Worse-off than others? Abusive supervision's effects in teams

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Abstract:

Purpose: The purpose of this paper is to examine how relative abusive supervision (i.e. team member's perceived abusive supervision as compared with the team mean) influences team member's job attitudes through the mediating role of relative leader–member exchange. This study also explores the cross-level moderating roles of team-level abusive supervision and team-level leader–member exchange (LMX) in the process. **Design/methodology/approach:** This study used two-wave data from 1,479 employees in 145 work teams, and tested a cross-level moderated mediation model using multilevel structural equation modeling. **Findings:** Results demonstrate that the negative indirect effects of relative abusive supervision on job satisfaction and team affective commitment through relative LMX are stronger when team-level abusive supervision is low rather than high. **Originality/value:** Integrating LMX theory with a relative deprivation perspective, this study conceptualizes and operationalizes relative abusive supervision, develops an individual-within-group model of abusive supervision's consequences in teams and demonstrates a cross-level moderating effect of team-level abusive supervision in buffering relative abusive supervision's negative consequences.

Article:

Introduction

Abusive supervision, defined as "subordinates' perceptions of the extent to which their supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact" (Tepper, 2000, p. 178), has been shown to relate to a wide range of negative consequences in organizational settings. Exposure to abusive supervision can lower individual and team morale, undermine well-being, reduce affective commitment and promote counterproductive work behavior (Tepper *et al.*, 2017). In explaining why subordinates respond to abusive supervision with negative job attitudes and unfavorable returns, a social exchange perspective predicts that subordinates do so because they feel that they are exploited by their supervisors and are not obligated to reciprocate (Aryee *et al.*, 2007). Thus, leader–member exchange (LMX), a key construct capturing the social exchange between leaders and

subordinates characterized by mutual trust, respect and obligations (Graen and Uhl-Bien, 1995), has been proposed as a mediator in explaining abusive supervision's consequences (Xu *et al.*, 2012; Peng *et al.*, 2014; Decoster *et al.*, 2014).

We maintain that research that employs an LMX perspective in studying abusive supervision's effects can be further advanced by drawing on the root of LMX theory more closely. Abusive supervision, due to it being a low base-rate phenomenon (Zellars *et al.*, 2002), implies that experiences of supervisory abuse often vary across team members. Based on the original LMX theory (Dansereau *et al.*, 1975; Graen and Cashman, 1975), leader behaviors toward subordinates often contribute to the development of differentiated relationships between a leader and each of his/her subordinates (Matta *et al.*, 2015). Thus, for any focal subordinate, how his/her leader treats himself/herself relative to the rest of the team provides important information to infer where she/he stands in the leader–member relationships. While prior research has primarily focused on the impact of abusive supervision at the individual level using a raw score approach (i.e. correlate one's abusive supervision with other criterion variables, such as one's raw LMX score), we now expand our understanding of the consequences of abusive supervision within teams by partitioning abusive supervision's raw score into a within- and a between-group component. Since differentiated leader–member relationships within teams is the core premise of LMX theory, the individual-within-group level should be the appropriate theoretical level in support of the LMX theory (Schriesheim *et al.*, 2001; Henderson *et al.*, 2008). In other words, to understand whether abusive supervision shapes LMX in teams, one should theorize and examine an individual-within-group effect model, where an individual team member's perceived abusive supervision as compared with the team mean (i.e. relative abusive supervision, Schaubroeck *et al.*, 2016) predicts his/her LMX quality relative to the average LMX quality in the team (i.e. relative LMX, or relative leader–member exchange (RLMX), Henderson *et al.*, 2008).

A relative deprivation perspective (Stouffer *et al.*, 1949; Crosby, 1976) argues that feelings of satisfaction or dissatisfaction depend more on how better off or worse off one's outcomes are relative to the referent others. Through analyzing the self in relation to other team members, individuals make inference about their relative standing within the team, which can produce feelings of relative deprivation or relative gratification (Olson and Hazlewood, 2014) and influence their job attitudes and behaviors. When a subordinate receives a greater extent of supervisory abuse than the similar others in the team, she/he may understand how worse off their LMX quality is relative to others (Bolino and Turnley, 2009) and, thus, experience relative deprivation, reflected in emotional reactions such as feelings of dissatisfaction and reduced affective commitment (Tepper, 2000).

Moreover, relative abusive supervision's effect can be further understood by a "frog-pond effect," a notion deprived from a relative deprivation perspective (Davis, 1966; Firebaugh, 1980). Frog-pond effect explains why a big frog in a small pond is perceived larger than a big frog in a big pond. Context, such as the aggregated abusive supervision and LMX at the team level, matters and can serve as a shaper of meaning (Johns, 2006). Individuals with high relative abusive supervision in a low team abusive supervision context would experience more negative outcomes than individuals with high relative abusive supervision in a high team abusive supervision. Similarly, individual with high relative LMX in a low team LMX context may

experience more positive outcomes than individuals with high relative LMX in a high team LMX context.

