Journal of Management Vol. 42 No. 4, May 2016 982–1004 DOI: 10.1177/0149206313506462 © The Author(s) 2013 Reprints and permissions: sagepub.com/journalsPermissions.nav

A Multilevel Model of Employee Innovation: Understanding the Effects of Regulatory Focus, Thriving, and Employee Involvement Climate

J. Craig Wallace Oklahoma State University Marcus M. Butts University of Texas at Arlington Paul D. Johnson Western Carolina University Flannery G. Stevens University of Utah Mickey B. Smith Oklahoma State University

Drawing from tenets of self-determination theory, we propose and test a multilevel model that examines the effects of employee involvement climate on the individual-level process linking employee regulatory focus (promotion and prevention) to innovation via thriving. Using data collected at three points in time from 346 participants in 75 groups, multilevel path analytic results demonstrated support for a positive indirect effect from promotion focus to innovation via thriving. In addition, results showed a positive indirect effect from employee involvement climate to innovation via thriving. Perhaps most important, cross-level moderated mediation results demonstrated that employee involvement climate strengthens the relationship between promotion focus and thriving, which, in turn, positively relates to innovation. The theoretical and practical implications of these multilevel effects on innovation are discussed.

Acknowledgments: This article was accepted under the editorship of Deborah E. Rupp. The authors would like to thank Dr. Gretchen Spreitzer for reviewing this article prior to submission. The first two authors contributed equally.

Corresponding author: J. Craig Wallace, Oklahoma State University, 700 N. Greenwood, 306 North Hall, Tulsa, OK 74106, USA.

E-mail: Craig.wallace@okstate.edu or Craig@theAOEgroup.com

Keywords: innovation; employee involvement climate; regulatory focus; thriving

Organizations and the individuals, teams, and units they encompass use innovation as a means to adapt to contextual changes in an effort to improve their services, procedures, practices, and products (e.g., Aldrich, 1999; Anderson, Potočnik, & Zhou, 2014; R. A. Baron, 2007; Jack & Anderson, 2002; Shane, 2008). Although factors, such as individual traits, motivation, and the job context, work in concert to enable innovation, they are often examined separately. In their recent review, Anderson and colleagues (2014) called for integrative frameworks to broaden our understanding of innovation rather than examining individual and contextual features in isolation of one another. Addressing this gap in the literature, we integrate self-determination theory (Deci & Ryan, 1985, 2000, 2008) and regulatory focus theory (Higgins, 1997, 1998) to explain how certain characteristics of individuals and their work context operate in conjunction to promote autonomous motivation and provide opportunities for employee innovation.

Creativity (i.e., idea generation) is a critical initial step toward innovation (i.e., idea implementation; e.g., Amabile, 1983, 1996; Anderson et al., 2014; Shalley & Oldham, 1997; X. Zhang & Bartol, 2010). As such, we utilize both the creativity and innovation literatures to build our arguments and represent our definition of innovation.¹ In addition, Anderson and colleagues (2014) highlight the need for research that explores the self-regulatory processes affecting innovation that stem from the interaction of individual and contextual factors. To this end, our purpose is to examine the process through which individual differences in regulatory focus (i.e., promotion focus and prevention focus), coupled with the employee involvement climate, relate to employee innovation. As shown in Figure 1, we propose that thriving is the process through which regulatory focus affects employee innovation. Thriving is self-regulatory in nature because it allows employees to gauge whether their work behaviors are providing personal development in a positive direction (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). In line with assertions that the work environment can provide development-oriented employees with a heightened sense of self-determination, volition, and freedom from organizational constraints and pressures (Deci & Ryan, 2000), we also posit that employee involvement climate operates as a key contextual influence that meets promotion-focused employees' needs for autonomy, competence, and relatedness-core aspects of self-determination theory (SDT) that have been related to increased vitality, motivation, engagement, and multiple facets of performance (Baard, Deci, & Ryan, 2004; Deci & Ryan, 2012; Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ryan & Deci, 2008). Altogether, the general premise of our study is that opportunities for innovation at work are best realized by employees experiencing thriving as a result of being willing (i.e., those possessing a high promotion focus) and able (i.e., working in a high employee involvement climate) to engage in innovation.

By pursuing these objectives, our study contributes to the extant literature in three key ways. First, we add to the limited research that has responded to calls for multilevel approaches examining the interplay between contextual and individual factors in predicting innovation (e.g., Anderson et al., 2014; Zhou & Shalley, 2008). Although the constructs in our proposed model have each previously shown a relationship with innovation in isolation (e.g., regulatory focus: Lanaj, Chang, & Johnson, 2012; thriving: Carmeli & Spreitzer, 2009; and employee



Figure 1 Hypothesized Moderated Mediation Model

Note: All hypothesized relationships are positive except for H3 and H5, which are negative. H4, H5, and H7 represent indirect effects. H8a and H8b together represent a cross-level, first-stage moderated mediation effect. H = hypothesis.

involvement: Jung, Chow, & Wu, 2003), the integration of these constructs using a multilevel approach is a valuable extension of prior work to help explain the process of how they operate in unison to facilitate innovation. Second, we extend research on employee involvement climate in numerous ways. We examine the indirect effect of employee involvement climate on innovation via thriving using the SDT motivational framework to explain how features of a high employee involvement climate meet employees' essential workplace needs. In addition, by examining the cross-level moderated effect of employee involvement climate on the promotion focus-thriving relationship and subsequent innovation, we extend theory and research on the boundary conditions of regulatory focus (e.g., Pham & Avnet, 2009; Polman, 2012; Sassenberg, Jonas, Shah, & Brazy, 2007; Wallace, Little, & Shull, 2008) to the group level. Finally, this study extends existing research on thriving by examining the role that thriving serves as a self-regulatory mediating mechanism of both individual-level and group-level effects in predicting innovation. This is important because until recently research on thriving has primarily focused on its benefits in relation to work-related outcomes (Niessen, Sonnentag, & Sach, 2012), but neither its antecedents nor mediating capabilities are currently well understood (Carmeli & Spreitzer, 2009; Niessen et al., 2012).

Theoretical Background and Hypotheses

Employee innovation in the workplace is a critical component for any organization to maintain a distinct competitive edge in the marketplace (Anderson, De Dreu, & Nijstad, 2004; Anderson et al., 2014; West, 2002). Furthermore, this advantage is heightened in a knowledge-based economy where intangible assets are commodities that play an even more significant role in organizations' abilities to enhance competitiveness by "doing more with

less" (Carmeli & Spreitzer, 2009; Carmeli & Tishler, 2004). Employees play a vital role in creating this competitive advantage because they are often on the front line with customers and view firsthand the opportunities for change and improvement in processes and procedures that are not salient to managers or those with formal responsibility for innovation in organizations. Thus, understanding the process that motivates and enables individual innovation is an area of critical importance in our field (Scott & Bruce, 1994). However, there is a lack of research that focuses on understanding this process of individual innovation. The current research serves to address this gap in the literature. To do so, in the sections that follow, first, we discuss the role of thriving in relation to employee innovation. Second, we explain the relationship between regulatory focus and thriving. Finally, we highlight the important role of employee involvement climate as a contextual variable that influences the individual-level innovation process.

Thriving and Individual Innovation

Thriving is defined as the "psychological state in which individuals experience both a sense of vitality and learning at work" (Spreitzer et al., 2005: 538; see also Porath, Spreitzer, Gibson, & Garnett, 2012). Vitality, or feelings of energy and aliveness and a zest for work (Nix, Ryan, Manly, & Deci, 1999), and *learning*, referring to the acquisition of skills and knowledge to build confidence and capability (Edmondson, 1999), represent the affective and cognitive components of thriving. Together, the two dimensions are viewed as reflecting self-regulation in the workplace by providing internal cues that help employees assess their forward progress (Porath et al., 2012; Spreitzer et al., 2005; Spreitzer & Sutcliffe, 2007). Moreover, thriving serves an adaptive function by helping employees adjust to their work context and promoting personal development and growth. When thriving, employees are better able to gauge their own development in order to improve short-term effectiveness as well as long-term adaptability to their work context (Spreitzer et al., 2005). Importantly, some of the tenets of thriving-specifically vitality at work-closely align with the idea of intrinsic motivation, which has often been studied as a key element in relation to creativity (Amabile, 1996) and innovation (Anderson et al., 2014). However, according to Sonenshein, Dutton, Grant, Spreitzer, and Sutcliffe (2006), thriving is distinct from intrinsic motivation in that although thriving may at times derive from a desire to perform a behavior based on the affective enjoyment of the behavior itself (i.e., vitality), at other times the impetus for thriving has been described by emphasizing personally important achievement and recognition goals (i.e., learning).

