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Contextual Inhibitors of Employee Creativity in Organizations

The Insulating Role of Creative Ability

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This study highlights the importance of negative predictors of employee creativity. The authors identified a set of work environment characteristics that may inhibit employee creativity. Using data collected from 123 Canadian employees in various industries, the authors empirically tested the relationships between these inhibiting factors and peer-rated creative performance. Aversive leadership and unsupportive organizational climate were negatively related to creativity, whereas close monitoring was positively associated with creativity. Interaction analyses indicate that creative ability of employees may either enhance or attenuate the detrimental effects of inhibitory contextual factors. Complementing the existing studies that have largely focused on facilitators of creativity, the present study introduces a more balanced perspective to the organizational creativity literature by examining inhibitory contextual factors.

Keywords: *employee creativity; organizational context; aversive leadership; organizational climate; creative ability*

Creativity has been highlighted as a core competence for contemporary organizations that encounter changing consumer demands and ever-increasing performance standards because of globalization and rapid

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technology changes (Shalley, Zhou, & Oldham, 2004). Presently, creativity is no longer regarded as an innate quality that only a small number of individuals possess (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Rather, it is increasingly seen as a competence that can be improved or developed in most individuals through adequate experience and training (Scott, Leritz, & Mumford, 2004). Although individual dispositions such as motivation and problem-solving style account for substantial variation in individual creativity, organizational context also has significant potential to cultivate creativity (Amabile et al., 1996). Recent reviews (Choi, 2007; Shalley et al., 2004; Shalley & Gilson, 2004) summarize various workplace characteristics that foster employee creativity, including supportive leaders, helpful coworkers, complex and challenging tasks, and innovative organizational climate and culture.

Although it is not explicitly acknowledged in these reviews, they reveal that organizational scholars have largely concentrated on factors that *promote* creativity, ignoring those that *inhibit* creativity (Amabile et al., 1996). In contrast to the long list of facilitators supported by numerous empirical studies, the literature provides rather scanty evidence for only a few inhibitory factors of creativity, such as close monitoring of employee performance (Zhou, 2003) and judgmental evaluation (Shalley & Perry-Smith, 2001). Moreover, in contrast to the relatively consistent effects of facilitators of creativity, the effects of potential inhibitors (e.g., evaluation, reward, time pressure, and goals) seem to vary substantially not just in terms of their effect sizes but also their directions (Shalley et al., 2004). In addition, unlike the studies of facilitators that have accumulated empirical evidence in organizational settings, most studies of inhibitors of creativity have been conducted in laboratory settings by manipulating conditions such as reward contingencies, type of goal, and evaluation expectations (e.g., Eisenberger & Selbst, 1994; Shalley, 1991; Shalley & Perry-Smith, 2001).

In this study, we focus on workplace characteristics that may hinder creative performance of employees. We identify a series of inhibiting factors that correspond to frequently investigated facilitators of creativity: task characteristics, organizational support, leadership, and coworker relationships (Amabile et al., 1996; Choi, 2007; Shalley et al., 2004). Specifically, we expect that employee creativity will be negatively affected by inhibitory task characteristics (routinization and standardization) and organizational context (unsupportive climate) as well by dysfunctional social context (aversive leadership, close monitoring, and untrustworthy and incompetent coworkers). Although these inhibiting factors are expected to decrease creative performance, we propose that employees with high creative ability will be buffered from detrimental

contextual effects, whereas their low-creative-ability counterparts will be directly affected by the hypothesized inhibitors. These main effect and moderator hypotheses will be empirically tested with multisource data collected in diverse Canadian organizations.

The Power of Negative Forces

Before we develop our hypotheses related to inhibitors of creativity, a brief comment on the reason we need to investigate negative predictors in addition to positive predictors of human behavior is in order. The significance of negative forces has been documented in various behavioral disciplines. Baumeister, Bratslavsky, Finkenauer, and Vohs's (2001) review indicated that "positive-negative asymmetry" is prevalent in nearly all domains of psychological phenomena including emotion, learning, memory, perception, social cognitive processes, interpersonal relationships, and health. Pointing out the lack of counterevidence, they concluded that "Close relationships are more deeply and conclusively affected by destructive actions than by constructive ones; by negative communications than positive ones . . . negative, conflictual behaviors in one's social network have stronger effects than positive, supportive behaviors" (p. 355). Rozin and Royzman (2001) also demonstrated that (a) negative events are more potent and salient than their equal-magnitude positive counterparts; (b) with the same amount of increase, negative events tend to generate greater psychological effects than do positive events; and (c) when considered simultaneously, negative components have a much greater impact on an outcome than do positive components.

The organizational literature also provides ample evidence that "bad is stronger than good." The role of constraining forces is more important than that of driving forces (Lewin, 1951), negative emotions (as compared with positive emotions) have stronger effects on negotiation processes and outcomes (Allred, Mallozzi, Matsui, & Raja, 1997), workplace deviance behavior has greater performance implications than does organizational citizenship behavior (Dunlop & Lee, 2004), and a single violation of interpersonal trust can nullify a number of prior positive experiences (Lewicki & Wiethoff, 2000). Similarly, the positive effects of supportive leader behavior can be quickly eliminated by a single example of derogatory behavior, such as a scornful comment, on the part of the leader: "the single negative event can probably undo the benefits of many positive interactions" (Baumeister et al., 2001, p. 327).

Moreover, in most cases, the positive and negative factors constitute separate dimensions, rather than a single continuum from low to high. For example, positive and negative emotions have been shown to comprise statistically independent dimensions, and can often be positively correlated with each other (Larsen, Diener, & Emmons, 1986). Similarly, a lack of social support received from a person does not necessarily mean a high level of social undermining or hindrance from the same person. In fact, the link between social support and hindrance from the same person is not significantly related (correlations ranging between .00 and .11, Ruehlman & Wolchik, 1988). The leadership literature also shows that leaders are often both transactional and transformational and that, often, positive forms of leadership (e.g., supportive leadership) have only moderate to low correlations with negative forms (e.g., controlling or aversive leadership; see Pearce & Sims, 2002).