The goal of this research is to examine how and when relative abusive supervision influences individual outcomes within teams. By integrating LMX theory with a relative deprivation perspective, we contribute to the abusive supervision literature and LMX theory in three ways. First, we develop an individual-within-group theory to explain why relative abusive supervision engenders negative feelings toward their job and the team (e.g. job satisfaction and team affective commitment). Specifically, we identify a within-group mechanism (relative LMX) through which relative abusive supervision determines individuals' relative standing in the team and, thus, their affective attitudinal responses in the workplace. Second, we propose and test a cross-level moderated mediation model of abusive supervision's consequences by examining the cross-level moderating roles of team-level abusive supervision and team-level LMX. We expect that relative abusive supervision has stronger negative effects on job attitudes when team-level abusive supervision is low and when team-level LMX is high. Third, we return to the roots of LMX theory, which is known for proposing differentiated relationships as the core concept, and answer the call for testing the theory's premise at the appropriate level (Schriesheim *et al.*, 2001) by testing an individual-within-group model of LMX's antecedent and consequences. Figure 1 summarizes our overall model.
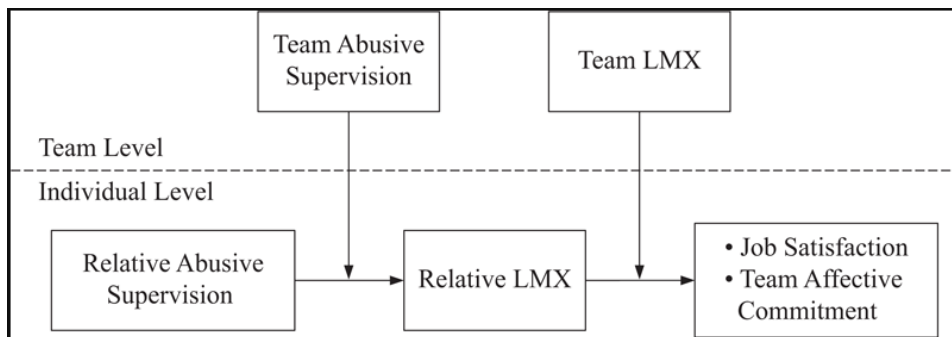
Figure 1. The proposed model

Hypotheses development

LMX theory

LMX theory argues that leaders play a significant role in developing differentiated relationships with each one of the subordinates within work groups (Graen, 1976; Graen and Uhl-Bien, 1995). Relations-oriented leader behaviors, such as supporting, recognizing and delegating, enhance LMX quality (Yukl *et al.*, 2009; Mahsud *et al.*, 2010; Dulebohn *et al.*, 2012), whereas dysfunctional leader behaviors, such as engaging in illegal conduct and abusive supervision, are believed to reduce LMX quality (Harvey *et al.*, 2006; Xu *et al.*, 2012; Peng *et al.*, 2014; Decoster *et al.*, 2014; Choi *et al.*, 2018). These findings also implied that employees may use their experienced leader behaviors to sense where they stand with the leader (Graen and Uhl-Bien, 1995). In-group members are usually treated favorably by having mutual respect and trust with the leader, whereas out-group members do not receive such treatment and may, thus, develop feelings of dissatisfaction (Sherony and Green, 2002). However, scholars have

questioned whether correlating the raw score of LMX with other predictive or criteria variables is appropriate to test the LMX theory (Schriesheim *et al.*, 2001) and argued that the individual-within-group level is the appropriate theoretical level at which LMX develops and operates (Schriesheim *et al.*, 1998; Henderson *et al.*, 2008). Relative LMX, defined as one's LMX quality relative to the average LMX quality in a work group (Henderson *et al.*, 2008), has been used to test the theory at the recommended level. For example, Schriesheim *et al.* (1998) employed a within- and between-group analysis to test whether the relationship between leader delegation and LMX occurs at the within-group level. They found that a team member perceived leader's delegation relative to the team average is positively related to his or her relative LMX. Research has also demonstrated that relative LMX is positively related to psychological contract fulfillment, social identification and job satisfaction (Henderson *et al.*, 2008; Tse *et al.*, 2012; Hu and Liden, 2013).

Relative abusive supervision, relative LMX and job attitudes

A relative deprivation perspective (Crosby, 1976) can be used to explain the consequences of relative abusive supervision and the formation and consequences of relative LMX. This perspective, typically used in upward comparisons made by low-status or disadvantaged individuals (Bolino and Turnley, 2009), suggests that assessments of oneself relative to others can have important cognitive and affective consequences (Pettigrew, 2002; Zoogah, 2010). Cognitive relative deprivation focuses on the recognition of disadvantages. Research has suggested that employees can often recognize differentiation in treatment by the leader, and thus make informative judgment of where they stand within the team (i.e. RLMX; Bolino and Turnley, 2009). People all have a natural tendency to pursue good and avoid bad (Baumeister *et al.*, 2001). Therefore, when employees experience supervisory abuse more severely than their peers under the same leader (i.e. relative abusive supervision), they know that they not only have a generally low LMX, but a lower than average LMX (i.e. relative LMX), which captures one's out-group standing more precisely. The greater the discrepancy between their mistreatment and the average abusive supervision within the team, the greater deprivation results. Research has suggested that relative abusive supervision can provide credible signals that the focal victim is of low status in the team (Schaubroeck *et al.*, 2016). Thus, we develop an individual-within-group model and predict that relative abusive supervision has rich implications for one's out-group standing:

> *H1.* Team member's relative abusive supervision is negatively related to RLMX quality.

Affective relative deprivation refers to the degree to which individuals express negative feelings such as dissatisfaction at situations once they believe they are deprived relative to other members (Zoogah, 2010). A relatively low LMX has been consistently related to job dissatisfaction and reduced affective commitment (Dulebohn *et al.*, 2012; Bolino and Turnley, 2009). Job dissatisfaction indicates that the job is evaluated negatively. Affective commitment can be seen as a form of reciprocation by the employee to the work unit (Loi *et al.*, 2015). Research has suggested that out-group members usually feel more exploited and discriminated in comparison with their in-group counterparts, and thus likely refrain from developing strong psychological attachment, or commitment to their team (Burris *et al.*, 2008). Overall, following a cognitive appraisal-emotional reaction order (Lazarus, 1991), we expect that one's relative LMX predicted

by relative abusive supervision will, in turn, translate to affective attitudinal responses in the workplace. Therefore, we propose the following hypothesis. It should be noted that our hypothesis is essentially a "1-1-1" multilevel mediation model (Preacher *et al.*, 2010), where the predictor and mediator are group-mean centered to reflect the relative conceptualization. Our wording of the hypothesis is precisely based on the recommendation by Bliese *et al.* (2018, p. 5):

> *H2.* Individual team member's RLMX quality mediates the relationship between relative abusive supervision and (a) job satisfaction and (b) team affective commitment relative to his or her team. In other words, individual team member who is higher than his or her team on abusive supervision tends to be lower on LMX than his or her team, resulting in lower (a) job satisfaction and (b) team affective commitment than his or her team.

