

The Influence of Temporal Fit/Nonfit on Creativity in the Leader-Subordinate Context: The Moderating Role of Task Enjoyment versus Performance Concern *

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Abstract

This study extends regulatory fit theory by exploring boundary conditions of the temporal fit/nonfit effect on subordinate creativity. We propose that fit (nonfit) between subordinates' regulatory focus and the temporal distance of a leader-stipulated task enhances subordinate creativity under task-enjoyment (performance-concern) conditions. Data supported the nonfit hypothesis among promotion-focused subordinates: Subordinates who were more promotion-focused showed greater creativity after recalling a leader-stipulated, temporally near task when they concentrated on doing well rather than on enjoying the task. Prevention-focused subordinates

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showed no such patterns for creativity. Implications for managing employee creativity in the competitive, performance-pressured organizational and business environment are discussed.

Keywords: Creativity, Regulatory Fit/Nonfit, Motivation, Task enjoyment, Performance Concern

INTRODUCTION

In today's fast-changing business environment, creativity is a key source of organizational innovation and competitive advantage (Oldham and Cummings 1996; Shalley and Gilson 2004). The creativity literature documents that both contextual factors (e.g., leader behavior) and individuals' dispositional orientations influence creativity (see Shalley, Zhou, and Oldham 2004 for a review). Several suggest that motivation is the key mechanism for creativity enhancement. That is, individuals who are intrinsically motivated by the nature of the task generally seek out novel and challenging possibilities (Deci and Ryan 1985) and thus show greater creativity (Amabile 1983; Amabile et al. 1996). More recent research has suggested that people extrinsically motivated by rewards or performance pressure are creative (Choi 2004; Eisenberger and Aselage 2009; Eisenberger and Rhoades 2001).

While motivation has been viewed as the core mechanism for creativity, the management literature on workplace creativity has grown separately from a dominant theory of motivation in social psychology: regulatory fit theory. Because regulatory fit theory (Higgins 2000, 2005) outlines and predicts conditions that promote motivational engagement for specific activities, it offers a useful foundation for understanding employee creativity in the workplace. Regulatory fit/nonfit refers to the match/mismatch between individuals' motivational goals and the means by which they pursue the goals. Using and extending regulatory fit theory, the current research examines how the condition of fit and nonfit between subordinates' motivational goals and leaders' provision of subordinates' goal-pursuit means affects subordinate creativity.

Specifically, one objective of our research is to expand the type of fit studied in the regulatory fit literature. Existing studies, as reviewed below, have focused exclusively on eagerness or vigilance as a means to achieve motivational goals (Aaker and Lee 2006; Lee

and Higgins 2009). But the experience of regulatory fit/nonfit is relevant to the match/mismatch between individuals' motivational goals and multiple other means of goal-pursuit (Higgins et al. 2003). Thus, explicating different types of fit will broaden the implications of regulatory fit theory to new domains. This study investigates the fit between subordinates' motivational goals and leader-stipulated task deadlines. Although time influences employee creativity (Amabile 1996) and leaders typically assign subordinates tasks with specific deadlines, creativity research has overlooked the relationship between leaders' deadline-assigning behavior and subordinate creativity. Drawing from regulatory fit theory, we explore for the first time how the fit/nonfit between subordinates' motivational goals and the temporal distance of a leader-stipulated task influences subordinate creativity.

Another objective of the present research is to explicate different conditions under which regulatory fit or nonfit is more likely to motivate creativity. A handful of recent studies have suggested that the effect of fit on motivation is context-dependent (Vaughn et al. 2006a, 2006b). Specifically, Vaughn and colleagues demonstrate that fit, compared to nonfit, increases motivation when people enjoy a task; but when individuals are concerned about their performance, the fit effect abates and nonfit is more likely to motivate performance improvement. We build on this scant literature and expand regulatory fit research by examining boundary conditions of the fit effect—the influence of fit/nonfit on subordinate creativity under task-enjoyment versus performance-concern conditions. In the workplace, subordinates sometimes must complete leader-assigned tasks that do not fit with their motivational goals. Nevertheless, regulatory nonfit has received much less attention than fit (Lee and Higgins 2009; Murali and Pons 2008). Thus, studying conditions under which both types of subordinates—those who experience fit or nonfit—become more motivated for a specific task and thus exhibit more creativity has theoretical and practical significance.

TIME AND SUBORDINATE CREATIVITY

Time is a scarce resource affecting every aspect of task completion in the workplace (Moore 2004; Okhuysen, Galinsky, and Uptigrove 2003; Waller, Giambatista, and Zellmer-Bruhn 1999). A small

number of empirical studies have examined the relationship between time pressure and creativity, generating mixed results. Some studies found that time pressure decreased both intrinsic motivation to innovate and employee creativity by truncating thinking processes necessary for creativity (Amabile et al. 2002; Andrews and Smith 1996). Other findings suggested that time pressure was considered a challenge that facilitated creativity (Amabile et al. 1996), or that time pressure had no effect on employee creativity (Amabile and Gyskiewicz 1989). A more recent study, however, demonstrated that employees experiencing moderate time pressure and substantial support from leaders or coworkers for creativity showed greater creativity (Baer and Oldham 2006).

