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Affective Commitment, Participative Leadership, and Employee Innovation: A Multilevel Investigation

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ABSTRACT

Research investigating the relationship between organizational affective commitment and employee innovation has yielded scarce and inconsistent findings. This study examined the role of participative leadership in a team as a boundary condition of the effectiveness of organizational affective commitment predicting employee innovation. Data were collected from 343 employees in 34 teams from different Italian companies. The results from hierarchical linear modelling analysis indicated that the relationship between organizational affective commitment and employee innovation was stronger when team-level participative leadership was high. Our findings provide meaningful insights regarding the contextual conditions that strengthen the impact of organizational commitment on workplace innovation.

Compromiso afectivo, liderazgo participativo e innovación del empleado: una investigación multinivel

RESUMEN

La investigación sobre la relación entre el compromiso organizacional afectivo y la innovación del empleado ha producido hallazgos escasos e inconsistentes. Este estudio examinó el papel del liderazgo participativo en un equipo como condición límite de la efectividad del compromiso organizacional afectivo para predecir la innovación del empleado. Los datos fueron obtenidos de 343 empleados en 34 equipos de diferentes compañías italianas. Los resultados de análisis de modelamiento lineal jerárquico indicaron que la relación entre el compromiso organizacional afectivo y la innovación del empleado era más fuerte cuando el liderazgo participativo a nivel de equipo era alto. Nuestros hallazgos proporcionan claves significativas sobre las condiciones contextuales que refuerzan el impacto del compromiso organizacional sobre la innovación en el trabajo.

Organizations have increasingly recognized that employee innovation – defined as the intentional generation, promotion, and implementation of new and useful ideas aimed at benefiting role performance, the group, or the organization (West & Farr, 1990) – is a critical resource for ensuring effectiveness, growth, and continuous development in rapidly changing and uncertain environments (Hammond, Neff, Farr, Schwall, & Zhao, 2011). Employee innovation entails in-role and extra-role components (Potočnik & Anderson, 2016) because it can either be part of the prescribed work tasks or go beyond formal role descriptions (West, 2002). Considering the significance of employee innovation, a vast body of research has identified a range of affective and motivational drivers that can have energizing effects on employees' engagement in innovative endeavors, such as positive affect, intrinsic motivation, job satisfaction, and psychological empowerment (for a recent review, see Anderson, Potočnik, & Zhou, 2014).

Theories and research on organizational commitment have emphasized affective commitment as a critical motivational force binding individuals to effective courses of action that sustain the organization and its goals (Meyer & Herscovitch, 2001; Solinger, Van Olffen, & Roe, 2008). However, prior empirical research has yielded contradictory findings on the relationship between affective commitment and employee innovation (Vinarski-Peretz, Binyamin, & Carmeli, 2011), with some studies finding positive effects and others reporting non-significant effects (e.g., Thompson & Heron, 2006). These premises thus underscore the importance of further research to illuminate how organizations can ensure that highly committed employees are motivated and enabled to perform innovatively in the workplace.

To address this issue, our study aims to test a multilevel moderation model in which participative leadership acts as a key team-level

boundary condition that positively shapes the relationship between organizational affective commitment and employee innovation. Participative team leadership involves actively encouraging followers to express their own opinions and perspectives and using their ideas to make relevant decisions, thereby fostering shared influence processes within the group (Koopman & Wierdsma, 1998). The rationale for this multilevel moderation model is derived from the social information processing theory (Salancik & Pfeffer, 1978), which suggests that, at the group level, participative leadership would convey the shared belief that innovation is an organizationally welcome and beneficial endeavor. This way, participative leadership leads affectively committed employees to ascribe a positive meaning to innovation and, thereby, to be motivated to invest their energy in corresponding innovative behaviors to improve organizational functioning.

By examining this conceptual model, our study expands the research on affective commitment and leadership, which has focused mostly on leaders' behaviors as antecedents of commitment rather than on assessing their intervening impact on the relationship between this psychological state and individual performance at work. Moreover, our study extends current literature on group-level participative leadership and workplace innovation. Prior to our investigation, Somech (2006) identified group-level participative leadership as a key boundary condition upon which functionally heterogeneous teams were enabled to be more reflective and, ultimately, innovative. Our study identifies a different function of team-level participative leadership, namely its innovation-enhancing effect on individuals. Unravelling such a cross-level impact is important because it helps address the key research question of how individuals can most effectively interact with their proximal work group to innovate (Anderson et al., 2014; Ramos, Anderson, Peiró, & Zijlstra, 2016). In response, our study expands previous research on individual-team interface in the innovation context by attempting to clarify how the interplay between the individual and the group works in affecting the innovation of those individuals that, due to their strong emotional attachment to the organization, might be less reticent to engage in innovative actions. As such, from a theoretical perspective, our study suggests a valuable cross-level approach to study the impact of group-level variables on employee innovation. Precisely, this approach allows researchers to unravel participative leadership as a new and important group-level boundary condition for the expression of employee innovative potential. From a practical standpoint, unveiling whether and how team-level participative leadership style influences affectively committed employees' innovation is important to provide the new, evidence-based information that participation-supportive behaviors enacted by leaders towards their team can bring out the innovative potential of affectively committed members.

