international project contexts.

Both transformational and transactional leadership were positively related to job satisfaction. Through the articulation of a compelling vision, the team leader describes the future as interesting and appealing for team members. Team leaders who expect only the very best from his or her team members (high performance expectations), provide coaching and support (individualized consideration), and praise outstanding work (contingent reward) show a genuine interest in their employees. When the leader acts as a role model (providing an appropriate model), and gets the group to work together for the same goal (fostering the acceptance of group goals), team members report a higher satisfaction with their current job situation. Our results show that when these leader behaviors are present, team members have a more positive evaluation about the nature of the work they perform, and an increased satisfaction with their team leader and colleagues. Hence, transformational and transactional leaders foster satisfied employees, which is crucial for the retention of talents in the organization. The finding that transformational leadership in this study had a slightly stronger relation to job satisfaction than transactional leadership contradicts the findings of meta-studies examining this relationship (e.g., Judge & Piccolo, 2004). One possible explanation for this might be the international context of our study. Transformational leadership might be especially effective in international project environments characterized by highly multinational teams.

Of the control variables, organizational tenure was positively related to job satisfaction, whereas experienced international assignees were more adjusted towards their supervisor, their colleagues, and performance standards in their job. While working with a specific leader over time facilitated team members' work adjustment, employees were slightly more satisfied when they had worked with their leader for a short time period. This latter finding is somewhat surprising, but might be attributed to increased expectations among team members when a new leader is appointed. If these expectations are not met, job satisfaction will decrease.

Our results showed that transformational and transactional leadership behaviors were positively related to team performance, with transformational leadership being a slightly stronger predictor. In an international project context, transformational leadership can

facilitate team members' identification with the organization, and increase commitment and engagement levels. When leaders expressed a clear understanding of where the team is going, inspired others with his or her plans for the future, and personally complimented outstanding work, team performance improved. When team leaders were visionary, and got the group to work together for the same goal, team members rated a higher success rate in meeting project objectives. We argue that transformational leaders in our study facilitated important team processes. For example, ensuring common goals in the team could affect performance through mobilizing effort, guiding attention towards task relevant information, fostering of persistence, and facilitating task relevant knowledge (see Locke & Latham, 1990). Also, recent research has found that team members with transformational leaders exchanged advices more extensively than teams with less transformational leaders (Zhang & Peterson, 2011). Leaders who can facilitate these processes would be important assets in international projects.

Our results showed that transformational and transactional leader behaviors had a positive effect on team performance in work contexts with different levels of dynamism. However, both leadership dimensions were most effective on team performance in low dynamic work environments (see Figures 2 and 3). This leaves limited support for the superiority of transformational over transactional leadership in highly dynamic work environments. We argue that contextual inhibitors on team performance in highly dynamic work environments might have caused this result. Mathieu et al. (2008) argued that organizational and contextual variables could facilitate or hinder teams' performance. Research on project management has identified several aspects related to team performance that cannot be directly affected by the leader, such as technical difficulties (Kaulio, 2008) and the external environment (Thamhain, 2004). In other words, the team leader could be highly transformational, but conditions in the environment might still prevent the team from achieving their performance targets. It might be easier for a transformational leader to affect performance in a less dynamic environment, due to fewer external inhibitors on performance.

Although tolerance for ambiguity did foster work adjustment on international assignments, our results show that transformational leaders can significantly aid the adjustment process. As Caligiuri et al. (2009) emphasized the importance of clarifying expectations prior to international assignments, we argue that transformational team leaders provide clarity about performance standards and decrease role ambiguity in international assignments. Further, transformational leadership facilitated work adjustment among

followers both high and low on ambiguity tolerance. This finding is consistent with research showing that transformational leadership was equally accepted among followers' with different personal needs for structure (Felfe & Schyns, 2006). From this we can infer that followers are susceptible for transformational leadership regardless of their preferences for change and unfamiliarity.