Still, the relationship between time and subordinate creativity remains elusive and warrants clarification. In particular, the current research focuses on the following two gaps in the literature. First, creativity research has largely ignored the transactional leadership behaviors prevalent in everyday work settings (e.g., task deadline assignment) and focused on transformational leadership behaviors (e.g., inspiring or supporting subordinates) as predictors for subordinate creativity (Amabile et al. 2004; Avolio, Bass, and Jung 1999; Judge and Bono 2000; Shin and Zhou 2003; Sosik, Kahai, and Avolio 1998). Second, both intrinsic (Amabile 1983; Amabile et al. 1996) and extrinsic (Choi 2004; Eisenberger and Aselage 2009; Eisenberger and Rhoades 2001) motivations have been shown to increase creativity; however, different conditions under which intrinsic versus extrinsic motivation is more likely to influence the time-subordinate creativity relationship have yet to be explicated.

The current study fills these voids in the literature by proposing that leaders can facilitate subordinate creativity by strategically matching specific features of deadlines (e.g., near vs. distant) with the subordinates' motivational goals under different conditions (e.g., task enjoyment vs. performance concern). Below, we develop our hypotheses grounded in regulatory fit theory.

REGULATORY FIT THEORY

Regulatory Foci and Creativity

Within the domain of motivation research, Higgins (1997) posited

two distinct regulatory foci concerning the goal-pursuit process underlying the basic hedonic principle of approaching pleasures and avoiding pains. Specifically, people with a *promotion* goal strive for accomplishment, growth, and nurturance of their hopes and ideals. They pursue maximal goals and are sensitive to the presence and absence of positive outcomes and gains. In contrast, individuals with a *prevention* goal strive for safety, security, and fulfillment of their responsibilities and obligations. They pursue minimal goals and are sensitive to the presence and absence of negative outcomes and losses (Higgins 1997; Idson, Liberman, and Higgins 2000).

Regulatory foci have been found to elicit distinct processing styles that affect creativity: promotion-focused people have been found to be more creative than prevention-focused people (Crowe and Higgins 1997; Friedman and Förster 2001, 2005; Park 2008). Because promotion goals engender a focus on nurturance and achievement, individuals with a promotion goal seek more and new opportunities to grow (Liberman et al. 1999), tending to adopt a risky, explorative processing style that catalyzes creativity. In contrast, because prevention goals generate a focus on safety and security, individuals with such goals pursue status-quo-preserving opportunities over those representing significant changes (Liberman et al. 1999), thereby adopting a risk-averse, vigilant processing style that impairs creativity (Friedman and Förster 2001, 2005). Moreover, Crowe and Higgins (1997) demonstrated that participants in a promotion condition generated more diverse response categories in a sorting task (because they hoped to ensure hits and avoid errors of omission), whereas those in the prevention condition repeated the same sorting criteria (because they sought to avoid errors of commission).

To the extent that promotion-focused individuals are more creative and tend to pursue ideals and gains (Crowe and Higgins 1997; Friedman and Förster 2001, 2005), leaders who model promotion-focused behavior evoke a congruent focus among such employees, encouraging creative behavior (Kark and van Kijk 2007; Neubert et al. 2008; Wu et al. 2008). For example, Kark and van Kijk (2007) propose that promotion-focused leaders are likely to enact transformational leadership behavior that encourages subordinates' promotion-focus, thereby enhancing creativity, innovation and risk-taking; whereas prevention-focused leaders are likely to enact transactional leadership behavior that elicits subordinates'

prevention-focus, thereby increasing vigilance, accuracy and risk-aversion.

Regulatory Fit/Nonfit

Although previous research has shown the direct effect of promotion and prevention goals on creativity, surprisingly little attention has been paid to the joint influence of promotion/prevention goals and contextual factors on creativity. Both the creativity literature (as reviewed above) and regulatory fit theory suggest moderating conditions for the promotion/prevention goal-creativity relationship.

Specifically, regulatory fit theory (Higgins 2000, 2005) proposes that the distinct regulatory goals are associated with disparate goal-pursuit strategies. Because promotion-focused people are motivated to achieve further growth and advancement, they are eager to obtain gains through eagerness-based strategies. Conversely, because prevention-focused people are motivated to seek security and safety, they are careful to avoid losses through vigilance-focused strategies. This match between promotion (prevention) goals and eagerness (vigilance) goal-pursuit strategies is called regulatory fit. That is, promotion-focused people experience fit when they adopt eagerness (vs. vigilance) strategies whereas prevention-focused people experience fit when they adopt vigilance (vs. eagerness) strategies in pursuit of their goals. Consider two subordinates who want favorable performance evaluations but differ in their regulatory goals. A promotion-focused subordinate would experience fit when he or she adopts an eagerness strategy (e.g., doing work beyond required tasks). The prevention-focused subordinate would experience fit when he or she implements more vigilant measures (e.g., being careful to avoid mistakes at work).

Independent of hedonic outcomes (i.e., pleasurable or painful consequences) or moral process (i.e., good or bad process), regulatory fit has additional value (Higgins and Freitas 2007). Regulatory fit creates value through the feeling-right experience with regard to goal-pursuit activities. Specifically, the use of eagerness strategies induces promotion-focused people to feel right about what they are doing, but leads prevention-focused people to feel wrong. In contrast, using vigilance strategies makes prevention-focused people feel right about their actions, but leads promotion-focused

people to feel wrong. That is, regardless of the distinct nature and process of promotion versus prevention focus, regulatory fit theory proposes symmetrical effects of promotion fit and prevention fit through the feeling-right mechanism; substantial empirical studies have validated this prediction (Camacho, Higgins, and Luger 2003; Cesario, Grant, and Higgins 2004; Freitas and Higgins 2002; Freitas, Liberman, and Higgins 2002; Higgins et al. 2003; Lee and Aaker 2004; Spiegel, Grant-Pillow, and Higgins 2004; Vaughn et al. 2006a, 2006b).