Organizational Affective Commitment and Employee Innovation: Contrasting Perspectives and Conflicting Results

Organizational commitment is defined as a "volitional bond reflecting dedication and responsibility for a target" (Klein, Molloy, & Brinsfield, 2012, p. 131); organizational commitment is recognized as a multi-dimensional construct that entails three distinct components: affective commitment, which, as previously mentioned, refers to an employee's emotional attachment to the organization; normative commitment, which reflects a sense of obligation to remain in the organization; and continuance commitment, which is based on the recognition that there are costs associated with leaving the organization (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). The current study focuses on affective commitment – rather than on all three forms of commitment – because this component has been argued and shown to be more strongly and more consistently

associated with organizational-relevant and employee-relevant outcomes (Mathieu & Zjac, 1990; Meyer et al., 2002; Solinger et al., 2008). Notably, there is evidence that affective commitment is a critical precursor to effective in-role and extra-role behaviors, such as task performance (e.g., Meyer, & Herscovitch, 2001) and organizational citizenship behaviors (Battistelli, Galletta, Portoghese, & Vandenberghe, 2013).

Theoretically, a case can be made for a positive relationship between affective commitment and employee innovation. First, affectively committed employees tend to experience positive emotions (Battistelli, Portoghese, Galletta, & Pohl, 2012) and higher levels of intrinsic motivation (Meyer, Becker, & Vandenberghe, 2004), both of which are essential to boosting individual creativity (Auger & Woodman, 2016). Indeed, the positive affective experiences associated with affective commitment improve the development of new conceptual combinations by broadening one's momentary thought-action repertoire, thereby stimulating creative ideas (Baas, De Dreu, & Nijstad, 2008). Moreover, as an energizing force, affective commitment activates employee' intrinsic motivation (Battistelli, Galletta, Portoghese, & Vandenberghe, 2013), which, in turn, expands an individual's access to novel ideas and solutions by enhancing cognitive flexibility and openness to complexity (Amabile, 1983).

Second, affective commitment is associated with increased trustworthy behavior at work, which enhances the odds that employees will obtain the necessary resources to put creative ideas into practice. Indeed, based on their strong identification with organizational values and goals, affectively committed employees tend to act as good "organizational citizens" and demonstrate their loyalty to the organization by putting the interests of the organization above their personal interests (Meyer & Allen, 1991; Rhoades, Eisenberger, & Armeli, 2001). In so doing, such employees convey to others the message that they value the organization's welfare. Accordingly, they are likely to be considered not only likeable but also trustworthy by those leaders – such as supervisors and managers – that are in positions of power and that can make resources to idea implementation more or less available, as a consequence (Bolino, Turnley, & Bloodgood, 2002). When such organizational members trust their subordinates, they are thus likely to provide the material support and instrumental resources necessary to translate creative ideas into implementable innovations (Lau & Liden, 2008).

However, scholars have also pointed to some potential unfavorable consequences of organizational commitment that might hamper, rather than facilitate, employee engagement in innovative courses of action. Indeed, high levels of commitment can result in excessive reliance on and respect for traditional organizational policies, procedures, and practices (Randall, 1987) which can stifle the flexible thinking necessary to conceive of creative ideas or solutions (Baas et al., 2008). Moreover, highly committed employees tend to manifest a high concern for others' welfare that can override their personal concerns (Randall, 1987). Such people might thus find it difficult to suggest and champion new ways of doing things that break routines and that might be stressful for others, as a consequence (Tornau & Frese, 2013). Finally, due to their strong investment in and identification with the organization, committed employees often feel more personally disturbed by and therefore vulnerable to the threatening effects of work-related problems (Mathieu & Zajac, 1990). This can hamper their capacity to effectively address the potentially stressful demands associated with innovation implementation – such as unexpected errors or problems – which can reduce the odds of effectively putting creative ideas into practice.

Reflecting these contrasting theoretical perspectives, empirical support for organizational affective commitment as an antecedent of employee innovation has been limited and mixed (Strauss, Griffin, & Rafferty, 2009). Indeed, although some studies have found a positive direct link between affective commitment and employee innovation (i.e., Jafri, 2010; Vinarski-Peretz et al., 2011), others have reported a

non-significant association (i.e., Chen, Sharma, Edinger, Shapiro, & Farh, 2011; Thompson & Heron, 2006). For example, Vinarski-Peretz et al. (2011) hypothesized and found that organizational affective commitment mediated the positive impact of subjective relational experiences on employees' involvement in innovative tasks. In addition, Camelo-Ordaz, García-Cruz, Sousa-Ginel, & Valle-Cabrera (2011) revealed that affective commitment indirectly predicted the innovative performance of R&D employees by shaping knowledge sharing behaviors. By contrast, Chen et al. (2011, Study 2) found that affective commitment was unrelated to employee innovation among public academic institution personnel. Likewise, production employees with high levels of affective commitment were unlikely to engage in proactive problem solving or idea implementation (Meyer & Allen, 1991; Parker, Williams, &Turner, 2006).

A Social Information Processing Perspective to Organizational Affective Commitment and Employee Innovation

The inconsistency of theoretical and empirical evidence regarding the relationship between affective commitment and employee innovation indicates that it is meaningful to identify plausible causes of these inconsistent findings. The above discussion suggested that a key constraint to affectively committed employees' decision to invest in innovative actions is the tendency of these employees to rely on organizational routines and to be worried about the potentially unfavorable consequences that innovation might have for the organization. This premise hence implies that if affectively employees had the possibility to reinterpret the meaning of innovation in a positive light, that is to perceive innovation as a valuable and organizationally welcome, rather than dangerous and disturbing endeavor, then their innovation-averse tendency might be offset by an enhanced motivation to contribute in innovative ways to their organization.