Carmeli and Spreitzer (2009) offer three ways by which thriving sets the stage for creativity and innovation to occur. First, when employees are learning and developing at work, they are in an ideal position to recognize and implement improvement opportunities. Learning is required to obtain expertise, which then drives creative behavior (Amabile, 1998) and ensures the success of creative efforts (Carmeli & Spreitzer, 2009). Second, when individuals are thriving, they have more energy and motivation to devote toward investigating and implementing new work processes. Third, thriving encapsulates positive moods and emotions, both of which facilitate expansive cognitive thinking and creative problem solving (Hirt, Levine, McDonald, Melton, & Martin, 1997). Furthermore, the experience of positive emotions builds psychological and social resources (Fredrickson, 2001), which allows individuals to be more innovative. Previous empirical work supports this link between thriving and innovative work behaviors (i.e., Carmeli & Spreitzer, 2009). Thus, we expect to replicate this relationship in our hypothesized model:

Hypothesis 1: Thriving positively relates to innovation.

Regulatory Focus and Thriving

Because thriving is viewed as a type of self-regulatory psychological state, it is malleable and, therefore, may be influenced by stable individual characteristics, such as regulatory focus. Regulatory focus, typically conceptualized as a chronic, individual disposition, represents two distinct forms of approach motivation: promotion focus and prevention focus (Higgins, 1997, 2000; Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001; Higgins, Roney, Crowe, & Hymes, 1994). A promotion focus is associated with growth and developmental needs and involves striving for ideals, aspirations, and rewards through accomplishment, whereas a prevention focus is associated with needs for security and safety and involves fulfilling duties and obligations through responsible behaviors. With a promotion focus, salient goals are perceived as "gains" or "nongains" and involve construal of achievement goals as aspirations such that, when accomplished, they yield the highest expected utility and result in the emotional pleasure of cheerfulness (Higgins, 1997, 2000). Employees utilizing a prevention focus perceive salient goals as a "nonloss" or "loss," leading them to focus on avoiding negative outcomes by fulfilling the basic needs and requirements of the job. In this way, a prevention focus involves the construal of goals as responsibilities rather than aspirations. When those responsibilities are accomplished, losses are prevented and utility is gained, which results in the emotional pleasure of quiescence (Shah & Higgins, 1997). Furthermore, values consistent with an "ideal" self-valuing hopes, desires, and aspirations—are manifested in a promotion focus, whereas a prevention focus is consistent with an "ought" self-valuing duty and responsibility (Higgins, 1997). Prior research supports a positive relationship between promotion focus and innovation and a negative relationship between prevention focus and innovation (cf. Lanaj et al., 2012). Although important, we are not primarily concerned with replicating these direct relationships. Rather, our focus is on expanding on these previously demonstrated direct relationships by explaining them via the mediating effect of thriving and identifying a context that enhances their effects.

Spreitzer et al.'s (2005) conceptual work on thriving acknowledged that regulatory focus might serve as an important trait that enables some individuals to thrive in the workplace more than others. Furthermore, Spreitzer et al. suggested that it is crucial for thriving that employees act agentically (i.e., being active and purposeful at work), which involve behaviors that are closely aligned with a promotion focus. Because of the salience of growth, accomplishment, and development to promotion-focused individuals, we argue that employees with a high (rather than low) promotion focus are more motivated to exert effort toward engaging in agentic work behaviors (e.g., concentrating on exceeding work expectations, exploring alternative task procedures, assisting team members and being attentive to their needs and engaging in risk taking and experimentation on the job) that are associated with thriving.

Because they are driven by aspirations, promotion-focused employees are likely to concentrate their behaviors on achieving and exceeding their assigned work responsibilities in order to feel a sense of accomplishment and increased energy. Förster, Grant, Idson, and Higgins (2001) found that successful completion of tasks generated higher levels of motivation for promotion-focused individuals. Focusing on attainment also relates to learning (Niessen et al., 2012; Orvis, Fisher, & Wasserman, 2009). In a meta-analysis of regulatory focus, Lanaj and colleagues (2012) found that learning goal orientation, an approach temperament, positively related to promotion focus. This suggests that a promotion focus may facilitate learning by directing behavior toward achieving new knowledge salient to mastering work tasks. Learning and mastery are also heavily reliant on social learning (Bandura, 1977), and social learning in the workplace often occurs through assisting other coworkers. Employees with a high promotion focus are also more likely to engage in exploratory behaviors because they are open to novel experiences that have the potential for rewards (Friedman & Förster, 2001; Wallace & Chen, 2006). Thus, promotion-focused employees view these behaviors as an appealing opportunity to fulfill experimentation and personal growth strivings. In turn, when employees engage in exploratory behaviors, they are more likely to exhibit both increased vitality and learning (Spreitzer et al., 2005). Exploration allows employees to generate, encounter, and implement novel ideas, information, and strategies for accomplishing work, which can provide and restore energy (e.g., R. Kaplan & Kaplan, 1995; S. Kaplan & Berman, 2010). Exploration also increases learning because the new ideas and strategies employees encounter expands their repository of knowledge and skills that can be applied in the workplace.

Because a high prevention focus manifests itself as strategies that concentrate on fulfilling basic requirements and duties while simultaneously guarding against errors and avoiding behaviors that move one toward mismatches and risks, behaviors are less agentic in nature. For example, by focusing only on basic duties and avoiding behaviors that may lead to negative outcomes, prevention-focused employees are far less likely to seek out opportunities to develop and change routines to make their work more efficient and effective. Engaging in the development and refinement of work routines to increase effectiveness is indicative of agentic behaviors that contribute to thriving at work (Spreitzer et al., 2005). Furthermore, because their salient outcomes are viewed as losses and nonlosses, prevention-focused employees are not likely to engage in the exploratory behaviors necessary to grow and learn at work. Prevention-focused individuals perceive that risks and the potential for negative outcomes outweigh the prospects for performance rewards and personal development. In turn, these employees are more likely to display a quiescent emotional state and a performance avoidance goal orientation (Lanaj et al., 2012), which inhibits the agentic behaviors necessary for thriving, suggesting that there is a negative relationship between prevention focus and thriving. Therefore, we propose,

Hypothesis 2: Promotion focus positively relates to thriving. *Hypothesis 3*: Prevention focus negatively relates to thriving.

Based on the aforementioned arguments and by linking Hypothesis 1 with Hypotheses 2 and 3, respectively, we propose the following additional hypotheses:

Hypothesis 4: Promotion focus has a positive indirect effect on innovation via thriving. *Hypothesis 5*: Prevention focus has a negative indirect effect on innovation via thriving.

The Role of Employee Involvement Climate

Although individual traits may predispose some employees to have the needed motivation to thrive more than others, understanding features of the workplace environment that provide the requisite conditions for employees to thrive may contribute more to theory development and practice (Spreitzer et al., 2005). For example, even though promotion-focused employees may be more motivated to engage in highly agentic behaviors that result in experienced psychological states of vitality and learning, the opportunity to pursue such behaviors depends on the workplace context in which they act. Thus, without the right context that provides opportunities to thrive in the workplace, employees' motivational predispositions may be of little circumstance.

The benefits of workplace context to employee thriving are suggested by tenets of SDT (cf. Gagné & Deci, 2005). SDT is a motivational framework that rests on the assumption that individuals possess an innate desire for personal growth, a sense of choice, and personal initiative in their lives (Deci, Connell, & Ryan, 1989; Deci & Ryan, 2000). Furthermore, SDT distinguishes autonomous motivation from controlled motivation such that the former encompasses both intrinsic motivation and valued activities internalized within the self (i.e., integrated extrinsic motivation) and the latter reflect purely extrinsic motives. In this way, autonomous motivation aligns with the self-regulatory, motivational aspects of thriving. SDT also posits that when employees are more able to satisfy their basic human needs for autonomy, competence, and relatedness, they are more likely to engage in agentic behaviors that ultimately result in greater psychological growth and development (Ryan & Deci, 2000), and, thus, a higher likelihood of thriving at work. However, Gagné and Deci (2005) and Deci et al. (1989) argue that the degree to which employees are autonomously motivated hinges on the extent to which the interpersonal work climate and support created by managers satisfies employees' basic human needs. As such, we suggest that the fulfillment of employees' basic human needs is embodied by a high employee involvement climate that provides essential prerequisites for enhancing the likelihood of thriving.