The feeling-right experience under regulatory fit magnifies, in turn, the strength of motivation for goal-pursuit activities (Higgins 2006). Research has shown that strength of motivation on a task is greater in fit than nonfit conditions. For example, the fit effect enhances one's judgment-related confidence (Cesario, Grant, and Higgins 2004), information-processing fluency (Lee and Aaker 2004), ability to resist temptation (Freitas, Liberman, and Higgins 2002), excitement and task enjoyment (Freitas and Higgins 2002), and moral judgments (Camacho, Higgins, and Luger 2003). However, because regulatory fit is a magnifier—rather than an enhancer—of motivational engagement, regulatory fit does not always generate positive effects (Higgins 2006; Lee and Higgins 2009). For example, Lee, Lee, and Kern (2010) showed that when people were assigned an enjoyable task, they reported greater motivation for the task under fit than nonfit conditions; but when they were assigned an unpleasant task, they reported less motivation under fit than nonfit conditions.

Regulatory fit can also be unknowingly transferred to the evaluation of objects or tasks unrelated to the original source of the fit (Higgins 2005). That is, the fit experience is not necessarily task-specific or bound tightly to the source (Lee and Higgins 2009). For example, Higgins et al. (2003) primed fit (promotion/eagerness, prevention/vigilance) or nonfit (promotion/vigilance, prevention/eagerness) conditions among participants, then asked them to evaluate a mug and a dog (i.e., tasks unrelated to the priming). Participants under the fit condition estimated higher prices for the mug and evaluated the dog as friendlier than those under the nonfit condition did. This “value transfer from fit” phenomenon originates from value confusion and holds only as long as individuals are unaware of the value confusion (Higgins et al. 2003). When the source of the value is pointed out to participants, the value transfer

disappears (Cesario, Grant, and Higgins 2004; Spiegel, Grant-Pillow, and Higgins 2004).

Whereas most studies focus on the fit between regulatory goals and eagerness/vigilance goal-pursuit strategies, the fit effect is not limited to this domain (Higgins et al. 2003). Recent research has examined other types of fit-related effects in managerial situations, demonstrating that leaders can improve their effectiveness by enhancing the fit between their leadership behavior and subordinates' regulatory goals. Specifically, researchers have studied the fit between leadership style and subordinates' regulatory mode (locomotion vs. assessment) (Benjamin and Flynn 2006; Kruglanski, Pierro, and Higgins 2007). Locomotion refers to moving from one state to another, and assessment refers to making deliberate comparisons before action (Kruglanski et al. 2000). High-locomotion (vs. assessment) subordinates were found to experience a better fit with transformational leaders, which enhanced their task motivation, evaluation of the leaders (Benjamin and Flynn 2006) and job satisfaction (Kruglanski, Pierro, and Higgins 2007).

Distinct from other types of fit, the concept of regulatory fit principally concerns the manner in which a goal is pursued and whether the goal-pursuit strategy fits the regulatory goal (Higgins and Freitas 2007). In this regard, regulatory fit is related to yet distinct from person-environment (P-E) fit, which emphasizes the compatibility between individuals' dispositional and work-situation characteristics. Specifically, P-E fit speaks to broader arrays of individuals' dispositions (e.g., personality, values, attitudes, skills, interests, or goals) and multiple situations present in myriad work environments (see Kristof-Brown, Zimmerman, and Johnson 2005 for a meta-analysis). Regulatory fit theory uniquely focuses on the match between individuals' regulatory goals (which are dispositional or can be situationally primed) and their manner of goal pursuit (which can also be dispositional, rather than exclusively situational). Moreover, unlike P-E fit, which consistently exerts positive effects on employee attitudes and behavior under the fit condition, regulatory fit, as noted above, does not always generate positive effects. Because fit magnifies one's motivational engagement (Higgins 2006; Lee and Higgins 2009), positive reactions are magnified to be even more positive and motivating whereas negative reactions are magnified to be even more negative and less motivating under a condition of regulatory fit (Cesario, Grant, and Higgins 2004; Lee,

Lee, and Kern 2010).

TEMPORAL FIT/NONFIT AND SUBORDINATE CREATIVITY UNDER TASK-ENJOYMENT VS. PERFORMANCE-CONCERN CONDITIONS

Recent research has suggested that a promotion goal creates the experience of fit with a distant temporal distance, as does a prevention goal with a proximal temporal distance (Lee, Lee, and Kern 2010; Pennington and Roese 2003; Theriault, Aaker, and Pennington 2008). Because individuals with a promotion goal seek nurturance and advancement, they need ample future time to accomplish their maximal goals. Thus, pursuing goals with a distant-future time horizon in mind is consistent with the eagerness strategy, and a promotion goal combined with a distant-future orientation creates the experience of fit. In contrast, individuals with a prevention goal pursue security and safety, so they seek to complete tasks quickly to avoid failure to meet the minimal goal as soon as possible. The near-future time horizon is thus aligned with a vigilance strategy, and a prevention goal combined with a near-future time horizon creates an experience of fit.