In this respect, the social information processing theory provides important insights to understand the conditions upon which affectively committed employees can construe a positive or negative meaning of innovation and, thereby, be more or less prone to translating their motivational potential into innovative actions. This theoretical framework suggests that employees form their cognitions, beliefs, and attitudes as a function of the information that is present in the immediate social environment (Salancik & Pfeffer, 1978). Importantly, according to the social information processing perspective, such information is expected to be socially constructed, that is developed through the interplay of employees' perceptions of the same situation, the comparison of bits of information and cues, and the attempts to reach a common interpretation of the meaning of work-related events (Salancik & Pfeffer 1978; Schneider & Reichers, 1983). As a result of this process, employees that share the same environment, as members of a work group, are likely to develop perceptions that converge in the development of a domain-specific climate that provide meaningful information as to the relative organizationally valued priorities, conducts, and behaviors. Social information processing research has highlighted that leaders in the workplace are a key source from which employees gather the information that will shape common beliefs and meaning of organizational reality (e.g., Jiang & Gu, 2016). Accordingly, the repeated observation of leaders' styles allows team members to socially construct information concerning the kinds of conducts and behaviors that are appreciated and encouraged by the leader and the organization at large.

Consistent with a social information processing approach, leaders would thus represent a salient source from which affectively committed employees would derive the information that will shape the meaning they will ascribe to innovation and, ultimately, their motivation to engage in innovative behaviors. Moreover, as predicted by the social information processing theory, such leader-based information is likely to be socially constructed among group members. That is, it is expected to be organized in a shared climate perception of those leader's behaviors that are indicative of the relative importance that leader and organization attribute to innovation. In accordance with this premise, and based on leadership literature, we identify team-level perceptions of a leader's participative behavior as a key boundary condition that, by providing salient information of the meaning and relevance of innovation in the workplace, would shape affectively committed employees' motivation to exert innovative efforts on behalf of their organization. Accordingly, in the section below we will discuss the moderating role of team-level participative leadership in the affective commitment-employee innovation relationship.

The Moderating Role of Team-level Participative Leadership

At an individual-level, participative leadership has been identified and shown to be a key determinant of employee innovation (Rosing, Frese, & Bausch, 2011). Importantly, however, although some conceptual frameworks focus on the dyadic leader-member relation (e.g., LMX theory; Graen & Scandura, 1987), theory and research on leadership often suggest that leaders tend to have the same conducts displayed to the group as a whole (Chen & Bliese, 2002; Shamir, Zakay, Breinin, & Popper, 1998). Indeed, given the increased reliance on teams as strategic means of improving organizational effectiveness and competitiveness (as in the case of our study), many leader-follower interactions tend to occur in group contexts rather than in one-on-one settings (Gavin & Hofmann, 2002). As a result, employees are likely to form shared perceptions of their leader's behavior, which are reflected in the development of a leadership climate within the group that expresses norms and habits concerning behaviors (Hausknecht, Hiller, & Vance, 2008). Therefore, individuals are expected to assess their leader based on how the group as a whole responds to their leader leadership style, giving rise to a group-level effect.

In line with a social information processing perspective, we contend that a focus on participative leadership as a team-level, rather than individual-level, construct is more pertinent to the purpose of the present study. Indeed, as previously discussed, due to the tendency of affectively committed employees to be concerned about the damaging and socially unwelcome nature of innovation, the information that such employees gather about the meaning and value of innovation at work is an essential condition that influence their decision to engage in, rather than renounce to, innovative behaviors. According to the social information processing perspective, the key information used by employees to interpret the meaning and related value of cognitions, attitudes, and behaviors in the workplace is socially, rather than individually, constructed. Accordingly, the social nature of information that participative leadership conveys regarding the meaning and value of innovation is expected to be more accurately captured by the shared perceptions that employees consensually develop with their team members.

Hence, we expect that followers of a participative leader will be influenced by the dynamics of being a member of a participative group, rather than by their dyadic relationship with this leader. As a consequence, we assume that participative leadership will emerge as a team-level phenomenon – an assumption that has been supported by prior research (Arnold, Arad, Rhoades, & Drasgow, 2000; Yammarino & Dansereau, 2008) – and we examine whether and how the presence of a team-level participative leadership climate can condition the relationship between affective commitment and employee innovation (Kozlowski & Klein, 2000). Consistent with the current participative leadership literature (Ahearne, Mathieu,

& Rapp, 2005), we explain our rationale below as to why and how high (as opposed to low) levels of team-level participative leadership can enhance the likelihood that affective commitment will result in higher innovation.

First, participative leadership can play a key role in providing affectively committed employees with freedom from external constraints that is required for them to invest their energy in creative, rather than ordinary, organization-supportive work activities. Indeed, there is wide theoretical and empirical evidence that, by including subordinates in decision-making processes, participative leaders contribute to the formation of a group environment that allows subordinates to have an influence on the organization, and that emphasizes their voluntary novel contributions rather than top-down control (Ahearne et al., 2005; Huang, Iun, Liu, & Gong, 2010). Consequently, affectively committed employees would feel less constrained by technical rule-bound aspects of their work and freer to explore new and alternative cognitive pathways, rather than compelled to strictly follow organizational routines. As a result, they will be more likely to interpret innovation as a valuable and socially valued way to contribute to the organization than a deviant and disturbing behavior. Their motivation to focus on problems and ideas persistently and to take the risk of seeking creative approaches to performing tasks would hence be enhanced (Amabile, 1988; Zhang & Bartol, 2010). Conversely, supervisors engaging in more directive conducts restrict the freedom from role-related constraints and formal rules that affectively committed employees require to ascribe a positive meaning to innovation and, thereby, to develop and implement creative ideas (Montani, Battistelli, & Odoardi, 2018). Instead, in such a condition, affectively committed employees are more likely to see adhesion to traditional norms and procedures, and not innovation, as a correct way to benefit the organization (Salancik, 1977). As result, they would refrain from exploring original, organization-supportive ways of doing things (Randall, 1987).