The cross-level moderating role of team abusive supervision

Team context may entail important information that shapes the very meaning underlying individual attitudes (Johns, 2006). Derived from a relative deprivation perspective, a frog-pond effect (Davis, 1966; Firebaugh, 1980) suggests that the size of the pond is a context that means differently to two frogs of the same size such that a frog in a small pond is perceived larger than a same-sized frog in a big pond. This notion has been primarily examined within the educational settings to describe why high-performing students at academically inferior schools are perceived more positively than high-performing students at superior schools (Alicke *et al.*, 2010). Later research has advocated its use in work settings (Johns, 2006). For example, it has been found that employees react to high personal impact budget cut more negatively (e.g. reduced affective commitment and increased psychological contract breach) in departments where the impact is generally low (Jiang *et al.*, 2014). We argue that the way through which individuals interpret and respond to their experienced supervisory abuse relative to others can be modified by the team context, that is, the mean level of abusive supervision in teams (Farh and Chen, 2014; Hannah *et al.*, 2013). When the team is collectively abused by the leader (i.e. a condition featured by high team-level abusive supervision), an individual member may perceive abuse but not necessarily recognize relative disadvantages that she/he might if she/he were in a team with low team-level abusive supervision. Thus, she/he may not consider her/his relationship with the leader worse than others'. In contrast, when only few people in a team have been abused (i.e. a condition featured by low team-level abusive supervision), individuals who perceive a relatively high supervisory abuse are more likely to recognize their disadvantages, which worsen their relationships with the leader. In other words, RLMX is formed not only by the extent to which team members are more or less abused by the leader in comparison with others, but also by how prevalent abusive supervision is perceived by the team in general. It is this complex comparison process that ultimately infers relative standing within the team. Thus, we expect that the negative relationship between relative abusive supervision and RLMX can be strengthened when the team-level abusive supervision is low. Specifically, we hypothesize that:

> *H3.* Team-level abusive supervision moderates the negative effect of relative abusive supervision on RLMX quality, such that the negative relationship is stronger when team-level abusive supervision is low.

The cross-level moderating role of team LMX

A similar frog-pond effect can also occur in the relationship between RLMX and affective job attitudes, that is, RLMX's effects may depend on the average LMX at the team level. When few people enjoy a high-quality relationship with the leader (i.e. low team-level LMX), an individual with relatively high LMX is likely to have preferential access to resources (Epitropaki and Martin, 2013) and to experience relative gratification (Davis, 1959). It can be inferred that she/he will likely feel more satisfied with the job and become more committed to the team. However, when the majority of employees in a team enjoy a high-quality relationship with their leader (i.e. high team-level LMX), the exchange between the leader and almost all the team members will be characterized by mutual trust, respect and loyalty (Liden and Maslyn, 1998). Thus, an individual with relatively high LMX may not enjoy much privilege and advantage, and may not necessarily be happier or more committed to the team than their peers. Therefore, we hypothesize that:

> *H4*. Team-level LMX moderates the positive effects of individual team member's RLMX quality on (a) job satisfaction and (b) team affective commitment relative to his or her team, such that the positive relationships are stronger when team-level LMX is low.

Taken all the above hypotheses together, we propose that:

> *H5*. The indirect effect of individual team member's relative abusive supervision on (a) team affective commitment and (b) job satisfaction relative to his or her team via RLMX is more negative when team-level abusive supervision is low and when team-level LMX is low.

Method

Sample and procedures

We collected data from the telemarketing department of a large insurance company in China. This department includes six business units that run telephone sales and service business. Team-based sales model has been adopted in all units to improve work productivity. Each team is in charge of the sales in a designated region such as districts and counties, with the team leader being responsible for the overall team performance. In daily operations, the team leader assigns tasks to all members, and team members will report their work progress to their leader. Besides, team members also need to share the workload and cooperate with one another. For example, some members identify potential customers and listen actively to understand their true needs, whereas other members develop solutions to meet these needs. Therefore, these teams provide a suitable research setting for our study.

After obtaining consent from the chief executive officer of the telemarketing department, we recruited participants with the assistance of human resource department. Participants were informed by a group e-mail sent through company intranet that the purpose of the study was to examine their leader's leadership styles and the team members' collaboration, and that all data would only be used for academic research and their personal information would be kept confidential. We collected data at two time points with a time lag of two weeks to reduce the

potential contamination caused by common method biases (Podsakoff *et al.*, 2003). Informed consent was obtained prior to data collection. At time 1, the HR department sent the questionnaire, including measures of abusive supervision and LMX, to 2,622 sales representatives from 185 teams. We received responses from 1981 employees in 155 teams. The response rate was 75.55 percent for individual participants and 83.78 percent for teams. Two weeks later, a second survey, including measures of job satisfaction and team affective commitment, was sent by the HR department to all sales representatives who had participated at time 1. This two-wave data collection has resulted in a sample of 1,479 members from 145 teams. Our overall response rate was 56.41 percent for individual participants and 78.38 percent for teams.

Demographic information of each participant was provided by HR department. To ensure confidentiality, participants' names were removed and only their ID numbers were retained to match the data. The average age of all team members was 23.45 years old, and they had worked in this company for an average of 15 months. In total, 54 percent were female, 63 percent held a high school degree and 37 percent held a bachelor or associate's degree. We also asked the company to provide the background information of each team and its leader. The average team size ranged from 3 to 22 members. The average age of the team leader was 26.14 years old, and the leader had worked in this company for an average of 42 months. In total, 53 percent were female, 39 percent held a high school degree and 61 percent held a bachelor or associate's degree.

Measures

The survey was conducted in Chinese, and the conventional method of back translation (Brislin, 1980) was used. Abusive supervision and team affective commitment were measured on a five-point Likert-type scale (ranging from 1=strongly disagree to 5=strongly agree). For job satisfaction, a similar five-point scale (ranging from 1=very dissatisfied to 5=very satisfied) was used. For LMX, the original five-point scale, where each item used different response categories, was employed.