In addition to the empirical independence of positive and negative dimensions of the same construct, they often have complex effect patterns with respect to their consequences. Thus, we cannot automatically assume that the effect of a “negative” factor (e.g., routinized tasks) is the reverse of the effect of a “positive” factor (e.g., complex tasks). In fact, a recent empirical study reported that task routinization can sometimes increase creativity because it spares cognitive resources of employees that can be used to generate new ideas (Ohly, Sonnentag, & Pluntke, 2006). Furthermore, it is possible for two contrasting factors (e.g., collaborative vs. competitive coworker relationships) to both increase creativity for different reasons rather than having opposite effects. For these reasons, we cannot assume that the absence of a positive predictor (e.g., supportive leadership) indicates the presence of a corresponding negative predictor (e.g., aversive leadership) or that the two seemingly opposite factors have opposing effects on creativity. These constraints make it difficult to generalize the findings based on positive factors to the potential effects of negative factors and thus underscore the need to investigate the effects of negative factors separately from positive factors.

Inhibiting Factors of Employee Creativity

In theories integrating various social and organizational characteristics with regard to employee creativity, scholars have often adopted Deci and Ryan's (1985) distinction between intrinsic and extrinsic motivation. Amabile's (1988) social psychological approach to creativity argues that

intrinsic motivation is the psychological key to creativity because it causes individuals to be enthusiastic about the work itself and allows them to explore more diverse possibilities based on an increased sense of control and autonomy. Shalley et al. (2004) also proposed that contextual variables can increase creativity by promoting intrinsic motivation of employees, which in turn “increases their tendency to be curious, cognitively flexible, risk taking, and persistent in the face of barriers” (p. 935). According to cognitive evaluation theory (Deci & Ryan, 1985), when a particular contextual variable offers information that is perceived as controlling, individuals may feel that their thoughts and behavior are constrained by extrinsic factors, which effectively diminishes perceived control and ownership of their work. When faced with controlling workplace characteristics (e.g., strict work-related rules), therefore, employees may feel less intrinsic motivation and autonomy and consequently exhibit less creativity.

Prior studies have attended to several aspects of work and organization that may increase employees’ sense of control, intrinsic motivation, and creativity at work (Amabile et al., 1996; Ferrin, Bligh, & Kohles, 2007; Scott & Bruce, 1994; Shalley & Gilson, 2004; Zhou, 2003), which include (a) task characteristics, (b) organizational support, (c) leader characteristics, and (d) coworker characteristics. In this study, we isolate potential inhibitory factors on each of these four dimensions. All seven inhibitors are expected to restrain employees’ creative potential by imposing external controls on their behavior and thus reduce flexibility and autonomy.

Task Characteristics: Routinization and Standardization

Prior empirical studies have demonstrated that employees tend to be more creative when they work on challenging and complex tasks that are significant and intellectually intriguing (Choi, 2007; Oldham & Cummings, 1996). Moreover, freedom and autonomy with respect to pace, order, and task-related processes are apt to increase perceptions of control that promote creativity (Amabile et al., 1996; Oldham & Cummings, 1996). Diametrically opposed to challenging tasks associated with autonomy are routine tasks constrained by standard operating procedures. Standardization and routinization do not necessarily go hand-in-hand, however. *Standardization* refers to rules and procedures relating to the task, whereas *routinization* refers to the nature of the work involved in completing the task. Airline pilots and accountants, for example, have highly standardized jobs that are anything but routine.

Although creativity involves increased variation in problem solving and task execution, standardization seeks to minimize variation (Gilson, Mathieu,

Shalley, & Ruddy, 2005), decreasing the possibility of creativity. For example, Pech (2001) posited that in a risk-avoiding organizational culture, programs specifying correct “ways of doing things” are likely to be implemented to safely duplicate previous success, leaving no room for alterations and flexibility. From a psychological perspective, when faced with numerous rules and standard procedures, employees may perceive the task as something beyond their control and direct their attention to the rules and standards governing the task process. Cohen (1995) maintained that requiring the use of procedural manuals might lead employees to feel that work-related suggestions are not necessary or welcome, and perceive less flexibility in their tasks.

As mentioned above, Ohly et al. (2006) found that routinization could have a positive effect on creative behavior. In their study, however, routinization referred to “automaticity,” which integrates notions of lack of awareness, efficiency, and unintentionality in performing one’s task. These aspects of work could indeed result in the sparing of cognitive resources that can be redirected to creative efforts. In contrast, we conceptualize routinization as task characteristics such as repetitiveness or lack of novelty. These task characteristics are expected to produce feelings of boredom or stagnation, substantially reducing perceptions of task complexity and challenge, which will attenuate employees’ interest in and excitement about their work (Oldham & Cummings, 1996) and result in less creative effort (Amabile, 1988).

Hypothesis 1a: Employee creativity will be negatively related to task routinization.

Hypothesis 1b: Employee creativity will be negatively related to task standardization.

Organizational Context: Unsupportive Climate

Amabile et al. (1996) found that “organizational encouragement” exerts a significant effect on creativity. Organizational encouragement was broadly defined in this study, and included supportive values, fair evaluation, and participative management. Scott and Bruce (1994) more explicitly focused on the issue of supportive climate in R&D units “characterized by organizational willingness to experiment with innovative ideas” (p. 583).

Although the literature does not provide any empirical evidence regarding the inhibitory effects of negative types of organizational climate on employee creativity, researchers and practitioners alike have predicted that a counter-innovative organizational climate can stifle creativity. It is important to note that a lack of support does not necessarily imply an unsupportive climate. In other words, an absence of support for creativity (which is

neutral) is not the same environment as discouragement of creativity (negative). It is likely that, in an organizational climate that tends to disparage new ideas or is intolerant of different ways of thinking, employees may perceive substantial external control along with a very low level of flexibility in their work.

Hypothesis 2: Employee creativity will be negatively related to unsupportive organizational climate.