Moreover, when supervisors invite and encourage followers to express their voices, they communicate the need for and genuine appreciations of their unique ideas, thereby demonstrating the belief that such ideas will make the organization more performant and efficient (Yuan & Woodman, 2010). These shared values and beliefs will thus be transmitted to affectively committed employees through a social information processing mechanism that will ultimately make them seize the potentially favorable organizational consequences of innovative actions. As a consequence, such employees will be more prone to adopting innovative, rather than ordinary, behaviors to support and improve organizational functioning, However, when affectively committed employees cannot benefit from participation-supportive conditions, they might be conveyed with the shared belief that individuals' unique ideas and perspectives are not relevant inputs for successful organizational outcomes. Such employees will hence be less likely to believe that generating, promoting, and implementing innovative ideas will benefit the organization. Consequently, affectively committed employees would be expected to engage in safer ways of serving the organization (e.g., helping colleagues with work-related problems or treating others with loyalty and respect), which nonetheless preclude them from promoting their own potentially beneficial innovative perspectives (Randall, 1987). Thus, taken together, our arguments suggest that group-level participative leadership is expected to enhance the likelihood that affectively employees will strive to support and benefit the organization by engaging in innovative, rather than ordinary, work behaviors. Therefore, we propose the following cross-level moderation hypothesis (graphically illustrated in Figure 1):

Team-level participative leadership will moderate the relationship between organizational affective commitment and employee innovation such that team-level participative leadership will boost the positive relationship between organizational affective commitment and employee innovation.
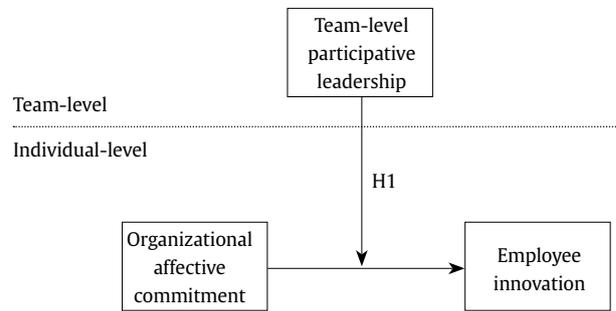

Figure 1. Conceptual Multilevel Model.

Method

Participants and Procedure

This study was conducted in Italy with six companies that had taken part in a broader research-intervention project aimed at improving current human resource management systems to enhance and support innovation processes in the workplace. The organizations operated in three industries (i.e., pharmaceuticals, manufacturing, and information technology services). To be eligible to participate in the study, an organization needed to demonstrate an innovation-oriented focus, which is reflected in the extent to which innovation-related requirements are posed on employees' jobs (Shin, Yuan, & Zhou, 2017). In all the industry sectors, employees and work teams in the six firms were exposed to continuous demands for innovation in products, procedures, and techniques. For example, workers in the pharmaceutical industries were mainly involved in producing new medications, whereas those in manufacturing and information technology sectors were primarily asked to design and implement engineering or software products customized to clients' needs. Moreover, to facilitate and support innovation at an individual-level, teams were required to translate an organization's innovation-oriented strategies into shared team goals and to coordinate cooperative and interdependent tasks. This requirement thus allowed employees to access the knowledge and skills of interdependent members that fostered the generation of creative thoughts and allowed them to receive the support necessary to promote and implement novel and useful ideas. Therefore, innovation represented a core job requirement in the six organizations at both individual and group levels, which made these firms eligible to participate in the survey.

To implement the study, all employees (N = 388) from the six participating companies were invited to take part in the study via an email from the human resource management department. All participants were requested to respond to a multi-section paper-and-pencil survey and to return the completed questionnaire in a sealed envelope to a box in the conference room. After explaining the purposes of the survey, a member of the research team, assisted by an HR manager in each company, distributed the questionnaires, which were administered during working hours to groups of 20-30 participants at a time. Survey questionnaires were coded to identify group membership. A total of 351 questionnaires were returned, 8 of which were unusable because of incomplete information. The final sample thus consisted of 343 employees nested within 34 teams, representing a response rate of 88.40%. The average team size in this final sample was 10.15 members (SD = 2.61, range = 5-15 members). Twenty-three groups belonged to knowledge-intensive industries (i.e., pharmaceuticals and information technology services), and the remaining 11 worked in labor-intensive manufacturing industries[1]. Of the participants, 52.5% were male. Additionally, most participants were between 36 and 45 years of age (39.7%) and had an undergraduate degree (40.2%). Sample characteristics are summarized in Table 1.

Table 1. Sample Characteristics

Characteristics	N = 343
Industry	
Knowledge-intensive industries	215 (62.7%)
Labor-intensive manufacturing industries	128 (37.3%)
Gender	
Female	163 (47.5%)
Male	180 (52.5%)
Age (years)	
< 26	10 (2.9%)
26–35	99 (28.9%)
36–45	136 (39.6%)
46–55	83 (24.2%)
> 55	15 (4.4%)
Education level	
Primary school	5 (1.5%)
Secondary school	71 (20.7%)
Undergraduate	138 (40.2%)
Graduate	95 (27.7%)
Master	34 (9.9%)
Organizational tenure (years)	
< 8	124 (36.1%)
8–14	108 (31.5%)
> 14	111 (32.4%)
Tenure with supervisor (years)	
< 8	289 (84.3%)
8–14	33 (9.6%)
> 14	21 (6.1%)

Measures

Participative leadership. Participative leadership was measured using the participative decision-making scale developed by Arnold et al. (2000), which consists of 6 items (α = .88). Responses to all items ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is "My direct supervisor uses my work group's suggestions to make decisions that affect us".