Our view is that subordinates' regulatory goals and the temporal distance of a leader-stipulated task will create a sense of fit (or nonfit) that influences subordinate creativity; further, the temporal fit/nonfit effect on subordinate creativity will be moderated by different conditions. Specifically, fit (nonfit) should enhance subordinate creativity under intrinsically (extrinsically) motivating conditions. When people feel right about what they are doing (i.e., experiencing fit), they enjoy the task (Freitas and Higgins 2002) and thus should get intrinsically motivated to work on it. Conversely, when people feel wrong (i.e., experiencing nonfit), they lose their interest in the task (Freitas and Higgins 2002); in this situation extrinsic motivation (e.g., performance concern) should sustain or increase their motivation on the task. Evidence shows that under task-enjoyment conditions people are more motivated to complete a given task when feeling right (fit) than when feeling wrong (nonfit); in contrast, under performance-concern conditions, individuals put more effort into meeting performance standards when feeling wrong than right (Vaughn et al. 2006a, 2006b).

In detail, to the extent that promotion-focused subordinates, who prefer having ample time to achieve their maximal goal, experience fit and feel right about their goal pursuit in the context of a distant-future time horizon (Lee, Lee, and Kern 2010; Pennington and Roesse 2003; Theriault, Aaker, and Pennington 2008), when they enjoy a leader-stipulated task, they will be more motivated to perform the task when feeling right (given a distant task), thinking that they are successfully meeting their goal, than when feeling wrong (given a proximal task). And greater motivation under the distant task (a fit condition) should boost their creativity. In contrast, when promotion-focused subordinates are concerned about their performance, they will put more effort into a task when feeling wrong (given a proximal task)—believing that they are not successfully meeting their goal and should do better—than when feeling right (given a distant task). Thus, the increased motivation under the proximal task (a nonfit condition) should enhance the creativity of promotion-focused subordinates concerned about their performance.

Conversely, prevention-focused subordinates, who desire to get a task over with promptly, experience fit and feel right about their goal pursuit in the context of a proximal-future time horizon (Lee, Lee, and Kern 2010; Pennington and Roesse 2003; Theriault, Aaker, and Pennington 2008). When they enjoy a leader-stipulated task, they should be more motivated on the task when feeling right (given a proximal task)—believing that they are successfully meeting their goal—than when feeling wrong (given a distant task). And the increased motivation under the proximal task (representing fit) should foster their creativity. In contrast, when prevention-focused subordinates are concerned about their performance, they should be more motivated to do better on the task when feeling wrong (given a distant task) than feeling right (given a proximal task). Thus, the increased motivation under the distant task (representing nonfit) should enhance the creativity of prevention-focused subordinates concerned about their performance. To summarize, we hypothesize that temporal fit (nonfit) will be positively related to subordinate creativity under task-enjoyment (performance-concern) conditions.

In support of our view, Vaughn et al. (2006b) showed that when participants were concerned about their judgments' accuracy, they were more motivated to correct their judgments when experiencing nonfit than fit (i.e., participants felt wrong about their judgments when experiencing nonfit). In another study, Vaughn et al. (2006a,

experiment 2) primed regulatory goals among participants and had them list foods that support good health (promotion fit condition) or help avoid poor health (prevention fit condition). Next, participants were asked to adhere to either a task-enjoyment or a performance-sufficiency condition. Results showed that when experiencing fit, participants listed more foods under the task-enjoyment condition, but when experiencing nonfit, they listed more foods under the performance-sufficiency condition (see Vaughn et al.'s experiment 3 for similar results for word-generation tasks). Thus, these results support our proposition that subordinate creativity is affected by fit/nonfit within a task-enjoyment or performance-concern context. We formally summarize our hypotheses below.

H1: The fit between subordinates' regulatory focus and the temporal distance of a leader-stipulated task will be positively related to subordinate creativity under task-enjoyment (vs. performance-concern) conditions:

H1a: More promotion-focused subordinates will show greater creativity for a leader-stipulated, temporally distant task when they enjoy the task than when they are concerned about performance.

H1b: More prevention-focused subordinates will show greater creativity for a proximal task when they enjoy the task than when they are concerned about performance.

H2: The nonfit between subordinates' regulatory focus and the temporal distance of a leader-stipulated task will be positively related to subordinate creativity under performance-concern (vs. task-enjoyment) conditions:

H2a: More promotion-focused subordinates will show greater creativity for a leader-stipulated, temporally near task when they are concerned about performance than when they enjoy the task.

H2b: More prevention-focused subordinates will show greater creativity for a distant task when they are concerned about performance than when they enjoy the task.

To test these predictions, we assessed participants' (subordinates') regulatory foci and levels of task enjoyment versus performance concern, manipulated the temporal distance of a recalled leader-

stipulated task, and instructed them to work on a subsequent, unrelated creativity task.

METHOD

Participants

A total of 68 Masters in Business Administration students (50 men, 18 women; mean age = 29.59 years; mean work experience = 3.63 years) in a Korean university participated in our study voluntarily. Gender, age, and work experience were associated with no differences among dependent variables.

Procedure

Participants were recruited for an organizational behavior survey. In the first part of the survey, they were asked to recall a time when they had been given a deadline for a specific task by a manager or other leader at work. Thus, all participants were in the position of subordinate for the recalled task. Participants were randomly assigned to the temporally near or distant condition and asked to write about their key thoughts and feelings in the temporal situation (five blank lines provided). Then, they indicated to what degree they had focused on doing well versus enjoying the task. In the survey's second part, following the value-transfer-from-fit research (e.g., Higgins et al. 2003), participants were instructed to work on a seemingly unrelated creativity task—our key dependent variable. Afterward, they responded to the regulatory focus questionnaire (RFQ) and demographic questions. After participants handed in the full questionnaire, they were debriefed.