An employee involvement climate exists when employees within some defined unit (e.g., organization, department, or team) mutually understand that they (a) possess the power to make decisions and act on them, (b) may access and share the informational resources needed to undertake those actions effectively, (c) have opportunities to update their knowledge in order to continually develop their effectiveness, and (d) are rewarded for improving the effectiveness of their work unit and organization (Lawler, 1996; Richardson & Vandenberg, 2005; Riordan, Vandenberg, & Richardson, 2005; Vandenberg, Richardson, & Eastman, 1999). The primary benefit of a high employee involvement climate is that it facilitates a deeper cognitive understanding of the workplace as well as allows employees the freedom to work autonomously rather than being constrained (Blau, 1987; Butts, Vandenberg, DeJoy, Schaffer, & Wilson, 2009; Fuller, Marler, & Hester, 2006; Lawler, 1986; Mowday & Sutton, 1993; Spreitzer, 1996). Importantly, employee involvement climate likely operates most effectively at lower organizational levels because unit managers often can provide closely supervised functional directives for employee involvement within the work unit (Bowen & Ostroff, 2004; Ostroff & Bowen, 2000; Richardson & Vandenberg, 2005). As such, the immediate manager serves as an integral part in forming the group's employee involvement climate, allowing for meaningful variation across units (Bowen & Ostroff, 2004; Richardson & Vandenberg, 2005).

We suggest that a high employee involvement climate allows for activities and behaviors that provide psychological "nutriments" (i.e., autonomy, relatedness, and competence) to satisfy fundamental human needs (Deci & Ryan, 2000). These psychological nutriments are supplied in a high employee involvement climate by offering opportunities for participation in decision making among groups, providing avenues for training and development, and, perhaps most important, allowing employees freedom to work autonomously through encouraged self-initiation. However, motivational benefits of the psychological nutriments provided by a high employee involvement climate may depend on the individual traits of employees in the organization, such as regulatory focus, which makes employees more or less prone to thrive in a high employee involvement climate. Defining this occurrence in terms of the "match hypothesis," SDT proposes that people who are development-focused are the ones who are more motivated in climates that are more autonomy-supportive, resulting in positive performance and better well-being (Gagné & Deci, 2005).

For employees with a high promotion focus, a high employee involvement climate provides opportunities for autonomous motivation gains and work achievements that align with the promotion focus mindset, thereby creating a better regulatory fit between the work context and these employees' desire to align their ideal selves with their work roles in order to feel fully present in their jobs (Kahn, 1990; Lanaj et al., 2012). That is, high employee involvement climates provide opportunities that motivate promotion-focused employees to fulfill their utmost potential—a "regulatory fit" (Higgins, 1997, 2000, 2005) that is maximized by features of the person (i.e., promotion focus) matching a context that supports fulfillment of fundamental human needs (i.e., a high employee involvement climate). Thus, it is possible that thriving may be enhanced when the motivational opportunities provided by a high employee involvement climate correspond with employees' regulatory focus (Aaker & Lee, 2006; Agrawal, Menon, & Aaker, 2005; Dimotakis, Davison, & Hollenbeck, 2012; Higgins, Cesario, Hagiwara, Spiegel, & Pittman, 2010; Spiegel, Grant-Pillow, & Higgins, 2004). Accordingly, we expect that a high employee involvement climate allows increased autonomous motivation for those individuals with a high promotion focus, leading to higher levels of thriving and, subsequently, higher levels of innovation. This corresponds to what Edwards and Lambert (2007) define as first stage moderated mediation, but the proposed moderating effect occurs across levels of analysis.

Because of the conceptually distinct nature of prevention focus, as well as the demonstrated small correlation with promotion focus (Lanaj et al., 2012), we do not expect employee involvement climate to affect the prevention focus–thriving relationship. The combination of a high employee involvement climate and a high prevention focus does not provide a regulatory fit between features of the person (i.e., prevention focus) and the context of high involvement. Thus, we do not propose a cross-level moderated effect with regard to prevention focus and employee involvement climate. As demonstrated in previous research, mismatches in regulatory fit, such as we expect here, are often found to produce null effects (Dimotakis et al., 2012; Freitas & Higgins, 2002; Van Dijk & Kluger, 2011). Based on the arguments above and by building on our previous hypotheses, we propose the following:

Hypothesis 6: Employee involvement climate positively relates to thriving.

Hypothesis 7: Employee involvement climate has a positive indirect effect on innovation via thriving.

- *Hypothesis 8a*: Employee involvement climate moderates the positive relationship between promotion focus and thriving such that the relationship becomes stronger as employee involvement climate is higher.
- *Hypothesis 8b*: The positive indirect effect of promotion focus on innovation via thriving is moderated by employee involvement climate such that the indirect effect becomes stronger as employee involvement climate is higher.

Method

Participants and Procedure

A total of 346 employees, comprising 75 work groups led by 75 unique supervisors, of two physical facilities organizations participated in the study. Employees were repair generalists whose jobs involved a wide variety of building and maintenance tasks including electrical, plumbing, and mechanical work as well as operating heavy machinery and boiler room work. While innovation needs may not be apparent in this type of work, the industry is routinely looking for more efficient methods to complete work as well as looking for "greener" methods to improve practices-methods that speak well to generating and implementing new and useful ideas in the workplace (i.e., innovation). The recruited sample across the two organizations consisted of 700 full-time employees, of whom 354 provided useable self-report data (response rate = 51%). Innovation performance ratings were unavailable for 8 participants, resulting in a total useable sample of self-report employee data and supervisor innovation performance ratings for 346 participants (79.2% male; final response rate = 49%). The work groups consisted of 2 to 18 employees (average size = 4.8; SD = 4.7) reporting to a single supervisor. Average participant age was 41.3 years (SD = 14.8), and employees had an average organizational tenure of 12.8 years (SD = 9.3), with 89.4% Caucasian, 6.1% African American, 3% Hispanic, and 1% Asian participants, with the remaining 1% either Other or not reported.

Measures

Measures were administered over a lagged, 3-month time period with employees initially completing measures of regulatory focus and employee involvement climate. One month later, participants completed a measure of thriving. Approximately one month after the completion of the thriving measure, supervisors completed ratings of each participant's innovation-related performance.

Employee involvement climate. Group employee involvement climate ($\alpha = .84$) was assessed using the eight-item measure reported in Richardson and Vandenberg (2005), with participants using a 5-point scale ($1 = strongly \ disagree, 5 = strongly \ agree$). The immediate supervisor of the work group, who has a proximal influence on setting group norms and informal practices, was used as the referent for group employee involvement climate (e.g., "When dealing with upper-management, my supervisor relates what he/she learned to my work unit").

Regulatory focus. Promotion and prevention focus items used by Wallace and colleagues (2008) were used to measure regulatory focus. The promotion (e.g., "I frequently imagine

how I will achieve my hopes and aspirations") and prevention (e.g., "I am focused on preventing negative events at work") focus measures comprised six items each ($\alpha = .84$ and .82, respectively). Participants responded to these items using a 5-point scale (1 = never, 5 = always).

Thriving. Thriving was measured with a 10-item measure of thriving at work ($\alpha = .91$) from Spreitzer, Porath, Gibson, and Garnett (in press). Participants responded to five items representing learning (e.g., "I find myself learning often") and five items representing vitality (e.g., "I feel alive at work") facets of thriving using a 5-point scale (1 = strongly disagree, 5 = strongly agree).

Innovation. We used the four general innovation performance items developed by Welbourne, Johnson, and Erez (1998) to represent employee innovation because they best capture not only the development of novel and useful ideas but also the implementation and application of such ideas. Innovation performance items included "Coming up with new ideas and implementations," "Finding improved ways to do things," and "Creating better processes and routines." Supervisors provided ratings of their employees' innovation performance using a 5-point scale (1 = needs much improvement, 5 = excellent).

Control variables. Employee age and hours worked per week were used as control variables in the analyses, as each has been shown to relate to innovation (e.g., Frosch, 2011; Sauermann & Cohen, 2010).

Confirmatory Factor Analysis

We conducted a confirmatory factor analysis on our study measures to examine construct distinctiveness. Specifically, a multilevel measurement model was tested with the items for employee involvement climate, promotion focus, prevention focus, thriving, and innovation. In the measurement model, employee involvement climate items were loaded onto a factor at both the individual level (Level 1) and the group level (Level 2), allowing for random intercepts at the individual level that are free to vary across units at the group level (Muthén & Muthén, 2010). All other measures were modeled at the individual level only, while taking into account the lack of independence within units. Furthermore, following past factor-analytic work on the construct (Carmeli & Spreitzer, 2009; Porath et al., 2012) we modeled thriving as two distinct, but related factors representing learning and vitality.