Leader Characteristics: Aversive Leadership and Close Monitoring

The literature suggests that employee creativity would be enhanced under leadership characterized by openness, encouragement, and support (Choi, 2007; Scott & Bruce, 1994; Zhou, 2003). When leaders do not impose restrictive decisions related to their subordinates' roles and tasks, subordinates are more likely to feel free to experiment with new ideas that might result in creative outcomes (Oldham & Cummings, 1996). However, the effects on creativity of negative leadership styles such as oppressive leadership are yet to be empirically investigated. This study attends to the effect of aversive leadership, which is characterized by behaviors such as intimidating subordinates and dispensing punishment, and is thus largely based on coercive power (Pearce & Sims, 2002). When leaders regularly engage in oppressive or threatening behaviors, followers may experience a substantial loss of perceived self-determination and intrinsic motivation and consequently shy away from creative efforts (Deci & Ryan, 1985).

One leadership characteristic that has been investigated in regard to its negative effect on creativity is close monitoring by the supervisor (George & Zhou, 2001; Zhou, 2003). Close monitoring may reduce employee creativity because "subordinates often feel that they are constantly being evaluated, directed, and controlled. . . . Close monitoring may signal to employees that they are expected to conform to norms, rules, and expected ways of doing things" (George & Zhou, 2001, p. 515). If employees know that they are under continuous surveillance, they might be less creative because their primary motivation will be to please their boss or to simply fulfill the requirements of their job (Amabile et al., 1996). Oldham and Cummings (1996) also maintained that employees' creative performance may suffer when a supervisor pressures them, consciously or unconsciously, to think or behave in a particular way (controlling leadership). Drawing on these findings, we expect that when leaders closely monitor their followers' behavior/performance, the followers will tend to exhibit less creativity.

Hypothesis 3a: Employee creativity will be negatively related to aversive leadership.

Hypothesis 3b: Employee creativity will be negatively related to close monitoring.

Coworker Characteristics: Mistrust and Incompetence

According to Zhou (2003), working with creative coworkers can enhance an individual's creative performance because creative coworkers function as role models, and employees may acquire creative strategies and practices from them through observational learning. In an investigation of the inhibitory effect of coworkers, George and Zhou (2001) reported that conscientious people tend to be less creative in the presence of unsupportive coworkers. The present study attends to mistrusting relationships with and perceived incompetence of coworkers.

Researchers have identified trusting relationships among group members as a key facilitator of individual and team creative processes (Tse & Dasborough, 2008), because trust results in less fear of reprisal or negative evaluation of ideas (cf. psychological safety, Anderson & West, 1998). Clegg, Unsworth, Epitropaki, and Parker (2002) proposed that trust plays an important role in the innovation process. Specifically, they found that people who trusted that they would share in the benefits that accrued from their ideas were more likely to produce creative suggestions and that those who trusted that their suggestions and ideas would be listened to were more likely to engage in implementation of their ideas. Therefore, in a context in which employees feel that their colleagues are opportunistic and untrustworthy, they may refrain from sharing ideas because of fears that coworkers will either ridicule them or take advantage of their contribution (Ferrin et al., 2007).

Perceptions of coworker incompetence may also act as an inhibitor of creative behavior. Cook and Wall (1980) found that the level of confidence in actions of peers (measured by level of confidence in skills and quality of work of coworkers) was significantly correlated with high organizational commitment, organizational involvement, intrinsic work motivation, and work involvement. Additionally, when employees believe that their coworkers are incompetent, they may assume that their colleagues will be unable to appreciate their creative ideas and reject them, which may in turn discourage them from expressing creative solutions (Pech, 2001; Zhou & George, 2001).

Hypothesis 4a: Employee creativity will be negatively related to mistrustful relationships with coworkers.

Hypothesis 4b: Employee creativity will be negatively related to perceived incompetence of coworkers.

Creative Ability as a Moderator: Insulating Employees From Inhibitory Contextual Effects

The creativity literature indicates that contextual factors do not have identical effects on every employee. Contextual factors tend to interact with individual characteristics, which determine the intensity or even the direction of the context's effects on creative performance (Shalley et al., 2004). Most existing studies have used individuals' creative personality (e.g., openness to experience) or cognitive style (e.g., adaptor vs. innovator) as potential moderators of the relationship between context and creativity (George & Zhou, 2001; Tierney, Farmer, & Graen, 1999). The ways in which these individual characteristics interact with contextual factors are not clear yet: Oldham and Cummings (1996) reported that employees with a high creative personality score (CPS) responded more positively to creativity-supporting environments; however, Zhou (2003) revealed that individuals with a lower CPS accrued greater benefits from favorable environments than those with a higher CPS (who exhibited a relatively stable level of creativity regardless of the level of contextual support).

The present study introduces creative ability as a moderator variable that modulates the strength of the relationship between inhibiting contextual factors and employee creativity. *Creative ability* refers to "skills or competencies relevant to creative performance, such as the ability to generate new ideas or look at problems from novel perspectives" (Choi, 2004a, p. 189). Choi (2004b) found that creative ability is a significant predictor of creative performance.

In theorizing the moderating role of creative ability in the relationship between contextual inhibitors and creative performance, we hypothesize that creative ability operates as an insulator that protects the employee from the negative forces of inhibitory contextual factors. Specifically, individuals with high creative ability may be less affected by the stifling effects of inhibitory factors because their creative performance tends to be driven by their innate disposition, regardless of (or in spite of) the situation (Choi, 2004b). In contrast, the creativity of employees with low creative ability will be more strongly affected by inhibitory contextual factors, because they may refrain from voluntarily offering creative ideas in the presence of counter-creative environmental factors. We thus expect that the cross-situation variation

in creative performance of high-creative-ability employees will be significantly lower than that of their counterparts with low creative ability.

Hypothesis 5: Creative ability will moderate the relationship between inhibitory contextual factors and employee creativity in such a way that the negative relationship between inhibitory factors and creativity is weaker for employees with higher creative ability than those with lower creative ability.