Measures

Regulatory focus

The Regulatory Focus Questionnaire (RFQ; Higgins et al. 2001) measures an individual's dispositional regulatory goals on 11 items using a 5-point scale (1 = *never or seldom*; 5 = *very often*). Our Korean participants received a Korean-language version of the questionnaire. The Korean version had been back-translated into English

to ensure accuracy (Brislin 1970). Sample items for promotion focus are “I feel like I have made progress toward being successful in my life” and “When it comes to achieving things that are important to me, I find that I don’t perform as well as I ideally would like to do” (reverse coded). Sample items for prevention focus are “Not being careful enough has gotten me into trouble at times” (reverse coded) and “Growing up, did you ever act in ways that your parents thought were objectionable?” (reverse coded). We created a promotion-focus index by averaging 6 items ($\alpha = .69$) and a prevention-focus index by averaging 5 items ($\alpha = .72$). Because our hypotheses test the 3-way interaction involving regulatory focus, we centered promotion/prevention scores by subtracting the respective sample mean from each participant’s promotion/prevention scores before regression analyses (Aiken and West 1991).

Temporal distance of a leader-stipulated task

We adopted a recall method of priming a leader-subordinate context (e.g., Galinsky, Gruenfeld, and Magee 2003; Gruenfeld et al. 2008). In the previous research, participants in the subordinate position were asked to recall their past experiences of receiving orders from someone who has authority over them. Multiple studies have validated that brief recall methods like this one activate cognition, emotion, and behaviors associated with the powerless, subordinate position even in situations unrelated to the possession of power (see Magee and Galinsky 2008 for a review). Following this methodology, our participants randomly assigned to the temporally distant condition were asked to recall their leader’s assigning them a task due in three weeks. Those randomly assigned to the temporally near condition recalled their leader’s stipulating a task due in two days. In the temporal distance literature, the specific timeframes primed were arbitrary, such that some studies used tomorrow versus a year from now (Liberman and Trope 1998), others used nine days versus 40 days (Pennington and Roese 2003), and still others used two days versus three weeks (Lee, Lee, and Kern 2010). What matters, then, is the *relative difference* between near versus distant temporal distance, rather than absolute time point or specific spacing between time points. To rule out potential confounds associated with aspects of a task (e.g., content, type, difficulty, valence) and to test the clean effect of our variable of interest (i.e., temporal distance), we provided participants with

information about the task deadline only.

Task enjoyment (vs. performance concern)

Vaughn et al. (2006a) manipulated performance and task-enjoyment conditions. Adapting their general method, we asked participants to indicate how much they had focused on enjoying or doing well on the recalled task on a 7-point scale (1 = *focus on doing well*; 4 = *neutral*; 7 = *focus on enjoying the task*). Thus, high scores meant greater task enjoyment, and low scores greater performance concern. To test our 3-way interaction hypotheses involving this variable, we again centered the task enjoyment (vs. performance concern) score by subtracting the sample mean from each participant's score before regression analyses (Aiken and West 1991).

Creativity

We used creativity-related methods from the existing literature (Choi and Thompson 2005; Crowe and Higgins 1997). Participants were provided a list of 12 fruit items (e.g., orange, strawberry) and asked to generate as many criteria as they could for classifying the items (e.g., acidic vs. non-acidic, sweet vs. non-sweet). The creativity literature operationalizes creativity using originality, fluency, and flexibility (Guilford 1967). Originality refers to infrequent ideas; fluency captures the number of non-redundant ideas; flexibility represents the use of different cognitive categories and perspectives (Amabile 1983). We used these three indices to measure creativity. Two independent coders counted the total number of original and infrequent answers (originality; interrater reliability = .99), non-repetitive ideas (fluency; interrater reliability = .99), and idea categories represented by answers (flexibility; interrater reliability = .98). Intraclass correlations were computed to measure interrater reliability (Shrout and Fleiss 1979). Originality was positively correlated with fluency ($r = .95, p < .01$) and flexibility ($r = .86, p < .01$). Fluency was positively correlated with flexibility ($r = .92, p < .01$). Because our three indices of creativity were conceptually related and covaried, we used their mean as an index of creativity in analysis.

RESULTS

First we analyzed levels of promotion and prevention focus among our participants. A paired-sample t-test showed no difference between participants' promotion ($M = 3.42, SD = .59$) and prevention ($M = 3.26, SD = .77$) scores, $t(67) = 1.62, p = .11$, indicating that neither a promotion focus nor a prevention focus was over- or underrepresented in our data. Table 1 presents the means, standard deviations, and correlations of all variables.

We hypothesized that temporal fit would be more positively related to subordinate creativity under a task-enjoyment condition than a performance-concern condition; whereas temporal nonfit would be more positively related to subordinate creativity under a performance-concern condition than a task-enjoyment condition. We entered promotion/prevention scores, temporal distance (1 = distant, 0 = near), and task enjoyment (vs. performance concern) main effects (e.g., table 2, model 1), their 2-way interactions (model 2), and all 3-way interactions (model 3) into our regressions.