Organizational affective commitment. Affective commitment was measured using Meyer, Allen, and Smith's (1993) six-item scale (α = .89). All responses were rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is "I really feel as if this organization's problems are my own".

Employee innovation. Employee innovation was assessed using Janssen's (2000) 9-item measure (α = .92), which entails three different subscales: idea generation, idea promotion, and idea realization. A sample item is "Transforming innovative ideas into useful applications". Responses to items ranged from 1 (*never*) to 5 (*always*). The unidimensionality of the scale has been tested and confirmed in a number of studies (e.g., Battistelli et al., 2013; Janssen, 2000). In the present study, a confirmatory factor analysis was conducted on this scale to test whether a three-factor solution involving three separate innovation dimensions would outperform the second-order factor solution. Results from the chi-square

difference test indicated that the three-factor model was not a better fit to the data than the same model plus one second-order factor, $\Delta\chi^2(0) = 0.00$, *ns*. Moreover, the intercorrelations among factors were all high (from .74 to .82). Accordingly, based on these results, and on the corresponding recommendations of Janssen (2000) and Scott and Bruce (1994), we used the overall score of employee innovation instead of the three separate dimensions.

Control variables. We controlled for gender, educational level and organizational tenure, as each of these variables has been shown to be associated with individual-level employee innovation (Hammond et al., 2011; West & Farr, 1990). We also controlled for tenure with one's supervisor to take into account possible temporal effects of participative leadership (van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004). Moreover, we controlled for the industrial sector of the firms by creating a dummy variable that distinguished between knowledge-intensive and labor-intensive (manufacturing) industries. This allowed us to assess whether different involvement in innovative activities that may exist between the two sectors would affect employee engagement in innovative activities. Finally, although the affective commitment-employee innovation relationship is expected to be explained by team members' shared perceptions of participative leadership – and although the manner in which participative leadership was operationalized and measured in the present study reflects a group-focus (cf. Arnold et al., 2000) – it is nonetheless possible that followers perceive their leader's conduct differently based on the leader's dyadic interaction with them personally (Nielsen & Daniels, 2012). We therefore controlled for individual-level perceptions of participative leadership to account for their role in shaping the affective commitment-employee innovation relationship (Leung, Huang, Su, & Lu, 2010).

Data Aggregation

To justify the aggregation of participative leadership scores at the team level, we calculated the following statistics: $r_{wg(j)}$ index (James, Demaree, & Wolf, 1984), which "compares observed within-group variability to within-unit variability expected from a hypothetical distribution – that is, an expected variance" (Klein et al., 2000, p. 514); ICC(1), which estimates the proportion of variance between participants that can be explained by group membership (Bryk & Raudenbush, 1982); and ICC(2), which estimates aggregated participative leadership scores (James, 1982). Mean $r_{wg(j)}$ was .75, indicating good agreement among members within the group (Bliese, 2000). In addition, ICC(1) was .15, which is above the recommended level of .12 (James, 1982), and ICC(2) was .64, which is also above the recommended cut-off value of .47 (Schneider, White, & Paul, 1998).

Results

Confirmatory Factor Analysis and Assessment of Common Method Variance

We conducted a confirmatory factor analysis with a maximum likelihood estimation procedure to further validate our measures,

Table 2. Fit Indices for Confirmatory Factor Analyses

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	RMSEA	SRMR
Hypothesized three-factor model	411.53 *	186	–	–	.94	.06	.05
Two-factor model							
Combining affective commitment and employee innovation	1,218.53*	188	807.00*	2	.74	.12	.13
Combining affective commitment and participative leadership	1,009.70*	188	598.17*	2	.79	.11	.09
Combining participative leadership and employee innovation	1,440.16*	188	1,028.63*	2	.68	.14	.14
One-factor model	2,110.82*	189	1,699.29*	3	.52	.17	.15

Note. N = 343. CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root mean square residual.
* p < .01.

Table 3. Study 1: Descriptive Statistics and Correlations

Variables	M	SD	1	2	3	4	5	6	7	8
1. Industry	–	–	–							
2. Gender	–	–	–.11*	–						
3. Education	–	–	–.40**	–.18**	–					
4. Organizational tenure	–	–	.07	.03	–.13*	–				
5. Tenure with leader	–	–	.01	.10	–.08	.20**	–			
6. Individual-level participative leadership	3.60	.95	.01	.13*	.08	.04	–.01	(.88)		
7. Affective commitment	3.86	.85	.05	.15**	–.07	.21**	–.03	.46**	(.89)	
8. Employee innovation	3.17	.89	–.01	.23**	.01	–.04	–.06	.32**	.32**	(.92)

Note. N = 343. Internal consistency coefficients (Cronbach's alpha) appear along the diagonal in parentheses.
*p < .05, **p < .01.

i.e., participative leadership, organizational affective commitment, and employee innovation. Fit indexes indicated a good fit for the hypothesized 3-factor model: χ^2(186) = 411.53, CFI = .94; RMSEA = .06, SRMR = .05. Furthermore, as Table 2 shows, the hypothesized measurement model exhibited a better fit to the data than alternative, more parsimonious models (*p* < .01), thereby providing support for the distinctiveness of the study's variables.

Given that the responses to all the items were collected from the same source at the same time, common method bias might exaggerate the relationships among variables. Thus, consistent with the statistical recommendations of Podsakoff, MacKenzie, and Podsakoff (2012), we therefore added a common method factor to the hypothesized 3-factor model to estimate the amount of variance accounted for by this unmeasured method factor. The model yielded a good fit, which was also significantly better than that of the hypothesized model: χ^2(165) = 284.10, $\Delta\chi^2$(179) = 127.43, *p* < .01, CFI = .97, RMSEA = .05, SRMR = .03. Nonetheless, the method factor accounted for 27% of total variance, which is roughly equivalent to the average portion of variance (26%) reported in self-report studies (Podsakoff et al., 2012). This result suggests that common method bias alone was not a serious problem in the current study. Table 3 reports the descriptive statistics and correlations for all the variables.

