

# A Multilevel Study Of Supportive Leadership And Individual Work Outcomes: The Mediating Roles Of Team Cooperation, Job Satisfaction, And Team Commitment


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## ABSTRACT

*Due to increasing empowerment in work teams, team leaders' supportive role in helping team members perform their tasks is deemed important. The present study aimed at exploring the multilevel dynamics involving team leaders' supportive leadership and individual work outcomes. Longitudinal survey data were collected from 536 employees in 69 teams of a large engineering company located in South Korea. The results of multilevel structural equation modeling showed that individuals' perceptions of supportive leadership were positively related to their subsequent task performance, and that this relationship was mediated by team commitment. The relationship between individual-level perceptions of supportive leadership and organizational citizenship behavior (OCB) was mediated by job satisfaction and team commitment. On the other hand, team cooperation mediated the relationship between team-level perceptions of supportive leadership and OCB. These findings provide meaningful insights into multilevel mediation processes involving different levels of supportive leadership perceptions.*

**Keywords:** Supportive Leadership; Task Performance; Organizational Citizenship Behavior; Team Cooperation; Job Satisfaction; Team Commitment; Multilevel Analysis

## INTRODUCTION

 ver the last few decades, leadership research has been dominated by investigations into the effect of transformational leadership on follower outcomes. Transformational leadership, which refers to a leader's ability to motivate his or her followers to transcend their self-interest in pursuit of collective goals (Bass, 1985), has been well established as a key antecedent to followers' work attitudes, behaviors, and performance (Judge & Piccolo, 2004; Liao & Chung, 2007; Walumbwa, Wang, Lawler, & Shi, 2004). Compared to the vast amount of research on transformational leadership, little attention has been paid to the role of supportive leadership. *Supportive leadership* is defined as leader behaviors that provide emotional support for employees and includes expressions of concern for employees' needs and welfare (House, 1971; Rafferty & Griffin, 2004). Although some scholars argue that supportive leadership is one facet of transformational leadership (Avolio & Bass, 1995; Rafferty & Griffin, 2004), the extant body of literature on transformational leadership does not provide sufficient knowledge about the role of supportive leadership in team contexts. This is a critical omission given that leaders' supportive roles and empowerment are increasingly important in today's work teams due to greater job autonomy and complexity in the business environment (Kirkman & Rosen, 1999). Furthermore, unlike CEOs and executives, who provide a vision and direction for the entire organization, team leaders need to focus on fulfilling the needs of the team to enhance team effectiveness (Morgeson, DeRue, & Karam, 2010). Thus, supportive leadership could be a more essential leadership quality required for team leaders.

Another limitation of prior leadership research is that the relationship between supportive leadership and work outcomes has mainly been examined at a single level of analysis. Empirical findings on supportive leadership have

shown that leaders' supportive leadership or behaviors were positively associated with followers' satisfaction and negatively related to their job stress (Cohen & Wills, 1985; Kahn & Byosiore, 1992). However, it is still unclear how supportive leadership at different levels of a team affects followers' work outcomes. The leadership literature suggests that leadership itself is a multilevel process in which leader-member interactions are distinct from leader-team interactions (Zaccaro, Heinen, & Shuffler, 2009). Similarly, open system theory (Katz & Kahn, 1978) maintains that the individual-level phenomena of leadership, motivation, and performance are intertwined with their team-level counterparts. Because team-level leadership explains additional variance in individual motivation and performance over and above the variance accounted for by individual-level leadership (Wang & Howell, 2012), multilevel dynamics between supportive leadership and individual outcomes should be elucidated. In particular, scholars have consistently claimed that leaders' supportive leadership or individualized consideration is a multilevel phenomenon influenced by the context of leader-member relations (Avolio & Bass, 1995). These lines of reasoning provide a rationale for a multilevel investigation of supportive leadership.

The present study aims at investigating how supportive leadership at different levels affects followers' work outcomes. More specifically, we identify individuals' work attitudes (i.e., job satisfaction and team commitment) as mediators linking the relationship between perceived supportive leadership and individual work outcomes. In addition, we propose that a different mediating process unfolds at the team level. That is, we isolate team cooperation as an intervening mechanism between supportive leadership at the team level and individual outcomes. Thus, the objective of our study is to assess these mediating processes occurring at the individual- and cross-levels. Our research propositions were tested using multisource, longitudinal data collected from 536 employees of 69 teams in a large Korean company.

### **SUPPORTIVE LEADERSHIP**

Supportive leadership is one of the four types of leadership that House (1971) identified in his path-goal theory and is defined as a leadership style that focuses on concerns for the needs and well-being of followers and the facilitation of a desirable climate for interaction. Supportive leadership is regarded as a key aspect of effective leadership in path-goal theory (House, 1971). Supportive leadership is similar to individualized consideration, a sub-dimension of transformational leadership, in that both types of leadership encompass expressing interest in individual followers and attending and responding to their personal needs (Rafferty & Griffin, 2004). However, in addition to such individualized attention to followers, individualized consideration includes developmental aspects, such as advising followers on their careers, carefully observing and monitoring their progress, and recommending necessary training (Bass, 1985). In contrast, supportive leadership focuses more on social and emotional support, which is manifested in behaviors such as sympathizing, caring, and listening (House, 1981). While transformational leadership involves extensive concern for the organization as a whole, supportive leadership emphasizes individualized, emotional support for subordinates, which is considered a critical element of effective leadership (Rafferty & Griffin, 2004).

Empirical findings have generally shown the positive ramifications of supportive leadership in organizations (e.g., Euwema, Wendt, & Van Emmerik, 2007; Porras & Anderson, 1981; Wikoff, Anderson, & Crowell, 1983). For instance, Rafferty and Griffin (2006) reported positive relationships between supportive leadership and follower satisfaction, commitment, and career certainty. In a similar vein, Cohen and Wills (1985) reported that supervisor social support exerted a buffering effect on subordinates' occupational stress. Janssen's (2005) findings indicated a positive link between supervisor social support and employees' innovative behaviors. Compared to the strong association between supportive leadership and employee work attitudes, the relationship between supportive leadership and performance has been quite equivocal. While early studies on supportive leadership generally demonstrated a weak relationship between supportive leadership and employee performance (Yukl, 2006), a growing body of research has shown that supportive leadership has a positive impact on followers' extra-role performance (Euwema et al., 2007) and innovative behavior (Janssen, 2005).