Consistent with previous research (Crowe and Higgins 1997; Friedman and Förster 2001, 2005), in model 1 promotion focus significantly predicted creativity, $b = .29, t = 2.31, p < .05$. Also, task enjoyment (performance concern) negatively (positively) predicted creativity, $b = -.36, t = -2.96, p < .01$. In model 2, the main effect of promotion focus was qualified by the promotion x temporal distance interaction, $b = -.43, t = -2.38, p = .02$. More central to our hypothesis, this 2-way interaction was qualified by the promotion x temporal distance x task enjoyment (vs. performance concern) 3-way interaction in model 3, $b = .66, t = 2.57, p < .02$ (F change = 3.50, p

Table 1. Means, Standard Deviations, and Correlations for All Variables

Variable	Mean	SD	1	2	3	4
1. Creativity			---			
2. Promotion	9.64	5.04	---			
3. Prevention	3.42	.59	.21 ⁺	---		
4. Temporal distance	3.26	.77	.13	.24 [*]	---	
5. Task enjoyment	.49	.50	-.06	.06	.05	---
(vs. performance concern)	3.00	1.78	-.31 ^{**}	.18	-.13	.17

Note. Temporal distance (1 = distant, 0 = near)

** $p < .01$, * $p < .05$, + $p < .10$

Table 2. Results of Hierarchical Regression Analysis for Creativity

Variable	Model 1	Model 2	Model 3
Promotion	.29*	.54**	.12
Prevention	.01	-.08	.03
Temporal distance	-.01	-.04	-.04
Task enjoyment (vs. performance concern)	-.36**	-.36 ⁺	-.62**
Promotion x Temporal distance	---	-.43*	-.06
Prevention x Temporal distance	---	.16	.04
Promotion x Task enjoyment	---	.03	-.63*
Prevention x Task enjoyment	---	.01	.17
Temporal distance x Task enjoyment	---	.15	.29
Promotion x Temporal distance x Task enjoyment	---	---	.66*
Prevention x Temporal distance x Task enjoyment	---	---	-.16
<i>F</i> (df)	3.29 (4, 61)*	2.12 (9, 56)*	2.53 (11, 54)*
Adj. <i>R</i> ²	.12	.14	.21
<i>F</i> change	---	1.16	3.50*

Note. Promotion, prevention and task enjoyment (vs. performance concern) were centered.

Note. Temporal distance (1 = distant, 0 = near)

** $p < .01$, * $p < .05$, + $p < .10$

< .05).

We performed simple slope tests to probe the significant promotion x temporal distance x task enjoyment (vs. performance concern) 3-way interaction (Aiken and West 1991; Dawson and Richter 2006). Promotion-focused subordinates showed similar levels of creativity under the temporally distant task regardless of the task-enjoyment or performance-concern condition ($p > .40$). Thus, the promotion-fit hypothesis (H1a) was not supported. In contrast, as predicted, promotion-focused subordinates showed greater creativity under the temporally near task when they concentrated on doing well than when they enjoyed the task; the simple slope test of this relationship was significant, $B = -10.31$, $SE = 3.77$, $t = -2.73$, $p < .01$. That is, after recalling a task assigned by their leader with a two-day deadline, greater promotion-focused participants who concentrated on doing well, rather than enjoying the task, generated more creative ideas. This finding supports the promotion-nonfit hypothesis (H2a). Post hoc simple slope tests among less promotion-focused

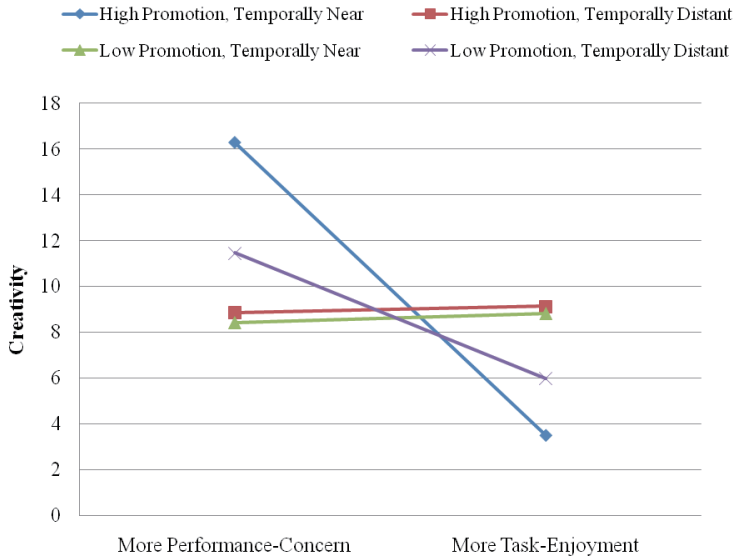


Figure 1. Regression Slopes for Promotion Focus x Temporal Distance x Task Enjoyment (vs. Performance Concern) on Creativity

participants show that task enjoyment or performance concern did not exert significant effects under the temporally near task ($p > .10$) but were marginally significant under the distant task, $B = -2.13$, $SE = 1.20$, $t = -1.78$, $p = .08$. The data show the opposite pattern as that for more promotion-focused participants, suggesting that after recalling a leader-stipulated task with a three-week deadline, less promotion-focused participants who concentrated on doing well, rather than enjoying the task, tended to generate more creative ideas (e.g., figure 1). On the other hand, the prevention x temporal distance x task enjoyment (vs. performance concern) interaction was not significant ($p > .40$).

DISCUSSION

The objective of the current research was to test the hypothesis that fit (nonfit) between subordinates' regulatory goals and the temporal distance associated with a leader-stipulated near or distant task enhances subordinates' creativity under task-

enjoyment (performance-concern) conditions. Our data supported the nonfit hypothesis among promotion-focused subordinates. Under the fit (i.e., promotion-distant time) condition, task enjoyment or performance concern did not exert an effect. In contrast, performance concern was a more favorable condition for the nonfit (i.e., promotion-proximal time) condition. Our work makes several contributions to regulatory fit theory and the creativity literature.