The measurement model fit the data reasonably well, $\chi^2(532) = 1475.73$, comparative fit index (CFI) = .91, Tucker–Lewis index (TLI) = .90, root mean square error of approximation (RMSEA) = .07, within-units standardized root mean square residual (SRMR_{within}) = .06, and between-units SRMR (SRMR_{Between}) = .06. All items loaded significantly on their respective factors at the a priori level of analysis and were above .76. Furthermore, the interfactor correlation between learning and vitality was high (.87) and within the range of correlations found in prior construct validation work on thriving (Porath et al., 2012). Because learning and vitality have been theoretically defined as elements of a higher-order thriving construct and our primary focus is on the effects of thriving as a whole rather than its constituent parts, we chose to operationalize thriving in a way that mimics its higher-order structure by combining scores on the two composites for learning and vitality (after group-mean centering each variable). In summary, these results provide evidence that our study measures capture distinct constructs at their expected level of analysis, and they substantiate our decision to combine the learning and vitality composite scores into a single measure of thriving in subsequent analyses.

Aggregation of Employee Involvement Climate

Researchers (e.g., Bliese, 2000) have proposed three steps to determine the viability of aggregation: sufficient within-group homogeneity, sufficient between-group heterogeneity, and that the group is naturally occurring. Because the unit of analysis (i.e., work groups) naturally occurs, establishing sufficient within-group homogeneity and between-group heterogeneity was necessary to justify aggregation for employee involvement climate. To assess within-group homogeneity, we used the $r_{wg(i)}$ statistic (James, Demaree, & Wolf, 1993). Using uniform null and normal distributions, the average $r_{wg(i)}$ values found were .93 and .87, respectively (range = .78-.99 and .63-.99; median = .89 and .85). In addition, the intraclass correlation and reliability of the mean, or ICC(1) and ICC(2) respectively (James, 1982; Shrout & Fleiss, 1979), were used to further assess homogeneity. The ICC(1) value is interpreted as the proportion of variance explained by group membership; an ICC(2) value greater than or equal to .70 represents that the group means are reliably different (Bliese, 2000; Bryk & Raudenbush, 1992). The intraclass correlations for employee involvement climate, calculated using the Bartko formula (see Bliese, 2002), were ICC(1) = .30 and ICC(2) = .72, with significant between-groups variance, F(74, 302) = 3.05, p < .05. These results supported aggregating employee involvement climate for the group-level analyses.

Analysis Strategy

Our data contained a hierarchical structure in which individuals were nested within their groups/supervisors. Furthermore, certain hypotheses were multilevel in nature in that they involved testing relationships between group-level variables (Level 2) and individual-level variables (Level 1). To appropriately model this, we used multilevel path analysis with Mplus 6.12 (Muthén & Muthén, 2010) and robust full maximum likelihood estimation while following recommendations by Preacher, Zyphur, and Zhang (2010) on how to model multilevel mediation. Preacher et al.'s (2010) multilevel mediation approach in the context of path analysis is best suited for the current study because it allows estimation of covariances for Level 1 random effects and indirect effects, and the multiple paths that are components of these indirect effects, without conflating the individual-level and group-level relationships. Furthermore, this approach allows us to incorporate Preacher and Hayes's (2004) simultaneous estimation method of testing indirect effects in mediation rather than relying on step-wise procedures to test mediation (i.e., R. M. Baron & Kenny, 1986) or piecemeal estimation techniques, such as hierarchical linear modeling, that may potentially bias results because they do not allow for simultaneous estimation of all parameters. To test for the hypothesized moderated mediation effect of employee involvement climate, we adapted Bauer, Preacher, and Gil's (2006) simultaneous multilevel regression procedure and applied it within Preacher et al.'s (2010) approach to examine the indirect effect of promotion focus on innovation (via

Variable M SD 1 2 3 4 5 6 7 1. Age 41.31 14.81 - 1 - - - 1 - - - - - - - - - - 1 - 1 - <th></th> <th></th> <th></th> <th></th> <th colspan="6"></th>										
1. Age 41.31 14.81 $$ 2. Work hours 40.08 4.87 06 $$ 3. Promotion focus 3.78 0.92 $.07$ $.12*$ $(.84)$ 4. Prevention focus 3.26 0.87 03 06 $.35*$ $(.82)$ 5. Thriving 3.05 1.04 $.01$ $.13*$ $.39*$ $13*$ $(.91)$ 6. Innovation 3.76 1.13 02 03 $.04$ 06 $.30*$ $(.91)$ 7. Employee 3.12 1.12 $.03$ $.15*$ $.22*$ $13*$ $.49*$ $.05$ $(.84)$	Variable	М	SD	1	2	3	4	5	6	7
2. Work hours 40.08 4.87 06 3. Promotion focus 3.78 0.92 $.07$ $.12*$ $(.84)$ 4. Prevention focus 3.26 0.87 03 06 $.35*$ $(.82)$ 5. Thriving 3.05 1.04 $.01$ $.13*$ $.39*$ $13*$ $(.91)$ 6. Innovation 3.76 1.13 02 03 $.04$ 06 $.30*$ $(.91)$ 7. Employee 3.12 1.12 $.03$ $.15*$ $.22*$ $13*$ $.49*$ $.05$ $(.84)$	1. Age	41.31	14.81							
3. Promotion focus 3.78 0.92 .07 .12* (.84) 4. Prevention focus 3.26 0.87 03 06 .35* (.82) 5. Thriving 3.05 1.04 .01 .13* .39* 13* (.91) 6. Innovation 3.76 1.13 02 03 .04 06 .30* (.91) 7. Employee 3.12 1.12 .03 .15* .22* 13* .49* .05 (.84)	2. Work hours	40.08	4.87	06						
4. Prevention focus 3.26 0.87 03 06 .35* (.82) 5. Thriving 3.05 1.04 .01 .13* .39* 13* (.91) 6. Innovation 3.76 1.13 02 03 .04 06 .30* (.91) 7. Employee 3.12 1.12 .03 .15* .22* 13* .49* .05 (.84)	3. Promotion focus	3.78	0.92	.07	.12*	(.84)				
5. Thriving 3.05 1.04 .01 .13* .39* 13* (.91) 6. Innovation 3.76 1.13 02 03 .04 06 .30* (.91) 7. Employee 3.12 1.12 .03 .15* .22* 13* .49* .05 (.84)	4. Prevention focus	3.26	0.87	03	06	.35*	(.82)			
6. Innovation 3.76 1.13 02 03 .04 06 .30* (.91) 7. Employee 3.12 1.12 .03 .15* .22* 13* .49* .05 (.84) involvement climate	5. Thriving	3.05	1.04	.01	.13*	.39*	13*	(.91)		
7. Employee 3.12 1.12 .03 .15* .22*13* .49* .05 (.84) involvement climate	6. Innovation	3.76	1.13	02	03	.04	06	.30*	(.91)	
	 Employee involvement climate 	3.12	1.12	.03	.15*	.22*	13*	.49*	.05	(.84)

 Table 1

 Means, Standard Deviations, and Bivariate Correlations Among Study Variables

Note: N = 346. Employee involvement climate values are for individual perceptions before aggregation to the group level. Internal consistency reliabilities are in parentheses on the diagonal. Work hours = hours worked per week. *p < .05.

thriving) at different levels of employee involvement climate (i.e., conditional effects). Combining the approaches of Preacher et al. and Bauer et al. was necessary because the former does not address the case of moderated mediation using path analysis and the latter only addresses moderated mediation in the context of hierarchical linear modeling and not path analysis. Using these two approaches together allowed us to employ the most statistically appropriate framework to test our study hypotheses.

Consistent with our proposed relationships at the individual level, all variables except employee involvement climate were group-mean centered. Also, learning and vitality were group-mean centered before they were combined into a single composite score. The groupmean centering approach ensures that there is no conflation of the individual and group-level effects in our path analytic results and allows for more unbiased estimates of the slopes and effects (Preacher et al., 2010; Z. Zhang, Zyphur, & Preacher, 2009). Employee involvement climate was grand-mean centered because it was specified as a group-level (Level 2) variable only and aggregation tests supported this level of analysis, and thus group-level effects were of primary interest.