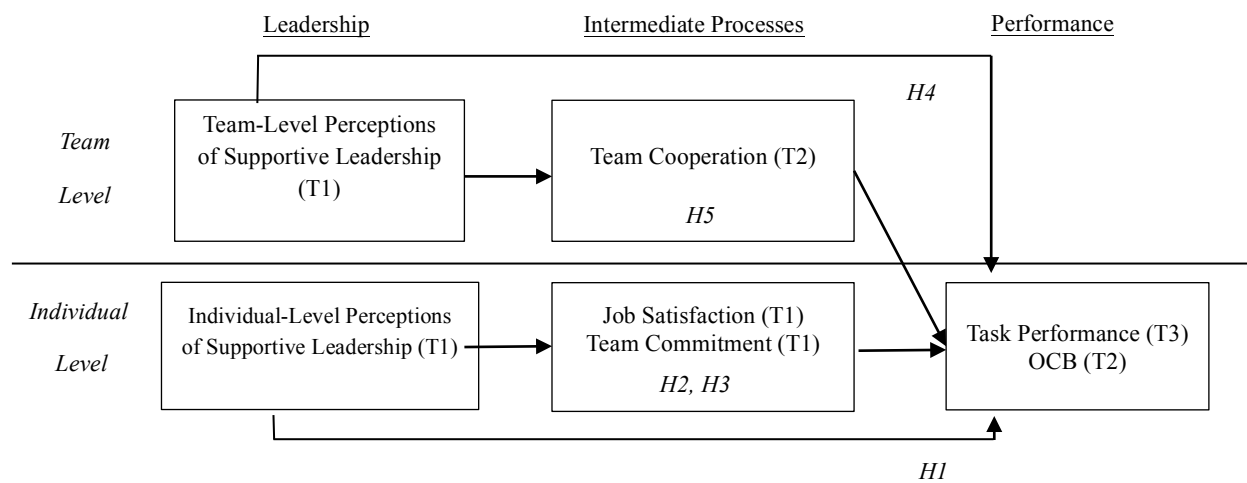
To reconcile the inconsistencies found in the relationship between supportive leadership and employee work behavior and performance, we believe employees' task performances and organizational citizenship behaviors (OCB) are critical aspects of work performance and behavior (Williams & Anderson, 1991). Task performance refers to the extent to which an employee successfully fulfills his or her formal job requirements (Borman & Motowildo, 1993; Williams & Anderson, 1991). In contrast, OCB is defined as voluntary, discretionary extra-role

behavior that can contribute to organizational effectiveness (Organ, 1988). In the present study, we examine the multilevel processes in which team leaders' supportive leadership affects their subordinates' task performance and OCB. More specifically, we focus on individual- and team-level perceptions of supportive leadership. Individual-level leadership perceptions refer to an individual team member's perceptions of the extent to which his or her team leader demonstrates supportive leadership. As individuals' leadership perceptions are a discretionary stimulus experienced differentially by different individuals (Liao & Chuang, 2007), their own perceptions of supportive leadership might not be congruent with those of others in the team, depending on the quality of the leader-member relationship (Wang & Howell, 2012). For instance, even though a team member perceives that her leader has little concern for her welfare, she might feel that in general, the leader is supportive to other team members.

Team-level perceptions of supportive leadership are distinct from individual-level perceptions in that the former represents team members' shared perceptions of the team leader's supportive leadership. Team-level leadership perceptions reflect the overall pattern of supportive leadership behaviors displayed to the entire team (Liao & Chuang, 2007). This construct is similar to leadership climate (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007) and emerges through social interactions among team members. That is, through social interactions and communications within the team, team members form shared interpretations and understandings of the leader's behaviors, thereby leading to a leadership climate or team-level perceptions of leadership (Brown & Kozlowski, 1999).

The conceptual distinctiveness between individual- and team-level perceptions of supportive leadership calls for a multilevel framework to understand the relationships between supportive leadership and work outcomes. While path-goal theory triggered much research on supportive leadership, empirical work into the multilevel dynamics involving supportive leadership is lacking, let alone research into the intermediate processes linking different levels of supportive leadership and work outcomes. As shown in Figure 1, we propose a multilevel model that elucidates the multilevel dynamics among supportive leadership, individual performance and OCB, and intervening mechanisms. Drawing on previous multilevel leadership research (e.g., Chen et al., 2007; Chi & Pan, 2012; Liao & Chuang, 2007), we assume that the process in which team-level leadership perceptions affect individual performance and OCB is distinct from the individual-level process. Based on the findings that individual work attitudes serve as linking mechanisms between leadership and performance (e.g., Liao & Chuang, 2007; Organ, Podsakoff, & MacKenzie, 2006; Walumbwa, Hartnell, & Oke, 2010), we identify job satisfaction and team commitment as mediators of the relationship between individual-level perceptions of supportive leadership and individual performance and OCB. Job satisfaction refers to overall satisfaction regarding one's job as a result of evaluation of one's job experience (Locke, 1976), whereas team commitment reflects the degree of emotional attachment to and identification with one's work team (Meyer & Allen, 1984). At the team level, we focus on team cooperation as a mediator between team-level perceptions of supportive leadership and individual performance and OCB. This is grounded on Campion, Medsker, and Higgs's (1993) findings that team cooperation is one of the key team processes contributing to team effectiveness. Team cooperation is defined as the extent to which team members coordinate their work activities and collaborate with one another to achieve the goals of the team (Tanghe, Wisse, & Van der Flier, 2010). In the next sections, each hypothesis is explained in detail.

Figure 1. A Multilevel Model of Supportive Leadership, Intermediate Processes, Task Performance, and OCB



Note: T1 = Time 1, T2 = Time 2, T3 = Time 3.

### HYPOTHESIS DEVELOPMENT

#### The Relationships Between Individual-Level Perceptions of Supportive Leadership and Individual Work Outcomes: The Mediating Roles of Job Satisfaction and Team Commitment

We draw on social exchange theory (Blau, 1964) and social learning theory (Bandura, 1977) to propose relationships between individuals' perceptions of supportive leadership and their task performance and OCB. First, social exchange theory posits that individuals form a social exchange relationship with their employers and supervisors (Blau, 1964). According to this theory, employees reciprocate with desirable work behaviors in return for emotional support and care from a supportive leader. In addition, when employees perceive their leader to fulfill their own needs, they tend to feel obliged to meet the leader's needs, thereby generating more productive behaviors and performance (Kuvaas, Buch, Dysvik, & Haerem, 2012). Therefore, we anticipate positive relationships between individuals' perceptions of supportive leadership and their task performance and OCB.