Theoretical Contributions

This study extends regulatory fit theory by suggesting boundary conditions of the nonfit effect. The burgeoning regulatory fit literature has documented multiple outcomes of the fit effect, but paid little attention to the nonfit effect (Lee and Higgins 2009; Mourali and Pons 2008). Replicating and extending the findings of Vaughn et al. (2006a, 2006b) to the temporal nonfit and creativity domains, our work presents conditions under which regulatory nonfit has a positive effect on subordinate creativity. Nonfit induces people to feel wrong about their goal pursuit, and this feeling of wrongness motivates more creativity under performance-concern than task-enjoyment conditions. That is, subordinates experiencing nonfit under a performance-concern condition believe that they are failing to meet their performance standards and should do better; thus they exert more effort. This finding is important considering that performance evaluation is an inevitable part of organizational life in general and in the leader-subordinate context more specifically (Arvey and Murphy 1998). Indeed, our data reveal that after recalling a leader-subordinate episode, our participants focused more on doing well than enjoying the task (e.g., table 1). On the other hand, this finding may also explain why the temporal fit x task enjoyment hypothesis was not supported—our participants' excessive concern about performance may have negated the fit effect under the task-enjoyment condition.

Moreover, our finding that performance concern, rather than task enjoyment, is associated with heightened creativity echoes the findings of goal-orientation research (see Button, Mathieu, and Zajac 1996 for a review). A learning orientation, like task enjoyment in our study, is the motivation to learn from tasks; whereas performance orientation, like performance concern in our study, is the motivation to exert effort to persist in the attainment of rewards (Cianci, Klein,

and Seijts 2010). Recent research demonstrated that performance orientation was positively correlated with individual creativity when team learning behavior was high (Hirst, van Knippenberg, and Zhou 2009). The current research adds to this literature by suggesting that a performance orientation can boost individual creativity when people experience nonfit between their promotion goal and a temporally near task, which makes them feel wrong about what they are doing and motivates them to exert more effort.

Our data showing that task enjoyment is a negative predictor of creativity under the promotion nonfit condition add fuel to recent debates on equivocal results for the relationship between intrinsic motivation and creativity (see Amabile and Mueller 2007; George 2007; Shalley, Zhou, and Oldham 2004 for reviews). Some studies report positive effects of intrinsic motivation on creativity (e.g., Amabile et al. 1994); others find weak, mixed, or no effects (Eisenberger and Aselage 2009; Shalley and Perry-Smith 2001). Research has begun to identify contextual moderators for the intrinsic motivation–creativity link, such as leader-member exchange (Tierney, Farmer, and Graen 1999) and prosocial motivation and perspective-taking (Grant and Berry in press). Moreover, recent studies have demonstrated that extrinsic motivation increases creativity (Choi 2004; Eisenberger and Aselage 2009; Eisenberger and Rhoades 2001). The present research expands the creativity literature by suggesting that promotion nonfit is another context under which intrinsic motivation (task enjoyment) undermines creativity and extrinsic motivation (performance concern) facilitates it. Our explanation is that when promotion-focused subordinates want to enjoy a task but feel wrong about what they are doing, they are more likely to quit the task and find another, more enjoyable one.

Our work also contributes to the controversies in research on time and creativity. The creativity literature shows three possible relationships between time pressure and creativity. Some studies suggest that time pressure can be considered as challenging, which leads to increased creativity (Amabile et al. 1996). Other studies suggest that time pressure diminishes creativity because it limits the creative thinking process (Amabile et al. 2002; Andrews and Smith 1996). Still others suggest an inverted U-shaped relationship between the variables, such that moderate time pressure facilitates the most creativity (Baer and Oldham 2006). In our study, proximal

temporal distance (time pressure) was positively related to creativity under two conditions: greater promotion-focus and performance concern. That is, under a performance-concern condition, more promotion-focused people may regard time pressure as a challenge to do better and thus demonstrate greater creativity. Our research implies that the relationship between time pressure and creativity may be more complicated than it appears, and multiplicative relationships among several individual difference and contextual factors (e.g., 3-way interactions) or nonlinear relationships should be examined.

This study also contributes to emerging work on regulatory fit and leadership (Benjamin and Flynn 2006; Kark and van Dijk 2007; Kruglanski et al. 2007). As creativity depends on both individuals' dispositional orientations and work contexts, leaders should take an active role providing work contexts that encourage subordinate creativity. The current research suggests that leaders would be effective in fostering subordinates' creativity by giving promotion-focused subordinates temporally near tasks and emphasizing that they do well (or by creating other factors that may induce promotion nonfit).

In a separate analysis, we examined an alternative explanation for our findings: whether any positive or negative affect participants felt in the moment accounted for our results. The creativity literature has documented that affect influences creativity (Isen et al. 1987). Thus, our participants were asked to indicate their current mood: how happy and sad they felt just after they finished reading the temporal distance manipulation and before they completed the creativity task, using a 7-point scale (1 = *not at all*; 7 = *very much*). The results remained unchanged when happiness and sadness were included as controls. These findings indicate that the temporal nonfit effect on creativity among our participants with a greater promotion-focus cannot be explained by participants' current mood. These patterns are similar to those of previous research showing that mood neither influenced the effect of regulatory focus cues on creativity (Friedman and Förster 2001) nor mediated regulatory nonfit effects on the judgment of a target person's attractiveness (Vaughn et al. 2006b).