Method

Sample and Data Collection Procedure

The data for the present study were collected from various organizations in Canada that represent diverse industries, including telecommunications, software development, medical services, and financial investment. The survey packets, which included both the self survey and the peer survey, were distributed to 171 employed individuals who worked in a team setting (so that they would have peers who could evaluate their creative performance). These individuals were identified and contacted using our personal networks and research assistants. The target individuals were instructed to identify a peer with whom he or she worked together regularly and to pass the peer survey packet to this peer. The target and peer completed the survey instruments separately and mailed the completed surveys directly to us. Both the target and peer received monetary incentives for study participation when the researcher received completed surveys from both. Of the 171 survey packets distributed, 123 valid self-peer pairs were returned (response rate = 72%).

The target participants in the final sample were 50% male and 88% White. Sixty-three percent reported that they had some form of college education. The average age of the participants was 29.5 years ($SD = 11.00$) with an average tenure of 4.1 years in the current organization ($SD = 5.65$). Twenty-nine percent of the participants occupied a managerial position. The participants worked in various functional areas, including sales (35%), marketing and administration (11%), customer support (28%), and technical/professional services (6%). The organizations in which these individuals were employed encompassed a wide range of industries, including medical research and services (18%), educational institutions (24%), retail (10%), agro-alimentary (7%), IT/Telecom (14%), and manufacturing (11%).

Measures

All contextual factors and creative ability were reported by the target individual. The target's creativity in the workplace was rated by one of his or her colleagues. The response format for all scales was a 7-point Likert-type scale with appropriate anchors (*strongly disagree* to *strongly agree*, unless otherwise indicated).

Task routinization. Bacharack, Bamberger, and Conley's (1990) three-item routinization scale was used to measure task routinization ($\alpha = .89$; "The work I am doing is highly routine and repetitive," "In my work, there is something different to do here every day" [reverse coded], and "For almost every job I do, there is something new happening almost every day" [reverse coded]).

Task standardization. Bacharack et al.'s (1990) three-item scale designed to measure pervasiveness of rules was adopted to assess task standardization ($\alpha = .81$; "I have to follow strict operating procedures at all times," "We have procedures here for every situation," and "I always check to see that I'm following the rules").

Unsupportive climate. To measure unsupportive climate, we adopted five reverse-coded items ($\alpha = .85$) from Scott and Bruce's (1994) scale of climate for innovation ("Around here, a person can get in a lot of trouble by being different," "The best way to get along in this organization is to think the same way as others," "People around here are expected to deal with problems in the same way," "The reward system here benefits mainly those who don't rock the boat," and "The main function of members in this organization is to follow orders"). Because these items were reverse coded in the original scale, they imply not a lack of supportive climate, but a clearly negative or unsupportive climate.

Aversive leadership. Adopting items from Pearce and Sims (2002), we measured aversive leadership using four items ($\alpha = .74$; "My supervisor tries to influence me through threat and intimidation," "My supervisor often intimidates me by his or her behavior," "My supervisor lets me know about it when I perform poorly," and "My supervisor reprimands me when my performance is not up to par").

Close monitoring. To measure the extent of monitoring by the leader, we adopted Niehoff and Moorman's (1993) five-item scale of monitoring through observation ($\alpha = .80$; "How often does your supervisor watch you as you work?" "How often does your supervisor walk around the workplace?" "How often does your supervisor carefully examine the work you have completed?" "How often does your supervisor just stand or sit and observe everyone working?" and "How often does your supervisor check to see if you are working efficiently?"). Participants rated the items on a 7-point scale ranging from rarely to quite often.

Coworker mistrust. A seven-item scale of coworker mistrust ($\alpha = .91$, e.g., "My coworkers try to take advantage of each other's mistakes," "In general, I don't believe that my coworkers' motives and intentions are good," "My coworkers are not always honest and truthful," and "I am not sure if I fully trust my coworkers") was constructed by adapting items from Doodley and Fryxell (1999) and Robinson and Rousseau (1994).

Coworker incompetence. Adopting items from Doodley and Fryxell (1999), we used a four-item index ($\alpha = .81$) to measure coworker incompetence (e.g., "My coworkers perform their jobs less than skillfully," "My coworkers don't approach their jobs in a professional manner," and "My coworkers cannot be counted on to fulfill their responsibilities in a reliable manner").

Creative ability. We developed an eight-item index ($\alpha = .83$) of creative ability by adapting items from Choi (2004a) and transforming various creativity-relevant skills (Amabile, 1988) into items (e.g., "I am good at perceiving problems," "I am good at intuitive thinking," and "I am good at using my imagination").

Peer-rated creativity. Creativity of the target participant was reported by one of his or her peers who rated him or her on 10 items ($\alpha = .95$) taken from Zhou and George's (2001) scale of creativity (e.g., "This person suggests new ways to achieve goals and objectives," "This person comes up with new and practical ideas to improve performance," and "This person is a good source of creative ideas").

Control variable: creative requirement. Unsworth, Wall, and Carter (2005) pointed out that each job has different levels of demand for creativity and that this may be one of the key predictors of employee creativity.

Intuitively, it stands to reason that if a job does not require creativity as part of its performance, employees may not perform any creative behavior even in the most creativity-promoting work context. Given that the current sample represents diverse types of organizations and jobs that may have varying levels of creativity expected in the workplace, it is important to control for this organization-specific, or task-specific, effect on creative performance. To this end, we included a four-item measure ($\alpha = .90$) of creative requirement that included items that are similar to those used in Unsworth et al. (2005). Example items include “My job often requires me to be creative,” “My job requires me to present creative solutions for a given problem,” and “My job requires me to generate new ideas.”