The link between perceived supportive leadership and OCB is also explained by social learning theory, which suggests that, when role models are present in the work environment, employees tend to emulate their behavior (Bandura, 1977). In general, team leaders serve as role models for team members since they frequently interact with the members. Thus, when a team member perceives his or her leader to exhibit supportive leadership, the member is likely to model the leader's behavior and display more supportive or altruistic behaviors toward other team members.

The relationship between perceived supportive leadership and task performance has not been clearly explained. Some research findings indicated that, while supportive leadership was positively associated with satisfaction, it was not related to performance (Yukl, 1999). On the contrary, recent studies demonstrated that leader-member exchange (LMX) based on socio-emotional aspects (e.g., care, trust) had a positive relationship with followers' work performance (e.g., Kuvaas et al., 2012).

Compared to the linkage between perceived supportive leadership and task performance, the relationship between perceived supportive leadership and OCB has been well established. OCB researchers have consistently argued that supportive leadership is one of the key antecedents of followers' OCB (Organ et al., 2006). Indeed, supportive leadership was found to be positively associated with different forms of OCB (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Building upon these findings and the aforementioned theories, we expect the following relationships:

**Hypothesis 1:** Individual-level perceptions of supportive leadership are positively related to individual (a) task performance and (b) OCB.

We further propose that the relationships between individual-level perceptions of supportive leadership and performance and OCB will be mediated by individuals' job attitudes such as job satisfaction and team commitment. We identify job satisfaction and team commitment as individual-level mediators of the supportive leadership-outcomes relationships for two reasons. First, the leadership literature suggests that the relationships between leadership perceptions and individual performance and OCB are generally affected by job attitudes. For instance, Liao and Chung (2007) found that commitment and job satisfaction served as mediators between individual-level transformational leadership and employee service performance. In a similar vein, the findings of Organ et al. (2006) showed that transformational leadership affected OCB through the intervening mechanism of job satisfaction. Consistent with these findings, Walumbwa et al. (2010) reported that commitment to the supervisor was one of the mediators linking the relationship between servant leadership and OCB. Although not in the domain of supportive leadership, these findings imply that the relationships between employees' leadership perceptions and performance and OCB are mediated mainly by job attitudes.

Second, job satisfaction and commitment have been identified as significant predictors of task performance and OCB (Williams & Anderson, 1991). The meta-analytic results regarding these variables indicated significant relationships among satisfaction and commitment and performance (Ricketta, 2008) and among satisfaction and commitment and OCB (Organ & Ryan, 1995). These findings, coupled with significant relationships among supportive leadership and satisfaction and commitment (Rafferty & Griffin, 2006), suggest the potential mediating effects of satisfaction and commitment on the supportive leadership-outcomes relationships. While previous studies generally examined organizational commitment as a predictor of performance and OCB, we expect a team leader's supportive leadership to more strongly affect commitment to the team than commitment to the organization because team commitment is a more pivotal form of commitment in team contexts (Bishop, Scott, & Burroughs, 2000). Taken together, we predict that, when an individual perceives his or her team leader to be supportive, the individual is likely to experience high levels of job satisfaction and team commitment, which in turn will lead to enhanced task performance and OCB. Hence, we propose the following mediating effects.

**Hypothesis 2:** Job satisfaction mediates the relationship between individual-level perceptions of supportive leadership and individual (a) task performance and (b) OCB.

**Hypothesis 3:** Team commitment mediates the relationship between individual-level perceptions of supportive leadership and individual (a) task performance and (b) OCB.

### **The Relationships Between Team-Level Perceptions of Supportive Leadership and Individual Work Outcomes: The Mediating Role of Team Cooperation**

Drawing on the multilevel leadership literature, in addition to the individual-level effects, we postulate cross-level effects of team-level perceptions of supportive leadership on individual performance and OCB. This is grounded on the multilevel framework suggesting that individuals' behaviors and performance are affected by the social context in which they reside as well as by their own perceptions and attitudes (Zaccaro et al., 2009). Prior multilevel leadership research indicates that team-level leadership perceptions or the leadership climate serves as a pervasive social context that has a positive impact on individual employees' work behaviors and performance (e.g., Charbonnier-Voirin, Akremi, & Vandenberghe, 2010; Chen et al., 2007; Liao & Chuang, 2007; Walumbwa et al., 2010). As mentioned earlier, the team-level perception of supportive leadership differs from its individual-level counterpart in that the former reflects a team leader's overall supportive behavior directed toward the entire team (Liao & Chuang, 2007). Supportive leadership perceptions shared by team members provide situational cues from which they interpret and understand the work environment (Takeuchi, Chen, & Lepak, 2009), thereby affecting the team members' behaviors and performance.

We draw on collective social exchange theory (Blau, 1986; Gong, Chang, & Cheung, 2010) as an underlying framework for the cross-level relationships between team-level perceptions of supportive leadership and individual work outcomes. Collective social exchange theory is an extension of the social exchange theory to the collective



level. While social exchange at the individual level reflects a relationship between an individual employee and his or her leader, social exchange at the collective level is a generalized pattern of exchange relationships between a leader and his or her team members (Gong et al., 2010). Thus, collective social exchange is distinct from social exchange at the individual level depending on the overall pattern of relationships between the leader and the members. Such collective social exchange in turn affects the normative levels of behaviors perceived by the team members (Gong et al., 2010). For instance, even though a member perceives her leader not to be supportive of her, if the overall level of supportive leadership perceived by other team members is high, the member tends to feel obliged to reciprocate with desirable work behavior and performance due to the mechanism of collective social exchange. Thus, team-level perceptions of supportive leadership should exert positive cross-level effects on individual performance and OCB.

Another mechanism in which team-level perceptions of supportive leadership affects individual performance and OCB is through a supportive or cooperative climate (Morgeson et al., 2010). Empirical work in team contexts has shown that supportive leadership or leader support creates a supportive or cooperative climate within the team, which in turn contributes to team performance and productivity (e.g., Campion et al., 1993). Leader support tends to exert a positive effect on performance and OCB by facilitating positive social interactions and enhancing cooperation among team members (Morgeson et al., 2010). Furthermore, supportive leaders help their members concentrate on their work and put more energy into task accomplishment by resolving interpersonal issues within the team (Morgeson et al., 2010). Based on this logic, we hypothesize the following cross-level relationships.

**Hypothesis 4:** Team-level perceptions of supportive leadership are positively related to individuals' (a) task performance and (b) OCB.