Relative and team-level abusive supervision

Abusive supervision was assessed with Aryee *et al.*'s (2007) ten-item version of Tepper's (2000) original scale (α=0.94). A sample item is "My supervisor blames me to save himself/herself embarrassment." The relative abusive supervision score was operationalized as group-mean centered individual-level abusive supervision (i.e. a team member's own abusive supervision score minus the team mean. This operationalization was based on Bliese *et al.* (2018), who suggest that group-mean centering in testing multilevel mixed-effects model changes the conceptual meaning of the Level 1 construct to reflect relative position in a group. Team-level abusive supervision was calculated by averaging each member's abusive supervision score in an additive form rather than collective perceptions or climate (Chan, 1998).

Relative and team-level LMX

We used the LMX-7 scale (Graen and Uhl-Bien, 1995) to measure the relationship quality between team leaders and their members (α=0.86). Sample items are "How well does your leader recognize your potential" and "Regardless of the amount of formal authority your leader has, what are the chances that he/she would 'bail you out,' at his/her expense." We employed the original rating scale. For example, for the first sample item, response categories range from 1= not at all to 5= fully, and for the second sample item, response categories range from 1= none to 5= very high. Consistent with the operationalization of relative and team abusive supervision, we used group-mean centering to compute RLMX, and averaged team members' LMX scores to compute team-level LMX.

Job satisfaction

Job satisfaction was measured with six items (α=0.77) regarding satisfaction with one's work nature, supervisor, co-workers, pay, promotion and general job satisfaction by means of a validated job satisfaction scale (Tsui *et al.*, 1992). A sample item is "How satisfied are you with the person who supervises you?"

Team affective commitment

Team affective commitment was measured with four items (α=0.83) from Rego *et al.* (2013), who adapted them from Meyer *et al.* (1993). A sample item is "I would be very happy to spend the rest of my career with this team."

Control variables

To provide a rigorous test of our model, we controlled for several individual and team factors known to influence the mediator and dependent variables. Following prior LMX quality research (e.g. Zhang *et al.*, 2012), we controlled for the dissimilarity in leader and follower demographic characteristics such as age (in years), gender (1= male, 0= female), and education level (1= below technical secondary school, 2= technical secondary school, 3= high school, 4= college, 5= bachelor) in our analyses. Dissimilarity in age and education level was operationalized as an absolute difference score. In the case of gender similarity, we used a dummy variable (0=different gender and 1=same gender). In addition, we created dummy variables indicating the six different business units where the employees worked. Finally, we controlled for team size, as larger teams tend to experience more differentiation than smaller teams.

Statistical analysis

Our model is multilevel in nature, consisting of variables at both the team and individual levels. To address the violation of non-independence of observations and to examine cross-level interaction effects, we estimated a two-level mixed-effects model with the maximum likelihood estimation method (Raudenbush and Bryk, 2002) in Stata 15. We also used multilevel structural equation modeling (MSEM) with Mplus 7 (Muthén and Muthén, 1998–2012) and followed Preacher and colleagues' (Preacher *et al.*, 2011; Preacher *et al.*, 2010) and Bliese *et al.*'s (2018) recommendations for testing multilevel mediation. The robust maximum likelihood estimation method was used. Unlike traditional multilevel models that combine within- and

between-team effects in one single slope, one of the advantages of this approach is that it decomposes the variance of Level 1 variables (individual level) into a within-group and a between-group component and thereby accounts for the fact that relationships might differ between the between- and the within-group levels.

To test the appropriateness of aggregating data from individuals (team abusive supervision and team LMX) at the team level, we computed $r_{wg(j)}$, ICC(1) and ICC(2) as indicators of within-group agreement, interrater reliability and group means reliability. The widely applied cutoff criterion establishes that when $r_{wg(j)}$ exceeds 0.70, ICC(1) exceeds 0.05 and ICC(2) exceeds 0.60, aggregation is warranted (Bliese, 2000). The mean $r_{wg(j)}$ for team abusive supervision and team LMX were 0.72 and 0.82, respectively, which are above the widely applied cutoff criterion of 0.70. The ICC(1) values are 0.12 and 0.09, respectively, for team abusive supervision and team LMX. ICC(2) values are 0.58 and 0.50, respectively. In addition, one-way ANOVA tests indicated sufficient between-group variance (team abusive supervision $F(144, 1,334)=2.36$, $p<0.001$; team LMX $F(144, 1,334)=1.98$, $p<0.001$). Researchers (e.g. Chen and Bliese, 2002; Bliese *et al.*, 2018) have argued that lower ICC(2) should not prevent researchers from aggregating data and using mixed-effects models if it is justified by theory and supported by other aggregation indices. Therefore, we aggregated individual ratings of abusive supervision and LMX to the team level.

Results

Confirmatory factor analyses

We conducted a series of CFAs to examine the discriminant validity of constructs in our model. A four-factor baseline model composed of abusive supervision, LMX, job satisfaction and team affective commitment ($\chi^2_{(318)}=2,205.33$, RMSEA=0.06, CFI=0.91; TLI=0.90, SRMR=0.05) fit the data better than alternative models in which abusive supervision and LMX were combined ($\chi^2_{(321)}=5,898.47$, RMSEA=0.11, CFI=0.73; TLI=0.71, SRMR=0.14); job satisfaction and team affective commitment were combined ($\chi^2_{(321)}=3,358.48$, RMSEA=0.08, CFI=0.86; TLI=0.84, SRMR=0.06); and LMX, job satisfaction and team affective commitment were combined ($\chi^2_{(323)}=4,172.86$, RMSEA=0.09, CFI=0.82; TLI=0.80, SRMR=0.07). All χ^2 difference tests were significant. Taken together, these analyses demonstrated the discriminant validity of the variables in our model.

Descriptive statistics

Table I presents the means, standard deviations, Cronbach's αs, and zero-order correlations of all the variables.