Results

Model and Hypotheses Testing

Means, standard deviations, and bivariate correlations are presented in Table 1. Before testing the multilevel moderated mediation model, we first had to examine relationships at the individual level of analysis. To accomplish this, we followed Preacher et al.'s (2010) guidelines and tested a path model specifying indirect effects of regulatory focus (promotion and prevention) on innovation through thriving $(X \rightarrow M \rightarrow Y)$ while simultaneously taking into account direct effects and the nesting of individuals within groups/supervisors (i.e., the inclusion of random intercepts and slopes). In addition, age and work hours were included as controls with fixed effects on thriving and innovation. The purpose of this analysis was to (a) test the significance of the direct and indirect effects from X to Y through M and (b) estimate the significance of variability in the indirect effects over Level 2 units, or random effects, in order to establish the need for investigating moderation at Level 2 (Bacharach, Bamberger, & Doveh, 2008; Bauer et al., 2006). Assuming a significant expected indirect effect is found and variability exists at Level 2, we proceeded with the multilevel moderated mediation analysis taking into consideration effects for employee involvement climate.

Thriving was hypothesized to relate to innovation (Hypothesis 1), while promotion and prevention focus were hypothesized to relate to thriving (Hypotheses 2 and 3, respectively). Furthermore, we proposed that thriving mediates the relationship between (a) promotion focus and innovation (Hypothesis 4) and (b) prevention focus and innovation (Hypothesis 5). Results from our analysis at the individual level support these hypothesized relationships. Specifically, the path model results indicated that thriving was positively related to innovation ($\gamma = .31, p < .01$). Furthermore, promotion focus was positively related to thriving ($\gamma = .17, p < .01$) and prevention focus was negatively related to thriving ($\gamma = ..08, p < .01$). To provide a test of the indirect effects (Hypotheses 4 and 5), we used a parametric bootstrap procedure that employed 20,000 Monte Carlo replications to estimate a confidence interval (CI) around the indirect effects (Preacher et al., 2010). Results showed a positive indirect effect of promotion focus on innovation via thriving (estimate = .054, 95% CI = .009, .105) and a negative indirect effect of prevention focus on innovation via thriving (estimate = .030, 95% CI - .052, -.004). Taken together, these results provide support for Hypotheses 1 through 5.

For the individual-level path model, we also found significant random (Level 2) effects for promotion and prevention focus (p < .05), suggesting possible moderators should be considered to explain this variability (Kenny, Korchmaros, & Bolger, 2003). Thus, we proceeded to test for multilevel moderated mediation in accord with Bauer et al. (2006). To estimate the cross-level relationships, we tested a model that included a direct relationship between employee involvement climate and thriving (i.e., a main effect) as well as a random slope between promotion focus and thriving predicted by employee involvement climate (i.e., a cross-level moderation effect). In an additional analysis, we tested a separate cross-level moderation model for prevention focus to explore the possibility that employee involvement climate has an effect on the prevention focus–thriving relationship. These model results indicated that employee involvement climate had a nonsignificant effect on the random slope between prevention focus and thriving ($\gamma = .05$, p > .05). Therefore, as expected, no support was found for cross-level moderation regarding prevention focus. Below, we turn our attention to promotion focus and discuss the model estimates obtained from our proposed multilevel moderated mediation model (see Figure 2).

As shown in Figure 2, all relationships in the proposed moderated mediation model were significant (p < .05). Furthermore, the observed relationships at the individual level did not change substantially after including employee involvement climate in the analysis. Promotion focus and prevention focus were related to thriving ($\gamma = .17$, p < .01, and $\gamma = -.07$, p < .01, respectively), while thriving was related to innovation ($\gamma = .33$, p < .01). We used Bryk and Raudenbush's (1992) formulas to calculate pseudo- R^2 ($\sim R^2$) for the model, which reflects the proportional reduction in Level 1 and Level 2 errors due to the inclusion of predictors in the model. Predictors accounted for 17% of the total variance in thriving and 15% of the total variance in innovation, suggesting promotion focus, prevention focus, and employee involvement climate were practically important in predicting thriving and innovation.



Figure 2 Moderated Mediation Model Path Coefficients

Note: Standardized coefficients are provided in parentheses. The cross-level interaction coefficient for employee involvement climate was calculated from an estimated effect size based on a comparison of pseudo- R^2 values with and without the cross-level interaction term. For the sake of parsimony, we did not present the effects of control variables (age and work hours) on thriving and innovation. Interested readers may contact the first author for estimates of these effects.

*p < .05. **p < .01.

The model results (see Figure 2) provide support for Hypotheses 6 and 7. Our results indicated that employee involvement climate was positively related to thriving ($\gamma = .24$, p < .01) and the indirect effect of employee involvement climate on innovation via thriving was .082, with a Monte Carlo parametric bootstrap 95% CI of .018, .169.

Hypothesis 8a predicted that the effect of promotion focus on thriving would be moderated by employee involvement climate. The multilevel modeling results indicated a positive effect of employee involvement climate on the random slope between promotion focus and thriving ($\gamma = .09, p < .05$), often referred to as a cross-level interaction, and provided necessary initial support for the first stage moderated mediation (Edwards & Lambert, 2007) proposed in Hypothesis 8b. Following Aiken and West's (1991) procedures, we plotted this interaction at higher and lower levels of employee involvement climate (1 *SD* above and below the mean). As shown in Figure 3, promotion focus related more positively to thriving when employee involvement climate was higher rather than when employee involvement climate was lower. Thus, Hypothesis 8a was supported.

Next, we used the method outlined by Bauer et al. (2006) for determining significance of conditional indirect effects in the context of multilevel regression by estimating the indirect effect of promotion focus on innovation via thriving at higher (+1 *SD*) and lower (-1 *SD*) levels of employee involvement climate. Results indicated that the indirect effect of promotion focus on innovation via thriving differed as a function of employee involvement climate. That is, the indirect effect was stronger when employee involvement climate was higher (estimate = .08, *SE* = .03, *p* < .05) and weaker when employee involvement climate was lower (estimate = .03, *SE* = .02, *p* > .05), supporting Hypothesis 8b. Furthermore, after



Figure 3 The Moderating Effect of Employee Involvement Climate on the Relationship Between Promotion Focus and Thriving

including employee involvement climate as a moderator, the residual group-level variance in the slope of the relationship between promotion focus and thriving was no longer significant ($\sigma^2 = .02, p > .05$), indicating that the cross-level moderator significantly accounted for the between-group variance in that relationship and, subsequently, the variability in the indirect effect of promotion focus on innovation via thriving. In summary, results from our multilevel path analysis provided strong support for our hypothesized innovation process at the individual and group levels as well as the cross-level moderating effect of employee involvement climate.

Discussion

Innovation is a complex process that includes individual, group, and organizational considerations as antecedents (Anderson et al., 2014). Drawing from SDT (Deci & Ryan, 1985, 2000), we examined regulatory focus and employee involvement climate as antecedents of innovation, with thriving operating as an underlying mediating mechanism. By testing a multilevel, moderated mediation model integrating these constructs, we found that both individual- and group-level antecedents indirectly predicted greater innovation. Perhaps more important, and in line with SDT, promotion focus and employee involvement climate interacted to enhance innovation via thriving. Specifically, regulatory focus (promotion focus and prevention focus) and employee involvement climate both had indirect relationships with innovation that were mediated by thriving. In addition, the indirect, positive relationship between promotion focus and innovation via thriving became more positive in the presence of a high employee involvement climate. These results suggest that individuals possessing a high promotion focus and embedded in organizational contexts with high levels of employee involvement are more likely to thrive at work and, subsequently, exhibit higher levels of innovation.

Theoretical Implications

Our findings have several theoretical implications. First, the current research is one of the first attempts to empirically demonstrate the joint effects of regulatory focus and employee involvement climate on innovation and to incorporate an explanatory mechanism for those effects. Because approaches to studying organizational behavior that are solely dispositional or situational in nature are both theoretically and statistically underspecified (Cappelli & Sherer, 1991; House, Rousseau, & Thomas-Hunt, 1995), an integrative, multilevel approachas we adopted here—allows for a richer understanding of how the interplay between individuals and their work environment can elicit a more motivating state that is beneficial to innovation. This multilevel approach also extends the literature on SDT by providing insights into how employees can self-regulate in the workplace through staying attuned to their psychological state of thriving in order to influence their own innovative behaviors, as well as the complex nature of organizational and individual conditions that operate together to foster thriving. Shedding light on propositions from SDT that increased opportunities for growth and development at work are best realized by those that (a) possess the necessary disposition and (b) are embedded in work environments that allow them to better engage in such opportunities (Deci & Ryan, 2000, 2008), our results support that a work climate high in employee involvement provides promotion-focused employees with a heightened sense of self-determination, volition, and freedom from organizational constraints and pressures by helping them to meet their fundamental human needs at work. This, in turn, leads to enhanced thriving at work and subsequent innovation.