Building on the input-process-output (IPO) framework (Hackman, 1987), we focus on team cooperation as a key process variable translating the effect of team-level supportive leadership on individual work outcomes. The IPO framework explains how team-level inputs affect output variables. According to this framework, leadership is a critical team-level input that affects both team and individual outcomes. In addition, team cooperation has been identified as an important team process variable that intervenes in the relationship between inputs and outputs (Campion et al., 1993; Hackman, 1987). Drawing on this theory, we submit that team cooperation serves as a cross-level mediator linking the relationships between team-level perceptions of supportive leadership and individual performance and OCB. These mediating relationships can also be explained by social learning theory. That is, when team members as a whole perceive their leader to demonstrate supportive leadership, they are likely to model the leader's supportive behaviors, which in turn lead to a high level of cooperation among team members (Organ, 2006; Podsakoff et al., 2000). Such increased cooperation within the team tends to elicit a feeling of responsibility for work (Pearce & Gregerson, 1991) and more opportunities for assisting others on work-related problems, thereby elevating the performance and OCB of individual members.

**Hypothesis 5:** Team cooperation mediates the relationship between team-level perceptions of supportive leadership and individuals' (a) task performance and (b) OCB.

## METHODS

### Sample and Data Collection Procedure

Data were collected from a large engineering company in South Korea. As part of its organizational change effort, the company conducted a two-wave organizational diagnosis by administering employee surveys over a period of seven months. The company possessed a team-based structure. There was only one formal leader in each team, who was in charge of personnel decisions, task assignment, resource allocation, work scheduling, and performance monitoring. Regarding the process of the two-way organizational diagnosis, the company administered the first organizational diagnosis survey in February 2011 (T1: Time 1) and the second survey in September 2011 (T2: Time 2). As for the measure of task performance, we used official performance appraisal data collected in December 2011 (T3: Time 3). T1 and T2 surveys were distributed to 1,931 employees through the company intranet, and the employees were informed that their responses would be used only for an organizational diagnosis purpose and would remain confidential. Of the target sample, 860 employees responded to both T1 and T2 surveys (response rate = 45%). After eliminating incomplete responses and data from teams with fewer than three respondents, the final

sample consisted of 536 employees in 69 teams. To assess whether there were any systematic differences between respondents and non-respondents, we conducted a series of t-tests between the two groups in terms of demographic characteristics (i.e., age, tenure, gender, hierarchical position, and functional background) based on the company registry and found that there were no significant differences between the two groups.

The average age of the respondents was 33.1 years ( $SD = 6.0$ ), and their average organizational tenure was 4.6 years ( $SD = 3.5$ ). On average, the respondents spent 3.6 years in their current team ( $SD = .6$ ). Fourteen percent of the respondents were female. The respondents held various organizational positions: rank-and-file employees (49%), associates (26%), managers (15%), and senior managers (10%). The average number of respondents per team (team size) was 13.5 members ( $SD = 6.2$ ), ranging between 3 and 19 members. Eighty-eight percent of the participating teams performed a line function, and the other 12 percent were staff teams.

## MEASURES

Except for task performance, all variables were assessed with multi-item measures using a five-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Because the present study was a part of an organizational diagnosis, the sponsoring company placed a constraint on the length of the survey, which prevented us from using more than four items for each construct. Team-level perceptions of supportive leadership and team cooperation were assessed by individual team members and aggregated to the team level. The psychometric indices for aggregation are reported below.

### Individual-Level Perceptions of Supportive Leadership (T1)

The respondents were asked to report the extent to which their team leader exhibited supportive leadership. We used three items ( $\alpha = .90$ ) from Rafferty and Griffin's (2004) supportive leadership scale. Sample items included "My team leader considers my personal feelings when implementing actions that will affect me" and "My team leader takes into account my personal needs."

### Team-Level Perceptions of Supportive Leadership (T1)

To assess the overall pattern of supportive leadership displayed to the team as a whole, we averaged team members' evaluations of the team leader's supportive leadership to represent team-level supportive leadership ( $\alpha = .94$ ,  $r_{wg} = .82$ ,  $ICC(1) = .10$ ,  $ICC(2) = .48$ ).

### Job Satisfaction (T1)

Job satisfaction was measured with two items ( $\alpha = .81$ ) from Hart, Griffin, Wearing, and Cooper's (1996) job satisfaction scale. Items included such statements as "Overall I am satisfied with my job."

### Team Commitment (T1)

Team commitment was assessed with two items ( $\alpha = .79$ ) derived from Meyer and Allen's (1997) affective commitment scale. These items were revised to team-referent items so that they could reflect commitment to the team. A sample item was "I would be very happy to spend the rest of my career in this team."

### Team Cooperation (T2)

To measure team cooperation, we asked the respondents to report on the degree of cooperation within the team by using four items adopted from the scales of Campion et al. (1993) and Tjosvold, Andrews, and Jones (1983) ( $\alpha = .89$ ,  $r_{wg} = .88$ ,  $ICC(1) = .07$ ,  $ICC(2) = .42$ ). Examples of items included "Members of my team are very willing to share information about our work with other team members" and "Members of my team cooperate to get the work done."

### **Task Performance (T3)**

To assess team member task performance, we used the participating company's performance appraisal records (Campion et al., 1993). The team leader provided ratings of the overall task performance of the target employee. Performance referred to the degree to which an employee had exceeded his or her performance goals and was assessed based on a management-by-objectives system. The criterion was assessed on a scale ranging from 1 (extremely poor) to 10 (exceptional).

### **OCB (T2)**

OCB was measured with three items ( $\alpha = .73$ ) from Williams and Anderson's (1991) OCB scale. Sample items included "I help others who have heavy workloads" and "I pass along information to coworkers."

## **CONTROL VARIABLES**

In our all subsequent analyses, we controlled for a number of variables at both individual and team levels. Individual-level control variables were team members' ages, genders (0=female, 1=male), and tenures. Given that the individualized consideration dimension of transformational leadership encompasses developmental aspects, such as advising followers on their careers, carefully observing and monitoring their progress, and recommending necessary training (Bass, 1985), we included developmental leadership as a control variable.

We also controlled for several team-level characteristics that might affect team members' attitudes, behavior, and performance. That is, team size, the average age of team members, and the gender ratio were included as team-level control variables (Choi, Price, & Vinokur, 2003; Van Dijk & Kluger, 2011).