Limitations and Future Research

Our sample was Korean graduate students with work experience. Koreans tend to have hierarchical, rather than egalitarian, value orientation (Schwartz 1992); Korean culture advocates the legitimacy of unequal distribution of power, roles and resources, inducing individuals to accept the hierarchy and obey their leaders. In this sense, our participants may have been more responsive to their leaders' orders and felt highly pressured to perform well on the leader-stipulated task; thus, the observed nonfit effect in our leader-subordinate context might be due to the ethnic makeup of the sample itself. Indeed, our finding that, overall, participants reported greater performance concern than task enjoyment after recalling a leader-subordinate anecdote implies that there might be something unique about the Korean sample. As noted earlier, the null finding of the temporal fit x task enjoyment hypothesis may be due to our Korean sample's strong sense of performance concern in the leader-subordinate context. Moreover, the small sample size and the single-item measure of task enjoyment (vs. performance concern) were notable limitations of our study. Although regulatory fit has been measured by a single item in multiple studies in this arena (e.g., Camacho, Higgins, and Luger 2003; Cesario, Grant, and Higgins 2004), future research should test the effect of temporal fit/nonfit on creativity under different conditions with larger, diverse samples using multiple-item measures in both lab and field settings to validate and generalize our findings or determine their boundaries.

Our results supported the hypothesized nonfit relationship for a promotion focus only; we found no interaction among prevention focus, temporal distance and task enjoyment (vs. performance concern) for creativity. A possible explanation for the asymmetry may be drawn from previous findings that a greater promotion (vs. prevention) focus catalyzes creativity (Crowe and Higgins 1997; Friedman and Förster 2001, 2005; Park 2008). Indeed, our hierarchical regression results show that promotion focus exerted a significant effect on creativity before its 3-way interaction with temporal distance and task enjoyment (vs. performance concern) was entered (e.g., table 2). This result is consistent with extant research showing that greater creativity is associated with promotion focus. Thus, our promotion-prevention asymmetry may have arisen

because a promotion focus may have a much stronger effect than a prevention focus within the domain of creativity. Related to this, substantial regulatory fit research has demonstrated symmetrical effects of promotion fit and prevention fit through the feeling-right mechanism (see Aaker and Lee 2006; Higgins 2005; Lee and Higgins 2009 for reviews). However, our data suggest that promotion fit and prevention fit may operate differently under some circumstances. Future work should scrutinize this conjecture carefully.

Relatedly, future research should untangle intrinsic versus extrinsic motivation as distinct mechanisms for the relationship between regulatory focus and creativity. Because promotion-focused people pursue their ideal-self (i.e., who they want to be) and needs for accomplishment and challenges (Higgins 1997; Liberman et al. 1999), they may be more intrinsically (vs. extrinsically) motivated to fulfill their ideal-self goal. In contrast, prevention-focused people seek their ought-self (i.e., who they ought to be) and needs for security and status quo (Higgins 1997; Liberman et al. 1999). And they are vigilant to avoid punishment. Because their ought-self is based on their responsibilities in social relationships with others, prevention-focused people may be more extrinsically (vs. intrinsically) motivated by social recognition, punishment or performance pressure. On the contrary, our data show that performance concern moderated the promotion—not prevention—nonfit effect on creativity. Future research should disentangle this puzzle by explicating the mediating or moderating role of intrinsic/extrinsic motivation on the regulatory focus–creativity link.

Likewise, future research should test the psychological processes underlying the temporal fit/nonfit effect on creativity. Here, our logic was that the feeling of rightness (wrongness) engendered by fit (nonfit) may drive the intrinsic (extrinsic) motivation for creativity under task-enjoyment (performance-concern) conditions. As this study was unable to test the mediating processes, future work should measure feeling of rightness/wrongness and intrinsic/extrinsic motivation directly to substantiate our contention.

Moreover, we speculate that there is at least one other potential mediator anteceding our proposed motivation mechanism. The match between one's regulatory goals and their methods of goal pursuit has been shown to enhance processing fluency—information is processed easily under fit conditions (Lee and Aaker 2004). Thus, subordinates under temporal nonfit might experience

difficulty processing leaders' instructions; and when they are concerned about their performance, they might work harder, as information-processing is more difficult. Research that investigates the mechanisms for the regulatory fit/nonfit effect would be highly valuable (Lee and Higgins 2009; Murali and Pons 2008). As such, future research should systematically test the multiple pathways or psychological processes underlying the temporal fit/nonfit effect on creativity and determine the core mechanism and boundaries.

This study aimed to examine the incidental, or value-transfer effect, of temporal fit/nonfit on a subsequent, unrelated creative task. An important question for fit research, then, is whether the fit/nonfit effect would be sustained over time. For example, as the leader and subordinate work together for longer periods, the initial effects of fit or nonfit may diminish. One reason is that as the leader and subordinate interact more frequently, other variables (e.g., relationship quality, familiarity, predictability) may influence their work behavior, including factors that take precedence over the incidental fit experience. Future research should test our temporal fit/nonfit hypothesis using a longitudinal design and assess multiple types of behavioral data to explore changes in subordinates' creative performance while carefully controlling for extraneous variables, to tease out the direct effects of fit.

Practical Implications

The finding that promotion nonfit is more motivating for creativity under performance-concern (vs. task-enjoyment) conditions applies to everyday life. Many of our daily tasks, especially at work, require a greater focus on performance than task enjoyment, and some of these require creative thinking. The need for employees to be creative at work is ever more important for organizational innovation in today's fiercely competitive, performance-pressured global markets. To enhance creativity for such tasks and business environments, individuals with a greater promotion focus could be offered shorter timeframes of tasks or seek to truncate these themselves, thus enhancing their experience of nonfit and motivating them to exert greater effort. The current research implies that leaders can facilitate employee creativity (and organizational innovation more broadly) by assigning greater promotion-focused subordinates to a temporally near task and emphasizing the need to do well over enjoyment.

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