Hypothesis testing

H1 proposed a negative relationship between relative abusive supervision and relative LMX. As shown in Model 1 of Table II, relative abusive supervision was negatively related to relative LMX ($\beta=-0.24$, $p<0.001$), supporting *H1*.

Table I. Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
Level 1 (n=1,479)												
1. Team member gender (T1)	0.46	0.50										
2. Team member age (T1)	23.45	3.43	−0.03									
3. Team member education (T1)	2.95	0.95	−0.07**	0.23***								
4. Team member business unit (T1)	2.85	1.49	−0.02	0.02	0.00							
5. Abusive supervision (T1)	1.59	0.80	0.16***	0.02	−0.08**	−0.05*	(0.94)					
6. Relative abusive supervision	0.00	0.71	0.14***	0.02	−0.09**	−0.00	0.89***					
7. LMX (T1)	3.89	0.64	0.01	0.02	0.03	0.05	−0.30***	−0.23***	(0.86)			
8. Relative LMX	0.00	0.58	0.00	0.02	0.03	0.00	−0.23***	−0.26***	0.91***			
9. Job satisfaction (T2)	3.57	0.69	−0.05	−0.02	−0.05*	0.07**	−0.14***	−0.11***	0.39***	0.34***	(0.77)	
10. Team affective commitment (T2)	3.97	0.73	−0.02	0.02	−0.01	0.03	−0.26***	−0.20***	0.58***	0.50***	0.38***	(0.83)
Level 2 (n= 145)												
1. Team leader gender (T1)	0.47	0.50										
2. Team leader age (T1)	26.14	2.66	−0.15***									
3. Team leader education (T1)	3.42	0.94	−0.04	0.24***								
4. Team leader business unit (T1)	3.04	1.51	−0.11***	−0.08**	−0.31***							
5. Team size (T1)	10.20	3.92	−0.01	0.13***	0.07**	−0.31***						
6. Team abusive supervision	1.60	0.38	0.14***	−0.03	−0.01	−0.12***	−0.06*					
7. Team LMX	3.91	0.28	−0.06*	0.04	−0.05	0.11***	−0.11***	−0.46***				

Notes: T1 and T2 represents the two waves of data collection (Time 1 and Time 2). Coefficient αs for variables appear in parentheses. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table II. Multilevel mixed-effects modeling results

Variable	Relative LMX		Job satisfaction		Team affective commitment	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Control variable						
Age dissimilarity	0.02	0.02	–0.02	–0.02	0.01	0.01
Gender dissimilarity	–0.00	–0.00	0.02**	0.01**	0.00	–0.00
Education dissimilarity	–0.02	–0.02	–0.02	–0.02	–0.02	–0.01
Unit1	–0.01	–0.01	–0.33**	–0.21	–0.30*	–0.08
Unit2	–0.00	0.00	–0.46***	–0.34**	–0.26	–0.04
Unit3	–0.01	–0.01	–0.41***	–0.28*	–0.37**	–0.12
Unit4	–0.02	–0.01	–0.15	–0.06	–0.22	–0.06
Unit5	–0.01	–0.01	–0.34**	–0.21	–0.30*	–0.06
Team size	0.00	0.00	0.01	0.01	–0.00	0.00
Level 1 IV (n = 1,479)						
Relative AS	–0.24***	–0.28***	–0.02	–0.02	–0.08***	–0.08***
Relative LMX			0.43***	0.43***	0.64***	0.64***
Level 2 IV (n = 145)						
Team AS		–0.00				
Team LMX				0.42***		0.75***
Cross-level interaction						
Relative AS × Team AS		0.24***				
Relative LMS × Team LMX				0.01		–0.12
Constant	0.03	0.02	3.80***	3.67***	4.26***	4.00***
Deviance	2,454.91	2,444.63	2,777.68	2,747.06	2,715.80	2,620.93

Notes: AS, abusive supervision; LMX, leader–member exchange. Regression coefficients represent unstandardized parameters. The effect of relative AS was estimated as a random slope on relative LMX and as fixed slopes on outcome variables. The effect of relative LMX was estimated as a random slope on outcome variables. **$p < 0.01$; ***$p < 0.001$

H2 predicted that relative LMX would mediate the relationships between relative abusive supervision and job satisfaction and team affective commitment relative to his or her team. As shown in Model 3 and Model 5 of Table II, after including the direct effect of relative abusive supervision, relative LMX was negatively related to job satisfaction (β=−0.43, p<0.001) and team affective commitment (β=−0.64, p<0.001), respectively.

We also used MSEM (a "1-1-1" model), as recommended by Preacher *et al.* (2010), to directly demonstrate the indirect effect of relative abusive supervision. As shown in Table III, the mean indirect effects of individual-level relative abusive supervision on job satisfaction (β=−0.12, 95% CI (−0.15, −0.08)) and team affective commitment (β=−0.18, 95% CI (−0.22, −0.13)) (via relative LMX) were significant. Thus, *H2* received support.
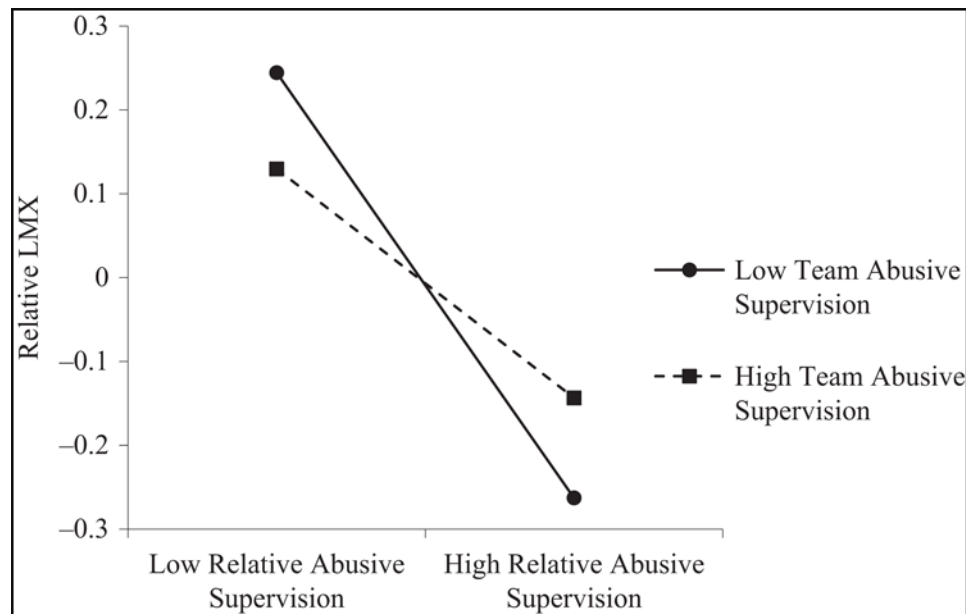
With respect to the first-stage cross-level interaction hypothesis (*H3*), the Model 2 of Table II demonstrated that after including the main effects of relative abusive supervision and team abusive supervision, team abusive supervision moderated the relationship between relative abusive supervision and relative LMX (β=0.24, p<0.001). Figure 2 further showed that the nature of the interaction was consistent with our expectation. The negative relationship between relative abusive supervision and employee's relative LMX was stronger when team-level abusive