Results

Before analyzing the data for hypothesis testing, we examined the empirical distinctiveness of the control variable (creative requirement), seven predictors, and the moderator (creative ability), all of which were reported by the target employees. To this end, we conducted a confirmatory factor analysis (CFA) using 43 items as indicators of nine latent factors. In addition, to check for confounding because of same-method effect, we included a common method factor that was indicated by all 43 scale items in the model. This CFA resulted in a marginally acceptable model fit to the data ($\chi^2 = 1252.40$, $df = 781$, $p < .001$; CFI = .86, RMSEA = .070). Considering the low sample size–item ratio ($123 \div 43 = 2.86$), however, the model fit indices appear respectable. This 10-factor model including a common method factor performed significantly better than a seven-factor model, in which seven contextual factors were collapsed into four based on content dimensions of task, organizational support, leadership, and coworker variables ($\Delta\chi^2 = 302.16$, $\Delta df = 21$, $p < .001$). The results of the CFA suggest that the nine psychometric variables reported by the target employees were empirically distinct from one another. Table 1 presents descriptive statistics and correlations among the study variables.

Control Variable: Creative Requirement

Table 1 shows that creative requirement was negatively related to task routinization and unsupportive climate, indicating that employees’ perception of creativity-related demand originates largely from task and organizational factors rather than from social surroundings. In contrast, creative

Table 1
Means, Standard Deviations, and Correlations Among Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
Creative requirement	4.44	1.63	—									
Task routinization	4.08	1.71	-.62***	—								
Task standardization	4.15	1.53	-.07	.10	—							
Unsupportive climate	3.42	1.42	-.27**	.30**	.40***	—						
Aversive leadership	2.99	1.29	-.07	.12	.09	.29**	—					
Close monitoring	3.69	1.45	.04	.06	.34***	.09	.21*	—				
Coworker mistrust	2.21	1.23	-.04	.05	.02	.15	.06	.15	—			
Coworker incompetence	2.42	1.38	-.04	.13	.18*	.32***	.20*	.20*	.72***	—		
Creative ability	5.52	.72	.23*	-.11	.14	-.04	-.08	.17	-.22*	.00	—	
Peer-rated creativity	5.20	1.21	.23**	-.16*	-.07	-.25***	-.41***	.13	-.08	-.18*	.18*	—

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

requirement was positively associated with creative ability and peer-rated creativity. These patterns suggest the possibility that individuals with high creative ability may seek a work context that requires creativity and that they actually show greater creative performance compared with their counterparts with low creative ability. Given these significant associations of creative requirement with predictors and with the moderator variable, it is meaningful to include it as a control variable in the subsequent regression analyses for hypothesis testing.

Main Effects of Contextual Inhibitors

We hypothesized that employee creativity would be negatively affected by the seven inhibitory factors. As shown in Table 1, of the seven inhibitors examined, four factors (task routinization, unsupportive climate aversive leadership, and coworker incompetence) had significant negative correlations with peer-rated creativity. This pattern clearly indicates that employee creativity was harmed by contextual inhibitors that represent each of the four areas of work environment (i.e., task characteristics, organizational context, leadership, and coworker characteristics).

When we entered the seven inhibitors into an equation predicting creativity in two separate steps for organizational and social contextual factors (see Models 2 and 3 in Table 2, respectively), unsupportive climate ($\beta = -.21, p < .05$) and aversive leadership ($\beta = -.42, p < .001$) were significant, negative predictors of creativity (Hypotheses 2 and 3a, supported). Unexpectedly, close monitoring was positively, rather than negatively, associated with creativity ($\beta = .27, p < .01$). The results suggest that among the various workplace characteristics, leaders may play the most significant role in employee creativity. In addition, close monitoring by leaders, which has often been regarded as a negative predictor of creativity (George & Zhou, 2001), may in fact have a positive effect in certain situations.

Interaction With Creative Ability

Hypothesis 5 predicts that the relationship between inhibitory factors and creativity will be moderated by creative ability in such a way that employees with greater creative ability will be less affected by negative contextual influences. Model 5 in Table 2 tests this hypothesis by entering seven interaction terms into the regression equation. These interaction terms together substantially increased the amount of explained variance ($\Delta R^2 = .08, p < .07$) and three of them were statistically significant: task standardization, unsupportive climate, and coworker incompetence.

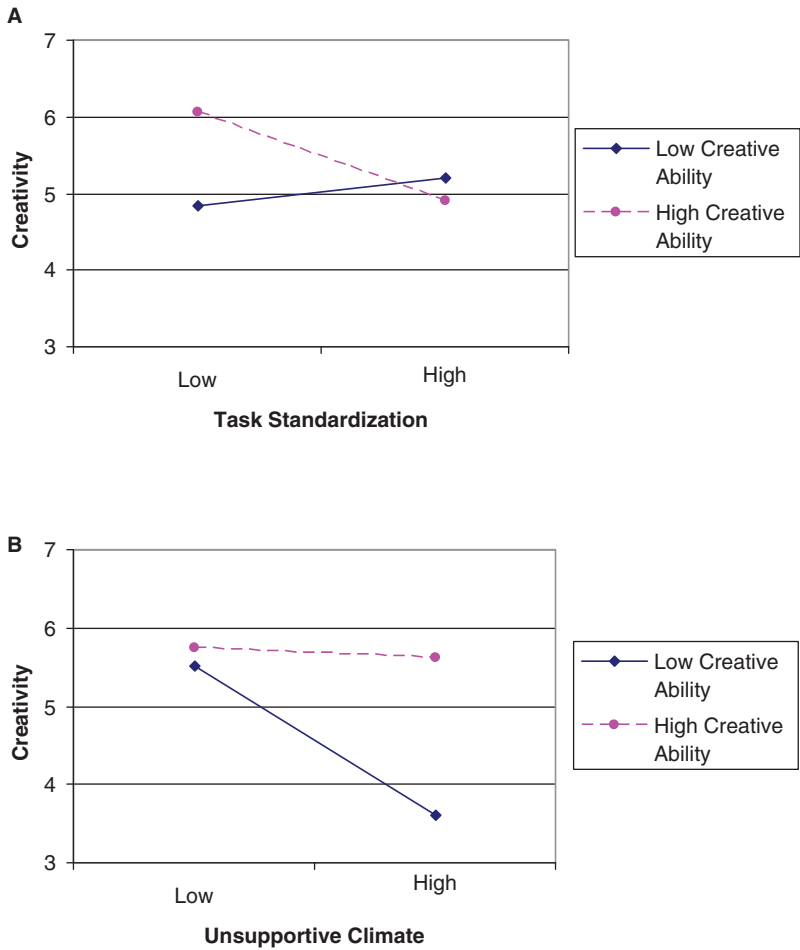
Table 2
Hierarchical Regression Analysis Predicting Creative Performance