### *Limitations*

We acknowledge the limitations of our study. This study is based on team members' self-reports on several different concepts. Self-report ratings of team performance may not be objective. For example, one obviously needs to consider the stake every team member has in its own team, and the subsequent possibility of biased assessments of team performance (Tesluk, Mathieu, Zaccaro, & Marks, 1997). Although research often relies on self-report measures, it is important to acknowledge and take into account associated methodological challenges. Common method bias is considered a widespread challenge in studies involving use of single sources (Avolio, Yammarino, & Bass, 1991; Fiske, 1982). According to Podsakoff and colleagues (P. M. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; P. M. Podsakoff & Organ, 1986) common method bias could be minimized or avoided. Following their advice, we could have asked external supervisors to evaluate team performance. As mentioned earlier this was not done in order to provide all respondents, including team leaders, with complete anonymity.

In addition, there is a risk that other methodological problems arise, such as the halo effect (Holzbach, 1978) or leniency error (Meyer, 1980). Brown and Keeping (Brown & Keeping, 2005) found that subordinates' affect (i.e., liking) towards their leader explained a large amount of the variance of the relationship between transformational leadership behaviors and organizational outcomes. Such a bias may also have affected our results, and could be solved in future research by, for instance, incorporating an affect measure as a control variable (see Podsakoff, et al., 2003). Also, more than half of the respondents reported to be in a team leader position. If the leaders have participated in transformational leadership development programs, this might have affected the ratings of their leader (Hunter, Bedell-Avers, & Mumford, 2007). Hunter and colleagues added that effective leadership also involves specific behaviors (e.g., strategy development and planning) which the subordinates are probably not exposed to, and which is not included in leadership questionnaires.

Most of the scales used in this study were fairly short. Combined with instances of minimally acceptable reliability levels, this probably affected our results. We acknowledge the possibility that our context measure (dynamic work environment) did not tap the context as intended. More specifically, it might be difficult for the team members to accurately evaluate social, political, and environmental issues, due to limited knowledge about these issues. When measuring environmental constructs, leaders in the upper-echelon of the organization probably represent a more valid source of information. Also, with a more comprehensive scale, the results would probably be somewhat different. However, to the best of our knowledge, a valid measure of environmental complexity does not exist.

Despite of limitations in our study, research has shown that subordinate ratings of leader performance correlate highly with external ratings of leader performance (Bain, Mann, Atkins, & Dunning, 2005). In favor of using subordinate ratings on team performance, team members are the most commonly used source, partly because they are best positioned to provide certain kinds of information, such as internal team processes (Tesluk, et al., 1997).

### *Practical Implications*

Increased knowledge about drivers of satisfaction and team performance is of great value to multinational corporations. This study shows that both transformational leadership behaviors (i.e., articulating a vision and foster acceptance of group goals), and transactional leadership behaviors (i.e., aid team members' personal and professional development through performance feedback), are of great importance when it comes to job satisfaction and team performance on international assignments. Further, transformational leaders will be effective in a variety of project environments, and could be assigned to projects of varying complexity. Transformational leadership was also associated with higher work adjustment among team members. These findings are highly relevant for multinational corporations, as low levels of job satisfaction and work adjustment are found to predict premature termination of international assignments (Black & Gregersen, 1999). The present study revealed that transformational leaders contribute to positive experiences on international assignments, which are highly valuable for international organizations and crucial for individual career development (Haslberger & Brewster, 2009).

This study shows that transformational leadership also has great potential for the leading of multinational teams, and that the effectiveness of such leadership can transcend cultural barriers. Kearney and Gebert (2009) found that transformational leadership was particularly effective in highly diverse work teams. Further, being transformational seems to be associated with being outstanding across several different cultures. Leaders, who are trustworthy, team-builders, and inspiring, combined with an excellence-orientation, have a strong universal appeal (Den Hartog, et al., 1999). These skills, all closely linked to transformational leadership, should be strongly emphasized in the selection and development of team leaders on international assignments.