supervision was low (simple slope $\beta=-0.36$, $p<0.001$) but weaker when team-level abusive supervision was high (simple slope $\beta=-0.19$, $p<0.001$), demonstrating support for *H3*.

Table III. Indirect effects of relative abusive supervision (AS) on outcome variables through relative LMX

	Job satisfaction		Team affective commitment	
	β	95% CI	β	95% CI
Pairs of comparisons				
1 (High team AS, high team LMX)	–0.09***	(–0.12, –0.06)	–0.12***	(–0.16, –0.07)
2 (High team AS, mean team LMX)	–0.08***	(–0.11, –0.05)	–0.12***	(–0.17, –0.08)
3 (High team AS, low team LMX)	–0.07***	(–0.10, –0.04)	–0.13***	(–0.17, –0.08)
4 (Mean team AS, high team LMX)	–0.13***	(–0.17, –0.09)	–0.17***	(–0.22, –0.12)
5 (Mean team AS, mean team LMX)	–0.12***	(–0.15, –0.08)	–0.18***	(–0.22, –0.13)
6 (Mean team AS, low team LMX)	–0.11***	(–0.14, –0.07)	–0.19***	(–0.24, –0.14)
7 (Low team AS, high team LMX)	–0.18***	(–0.24, –0.12)	–0.22***	(–0.30, –0.14)
8 (Low team AS, mean team LMX)	–0.16***	(–0.21, –0.11)	–0.23***	(–0.30, –0.16)
9 (Low team AS, low team LMX)	–0.14***	(–0.20, –0.09)	–0.24***	(–0.32, –0.17)
Indirect effect difference				
2 and 8	0.08***	(0.04, 0.13)	0.11**	(0.04, 0.18)
4 and 6	–0.03	(–0.06, 0.01)	0.02	(–0.02, 0.06)
9 and 1	–0.05	(–0.11, 0.00)	–0.13**	(–0.21, –0.05)
9 and 3	–0.07**	(–0.11, –0.03)	–0.12**	(–0.19, –0.04)
9 and 7	0.04	(–0.01, 0.09)	–0.02	(–0.07, 0.03)

Notes: Level 1 $n = 1,479$; Level 2 $n = 145$. CI, confidence interval; AS, abusive supervision; LMX, leader member exchange. High moderator variable refers to one standard deviation above the mean of the moderator; Low moderator variable refers to one standard deviation below the mean of the moderator; Unstandardized regression coefficients reported. The effect of relative AS was estimated as a random slope on relative LMX and as fixed slopes on outcome variables. The effect of relative LMX was estimated as a random slope on outcome variables. **$p < 0.01$; ***$p < 0.001$

Figure 2. Plot of the interaction between relative and team abusive supervision on relative LMX

With respect to the second-stage cross-level interaction hypothesis (*H4*), the results of Table II demonstrated that after including the main effects, the interaction between relative LMX and team LMX was not significantly related to job satisfaction (Model 4, β=0.01, ns) or team affective commitment (Model 6, β=−0.12, ns). Thus, *H4* was not supported.

H5 predicted the individual-level indirect effect would be moderated by both team-level abusive supervision and team-level LMX. As shown in Table III, we applied MSEM to estimate a set of conditional indirect effects at the high, mean and low levels of the moderators (i.e. team abusive supervision and team LMX). In order to provide a clearer picture of our findings, we first fixed one of the two Level 2 moderators at mean level and compared the high and low conditions of the other. Then, we integrated the effects of the two moderators together and analyzed under which conditions the indirect effect was strongest.

When the second-stage moderator (i.e. team-level TMX) was held at the mean level, the indirect effects of relative abusive supervision on job satisfaction and team affective commitment through relative LMX was weaker when team-level abusive supervision was high (condition 2; β=−0.08, 95% CI (−0.11, −0.05) for job satisfaction; β=−0.12, 95% CI (−0.17, −0.08) for team affective commitment). However, the indirect effects became stronger when team-level abusive supervision was low (condition 8; β=−0.16, 95% CI (−0.21, −0.11) for job satisfaction; β=−0.23, 95% CI (−0.30, −0.16) for team affective commitment). Meanwhile, the differences between high and low first-stage moderator conditions were significant (β=0.08, 95% CI (0.04, 0.13) for job satisfaction; β=0.11, 95% CI (0.04, 0.18) for team affective commitment). Thus, team-level abusive supervision moderated the indirect relationship between relative abusive supervision and job satisfaction and team affective commitment via relative LMX, such that the indirect relationship was more negative when team-level abusive supervision was low, providing partial support to *H5*.