Hypothesis Testing

The data analyzed in this study were multilevel in nature, including participative leadership at the group level and followers'

affective commitment and employee innovation at an individual level of analysis. We therefore conducted hierarchical linear modelling (HLM) analyses with the HLM 6.02 software to test our hypotheses (Raudenbush, Bryk, Cheong, & Congdon, 2004). Using a slope-as-outcome model, we specifically assessed the impact of organizational affective commitment on employee innovation and the cross-level interaction effect of group-level participative leadership on the relationship between organizational affective commitment and employee innovation. Individual-level (Level 1) variables consisted of organizational affective commitment, employee innovation, and the control variables (industry, gender, education, organizational tenure, tenure with leader, and participative leadership). The aggregated score for participative leadership was included as a team-level (Level 2) variable. Level 1 predictors were grand-mean centered. This centering approach is often recommended, as it facilitates the interpretation of results from hierarchical linear models, ensures that the effects of level 1 variables are controlled for in testing level 2 effects, and reduces potential multicollinearity problems (Hofmann, Griffin, & Gavin, 2000). Moreover, grand-mean centering is more suitable than group-mean centering to control for the potential confounding influence of individual-level interactions (i.e., organizational affective commitment x individual-level participative leadership) when testing cross-level interactions (i.e., organizational affective commitment x group-level participative leadership) (Hofmann & Gavin, 1998).

The results from HLM analyses are summarized in Table 4. We first ran a null model to ensure that there was significant between-team

Table 4. Results of Moderated Hierarchical Linear Modelling Analysis Predicting Employee Innovation

Variable/Model	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Level 1								
Industry	–.09	.11	–.10	.11	–.11	.11	–.08	.10
Gender	.26*	.09	.26*	.09	.24*	.09	.22*	.08
Education	.04	.04	.05	.05	.05	.05	.04	.04
Organizational tenure	–.06	.05	–.06	.05	–.07	.05	–.07	.05
Tenure with leader	–.11	.06	–.10	.07	–.12	.07	–.13	.07
Affective commitment	.21**	.06	.08	.21	.12	.22	.33	.22
Individual-level participative leadership	.24**	.05	.07	.21	.14	.21	.36	.23
Affective commitment x individual-level participative leadership			.04	.05	.04	.05	–.02	.05
Level 2								
Team-level participative leadership					–.42**	.12	–.39**	.11
Level 1 x level 2								
Affective commitment x team-level participative leadership							.43**	.11
Total R^2	.26		.29		.30		.32	
Deviance	789.34		784.93		777.48		770.04	

Note. N = 343. Total R^2 value indicates the amount of total variance (i.e., between- and within-group variance) in the dependent variable accounted for by all the variables in the model (see Snijders & Bosker, 1999). For industry: 1 = knowledge-intensive industries, 2 = labour-intensive manufacturing industries. For gender: 1 = female, 2 = male. For education: 1 = primary school, 2 = secondary school, 3 = undergraduate, 4 = graduate, 5 = master. For organizational tenure and tenure with leader: 1 = less than 8 years, 2 = between 8 and 14 years, 3 = over 14 years.
*p < .05, **p < .01.

variance in employee innovation. The results indicated significant between-group variability (χ^2 = 77.72, *df* = 33, *p* < .01, ICC[1] = .11), revealing that 11% of the variance in employee innovation resided between teams, which justified HLM as a suitable analytic technique. Hypothesis 1 suggested that team-level participative leadership would exert an additional moderating effect on the affective commitment-employee innovation relationship. As indicated in Table 4 (Model 4), the cross-level interaction between affective commitment and team-level participative leadership had a positive and significant relationship with employee innovation, beyond individual-level participative leadership (γ = .43, *p* < .01). Moreover, Model 2's results in Table 4 showed that the interaction term between affective commitment and individual-level participative leadership was not significant (γ = .04, *ns*)[2].

To interpret the pattern of the moderating effect of team-level participative leadership on the relationship between affective commitment and employee innovation, we followed the procedure recommended by Preacher, Curran, and Bauer (2006), which suggests conducting simple slope tests using the variance and covariance matrix of regression coefficients. The results from the simple slope analyses indicated that the regression line for affective commitment on employee innovation was significantly positive only in the case of high team-level participative leadership (1 *SD* above the mean) (γ = .54, *t* = 2.09, *p* < .05). Conversely, when team-level participative leadership was low (1 *SD* below the mean), affective commitment was positively but not significantly related to employee innovation (γ = .14, *t* = 0.68, *ns*), thus lending support to Hypothesis 1. Figure 2 depicts the relationship between affective commitment and employee innovation at high and low levels of team-level participative leadership.
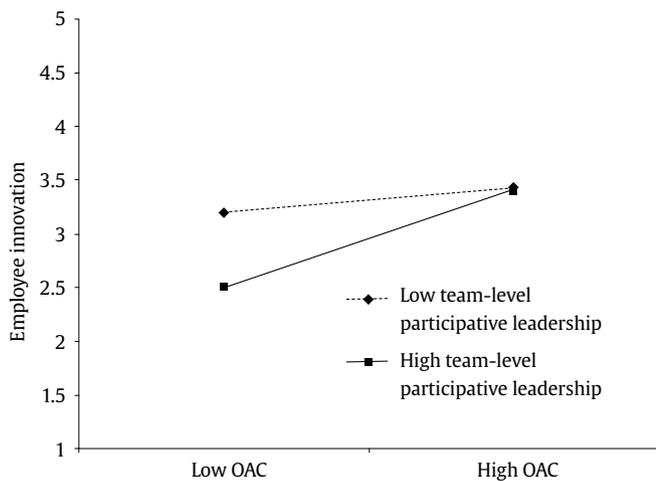

Figure 2. Interaction between Organizational Affective Commitment and Team-level Participative Leadership in Predicting Employee Innovation.
Note. OAC = organizational affective commitment.