Models	Standardized Regression Coefficients (β)
Model 1: Controlling for creative requirement	
Creative requirement	.24**
Model R^2	.06**
Model 2: Main effects of task and organizational inhibiting factors	
Task routinization	.01
Task standardization	.04
Unsupportive climate	-.21*
Model R^2	.10**
Change in model R^2	.04
Model 3: Main effects of social contextual inhibiting factors	
Aversive leadership	-.42***
Close monitoring	.27**
Coworker mistrust	-.06
Coworker incompetence	-.03
Model R^2	.28***
Change in model R^2	.18***
Model 4: Main effect of creative ability	
Creative ability	.07
Model R^2	.29***
Change in model R^2	.01
Model 5: Interaction between inhibiting factors and creative ability	
Task Routinization \times Creative Ability	-.61
Task Standardization \times Creative Ability	-2.35**
Unsupportive Climate \times Creative Ability	1.57*
Aversive Leadership \times Creative Ability	.72
Close Monitoring \times Creative Ability	.25
Coworker Mistrust \times Creative Ability	-1.97
Coworker Incompetence \times Creative Ability	2.16*
Model R^2	.37***
Change in model R^2	.08

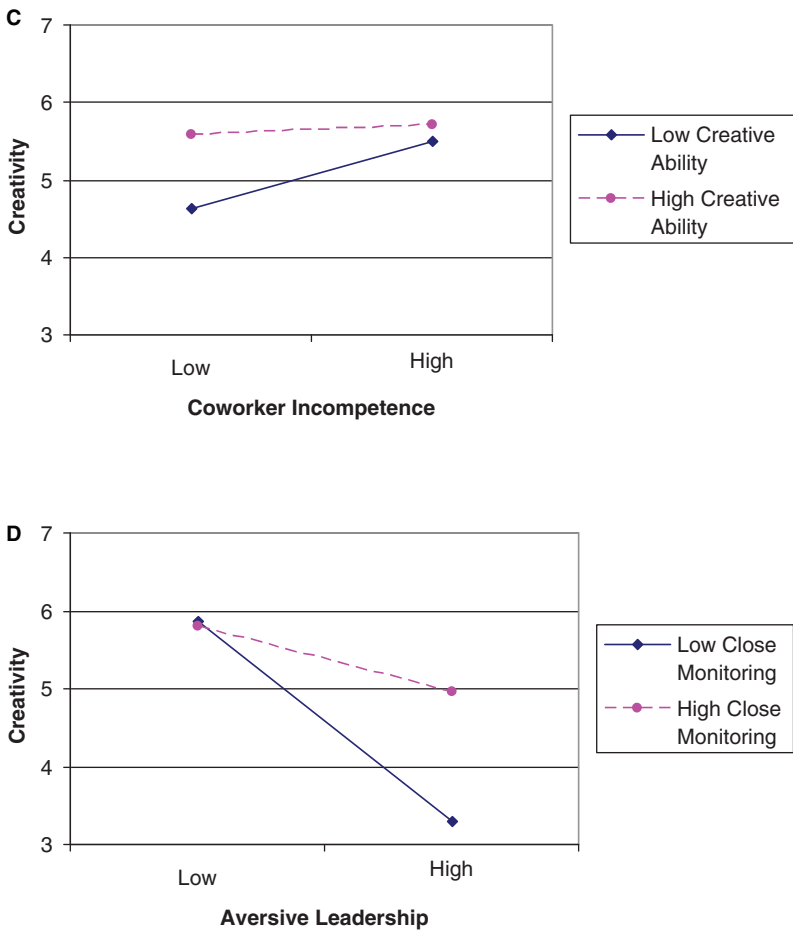
* $p < .05$. ** $p < .01$. *** $p < .001$.

Following the procedure suggested by Aiken and West (1991), we graphically examined the interaction patterns by drawing separate regression lines for two groups of employees: high and low creative ability (one

Figure 1
Interaction Effects Between Inhibiting Contextual
Factors and Creative Ability



(continued)

Figure 1 (continued)

standard deviation or more above and below the mean, respectively). Figure 1 displays three such graphs (Plots A, B, and C). Employees with low creative ability were affected to some degree by all three contextual inhibitors. In the case of unsupportive climate, creativity of employees with low creative ability was negatively related to the contextual inhibitor. Interestingly,

low-creative-ability employees exhibited more creativity when they believed that their coworkers were highly incompetent (see Plot C in Figure 1) and (although the increase was insignificant) when tasks were highly standardized (see Plot A). In contrast, creativity of employees with high creative ability was negatively affected by inhibitory factors in only one of the three cases depicted (task standardization). Highly capable individuals showed a stable level of creativity regardless of the presence of incompetent coworkers or unsupportive climate, indicating that creative ability may indeed insulate individuals from certain negative environmental influences, providing partial support for Hypothesis 5.

Post Hoc Analysis of the Interaction Between Aversive Leadership and Close Monitoring

The positive effect of monitoring suggests the possibility that leaders' monitoring behavior may have either neutral or slightly positive implications for followers' creative performance. However, the effect of monitoring may depend on other leader behaviors with more "content" and valence such as supportive or aversive leadership. Thus, the effects of a given level of close monitoring can be either positive (with supportive leaders who are developmentally oriented and provide encouraging feedback based on detailed performance information) or negative (under aversive leaders who seek faults and errors that will justify and increase their demeaning behavior). In the latter scenario, close monitoring exacerbates the harmful effect of aversive leadership. Alternatively, however, it is possible that close monitoring attenuates the negative effect of aversive leadership by creating the impression that the leaders are passionate about the task and that at least their negative comments and attitudes have some empirical grounding. In this alternative scenario, aversive leaders who do not diligently monitor their subordinates' daily work behavior may create the image that they harass followers for no apparent reason.