In contrast, when the first-stage moderator (i.e. team-level abusive supervision) was held at the mean level, the indirect effects of relative abusive supervision on job satisfaction and team affective commitment through relative LMX was negative when team LMX was high (condition 4; β=−0.13, 95% CI (−0.17, −0.09) for job satisfaction; β=−0.17, 95% CI (−0.22, −0.12) for team affective commitment). Moreover, the indirect effects were still negative when team LMX was low (condition 6; β=−0.11, 95% CI (−0.14, −0.07) for job satisfaction; β=−0.19, 95% CI (−0.24, −0.14) for team affective commitment). However, the differences between high and low second-stage moderator conditions were not significant (β=−0.03, 95% CI (−0.06, 0.01) for job satisfaction; β=0.02, 95% CI (−0.02, 0.06) for team affective commitment). Thus, team-level LMX did not moderate the indirect relationship between relative abusive supervision and job satisfaction and team affective commitment via relative LMX.

Finally, with regard to whether the indirect effect was the most negative when both team-level abusive supervision and team-level LMX were low, we compared condition 9 (low team AS, low team LMX) with condition 1 (high team AS, high team LMX), condition 3 (high team AS, low team LMX) and condition 7 (low team AS, high team LMX), respectively. The comparisons were shown in the lower portion of Table III. The conditional indirect effects did not differ significantly between conditions 9 and 1 for job satisfaction (β=−0.05, 95% CI (−0.11, 0.00)), but differed significantly for team affective commitment (β=−0.13, 95% CI (−0.21, −0.05)). For

both job satisfaction and team affective commitment, the differences between conditions 9 and 3 were significant ($\beta=-0.09$, 95% CI (-0.14, -0.04) for job satisfaction; $\beta=-0.11$, 95% CI (-0.18, -0.04) for team affective commitment). In contrast, neither of the comparisons between conditions 9 and 7 was significant ($\beta=-0.04$, 95% CI (-0.09, 0.01) for job satisfaction; $\beta=0.02$, 95% CI (-0.03, 0.07) for team affective commitment). Although not all model comparisons were statistically significant to fully support *H5*, the most negative indirect effect (by magnitude) of relative abusive supervision on team affective commitment via RLMX was seen under the low team AS-low team LMX condition.

Discussion

Despite considerable research progress toward understanding the consequences of abusive supervision (Tepper *et al.*, 2017), it remains unknown how abusive supervision operates at the within-group level, and how team-level abusive supervision influences this process. In this research, we return to the roots of LMX theory, which proposes differentiated relationships as a core concept, and integrate it with a relative deprivation perspective to develop a cross-level moderated mediation model of relative abusive supervision's effects in teams. By partitioning abusive supervision and LMX's raw score into a within- and a between-group component, our results provide three main findings. First, we found that at the individual-within-group level, team member's relative abusive supervision is negatively related to RLMX, which in turn influences team member's job satisfaction and team affective commitment. Second, in support of a "frog-pond effect," team-level abusive supervision buffered the negative effect of relative abusive supervision on RLMX such that relative abusive supervision was more detrimental when team-level abusive supervision was low. However, this "frog-pond effect" was not supported in the second stage of our proposed mediation model. Specifically, team-level LMX did not moderate the relationship between RLMX and job satisfaction or team affective commitment. Third, the negative indirect effects of relative abusive supervision on job satisfaction and team affective commitment via RLMX were more pronounced in teams where the average abusive supervision was low, whereas team-level LMX did not change the magnitude of these conditional indirect effects further.

Although we expected that the detrimental effect of relative abusive supervision would be buffered when both team-level abusive supervision and team-level LMX were high, and strengthened when both conditions were low, we only found the moderating effect of team-level abusive supervision but not team-level LMX. It suggests that team-level abusive supervision (a negative team context) may be more influential than team-level LMX (a positive team context) in determining employee job attitudes. This finding can be explained by a general psychological principle, "bad is stronger than good," which suggests that when both good and bad events are present, the psychological effects of bad ones outweigh those of the good ones (Baumeister *et al.*, 2001). There has been some evidence suggesting that the affective consequences of negative information are stronger than those of good information (Ikegami, 1993). Therefore, high team-level abusive supervision may send a stronger signal than high team-level LMX for team members to make within-team comparisons and form differential affective responses.

Theoretical contributions

Integrating LMX theory and a relative deprivation perspective with literature on abusive supervision, our research makes three theoretical contributions. First, prior research on the relationship between abusive supervision, LMX and employee outcomes has used a raw score approach and has drawn on a social exchange explanation. The main argument is that by impairing leader–member relationships, abusive supervision causes employees to engage in negative reciprocation (Xu *et al.*, 2012; Peng *et al.*, 2014; Decoster *et al.*, 2014; Choi *et al.*, 2018). Our research goes one step further and advances our understanding of how do differentiated leader–member relationships matter in translating abusive supervision's negative effects. Drawing on a relative deprivation perspective, we propose that the individual-within-group component of LMX (i.e. relative LMX) can explain why perceived abusive supervision that is relatively higher than the team mean engenders more negative feelings toward their job and the team (e.g. lowered job satisfaction and reduced team affective commitment). People prefer to differentiate themselves positively from others in their immediate social environment. In work teams, one important source for making such a differentiation is the relative status (Mummendey *et al.*, 1999). It has been well established that experienced abusive supervision has deleterious psychological and behavioral consequences, yet what may be more detrimental is relative abusive supervision, which is informative for employees to make inference of their relative standing. It is one's relative mistreatment and relative standing that ultimately cause negative work outcomes.

Second, our findings concerning the role of team-level abusive supervision has answered calls for integrating team-relevant theories (as opposed to social exchange) and developing integrative and multilevel framework to assess the consequences of abusive supervision in teams (Farh and Chen, 2014). Drawing on the "frog-pond effect" prediction, we argue that team context matters. When team-level abusive supervision is low, mere exposure to supervisory abuse may become a salient signal of unfair treatment, resulting in a greater sense of out-group standing and feelings of deprivation. In contrast, when team-level abusive supervision is high, feelings of relative deprivation are lessened. In sum, relative abusive supervision in a generally low abusive environment should have a greater detrimental effect than it might in a generally high abusive environment. This finding is consistent with prior research (Farh and Chen, 2014) that supports that team-level abusive supervision weakens the negative relationship between individual-level abusive supervision and member's organization-based self-esteem, while generalizing this prediction to other criteria variables.