Second, our results have implications for the individual-level process that unfolds from regulatory focus to influence innovation. Although cumulative research shows that regulatory focus is an important predictor of innovation (Lanaj et al., 2012), we are not aware of any research that has been devoted to examining how this effect occurs. We addressed this void by showing that individual differences in regulatory focus (i.e., promotion and prevention focus) exhibit differential relationships with thriving and, thereby, differential indirect effects on innovation. We showed that promotion focus is positively related to thriving and innovation, suggesting that those possessing values consistent with their "ideal" self-striving to reach hopes, desires, and aspirations-are more likely to act agentically and experience positive emotions, a desire for progress, and higher levels of energy at work as characterized by thriving. Thriving, in turn, relates to innovation. Conversely, our findings suggest that those individuals who focus mainly on the values of duty and responsibility that reflect a prevention focus experience decrements in innovation as a result of less frequently engaging in agentic behaviors associated with thriving. Spreitzer et al.'s (2005: 540) seminal theoretical work on thriving gives only passing notice to the role of individual predispositions such as regulatory focus and how they may influence the agentic work behaviors which are the "engine of thriving." Our study elaborates on this suggestion and provides empirical evidence that thriving serves as an important self-regulatory mechanism that operates as an internal gauge of personal development and growth through which employees' regulatory focus predispositions translate into higher (lower) innovation. This bolsters prior theoretical work on thriving and substantially adds to the empirical interest in the construct.

Finally, our findings highlight the important role that contextual influences play in affecting the individual-level innovation process. Explaining how features of an employee involvement climate motivate employees by providing psychological nutriments that satisfy their fundamental human needs (Deci & Ryan, 2000), we showed not only that employee involvement climate cascades down to influence employee thriving but also that the individual-level relationship of promotion focus with thriving and subsequent innovation differs depending on the degree to which employees are situated in autonomy-supportive climates fostered by high employee involvement. SDT suggests that both work contexts and individual traits in unison should fuel employee motivation (Deci & Ryan, 1985), but little attention has been devoted to the interaction or match between these two motivational considerations. Our findings confirm the importance of this interaction as suggested by SDT (Gagné & Deci, 2005) and regulatory fit theory (Lanaj et al., 2012) by showing that even the most promotionfocused employee will find it difficult to optimally flourish (i.e., thrive) unless the right workplace climate is in place that delivers the appropriate fit for the employee. It is only through the presence of both a high promotion focus and a high employee involvement climate providing opportunities to meet needs for autonomous motivation that thriving is maximized, and this effect is carried through to innovation.

In summary, by delineating and supporting our complex, multilevel relationships, we have extended previous theory and research on SDT (Deci & Ryan, 1985, 2000) and the multilevel process leading to innovation (e.g., Carmeli & Spreitzer, 2009; Jung et al., 2003). In doing so, we provide a more comprehensive understanding of *how* regulatory focus and employee involvement climate relate to innovation and the important role that thriving serves as an explanatory mechanism. Moreover, our findings were obtained through a rigorous time-lagged design across three points in time with multiple data sources, which has seldom been achieved in prior work. This methodological strength of our study, coupled with our use of multilevel path analysis (in which all hypothesized relationships were estimated simultaneously), attests to the robustness of our findings and their relevance to helping understand the motivations for employee innovation within the setting of complex individual and contextual interactions.

Limitations and Directions for Future Research

Although our study makes important contributions toward understanding the integration of regulatory focus, employee involvement climate, and thriving in predicting innovation, it is not without limitations. First, although participants were drawn from two different organizations, employees engaged in similar types of jobs, which entailed primarily day-to-day facilities work. Thus, our findings may not generalize to more managerial, cognitively laden jobs. However, because all participants were generalists who performed a variety of tasks, which contributes to job complexity and has long been considered an important contributor to creative performance (Oldham & Cummings, 1996), we are confident that innovation is a relevant component of performance in this context. Also, research supports the importance of innovation for other nonmanagerial jobs that lack a high degree of cognitive demands (i.e., Janssen, 2000).

Second, although the current study is predictive and uses a rigorous time-lagged design over three time periods, it is not truly longitudinal. As such, we encourage researchers to build on our results in a more longitudinal fashion in order to examine the role of changes in employee involvement climate and thriving over time in relation to changes in innovation. Longitudinal investigations such as this would also provide an opportunity to examine the reciprocal nature of thriving and innovation to determine the role that successful innovation plays in subsequent thriving at work and vice versa, testing previous suggestions by Spreitzer et al. (2005) that thriving operates through a continuous feedback loop to resources that enable future thriving.

Third, although we examined important individual and contextual factors relevant to innovation, there are likely other individual and contextual antecedents (e.g., passion, and creative self-efficacy; see Zhou & Shalley, 2011, for a review), moderators (e.g., job complexity), and mediators (e.g., job satisfaction) that could account for important variance in innovation. For example, the level of stress and anxiety experienced in the workplace may influence the extent to which employee involvement climate interacts with promotion focus to increase thriving and innovation. Drawing on research that supports a two-dimensional model of work stressors (e.g., Wallace, Edwards, Arnold, Frazier, & Finch, 2009), the extent to which employees are able to enact their promotion focus and thrive at work likely depends on the types of stressors in the workplace. Whereas "challenge" stressors (e.g., high workload, time pressures, and high levels of responsibility) facilitate innovative performance, "hindrance" stressors (e.g., organizational politics, red tape, and role ambiguity) inhibit such performance. In addition, off-task factors originating from a variety of sources (e.g., family, friends, and coworkers) increase cognitive load and, quite possibly, affect the extent to which a promotion focus is positively related to innovation, even in the presence of an employee involvement climate and thriving.

Finally, leadership style is a particularly important contextual factor that could be explored to expand our findings. Just as transformational leadership has been related to subordinate creativity (Shin & Zhou, 2003) and employee need satisfaction (Kovjanic, Schuh, Jonas, Quaquebeke, & Dick, 2012), supportive leadership styles (e.g., authentic leadership, ethical leadership) might further enhance the motivational benefits stemming from a high employee involvement climate and, thereby, promote thriving and innovation in the workplace.

Practical Implications and Conclusion

Our results suggest that organizations interested in innovation may benefit from focusing on employees' regulatory focus when crafting the work environment. Although possibly difficult in practice, the selection of individuals who are repeatedly characterized by a promotion focus would be a first step toward a more innovative workforce. More important, though, is the potential impact that the joint relationship between promotion focus and employee involvement climate has on innovation. Thus, rather than placing restrictions on employee selection, a more pragmatic approach is one where organizational leaders and managers design and oversee the workplace in a way that fosters employee involvement, thereby enabling employees with a high promotion focus to experience forward progress and development through thriving and, in turn, increase their innovation.

The integral role that thriving played as a linking mechanism by exhibiting relationships with employee involvement climate, both types of regulatory focus, and innovation also has practical implications. Because of its key mediating role in the innovation process, managers would be wise to devote considerable time and effort to ways in which thriving at work can be maximized. More and more employees are looking for work to be a place where they are given opportunities to grow and develop as well as feel energized by the work they do. By involving employees—perhaps most easily accomplished by managers establishing norms of support, autonomy, and cooperation by providing power, information, rewards, and knowledge to subordinates—a high employee involvement climate may become instilled in the workplace and provide employees with just the right opportunities needed to enable high levels of thriving. Furthermore, developing a high employee involvement climate that enables thriving may deliver much higher returns on investment than more expensive benefits and perks such as gourmet meals and in-house concierge services that some employers tout as necessary to create a workplace environment that motivates creative and innovative behaviors.