## **DATA ANALYSIS**

Because our data possessed a multilevel structure that consisted of individual and team levels (Hox, 2002), we conducted multilevel structural equation modeling (MSEM) analyses using Mplus 5.0 (Muthén & Muthén, 2010). In all analyses, we used the maximum likelihood estimator with robust standard error based on a numerical integration algorithm to consider the non-normality of data and missing data (Muthén & Muthén, 2010). In testing the proposed mediation models, team members' ages, genders, and tenures were controlled by adding direct paths from their indicators to the study variables. The overall pattern and statistical significance of the results remained the same in both the presence and absence of these control variables. Similarly, the results of the cross-level mediation remained identical with or without team-level control variables (i.e., team size, average age, gender ratio). Drawing on arguments that the inclusion of non-significant control variables is unnecessary and undesirable due to the reduction of statistical power and the distortion of the relationships among the study variables (Becker, 2005; Spector and Brannick, 2011), in the following sections, we report the results of MSEM without the control variables. We further employed the Monte Carlo method to estimate confidence intervals for the hypothesized mediating relationships (MacKinnon, Lockwood, & Williams, 2004; Preacher, Zyphur, & Zhang, 2010).

## **RESULTS**

Means, standard deviations, and correlations of individual- and team-level variables are reported in Tables 1 and 2, respectively. As shown in Table 1, individual-level perceptions of supportive leadership were significantly correlated with team commitment, job satisfaction, task performance, and OCB. Table 2 shows that team-level perceptions of supportive leadership were significantly associated with team cooperation.



**Table 1.** Means, Standard Deviations, and Correlations of Individual-Level Variables

	<b>M</b>	<b>S.D.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
1. Age	33.14	5.98								
2. Gender	.86	.35	.31**							
3. Tenure	4.62	3.51	.46**	.08						
4. Developmental Leadership	2.61	.98	-.05	-.03	.02					
5. Individual-level perceptions of supportive leadership (T1)	4.02	.71	.04	.04	.06	.23**				
6. Job satisfaction (T1)	3.94	.68	.08	.10*	.04	.13**	.58**			
7. Team commitment (T1)	3.88	.73	.04	.04	.03	.21**	.58**	.73**		
8. Task performance (T3)	17.13	3.09	.27**	.07	.26**	-.03	.11*	.08	.07	
9. OCB (T2)	3.87	.51	.17*	.10*	.10*	.08	.10*	.20**	.14**	.06

N = 536. \*  $p < .05$ , \*\*  $p < .01$ .

**Table 2.** Means, Standard Deviations, and Correlations of Team-Level Variables

	<b>M</b>	<b>S.D.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Team size	13.52	6.24				
Average age	35.87	3.39	-.06			
Gender ratio	.89	.12	-.24*	.38**		
Team-level perceptions of supportive leadership (T1)	4.01	.38	.08	-.02	-.24*	
Team Cooperation (T2)	3.83	.27	-.02	-.12	-.06	.35**

N = 69. \*  $p < .05$ , \*\*  $p < .01$ .

**Table 3.** Results of Confirmatory Factor Analysis

<b>Models</b>	$\chi^2$	<b>df</b>	$\Delta\chi^2$ ( $\Delta$ df)	<b>CFI</b>	<b>TLI</b>	<b>RMSEA</b>
Hypothesized four-factor model	37.97	29	-	1.00	1.00	.02
Three-factor model (Combining team commitment and job satisfaction into a single factor)	60.04	32	22.07(3)	.99	.99	.04
Three-factor model (Combining job satisfaction and OCB into a single factor)	356.61	32	318.64(3)	.88	.83	.14
Three-factor model (Combining OCB and team commitment into a single factor)	365.51	32	327.54(3)	.87	.82	.14
Three-factor model (Combining team commitment and supportive leadership into a single factor)	345.05	32	307.08(3)	.88	.83	.14
Two-factor model (Combining job satisfaction with OCB and team commitment with supportive leadership into single factors)	659.17	34	621.20(5)	.76	.69	.19

We conducted a confirmatory factor analysis (CFA) to assess the discriminant validity of the measures of supportive leadership, job satisfaction, team commitment, and OCB. As presented in Table 3, the hypothesized four-factor model demonstrated a good fit to the data in an absolute sense ( $\chi^2 = 37.96$ ,  $df = 29$ , comparative fit index [CFI] = 1.00, Tucker-Lewis index [TLI] = 1.00, root-mean-square error of approximation [RMSEA] = .02) (Hu & Bentler, 1999). We further compared this model with alternative three-factor models in which two of the four constructs were merged into a single factor. In addition, the hypothesized four-factor model was compared with a two-factor model that combined supportive leadership with team commitment and job satisfaction with OCB into single factors, respectively. As shown in Table 3, none of these alternative models exhibited a better fit to the data than the four-factor model, suggesting that the measures of supportive leadership, job satisfaction, team commitment, and OCB possess sufficient discriminant validity.

**Test of Individual-Level Mediation of Job Satisfaction and Team Commitment**

Hypotheses 1a and 1b predicted positive relationships between individual-level perceptions of supportive leadership and task performance and OCB, respectively. As depicted in Figure 2, individuals’ perceptions of supportive leadership were positively associated with their task performance ( $r = .43$ ,  $p < .01$ ), providing support for

Hypotheses 1a. However, individuals' perceptions of supportive leadership were not positively associated with their OCB ( $r = -.01, n.s.$ ) Therefore, Hypotheses 1b was not supported.

Hypotheses 2a and 2b postulated the mediating effect of job satisfaction on the relationships between perceived supportive leadership and task performance and OCB, respectively. To test Hypothesis 2a, we assessed the fit statistics of the proposed mediation model using Mplus 5.0. While perceived supportive leadership had a positive relationship with job satisfaction ( $r = .51, p < .01$ ), job satisfaction was not related to task performance ( $r = -.14, n.s.$ ). To further assess the mediating effect of job satisfaction, we used a parametric bootstrapping procedure to estimate confidence intervals (Preacher et al., 2010). Through 20,000 Monte Carlo replications, we found that the indirect effect of perceived supportive leadership on task performance through job satisfaction was not significant ( $r = 0, 95\% CI = [-0.23, 0.22]$ ). Therefore, Hypothesis 2a was not supported.

Hypothesis 2b was tested using the same procedure. As shown in Figure 2, job satisfaction was significantly related to perceived supportive leadership ( $r = .51, p < .01$ ) and OCB ( $r = .17, p < .01$ ). Furthermore, the results of the bootstrapping procedure revealed a significant indirect effect of perceived supportive leadership on OCB through job satisfaction ( $r = .09, 95\% CI = [.02, .15]$ ), lending support to Hypothesis 2b.