Multinational corporations will benefit from developing both transformational and transactional team leaders. Research has supported the trainability of transformational leadership (e.g., Barling, et al., 1996; Parry & Sinha, 2005), and findings from this study can be applied for strategic leadership training prior to international assignments. Interviews with experienced team leader personnel should be an essential element in the leadership development process. The main objectives of the interviews should be to specify transformational team leader behaviors on international assignments, followed by a discussion on how to develop these leadership skills. Recent research on learning methods suggests action learning as a highly effective method for the development of specific leadership skills (e.g., Skipton Leonard & Lang, 2010). Companies could also initiate mentoring programs for international team leaders prior to assignments. Mentoring can be a particularly effective measure to ensure a contextual approach to leadership development (Day, 2000). As many projects differ in complexity and where they are located, the mentor and mentee should be matched according to specific characteristics of the project. The mentor should have extensive knowledge about local project issues. Our findings could also be a source for practical guidance on the selection of leaders and employees. A review of the talent pool in the organization could help identify leaders with transformational qualities and potential.

#### *Suggestions for Future Research*

Although the validation study of the tolerance for ambiguity scale performed by Herman et al. (2010) was promising, the scale's low internal consistency in our study prompts us to suggest a revision of the scale. We recommend a continued focus on relevant follower characteristics

in expatriate research (e.g., Zhu, Avolio, & Walumbwa, 2009). Doing so, one should be able to explore in greater detail the potential impact of constructs related to tolerance for ambiguity and, if possible, improve the psychometric properties of the scale.

We propose future leadership studies should measure multiple contextual variables, for example societal context, organizational context, project type, size and complexity. The choice of measures should be based on relevant contextual variables that are likely to moderate team performance, in line with Mathieu et al. (2008). This would also be consistent with recent research on complexity leadership theory (Uhl-Bien, Marion, & McKelvey, 2007), and transcendence leadership (Crossan, Vera, & Nanjad, 2008), as both leadership and team performance take place in a multifaceted context. It might be possible to use team members' perceptions of the external environment and link this to leadership. As authors have argued for a reciprocal relationship between leadership and context (e.g., Conger, 1989; Shamir & Howell, 1999), we propose transformational leaders are able to promote a perception of a manageable environment through their visionary activities, and the way they frame the situation. As an example, it would be interesting to examine whether team members' perception of the context would act as a mediator on the relationship between transformational leadership and team performance. The investigation of contextual moderators and mediators will contribute to an increased maturity and sophistication of the leadership research field.

Suggestions for methods used in leadership studies would include qualitative methods, such as the critical incident technique (e.g., Kaulio, 2008), to establish in-depth knowledge of emergent and challenging areas for expatriate leaders and employees. We also propose that future studies of international projects should adopt longitudinal designs, as this approach has given useful insights to the relationship between transformational leadership and project success (Keller, 2006). A longitudinal design could examine the role of different leadership behaviors along the timeline of projects (i.e., planning, execution, and long term project result). Investigations could also address leadership effects on team performance on three different dimensions: task effectiveness, relationship quality, and member satisfaction (see Hackman, 2002) within different project phases. Doing so, researchers could identify how leadership affects different dimensions of team performance in specific contexts. We also suggest the relationship between leadership and work adjustment should be further investigated. Given the high costs involved in premature termination of international

assignments, intention to leave and actual turnover should be used as criteria variables in future research on this topic.

### **Conclusion**

Due to increased environmental complexity and team diversity on international assignments, the identification of effective team leader behaviors is highly important for multinational corporations. Based on our findings, transformational and transactional leadership lead to more satisfied and better-adjusted team members, and higher performing teams. Our study indicates that transformational and transactional leaders are effective in a variety of work environments. Hence, this study contributes to an increased understanding of whether the effectiveness of leader behaviors differs according to the context in which it is executed. Whereas a high tolerance for ambiguity is beneficial on international assignments, transformational leadership appears to be of even greater importance. Altogether, our results support the selection and development of transformational and transactional team leaders in multinational corporations.

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