Discussion

The present study aimed to further illuminate the relationship between organizational affective commitment and employee innovation by examining the moderating role of group-level participative leadership. Our findings offer empirical evidence for the expected cross-level interaction effect of affective commitment and team-level participative leadership on employee innovation. In particular, affective commitment was significantly more strongly positively related to employee innovation when team members shared the perception that their supervisor enacted participation-oriented behaviors. As such, these results provide important theoretical and practical implications that will be discussed below.

Theoretical Implications

Taken together, our findings suggest that a leader's participative actions may become more evident to highly affectively committed employees when such actions are perceived and interpreted in the same or similar manner within a work group. As a consequence, it is by virtue of their exposure to a participative leadership climate that individuals with a strong emotional bond to their firm might be provided with more salient information cues regarding the extent to which innovation is a socially valued and supported way of bringing about organizational benefits. This finding is indeed consistent with the current literature on workplace innovation, which indicates that organizational expectations and support for innovative attempts are an essential prerequisite for new and useful ideas to be successfully developed and implemented within the work environment (Pierce & Delbecq, 1977).

Importantly, by identifying team-level participative leadership as a boundary condition associated with the effectiveness of affective commitment, our study moves one step forward in the direction of disclosing the possible reasons for the inconsistent findings on the impact of this psychological state on employee innovation. In this regard, the results support our argument that employees manifesting a strong desire to expend extra efforts for the benefit of the organization are more likely to risk initiating innovative courses of action when shared influence processes are actively fostered within their team. By providing evidence for such a cross-level moderation effect of team-level participative leadership, our study also significantly extends current literature on the role of team-level factors in both commitment and innovation. Indeed, unlike prior commitment studies that have focused on leadership as a contextual, team-level antecedent of employee affective commitment (e.g., Delegach, Kark, Katz-Navon, & Van Dijk, 2017), our investigation unravels a new function of team-level (participative) leadership, that is to intensify the beneficial effects of affective commitment on individual innovation at work.

Thus, our findings underscore the meaningfulness of exploring team-level leader's behaviors as boundary conditions that can shape the more or less positive effects of commitment on work outcomes. Likewise, our study extends prior, limited literature on the joint impact of individual-level and group-level factors on employee innovation by suggesting that high levels of individual affective commitment to organization combined with team-level participative leadership practices represent an optimal condition for employees' expression of their innovative potential in the workplace. Accordingly, our research also highlights the pertinence of adopting a multi-level approach in future innovation studies in order to examine whether and how the interplay of supportive group-level leadership styles and positive, individual psychological states would affect employee innovation in the workplace. Moreover, our study also answers recent calls to examine the ways leaders contribute to crafting a context for creativity and innovation (Atwater & Carmeli, 2009). In this regard, our results show that supervisors adopting a participative style serve the critical function of creating a participative leadership climate within their work unit, which then sets the stage for employees who are strongly identified with their organization to actively engage in innovative action designed to bring about meaningful improvements in work environment.

Our findings also disclosed a negative direct relationship between group-level participative leadership and employee innovation. A possible explanation of this finding is that at group level participative leadership, by fostering collaboration among team members (Li, Liu, & Luo, 2018), might diminish individual engagement in data-based justifications to support dissenting views (Mortensen & Hinds, 2001) and minimize differences and incongruities among individuals. This way, participative leadership would inhibit employees' motivation to develop unusual solutions that are disapproved by other team members

(Li, Mitchell, & Boyle, 2018). Indeed, while participative leadership provides opportunities for intra-group cooperation, it also set some boundaries to individual innovation by committing team members to maintain a non-threatening atmosphere that would discourage incongruent viewpoints. Team members might thus conform to the overall group's line of thought (Janis, 1972), thereby refraining from engaging in autonomous and critical thinking, which are key drivers for individual innovation (Hülsheger, Anderson, & Salgado, 2009). Indirectly supporting this interpretation, Li, Liu, and Luo (2018) found that group-level transformational leadership – a style which includes the promotion of participative and collaborative discussions among members – was negatively related to individual innovation at work. Moreover, Hülsheger et al.'s (2009) meta-analysis on team-level predictors of workplace innovation showed that, compared to other team-level factors, participative safety – a construct encompassing team member participation in decision-making – displayed a weak, non-generalizable positive correlation with innovation.

Likewise, the interaction plot also showed that the difference between high and low levels of group-level participative leadership in shaping employee innovation is more pronounced among low, rather than high, affectively committed employees. Precisely, as can be seen, individuals with low levels of affective commitment scored higher on innovation under low (versus high) levels of participative leadership. By extending the above discussed logic to this interaction pattern, it is plausible to suggest that low levels of participation, by signaling that dissenting viewpoints are more welcome than congruent collaborative efforts, could enable low affectively committed employees to express their disagreement about the work-related aspects that made them unsatisfied with their organization and, thereby, to voice innovative suggestions intended to prompt positive changes. Consistent with interpretation, prior research has empirically demonstrated that negative work-related affective states and attitudes can enhance creativity and innovation at work under certain conditions. For example, Zhou and George (2001) showed that job dissatisfied employees holding a high level of continuance commitment were more creative when they received useful feedback from colleagues, coworker support, or organizational support for creativity. Likewise, George and Zhou (2002) hypothesized and found that negative affect was positively related to employee creativity when employees perceived high recognition and rewards for creative performance and had clear feelings. Thus, taken together, our counterintuitive findings point to the need for future research to disclose when and how different levels of participative leadership and affective commitment are more likely to facilitate or inhibit employee engagement in innovative actions.