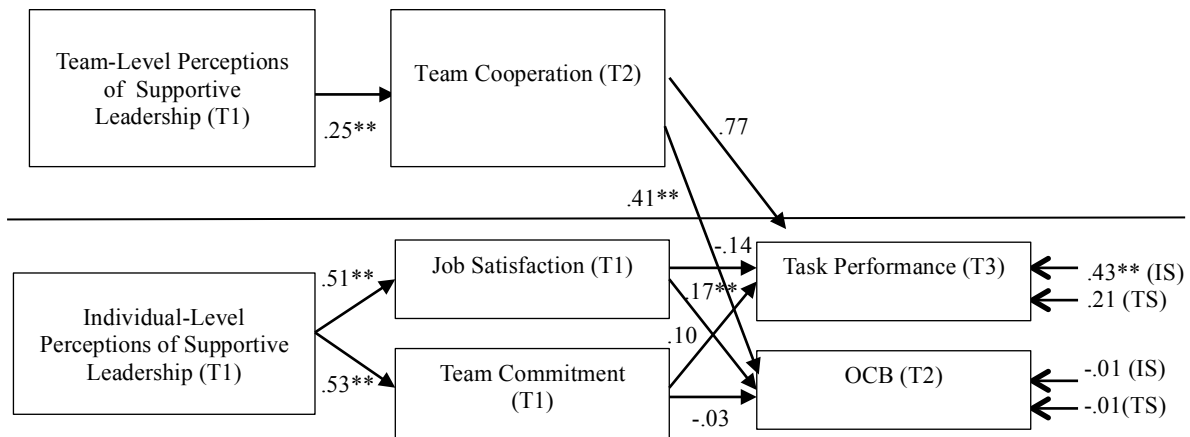
Hypotheses 3a and 3b proposed the mediating effect of team commitment on the relationships between perceived supportive leadership and task performance and OCB, respectively. As reported in Figure 2, perceived supportive leadership was positively related to team commitment ( $r = .53, p < .01$ ), but team commitment was not related to task performance ( $r = .10, n.s.$ ). However, the indirect effect of perceived supportive leadership on task performance was significant ( $r = .59, 95\% CI = [0.21, 0.97]$ ). Thus, Hypothesis 3a was supported. The mediating effect of team commitment on the relationship between perceived supportive leadership and OCB (Hypothesis 3b) was also supported, as evidenced by significant indirect effect of team commitment ( $r = .50, 95\% CI = [.37, .64]$ ).

#### **Test of Cross-Level Mediation of Team Cooperation**

Hypotheses 4a and 4b predicted positive relationships between team-level perceptions of supportive leadership and task performance and OCB, respectively. Team-level perceptions of supportive leadership were neither associated with individuals' task performance ( $r = .21, p = n.s.$ ) nor with their OCB ( $r = -.01, p = n.s.$ ), which rejects Hypotheses 4a and 4b.

Hypotheses 5a and 5b proposed the mediating effect of team cooperation on the relationships between team-level perceptions of supportive leadership and task performance and OCB, respectively. Team-level perceptions of supportive leadership were found to be positively related to team cooperation ( $r = .25, p < .01$ ). In addition, a significant relationship with team cooperation was detected for OCB ( $r = .41, p < .01$ ) but not for task performance ( $r = .77, n.s.$ ). Moreover, the results of the bootstrapping procedure indicated that the indirect effect of team cooperation was significant for OCB ( $r = .66, 95\% CI = [.41, .92]$ ), but not for task performance ( $r = .55, n.s., 95\% CI = [-.08, 1.17]$ ), which provides no support for Hypothesis 5a and support for Hypothesis 5b.

Figure 2. Structural Model with Study Variables



Note: IS = Direct effect of Individual-Level Perceptions of Supportive Leadership  
 TS = Direct effect of Team-Level Perceptions of Supportive Leadership

### DISCUSSION

The purpose of the present study was to explore the multilevel dynamics involving supportive leadership and individual work outcomes. The results of MSEM demonstrated that individuals’ perceptions of supportive leadership were positively associated with their task performance. While we did not detect the mediating effects of job satisfaction on task performance, results indicate the significant mediating effects of team commitment on task performance. In addition, job satisfaction and team commitment were found to mediate the relationship between perceived supportive leadership and OCB. Although there was no direct relationship between team-level perceptions of supportive leadership and work outcomes, team-level perceptions of supportive leadership were linked to individuals’ OCB through the mediating process of team cooperation.

The current findings provide important implications for research on supportive leadership and OCB. First, our findings clearly indicate that the linkage between supportive leadership and OCB is explained by multilevel processes that operate at the individual and team levels. At the individual level, individuals’ own perceptions of supportive leadership affect their OCB by enhancing their job satisfaction and team commitment. On the other hand, supportive leadership perceived by the team as a whole is related to individual members’ OCB by increasing cooperation within the team. These findings endorse the basic premise of the multilevel leadership framework, which theorizes that leadership perceptions at different levels of organization influence employees’ attitudes and behaviors through distinct multilevel processes (Chen et al., 2007; Chi & Pan, 2012; Liao & Chuang, 2007).

Furthermore, our findings support the argument that leadership is a multilevel phenomenon in which leader-member interactions are distinct from leader-team interactions (Zaccaro et al., 2009). It can be concluded that leader-member interactions directly affect the member’s work attitudes, whereas leader-team interactions are more closely related to team processes and dynamics. All in all, by evidencing the validity of the multilevel framework as an explanatory mechanism of supportive leadership and exploring the individual- and team-level mediators of the supportive leadership-OCB relationship, this study elaborates on the extant body of literature on supportive leadership.

The validity of our findings is further strengthened by the longitudinal design of the present research. To make a stronger causal inference among variables and to reduce common method variance (CMV), we collected data on OCB and task performance seven and ten months after the measurement of supportive leadership, respectively. Our results demonstrated that individual-level perceptions of supportive leadership were significantly related to subsequent OCB through the intervening processes of job satisfaction and team commitment. Similarly, team-level perceptions of supportive leadership had a significant indirect effect on subsequent OCB through team cooperation. These findings suggest that a team leader’s supportive leadership can exert a long-term effect on team members’ OCB.

Noteworthy is that the multilevel effects of supportive leadership turned out to be weaker for task performance than for OCB. Although we found a significant mediating effect of team commitment between the relationship between individual-level perceptions of supportive leadership and task performance, we failed to observe a significant mediating effect on task performance at the team level of analysis. The difference between task performance and OCB could be a reason for the weak results for task performance. While we detected a significant association between perceived supportive leadership and task performance, neither job satisfaction nor team cooperation mediated this relationship. This was due to the lack of relationships between job satisfaction and task performance and between team cooperation and task performance. Given that task performance can be affected by diverse factors, there might be other mediating processes linking supportive leadership and task performance. For instance, empowerment (Kirkman & Rosen, 1999), task autonomy (Spector, 1986), or job engagement (Rich, Lepine, & Crawford, 2010) may serve as intervening mechanisms between supportive leadership and task performance. Thus, further research is warranted to explore potential mediators of the supportive leadership-task performance relationship.