Increased workforce innovation has become a strategic focus of many organizations as they strive to achieve and maintain a competitive advantage, but there is not a singular mechanism, context, or individual characteristic that leads to innovation. Rather, a myriad of multilevel processes drive innovation (Anderson et al., 2014; Hennessey & Amabile, 2010; Woodman, Sawyer, & Griffin, 1993). The current study supports this notion and provides important insights into how regulatory focus and employee involvement climate, both alone and together, influence employee thriving, and, subsequently, innovation. Our results suggest that workplace climates characterized by high employee involvement facilitate employee thriving and innovation through a positive interaction with promotion focus. For organizational scholars, our findings provide an example of how applying SDT within a multilevel framework, giving more attention to broader organizational considerations by incorporating individual and contextual characteristics, affords a more nuanced view of the motivational process underlying employee innovation. Hopefully, organizations can also make use of these findings to leverage their employees' characteristics and craft aspects of the work environment that foster employee involvement in order to increase thriving and innovation in the workplace.

Note

1. Because innovation is viewed as the generation and implementation of novel ideas (Amabile, 1996; Anderson, Potočnik, & Zhou, 2014; Bledow, Frese, Anderson, Erez, & Farr, 2009; Hülsheger, Anderson, & Salgado, 2009; Woodman, Sawyer, & Griffin, 1993) and creativity is viewed as the development of novel, *potentially* useful ideas that are the first step toward innovation, when we discuss innovation, we wholly encompass creativity within that term. However, we make no assertions regarding the cause–effect relationship between creativity and innovation. Furthermore, when drawing from the different streams of research that have unfolded for creativity versus innovation, we attempted to maintain the appropriate labels to remain consistent with the intentions of the original research.

References

Aaker, J. L., & Lee, A. Y. 2006. Understanding regulatory fit. Journal of Marketing Research, 43: 15-19.

Agrawal, N., Menon, G., & Aaker, J. 2005. Should the ad be about them or me? The role of discrete emotions in influencing the effectiveness of health messages. Working paper, Graduate School of Business, Stanford University, Stanford, CA.

Aiken, L. S., & West, S. G. 1991. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage.

Aldrich, H. E. 1999. Organizations evolving. Thousand Oaks, CA: Sage.

Amabile, T. M. 1983. The social psychology of creativity. New York: Springer-Verlag.

Amabile, T. M. 1996. Creativity in context. Boulder, CO: Westview.

Amabile, T. M. 1998, Spring. How to kill creativity. Harvard Business Review, 76: 77-87.

- Anderson, N., De Dreu, C. K., & Nijstad, B. A. 2004. The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, 25: 147-173.
- Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, 40: 1297-1333.
- Baard, P. P., Deci, E. L., & Ryan, R. M. 2004. Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, 34: 2045-2068.
- Bacharach, S. B., Bamberger, P. A., & Doveh, E. 2008. Firefighters, critical incidents, and drinking to cope: The adequacy of unit-level performance resources as a source of vulnerability and protection. *Journal of Applied Psychology*, 93: 155-169.
- Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84: 191-215.
- Baron, R. A. 2007. Entrepreneurship: A process perspective. In J. R. Baum, M. Frese, & R. A. Baron (Eds.), The psychology of entrepreneurship: 19-40. Mahwah, NJ: Lawrence Erlbaum.
- Baron, R. M., & Kenny, D. A. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173-1182.
- Bauer, D. J., Preacher, K. J., & Gil, K. M. 2006. Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11: 142-163.
- Blau, D. M. 1987. A time-series analysis of self-employment in the United States. *Journal of Political Economy*, 95: 445-467.
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. 2009. A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizational Psychology*, 2: 305-337.
- Bliese, P. D. 2000. Within-group agreement, non-independence, and reliability. In K. J. Kline & S. W. Koslowski (Eds.), *Multilevel theory, research, and methods in organizations*: 349-381. San Francisco: Jossey-Bass.
- Bliese, P. D. 2002. Multilevel random coefficient modeling in organizational research: Examples using SAS and S-PLUS. In F. S. Drasgow (Ed.), *Modeling in organizational research: Measuring and analyzing behavior in organizations*: 401-445. San Francisco: Jossey-Bass.
- Bowen, D. E., & Ostroff, C. 2004. Understanding HRM-firm performance linkages: The role of the "strength" of the HRM system. Academy of Management Review, 29: 203-221.
- Bryk, A. S., & Raudenbush, S. W. 1992. Hierarchical linear models. London: Sage.
- Butts, M. M., Vandenberg, R. J., DeJoy, D. M., Schaffer, B. S., & Wilson, M. G. 2009. Individual reactions to high involvement work processes: Investigating the role of empowerment and perceived organizational support. *Journal of Occupational Health Psychology*, 14: 122-136.
- Cappelli, P., & Sherer, P. D. 1991. The missing role of context in OB: The need for a meso-level approach. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*: 55-110. Greenwich, CT: JAI.
- Carmeli, A., & Spreitzer, G. M. 2009. Trust, connectivity, and thriving: Implications for innovative behaviors at work. *Journal of Creative Behavior*, 43: 169-191.
- Carmeli, A., & Tishler, A. 2004. The relationships between intangible organizational elements and organizational performance. *Strategic Management Journal*, 25: 1257-1278.
- Deci, E. L., Connell, J. P., & Ryan, R. M. 1989. Self-determination in a work organization. Journal of Applied Psychology, 74: 580-590.
- Deci, E. L., & Ryan, R. M. 1985. Intrinsic motivation and self-determination in human behavior. New York: Plenum.
- Deci, E. L., & Ryan, R. M. 2000. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11: 227-268.
- Deci, E. L., & Ryan, R. M. 2008. Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49: 14-23.
- Deci, E. L., & Ryan, R. M. 2012. Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation*: 85-110. Oxford: Oxford University Press.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. 2001. Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27: 930-942.
- Dimotakis, N., Davison, R. B., & Hollenbeck, J. R. 2012. Team structure and regulatory focus: The impact of regulatory fit on team dynamic. *Journal of Applied Psychology*, 97: 421-434.

- Edmondson, A. C. 1999. Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44: 350-383.
- Edwards, J. R., & Lambert, L. S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12: 1-22.
- Förster, J., Grant, H., Idson, L. C., & Higgins, E. T. 2001. Success/failure feedback, expectancies, and approach/ avoidance motivation: How regulatory focus moderates classic relations. *Journal of Experimental Social Psychology*, 37: 253-260.
- Fredrickson, B. L. 2001. The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56: 218-226.
- Freitas, A. L., & Higgins, E. T. 2002. Enjoying goal-directed action: The role of regulatory fit. Psychological Science, 13: 1-6.
- Friedman, R. S., & Förster, J. 2001. The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, 81: 1001-1019.
- Frosch, K. H. 2011. Workforce age and innovation: a literature survey. *International Journal of Management Reviews*, 13: 414-430.
- Fuller, J. B., Marler, L. E., & Hester, K. 2006. Promoting felt responsibility for constructive change and proactive behavior: Exploring aspects of an elaborated model of work design. *Journal of Organizational Behavior*, 27: 1089-1120.
- Gagné, M., & Deci, E. L. 2005. Self-determination theory and work motivation. Journal of Organizational Behavior, 26: 331-362.
- Hennessey, B. A., & Amabile, T. M. 2010. Creativity. Annual Review of Psychology, 61: 569-598.
- Higgins, E. T. 1997. Beyond pleasure and pain. American Psychologist, 52: 1280-1300.
- Higgins, E. T. 1998. Promotion and prevention: Regulatory focus as a motivational principle. Advances in Experimental Social Psychology, 30: 1-46.
- Higgins, E. T. 2000. Making a good decision: Value from fit. American Psychologist, 55: 1217-1230.
- Higgins, E. T. 2005. Value from regulatory fit. *Current Directions in Psychological Science*, 14: 209-213.
- Higgins, E. T., Cesario, J., Hagiwara, N., Spiegel, S., & Pittman, T. 2010. Increasing or decreasing interest in activities: The role of regulatory fit. *Journal of Personality and Social Psychology*, 98: 559-572.
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. 2001. Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, 31: 3-23.
- Higgins, E. T., Roney, C., Crowe, E., & Hymes, C. 1994. Ideal versus ought predilections for approach and avoidance: Distinct self-regulatory systems. *Journal of Personality and Social Psychology*, 66: 276-286.
- Hirt, E. R., Levine, G. M., McDonald, H. E., Melton, R. J., & Martin, L. L. 1997. The role of mood in quantitative and qualitative aspects of performance: Single or multiple mechanisms? *Journal of Experimental Social Psychology*, 33: 602-629.
- House, R., Rousseau, D. M., & Thomas-Hunt, M. 1995. The meso paradigm: A framework for the integration of micro and macro organizational behavior. *Research in Organizational Behavior*, 17: 71-114.
- Hülsheger, U. R., Anderson, N., & Salgado, J. F. 2009. Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, 94: 1128-1145.
- Jack, S. L., & Anderson, A. R. 2002. The effects of embeddedness on the entrepreneurial process. Journal of Business Venturing, 17: 467-487.
- James, L. R. 1982. Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67: 219-229.
- James, L. R., Demaree, R. G., & Wolf, G. 1993. Rwg: An assessment of within-group interrater agreement. Journal of Applied Psychology, 78: 306-309.
- Janssen, O. 2000. Job demands, perceptions of effort-reward fairness, and innovative work behavior. Journal of Occupational and Organizational Psychology, 73: 287-302.
- Jung, D. I., Chow, C., & Wu, A. 2003. The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *Leadership Quarterly*, 4: 525-544.
- Kahn, W. A. 1990. Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33: 692-724.
- Kaplan, R., & Kaplan, S. 1995. The experience of nature: A psychological perspective. Ann Arbor, MI: Ulrich's Books.