Third, we return to the roots of LMX theory, and answer the call for better aligning test with LMX theory to capture its within-group conceptualization (Schriesheim *et al.*, 2001). Although widely known as a social exchange concept, LMX has in fact been derived from role theory that suggests that role-making processes result in differentiated LMX relationships within teams (Graen, 1976). Our finding of a "1-1-1" mediation model with relative LMX being the mediator has provided strong support for the within-group conceptualization of LMX. That said, leader's differential treatment is indeed a cause of differential relationships, where out-group members tend to express negative affective responses.

Practical implications

Our findings suggest that employees often use information about how they are treated by the supervisor relative to their peers to infer their relative standing in the team so as to adjust their work attitudes. Although the negative effect of relative abusive supervision is slightly lowered when team-level abusive supervision is high, we are by no means encouraging collective abuse in the team. Instead, we showcase that team context matters, and recommend that organizations and teams pursue ways to create a favorable environment where the negative consequences of relative deprivation may be alleviated.

It would be prudent for employees who experience a greater extent of supervisory abuse to develop strategies to cope with status interiority. Although our results did not provide direct evidence, we believe that the choice of the reference group makes a difference. The fact that relative abusive supervision is more harmful when the victim compares his/her mistreatment with a group who do not generally experience supervisory abuse suggests that victims may choose a different reference group where abusive supervision is more prevalent. This may reduce victims' recognition and feelings of relative deprivation, and alleviate the negative effects associated with relative abusive supervision.

Our research also has implications for the observers of abusive supervision. When relative abusive supervision is low, meaning that co-workers experience a higher level of supervisory abuse, people do experience relative gratification (e.g. relatively high job satisfaction and team affective commitment). However, suggested by our finding of a cross-level moderating effect, such relative gratification is reduced when team abusive supervision is high, implying that observers also suffer from supervisory abuse. Ultimately, it is critical for leaders to avoid abusive supervision in its entirety.

Limitations and future research directions

This study has a number of limitations that should be considered in interpreting the findings and setting directions for future research. First, the study design is cross-sectional in nature, which limits our ability to make causal inference, especially between relative abusive supervision and RLMX, as they were measured at the same time. However, our prediction of the relationship among relative abusive supervision, RLMX and employee affective job attitudes is driven by an integration of LMX theory and relative deprivation perspective, upon which the reversed relationship could not be inferred. Nevertheless, to rule out the possibility that RLMX precedes relative abusive supervision, we performed a *post-hoc* analysis where relative abusive supervision mediates the relationship between RLMX and job attitudes. Results from model comparisons have supported retaining of the hypothesized model. We encourage future research to consider using cross-lagged panel design (Kenny, 1975) to further investigate possible non-recursive or cyclically recursive processes between relative abusive supervision and RLMX from different theoretical perspectives. In addition, an experimental design would also be desirable in future research on abusive supervision's effect in team settings. Alternatively, it may be valuable for future research to investigate when out-group members get abused, a prediction not readily implied in current theorizing. For example, aggressive organizational norms and hostile organizational climates (Tepper *et al.*, 2017) may be important conditions under which out-group members get supervisory abuse.

Second, this study's outcomes are affective attitudinal variables (job satisfaction and team affective commitment) rated by the employees. We intentionally chose these two variables because a relative deprivation perspective describes relative dissatisfaction and other negative feelings as pertinent outcomes. In this type of research where all the variables are attitudinal and rated by the employees, common method biases may be a concern when interpreting the results (Podsakoff et al., 2003). However, we have taken two procedural remedies to control method variance. First, we created a temporal separation by introducing a time lag between the measurement of the predictor and criteria variables. Second, our predictor (relative abusive supervision) and mediator (RLMX) are group-mean centered individual raw scores, and are essentially from multiple sources. Yet, future research should expand the model to include other attitudinal variables and substantive behavioral outcomes to better showcase the implications of relative abusive supervision.

Third, our measure of relative abusive supervision and RLMX is operationalized by subtracting individual raw score from the team mean, which may not fully capture a subjective comparison concept. Our operationalization is in fact consistent with most prior research of RLMX (Henderson et al., 20008; Epitropaki and Martin, 2013) and relative abusive supervision (Schaubroeck et al., 2016), and has the advantage of providing a more objective assessment of the context (Jiang et al., 2014). However, a measure of LMX social comparison (subjective ratings by individuals of their LMX compared to the LMXs of co-workers) has been proposed, with empirical evidence supporting that LMX social comparison mediates the relationship between RLMX and outcomes (Vidyarthi et al., 2010). Given the value of examining both the objective and the subjective forms of RLMX, we encourage future research to also measure relative abusive supervision following a similar approach.

Finally, our study was conducted in China, a society characterized by a high degree of collectivism culture (Hofstede, 1980). Collectivists define themselves as parts of a group and tend to prefer procedures that suppress differentiation and foster group solidarity (Earley and Gibson, 1998), so differential treatment would be seen as inappropriate. Thus, relative abusive supervision may have a stronger effect in China. Future research can investigate whether our results hold in a cross-cultural context, and explore the roles of cultural values as boundary conditions under which relative abusive supervision operates to influence various work outcomes.

Conclusion

Despite being a low base-rate phenomenon, abusive supervision, especially relative abusive supervision in teams, is detrimental to a number of work outcomes. In this research, we uncover how and when relative abusive supervision impacts team member's affective attitudinal responses through the lens of LMX theory and a relative deprivation perspective. Our results suggest that relative abusive supervision exerts a negative impact on employee job attitudes by means of a relationship differentiation process, and this negative impact is more pronounced when the overall team-level abusive supervision is low. While our findings warrant further validation, our research holds promise for providing a nuanced understanding of abusive supervision's effects in work teams.

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