All in all, our mediation analyses produced more significant results for OCB than for task performance. The stronger relationship between supportive leadership and OCB observed in this study is consistent with prior findings on supportive leadership. As mentioned earlier, the linkage between supportive leadership and OCB has been well established (Organ et al., 2006), whereas scholars have reported mixed findings regarding the relationship between supportive leadership and task performance (e.g., Kuvaas et al., 2012; Yukl, 1999). Team leader supportive leadership can prompt team members to engage in more supportive and altruistic behaviors through modeling (Bandura, 1977) or social exchange (Blau, 1964) processes. However, different leadership behaviors might serve to promote the task performance of team members. For instance, task-oriented, transactional behaviors (e.g., clarifying role expectations, providing rewards for high-level performance) can encourage team members to achieve a high level of task performance (Bass & Avolio, 1993). Likewise, team leaders' transformational behaviors, such as setting and articulating a vision, can motivate team members to mobilize their efforts toward goal accomplishment (Bass, 1985). Thus, such complicated multilevel dynamics involving different leadership styles, task performance, and OCB should be disentangled in future research.

### **Practical Implications**

The findings of the current study have several practical implications for managers and team leaders. First, our findings suggest that team leaders need to exhibit supportive behaviors to enhance the task performance and OCB of their subordinates. When team leaders exercise supportive leadership, team members tend to feel satisfied with their jobs and committed to the team, thereby engaging in more discretionary helping behaviors. Team leaders' supportive behaviors can also have a direct impact on their subordinates' task performance. Thus, by expressing interest to individual subordinates and providing social and emotional support, team leaders can boost the in-role and extra-role performance of their subordinates.

In addition to individual members' own perceptions of supportive leadership, elevating team-level perceptions of supportive leadership is another way to enhance team members' OCB. While team-level perceptions of supportive leadership were not linked to team members' task performance, they were found to affect team members' OCB by shaping a cooperative climate within the team. Given that the overall pattern of supportive behaviors that a team leader demonstrates to his or her members is also critical to their OCB, team leaders may need to display consistent supportive behaviors to different members. Such uniform, consistent supportive behaviors of team leaders will encourage team members to cooperate with one another, which in turn will lead to increased OCB. Furthermore, facilitating communication and interaction among team members can generate shared perceptions of supportive leadership within the team.

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

Despite its theoretical and practical implications, the present study has some limitations that suggest directions for future research. The first limitation pertains to the measurement of OCB. Although we measured OCB seven months after collecting data on supportive leadership, we relied on the respondents' self-reports as a measure of OCB, which

is vulnerable to rater biases and social desirability. For this reason, the OCB literature recommends the use of more objective measures of OCB (e.g., supervisors' ratings of OCB) (Organ et al., 2006).

Another limitation of our study is that strong correlations between individuals' perceptions of supportive behavior and job satisfaction and team commitment might have resulted from CMV. Although we employed a multi-source, longitudinal research design, data on supportive leadership, job satisfaction, and team commitment were simultaneously collected from the same respondents. Hence, future researchers may need to adopt more rigorous longitudinal designs to reduce CMV and establish stronger causality among variables.

Finally, even though the present study demonstrates the critical role of supportive leadership in subordinates' task performance and OCB, one cannot conclude that supportive leadership is superior to other forms of leadership. While we included developmental leadership as a control variable in our analyses, we did not control for other types of leadership (e.g., transformational leadership or transactional leadership). As noted earlier, transformational or transactional leadership can have significant ramifications for followers' performance (Bass, 1985). Therefore, future work could be directed toward comparing the differential roles of different types of leadership in employees' in-role and extra-role performance by using a multilevel framework and analytic procedures.

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#### REFERENCES

- Avolio, B. J., & Bass, B. M. (1995). Individual consideration viewed at multiple levels of analysis: A multilevel framework for examining the diffusion of transformational leadership. *Leadership Quarterly*, 6, 199-218. doi: 10.1016/1048-9843(95)90035-7
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership: A response to critiques. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 49-80). San Diego, CA: Academic Press.
- Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, 8, 274-289. doi: 10.1177/1094428105278021
- Bishop, J. W., Scott, K. D., & Burroughs, S. M. (2000). Support, commitment, and employee outcomes in a team environment. *Journal of Management*, 26, 1113-1132. doi: 10.1177/014920630002600603
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.
- Borman, W. C. & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In Schmitt, N. & Borman, W. C.(Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco, CA: Jossey-Bass.
- Brown, K. G., & Kozlowski, S. W. J. (1999). Toward an expanded conceptualization of emergent organizational phenomena: Dispersion theory. *Paper presented at the 14<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology*, Atlanta, GA.
- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 46, 823-850. doi: 10.1111/j.1744-