Managerial Implications

From a practical standpoint, the results of the present study help to address the following question: How can firms strengthen the innovative potential of highly affectively committed employees who may regard innovation as an unsuitable means of achieving organizational goals? In this respect, our findings emphasize the important function of team leaders in enhancing team members' readiness to take on a proactive approach to their role and to self-start innovative courses of action, regardless of the potential risks and obstacles. More specifically, this study indicates that the manner in which supervisors can achieve this goal is to contribute to developing an intra-group participative atmosphere and a shared psychological climate. These are vital to raise employees' confidence in their own ideas, to exchange and discuss them among themselves and to foster personal expectations that engaging in innovative behaviors will make the organization more effective and successful. Accordingly, various approaches and strategies can be used by leaders to enhance

the level of participation required in a psychologically safe climate to make affectively committed employees more involved in creative and innovative activities. Supervisors may organize regular team meetings with their followers to discuss potential work-related problems, to identify opportunities for improvement and to collaborate to find and implement viable ideas and solutions. In this regard, leaders should be able to exhibit proficient participation-supportive behaviors to ensure effective shared influence processes within group discussions, such as enabling the extensive exchange of task-relevant knowledge and information among team members, encouraging and providing feedback on new ideas, discussing and agreeing on how innovative solutions can be improved, inciting team members to ask questions and make suggestions, and communicating followers' valuable ideas to upper-level decision-makers to ensure widespread diffusion of bottom-up innovative contributions.

However, our results specifically indicated that in order for high affectively committed employees to effectively engage in innovative courses of action, they must induce similar perceptions of the team members regarding the participative leadership they enact. This important finding thus suggests that firms should rely on teams to accomplish key work activities, and should further encourage frequent team-member and leader-member interactions. In so doing, organizations would indeed facilitate the emergence of shared experiences of the work context, which, as shown in our study, might play a more important role than individual experiences in transmitting the socially accepted belief that innovation is a valued and supported endeavor that can further the achievement of an organization's goals.

Limitations and Future Research Directions

We recognize several limitations in this study that must be addressed in future research. First, although there is consistent conceptual and empirical support for our hypotheses, the cross-sectional nature of our research design does not allow us to draw any inferences about causality. Future research might thus use longitudinal designs to assess the causal status of the relationships examined in this study. Second, because all data were collected from the same source through self-report measures, the observed relationships among our study variables might be exaggerated. Measures of employee innovation in future studies should thus include either supervisory or co-worker ratings, as well as objective indicators. However, we followed the statistical recommendations of Podsakoff et al. (2003) to examine whether the observed relationships among our study variables were likely to result from common method bias. The results demonstrated that the amount of variance explained by the unmeasured method factor was marginally above 26%, which suggests that the probability of common method bias is reduced. Another limitation is that we could not empirically separate the specific dimensions of the innovation process (i.e., idea generation, idea promotion, and idea realization) because of their high inter-correlation. Future research should therefore include alternative innovation-related measures that allow the specific stages of innovation processes to be differentiated to more adequately assess whether and how each is shaped by the joint influence of affective commitment and participative leadership.

Conflict of Interest

The authors of this article declare no conflict of interest.

Notes

[1]An independent-sample *t*-test was conducted to check whether there were significant differences in the level of employee innovation

between knowledge-intensive industries and labor-intensive manufacturing industries. Results revealed a non-significant difference between the industry sectors in levels of innovation, $t_{(287.256)} = .25$, ns.

[2]The results further indicated that random slopes and intercepts still varied significantly across groups after entering the various predictors in Models 1-4: for Model 1, $\chi^2 = 32.62$, $df = 8$, $p < .01$; for Model 2, $\chi^2 = 29.03$, $df = 4$, $p < .01$; for Model 3, $\chi^2 = 31.45$, $df = 3$, $p < .01$; and for Model 4, $\chi^2 = 29.32$, $df = 3$, $p < .01$.

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Appendix

Scale items

Participative leadership (Arnold, Arad, Rhoades, & Drasgow, 2000)
1. My supervisor encourages work group members to express ideas/suggestions
2. My supervisor listens to my work group's ideas and suggestions
3. My supervisor uses my work group's suggestions to make decisions that affect us
4. My supervisor gives all work group members a chance to voice their opinions
5. My supervisor considers my work group's ideas when he/she disagrees with them
6. My supervisor makes decisions that are based only on his/her own ideas

Organizational affective commitment (Meyer, Allen, & Smith, 1993)
1. I really feel a strong sense of belonging to my organization
2. This organization has a great deal of personal meaning to me
3. I am proud to work for this organization
4. I feel emotionally attached to this organization
5. I really feel like "part of the family" in this organization
6. I really feel as if this organization's problems are my own

Employee innovation (Janssen, 2000)
1. Creating new ideas for difficult issues
2. Searching out new working methods, techniques, or instruments
3. Generating original solutions for problems
4. Mobilizing support for innovative ideas
5. Acquiring approval for innovative ideas
6. Making important organizational members enthusiastic for innovative ideas
7. Transforming innovative ideas into useful applications
8. Introducing innovative ideas into the work environment in a systematic way
9. Evaluating the utility of innovative ideas