To examine these alternative interaction patterns, we added an interaction term between the two leadership variables in the regression equation containing the control and all inhibiting factors (Model 3 in Table 2). This interaction term significantly increased the explained variance ($\beta = .70$, $\Delta R^2 = .04$, $p < .05$). This significant interaction pattern is graphically represented in Plot D of Figure 1. Unlike the first scenario above predicting that close monitoring would amplify the negative effect of aversive leadership, in the present data, close monitoring in fact reduced the negative consequences of aversive leadership. In other words, aversive leadership had a

greater detrimental effect on follower creativity when leaders did not closely monitor followers' work behavior and performance. This finding is discussed in greater detail below.

Discussion

Most studies of organizational creativity have focused on factors that facilitate creativity rather than inhibit it. However, attending to inhibiting factors is necessary as well, because knowing what not to do may be as important as knowing what to do in efforts to foster creativity in organizations. This issue is critical because human behavior tends to be more strongly influenced by negative events than by positive events (Baumeister et al., 2001). This study examined the effects of a set of inhibitory organizational factors on employee creativity. Below we discuss the implications of the present findings and offer directions for future research.

As shown in Table 1, all but one contextual inhibitor held negative zero-order correlations with peer-rated creativity, and four of them were statistically significant. When they were entered into a regression equation along with the control variable of creative requirement, however, only unsupportive climate and aversive leadership remained significant negative predictors of creativity. With moderately correlated independent variables that possess shared variance in predicting an outcome, multivariate results can cloud each individual predictor's contribution in explaining the outcome measure. The present results indicate that although most of the inhibitors we examined were potential negative predictors of peer-rated creativity, only two of them remained significant after controlling for their shared variations as well as the effect of creative requirement.

The results revealed that aversive leadership has a negative effect on creativity of employees regardless of their creative ability. This is a clear demonstration of the potent effect of unfavorable leader behavior in stifling the creativity of even highly creative employees. The present data suggest that when leaders exhibit behavior characterized by threats and intimidation (as opposed to support and encouragement), they effectively eradicate the psychological or participative safety that employees need to voice different ideas or propose new approaches (Anderson & West, 1998). Thus, in addition to refraining from a controlling or directive style of leadership (Choi, 2007; Oldham & Cummings, 1996), leaders need to avoid any influence tactics strictly based on formal or coercive power if they wish to fully tap their followers' creativity. However, the results also show that the negative

effects of aversive leadership may be somewhat mitigated in the presence of close monitoring by the leader. This phenomenon and its possible implications are discussed in more detail below.

Supporting both main-effect and interaction-effect hypotheses, the results showed that unsupportive climate has a particularly adverse effect on creative performance primarily for persons with low creative ability, whereas it did not affect the level of creativity of highly creative individuals. Individuals with low creative ability may be more susceptible to the negative effects of contextual factors such as an unsupportive climate, because of feelings of low self-efficacy, lack of confidence, and a higher perception of risk of failure in creative endeavors. An unsupportive climate may also have a stronger negative effect on low-ability individuals in that it may be perceived as indicative of organizational norms against creativity. Given that those with low creative ability may not be as strongly motivated to engage in creativity behavior to begin with (because of the issues just described), these perceived norms are likely to have a stronger effect on their actual creative behavior.

Coworker incompetence was also more salient for individuals with low creative ability, but in a *positive* sense (see Plot C, Figure 1). There are several possible explanations for this unexpected result. First, low-ability employees may perceive the possibility of making a higher level of job-related impact when they believe that their coworkers are not competent; that is, they are more likely to believe that their own contributions will actually matter. This belief may motivate them to exert more creative effort in such situations. A high-ability individual would likely be confident in his or her potential contributions, regardless of the perceived level of coworker competence. Second, if the rater shares the target individual's perception that he or she is surrounded by peers who are categorically incompetent, the lack of performance of the peers might result in the target individual being perceived in a more positive light by the rater. In other words, there may have been an element of relativity in the rater's evaluation of the target individuals' creative performance. Finally, low-ability individuals surrounded by colleagues perceived as incompetent may not be as affected by fear of failure and lack of confidence as they would be in the presence of highly competent coworkers. In the former situation, they might feel that they would not be evaluated as stringently or held to standards as high as they would be in the latter. These concerns would likely be much less salient for an individual with high creative ability, and coworker incompetence would thus be expected to have less impact on his or her motivation to engage in creative behavior.

Another interesting pattern in the results was the rather negative reaction of high-ability individuals to task standardization. Facing numerous rules and regulations governing the task process, highly creative employees might feel frustrated and perhaps become passive, overreacting to the constraining forces from the environment. Plots A, B, and C in Figure 1 demonstrate that whereas individuals with high creative ability typically exhibit greater creativity than those with low ability, the two groups react very differently to the three contextual factors. This remarkable difference between the two ability groups in their responses to different contextual variables suggests that the hypothesized buffering role of creative ability against negative contextual forces was an oversimplification of substantially more complicated human-context interactions.

Regarding the intriguing pattern observed in the post hoc analysis of the interaction between the two leadership variables, it may be that aversive leaders who do not closely monitor their followers' task behavior and performance might be not only negative leaders but also negligent leaders (who do not actively supervise followers or guide their task performance). An aversive leader who diligently monitors followers' behavior within the team, in contrast, may be perceived by followers as at least providing sufficient information and guidance to allow them to perform effectively. An aversive leader who closely monitors behavior within the team may thus be viewed as "tough" by subordinates, but if this toughness is complemented by close monitoring, it may not have the negative consequences that occur in a situation in which the leader is more aloof and does not provide an adequate level of guidance and "hands on" supervision. In the low aversive leadership condition, close monitoring had no effect on creative performance, implying that if leadership style is not negative, then monitoring is a neutral construct (cf. Welbourne & Ferrante, 2008).