- Kaplan, S., & Berman, M. G. 2010. Directed attention as a common resource for executive functioning and selfregulation. *Perspectives on Psychological Science*, 5: 43-57.
- Kenny, D. A., Korchmaros, J. D., & Bolger, N. 2003. Lower level mediation in multilevel models. *Psychological Methods*, 8: 115-128.
- Kovjanic, S., Schuh, S. C., Jonas, K., Quaquebeke, N. V., & Dick, R. 2012. How do transformational leaders foster positive employee outcomes? A self-determination based analysis of employees' needs as mediating links. *Journal of Organizational Behavior*, 33: 1031-1052.
- Lanaj, K., Chang, C.-H. D., & Johnson, R. E. 2012. Regulatory focus and work-related outcomes: A review and meta-analysis. *Psychological Bulletin*, 138: 998-1034.
- Lawler, E. E. 1986. High-involvement management. San Francisco: Jossey-Bass.
- Lawler, E. E. 1996. From the ground up: Six principles for building the new logic corporation. San Francisco: Jossey-Bass.
- Mowday, R. T., & Sutton, R. I. 1993. Organizational behavior: Linking individuals and groups to organizational contexts. *Annual Review of Psychology*, 44: 195-229.
- Muthén, L. K., & Muthén, B. O. 2010. Mplus user's guide (6th ed.). Los Angeles: Muthén & Muthén.
- Niessen, C., Sonnentag, S., & Sach, F. 2012. Thriving at work—A diary study. *Journal of Organizational Behavior*, 33: 468-487.
- Nix, G., Ryan, R. M., Manly, J. B., & Deci, E. L. 1999. Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology*, 25: 266-284.
- Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. Academy of Management Journal, 39: 607-634.
- Orvis, K. A., Fisher, S. L., & Wasserman, M. E. 2009. Power to the people: Using learner control to improve trainee reactions and learning in web-based instructional environments. *Journal of Applied Psychology*, 94: 960-971.
- Ostroff, C., & Bowen, D. E. 2000. Moving HR to a higher level: Human resource practices and organizational effectiveness. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations*: 211-266. San Francisco: Jossey-Bass.
- Pham, M. T., & Avnet, T. 2009. Contingent reliance on the affect heuristic as a function of regulatory focus. Organizational Behavior and Human Decision Processes, 108: 267-278.
- Polman, E. 2012. Effects of self-other decision making on regulatory focus and choice overload. Journal of Personality and Social Psychology, 102: 980-993.
- Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. 2012. Thriving at work: Toward its measurement, construct validation, and theoretical refinement. *Journal of Organizational Behavior*, 33: 250-275.
- Preacher, K. J., & Hayes, A. F. 2004. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods*, 36: 717-731.
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. 2010. A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15: 209-233.
- Richardson, H. A., & Vandenberg, R. J. 2005. Integrating managerial perceptions and transformational leadership into a work-unit level model of employee involvement. *Journal of Organizational Behavior*, 26: 561-589.
- Riordan, C. M., Vandenberg, R. J., & Richardson, H. A. 2005. Employee involvement climate and organizational effectiveness. *Human Resource Management*, 44: 471-488.
- Ryan, R. M., & Deci, E. L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55: 68-78.
- Ryan, R. M., & Deci, E. L. 2008. A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, 49: 186-193.
- Sassenberg, K., Jonas, K. J., Shah, J. Y., & Brazy, P. C. 2007. Why some groups just feel better: The regulatory fit of group power. *Journal of Personality and Social Psychology*, 92: 249-267.
- Sauermann, H., & Cohen, W. 2010. What makes them tick? Employee motives and industrial innovation. Management Science, 56: 2134-2153.
- Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37: 580-607.
- Shah, J., & Higgins, E. T. 1997. Expectancy x value effects: Regulatory focus as determinant of magnitude and direction. *Journal of Personality and Social Psychology*, 73: 447-458.

- Shalley, C. E., & Oldham, G. R. 1997. Competition and creative performance: Effects of competitor presence and visibility. *Creativity Research Journal*, 10: 337-345.
- Shane, S. A. 2008. The illusions of entrepreneurship: The costly myths that entrepreneurs, investors, and policy makers live by. New Haven, CT: Yale University Press.
- Shin, S. J., & Zhou, J. 2003. Transformational leadership, conservation, and creativity: Evidence from Korea. Academy of Management Journal, 46: 703-714.
- Shrout, P. E., & Fleiss, J. L. 1979. Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, 86: 420-428.
- Sonenshein, S., Dutton, J., Grant, A., Spreitzer, G., & Sutcliffe, K. 2006. Narrating of growth at work: Rationalist and socio-emotionalist and logics of development. Working paper, Center for Positive Organizational Scholarship, Ross School of Business, University of Michigan, Ann Arbor.
- Spiegel, S., Grant-Pillow, H., & Higgins, E. T. 2004. How regulatory fit enhances motivational strength during goal pursuit. *European Journal of Social Psychology*, 34: 39-54.
- Spreitzer, G. M. 1996. Social structural characteristics of psychological empowerment. Academy of Management Journal, 39: 483-504.
- Spreitzer, G. M., Porath, C. L., Gibson, C. B., & Garnett, F. G. (in press). Thriving at work: Toward its measurement, construct validation, and theoretical refinement. *Journal of Organizational Behavior*.
- Spreitzer, G. M., & Sutcliffe, K. M. 2007. Thriving in organizations. In D. Nelson & C. Cooper (Eds.), Positive organizational behavior: 74-85. London: Sage.
- Spreitzer, G. M., Sutcliffe, K. M., Dutton, J. E., Sonenshein, S., & Grant, A. M. 2005. A socially embedded model of thriving at work. *Organization Science*, 16: 537-549.
- Vandenberg, R. J., Richardson, H. A., & Eastman, L. J. 1999. The impact of high involvement work processes on organizational effectiveness: A second-order latent variable approach. *Group and Organization Management*, 24: 300-339.
- Van Dijk, D., & Kluger, A. N. 2011. Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior*, 32: 1084-1105.
- Wallace, J. C., & Chen, G. 2006. A multilevel integration of personality, climate, self-regulation, and performance. Personnel Psychology, 59: 540-555.
- Wallace, J. C., Edwards, B. D., Arnold, T., Frazier, M. L., & Finch, D. M. 2009. Work stressors, role-based performance, and the moderating influence of organizational support. *Journal of Applied Psychology*, 94: 254-262.
- Wallace, J. C., Little, L. M., & Shull, A. 2008. The moderating effects of task complexity on the relationship between regulatory foci and safety and production performance. *Journal of Occupational Health Psychology*, 13: 95-104.
- Welbourne, T. M., Johnson, D. E., & Erez, A. 1998. The role-based performance scale: Validity analysis of a theorybased measure. Academy of Management Journal, 41: 540-555.
- West, M. A. 2002. Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology: An International Review*, 51: 355-387.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. 1993. Toward a theory of organizational creativity. Academy of Management Review, 18: 293-321.
- Zhang, X., & Bartol, K. M. 2010. Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. Academy of Management Journal, 53: 107-128.
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. 2009. Testing multilevel mediation using hierarchical linear models: Problems and solutions. Organizational Research Methods, 12: 695-719.
- Zhou, J., & Shalley, C. E. (Eds.). 2008. Handbook of organizational creativity. Hillsdale, NJ: Lawrence Erlbaum.
- Zhou, J., & Shalley, C. E. 2011. Deepening our understanding of creativity in the workplace: A review of different approaches to creativity research. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychol*ogy: 275-302. Washington, DC: American Psychological Association.