- 6570.1993.tb01571.x
- Charbonnier-Voirin, A., Akreml, A. E., & Vandenberghe, C. (2010). A multilevel model of transformational leadership and adaptive performance and the moderating role of climate for innovation. *Group & Organizational Management, 35*, 699-726. doi: 10.1177/1059601110390833
- Chen, G., Kirkman, B. L., Kanfer, R., Allen, D., & Rosen, B. (2007). A multilevel study of leadership, empowerment, and performance in teams. *Journal of Applied Psychology, 92*, 331-346. doi: 10.1037/0021-9010.92.2.331
- Chi, N., & Pan, S. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business & Psychology, 27*, 43-56. doi: 10.1007/s10869-011-9211-z
- Choi, J. N., Price, R. H., & Vinokur, D. A. (2003). Self-efficacy changes in groups: Effects of diversity, leadership, and group climate. *Journal of Organizational Behavior, 24*, 357-372. doi: 10.1002/job.195
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357. doi: 10.1037//0033-2909.98.2.310
- Euwema, M. C., Wendt, H., & Van Emmerik, H. (2007). Leadership styles and group organizational citizenship behavior across cultures. *Journal of Organizational Behavior, 28*, 1035-1057. doi: 10.1002/job.496
- Gong, Y., Chang, S., & Cheung, S. (2010). High performance work system and collective OCB: A collective social exchange perspective. *Human Resource Management Journal, 20*, 119-137. doi: 10.1111/j.1748-8583.2010.00123.x
- Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315-342). Englewood Cliffs, NJ: Prentice Hall.
- Hart, P. M., Griffin, M. A., Wearing, A. J., & Cooper, C. L. (1996). *QPASS: Manual for the Queensland Public Agency Staff Survey*. Public Sector Management Commission, Brisbane.
- House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Science Quarterly, 16*, 321-339. doi: 10.2307/2391905
- House, J. S. (1981). *Work stress and social support*. Reading, MA: Addison-Wesley Publishing.
- Hox, J. J. (2002). *Multilevel analysis: Techniques and applications*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Janssen, O. (2005). The joint impact of perceived influence and supervisor supportiveness on employee innovative behavior. *Journal of Occupational and Organizational Psychology, 78*, 573-579. doi: 10.1348/096317905X25823
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology, 89*, 755-768. doi: 10.1037/0021-9010.89.5.755
- Kahn, R. L., & Byosiere, P. B. (1992). Stress in organizations. In M. D. Dunnette, & L. M. Hugh (Eds.), *Handbook of Industrial and Organizational Psychology* (pp. 571-650). Palo Alto, CA: Consulting Psychologists Press.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*. New York: Wiley.
- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal, 42*, 58-74. doi: 10.2307/256874
- Kuvaas, B., Buch, R., Dysvik, A., & Haerem, T. (2012). Economic and social leader-member exchange relationships and follower performance. *Leadership Quarterly, 23*, 756-765. doi: 10.1016/j.leaqua.2011.12.013
- Liao, H., & Chuang, A. (2007). Transforming service employees and climate: A multilevel, multisource examination of transformational leadership in building long-term service relationships. *Journal of Applied Psychology, 92*, 1006-1019. doi: 10.1037/0021-9010.92.4.1006
- Locke, E. A. (1976). The nature and causes of job satisfaction. In Dunnette, M. D. (Eds.), *Handbook of Industrial and Organizational Psychology* (pp. 1293-1349). New York: Wiley.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*(1), 99-128. doi: 10.1207/s15327906mbr3901\_4
- Meyer, J. P., & Allen, N. J. (1984). Testing the "side-bet theory" of organizational commitment: Some methodological considerations. *Journal of Applied Psychology, 69*, 372-378. doi: 10.1037//0021-9010.69.3.372
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace*. Thousand Oaks, CA: Sage.
- Morgeson, F. P., DeRue, D. S., & Karam, E. P. (2010). Leadership in teams: A functional approach to understanding leadership structures and processes. *Journal of Management, 36*, 1-39. doi: 10.1177/0149206309347376
- Muthén, L. K., & Muthén, B. O. (2010). *Mplus user's guide: Statistical analysis with latent variables* (6th ed.). Los Angeles, CA: Author.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. Thousand Oaks, CA: Sage.
- Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 48*, 775-802. doi: 10.1111/j.1744-6570.1995.tb01781.x
- Pearce, J. L., & Gregersen, H. B. (1991). Task interdependence and extrarole behavior: A test of the mediating effects of felt responsibility. *Journal of Applied Psychology, 76*, 838-844. doi: 10.1037//0021-9010.76.6.838
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management, 26*, 513-563. doi: 10.1177/014920630002600307



- Porras, J. I., & Anderson, B. (1981). Improving managerial effectiveness through modeling-based training. *Organizational Dynamics*, 9, 60-77. doi: 10.1016/0090-2616(81)90026-7
- Porter, M. (1985). *Competitive advantage*. New York: The Free Press.
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15, 209-233. doi: 10.1037/a0020141
- Rafferty, A. E., & Griffin, M. A. (2004). Dimensions of transformational leadership: Conceptual and empirical extensions. *Leadership Quarterly*, 15, 329-354. doi: 10.1016/j.leaqua.2004.02.009
- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, 53, 617-635. doi: 10.5465/AMJ.2010.51468988
- Riketta, M. (2008). The causal relation between job attitudes and performance: A meta-analysis of panel studies. *Journal of Applied Psychology*, 93, 472-481. doi: 10.1037/0021-9010.93.2.472
- Shin, Y. (2005). The effect of perceived team person-environment fit on team performance in Korean firms: An examination of mediating and moderating effects. *Unpublished doctoral dissertation, Columbia University*.
- Spector, P. E. (1986). Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work. *Human Relations*, 39, 1005-1016. doi: 10.1177/001872678603901104
- Spector, P. E., & Brannick, M. T. (2011). Methodological urban legends: The misuse of statistical control variables. *Organizational Research Methods*, 14, 287-305. doi: 10.1177/1094428110369842
- Takeuchi, R., Chen, G., & Lepak, D. P. (2009). Through the looking glass of a social system: Cross level effects of high-performance work systems on employees' attitudes. *Personnel Psychology*, 62, 1-29. doi: 10.1111/j.1744-6570.2008.01127.x
- Tanghe, J., Wisse, B., & Van der Flier, H. (2010). The role of group member affect in the relationship between trust and cooperation. *British Journal of Management*, 21, 359-374. doi: 10.1111/j.1467-8551.2009.00643.x
- Tjosvold, D., Andrews, I. R., & Jones, H. (1983). Cooperative and competitive relationships between superiors and subordinates. *Human Relations*, 36, 1111-1124. doi: 10.1177/001872678303601203
- Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior*, 32, 1084-1105. doi: 10.1002/job.725
- Yukl, G. (2006). *Leadership in organizations* (6<sup>th</sup>ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Walumbwa, F. O., Hartnell, C. A., & Oke, A. (2010). Servant leadership, procedural justice climate, service climate, employee attitudes, and organizational citizenship behavior: A cross-level investigation. *Journal of Applied Psychology*, 95, 517-529. doi: 10.1037/a0018867
- Walumbwa, F. O., Wang, P., Lawler, J. J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Occupational and Organizational Psychology*, 77, 515-530. doi: 10.1348/0963179042596441
- Wang, X., & Howell, J. M. (2012). A multilevel study of transformational leadership, identification, and follower outcomes. *Leadership Quarterly*, 23, 775-790. doi: 10.1016/j.leaqua.2012.02.001
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-617. doi: 10.1177/014920639101700305
- Wikoff, M., Anderson, D. C., & Crowell, C. R. (1983). Behavioral management in a factory setting: Increasing work efficiency. *Journal of Organizational Behavior Management*, 4, 97-128. doi: 10.1300/J075v04n01\_04
- Zaccaro, S. J., Heinen, B., & Shuffler, M. (2009). Team leadership and team effectiveness. In E. Salas, G. F. Goodwin, & C. S. Burke (Eds.), *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 83-111). New York: Routledge.

**NOTES**