The present finding that leaders' close monitoring promotes employee creativity contrasts with previous findings that close monitoring diminishes creativity (George & Zhou, 2001; Zhou, 2003). A possible reason for this inconsistency lies in the use of different measurement items. In their research, George and Zhou (2001) used items that assess psychological consequences (that are clearly negative) associated with close monitoring (e.g., "I am careful *not* to do things that my supervisor might disapprove of," "I need to do exactly what I am told"). In the present study, we adopted Niehoff and Moorman's (1993) monitoring-by-observation scale, which is more neutral and focused on the actual leader behavior of monitoring follower behavior and performance (e.g., "How often does your supervisor check to see if you are working efficiently?"). In short, regular checking and evaluation

by the supervisor can be interpreted in different ways. On one hand, it can be perceived as micromanaging and an exercise of external control to reduce the amount of deviation from standards (Welbourne & Ferrante, 2008). On the other hand, it may be regarded as careful attention to an employee's work, which might result in perceptions of procedural justice and developmentally relevant feedback for followers (Niehoff & Moorman, 1993; Zhou, 1998). In a similar vein, Amabile (1979) found that the intrinsic motivation of individuals who expected evaluation did suffer; however, individuals who had received specific instructions regarding creative activities nevertheless exhibited high levels of rated creative performance. Further studies could explore potential factors such as leader-member exchange quality or trust in leaders that may shape followers' interpretations of leader behavior and their own behavioral reactions to it.

Study Limitations

The study reported here is not without its limitations. Like many other studies of creativity, the present study is based on cross-sectional data, which prevents us from making any causal inferences related to the findings. In addition, we obtained creativity ratings from one of the target person's peers. In the present creativity literature, when a third-party rater has been used, direct supervisors have been the most common evaluators of workplace creativity of employees. If we regard creativity as part of formal performance in the workplace, supervisors may be a natural source of evaluative judgments regarding creativity. However, when we regard creativity as a daily contribution to work processes and workplace behavior that often can be perceived as extrarole behavior (e.g., taking charge, initiative), peers may have more reliable evaluative information regarding creative performance of employees. Quite often, supervisors have only limited exposure to their subordinates' behavior and informal contribution to task performance (Organ, Podsakoff, & MacKenzie, 2006). Notwithstanding, although close coworkers may have more opportunity to observe the work behavior and performance of the target person, it is also possible that the present outcome is positively biased, because the target participants were likely to pass the peer survey to colleagues with whom they felt comfortable. Nevertheless, the present outcome showed a mean and standard deviation that were comparable to supervisor ratings of creativity reported in previous studies (see Table 1).

Another limitation of this study is its sampling procedure. We relied on a convenience sample in that the participants were contacted using our personal networks and research assistants. Although this procedure was

employed for reasons of accessibility and resource constraints, care was taken to include a wide variety of industries, functional areas, and hierarchical positions. Nevertheless, this type of nonprobability sampling procedure does not allow an adequate estimation of sampling errors. For this reason, the generalizability of the current results to the general population cannot be ascertained. The present findings do, however, offer new insights regarding the role of inhibitory predictors of creativity and their interaction with workers' creative ability. It would be beneficial to replicate and expand the present findings using a systematic sampling procedure.

Implications for Research and Practice

In terms of practical implications, the present study informs managers of what should be avoided if they wish to facilitate creative performance of employees. For example, regardless of employee creative ability, it is important to avoid assumptions among employees that "rocking the boat" is a bad thing, that "being different" will result in punitive action, or that the only responsibility of employees is to simply follow orders. These assumptions are signs of an unsupportive climate that may significantly discourage creativity. Additionally, leadership styles that include threats, intimidation, and coercive tactics appear to universally discourage creative behavior on the part of employees. Given that interaction effects are generally more difficult to detect than main effects, the finding that three of seven interaction terms in this study were significant is not negligible. Therefore, in any intervention designed to eliminate contextual inhibitors of creative performance, the level of creative ability of the individuals involved may need to be taken into account. When faced with most inhibitory work environments, highly creative individuals may exhibit relatively stable creative performance. These creative employees, however, seem to be nevertheless quite vulnerable to certain negative factors (e.g., task standardization and coworker mistrust) that can exert a potent negative influence on their creativity.

Because negative organizational forces often exert stronger impacts on employee behavior than do positive forces (Baumeister et al., 2001; Lewin, 1951), it is important to take a more balanced perspective than has been taken in the literature to date, which has focused almost exclusively on positive forces. By integrating both facilitating and inhibiting factors, a more complete picture of organizational creativity will emerge. The present study is an attempt to introduce this balance to the creativity literature by investigating inhibitory factors. Future studies may investigate the effects of other potential inhibiting factors such as organizational injustice, psychological

contract violations, destructive group norms that force uniformity among members, and lack of face-to-face communication among colleagues.

The participants in this study came from a variety of industries, functional areas, and occupations. It is possible that the variables in this study may exert different effects in different contexts, because of differences in salience, both objective and perceived, as well as their meaning as interpreted by employees. For example, close monitoring, routinization, or standardization may be expected and desirable in certain contexts and not in others, raising the possibility of opposite effects of the same variable in different contexts. Therefore, it would be useful to test the present hypotheses in diverse contexts to determine if this is the case.

Another promising venue for research involves the conceptualization and empirical investigation of mediating processes through which contextual inhibitors impede creativity. As in the case of facilitators of creativity, we need to identify the psychological or social mechanisms through which these negative forces are operating (Shalley et al., 2004). Finally, the present data indicate that whereas high creative ability insulates individuals from the detrimental effects of some inhibitory factors, it aggravates their negative effects in other cases. It would be meaningful to explore the underlying processes that cause these buffering and intensifying effects, such as creative self-efficacy or situation-specific creative motivation (Choi, 2004a). In addition, more sophisticated theoretical and empirical developments are needed to explain the conditions under which creative disposition (creative personality, creative ability) insulates individuals from contextual influences as opposed to rendering individuals more sensitive to contextual influences.

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