

Newcomer Innovation in Work Groups: The Effect of Regulatory Fit

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Most of the theoretical and empirical work on newcomers views them as targets, rather than sources, of influence. However, under certain conditions newcomers can produce innovation in the groups they enter. The present experiment investigated the impact of fit between group members' regulatory focus (promotion vs. prevention) and the strategic orientation of a newcomer's suggested change (eager vs. vigilant) on the group's receptivity to the newcomer's suggestion. Three-person groups (composed of a leader and two subordinates) completed two work shifts on a computer-based air-surveillance task. After the first shift, all groups received feedback indicating that they had failed to reach a predetermined success criterion. Prior to the second shift, group members' regulatory focus was manipulated by describing their future performance incentives in either promotion or prevention terms. In addition, one of the subordinates was replaced by a (confederate) newcomer, who suggested a new task strategy for the second shift using either an eager or a vigilant framing, thereby creating regulatory fit or non-fit for group members. As predicted, the newcomer's strategy was accepted more frequently by groups in fit conditions (promotion/eager and prevention/vigilant) than in non-fit conditions (promotion/vigilant and prevention/eager). Also as predicted, groups in fit conditions spent less time discussing the strategy before deciding whether to accept or reject it than did groups in the non-fit conditions.

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PREFACE

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1.0 INTRODUCTION

The use of work groups in organizations has become increasingly popular over the last few decades, and the trend is likely to continue (Hackman & Katz, 2010; Kozłowski & Ilgen, 2006; Mathieu, Maynard, Rapp, & Gilson, 2008; Salas, Stagl, Burke, & Goodwin, 2007). On the one hand, this is not surprising, because there are several reasons why collaborative work might be beneficial. For example, work groups often possess diverse skills and abilities, can apportion responsibilities to meet new task demands, and can motivate their members to work hard. On the other hand, there is substantial evidence that work groups often fail to perform as well as they “should” given the skills of their members.

In an early analysis, Steiner (1972) attributed the failure of many groups to live up to their potential to *process loss* arising from motivation and response-coordination problems. More recently, a number of factors underlying process loss have been identified. For example, groups may become entrenched in habitual routines, even though these routines are no longer adaptive (Gersick & Hackman, 1990); they may fail to consider and discuss unique information held by individual members that is necessary for effective problem solving (Brodbeck, Kerschreiter, Mojizisch, & Schultz-Hart, 2007; Stasser & Titus, 1985); they may have problems keeping track of who knows what in the group (Moreland, Argote, & Krishnan, 1998; Wegner, 1986); they may have difficulties developing and maintaining accurate shared representations of the group’s task, goals, and resources (Levine & Higgins, 2001; Mathieu, Heffner, Goodwin, Salas, &

Cannon-Bowers, 2000); and they may experience various kinds of social and task conflict that undermine their performance (DeDreu & Weingart, 2003; Jehn, Northcraft, & Neale, 1999).

A particularly important factor that may challenge group effectiveness is personnel turnover. Defined as the entry of new members and/or the exit of old members (Levine, Choi, & Moreland, 2003), turnover has been studied both at the organizational and small group levels. In an early review of the impact of turnover on group and organizational effectiveness, Price (1977) concluded that, on balance, turnover has negative effects. However, more recent research has found that the effect of turnover depends on the conditions under which it occurs (see Arrow & McGrath, 1995; Levine & Choi, 2004; McGrath & O'Connor, 1995). For example, Argote, Insko, Yovetich, and Romero (1995) found that turnover hurt performance less for groups performing complex tasks than for groups performing simple task. Over time, groups performing complex tasks made changes that reduced the number of steps required to complete the task, and these changes rendered previous experiences obsolete. As a result, the departure of experienced members was less costly to these groups. Furthermore, Rao and Argote (2006) found that groups that experienced turnover performed worse than groups that did not, but this effect was moderated by group structure. Groups with clearly specified roles and routines suffered less following turnover than did groups without such roles and routines. Finally, Levine and Choi (2004) found that teams performed worse following turnover when the person entering the team had low rather than high ability, and this effect was stronger when the newcomer had high rather than low status.

In contrast to work focusing on negative consequences of turnover, relatively little attention has been devoted to identifying conditions under which turnover can have a positive impact on group performance. For example, turnover can involve the exit of unproductive

members and/or the entry of new members who possess valuable skills and abilities and who are motivated to improve the group's effectiveness (e.g., by proposing innovative ideas). In such situations, turnover may have a beneficial effect on the group's performance. This paper focuses on the consequences of newcomer entry. In a comprehensive analysis of the conditions under which newcomers can change the groups they enter, Levine et al. (2003) outlined several characteristics of the group and the newcomer that may influence the extent to which the newcomer is effective in introducing change.

1.1 NEWCOMERS AS AGENTS OF CHANGE

When new members enter a group, they have to be socialized in one way or another. Many analyses of group socialization focus on newcomers as passive recipients of influence, emphasizing their susceptibility to oldtimers' efforts to shape their attitudes and behaviors. This focus is hardly surprising given the stress that new members of a group typically experience (Louis, 1980). New members often have unrealistic expectations about what being a group member entails, and because of this they frequently experience reality shock. In addition, when entering a new group people often feel overwhelmed by the new information they have to digest, and uncertainty and performance anxiety are common consequences. In spite of all this, however, newcomers are not always passive recipients of influence (Levine & Moreland, 1999; Moreland & Levine, 1989). First, newcomers can produce unintentional change in groups they enter by taking an active role in their socialization. For example, by seeking information and feedback and by attempting to form relationships with oldtimers, newcomers may produce changes in the group's information management systems or alter the social dynamics of the

group (Levine, Moreland, & Choi, 2001). Second, newcomers can produce intentional change (innovation) in the groups they enter (Levine & Moreland, 1985), though this is often difficult to do. Newcomers' attempts to produce change are often met with skepticism from oldtimers, because oldtimers distrust the motives of newcomers, have doubts about their skills, or simply prefer to maintain familiar task routines (see Levine et al., 2003). How effective newcomers are in producing change depends on characteristics and behaviors of the newcomers as well as characteristics of the group (Levine & Choi, 2010, in press; Levine et al., 2003).

Newcomers' characteristics and behaviors may affect innovation via their impact on newcomers' motivation to introduce change, ability to generate good ideas, and ability to persuade oldtimers to accept their ideas. Newcomers' motivation to introduce change may be affected by several factors, such as their commitment to the group (cf. Moreland & Levine, 1992), belief that they have the ability to generate good ideas for solving group problems (cf. Bandura, 1986; Tierney & Farmer, 2002), and expectation that their innovation efforts will be rewarded (cf. Edmonson, 2003; Milliken, Morrison, & Hewlin, 2003). Newcomers' ability to generate good ideas may depend on such factors as their creativity level and style (cf. Simonton, 2000), cognitive skills (cf. Barron & Harrington, 1981; Farr & Ford, 1990), and task-relevant knowledge and skills (cf. Amabile, 1988; Ford, 1996; Smith, Gerkens, Shah, & Vargas-Hernandez, 2006). Finally, newcomers' ability to persuade oldtimers to accept their ideas may depend on such factors as their external social status (cf. Ridgeway, 2001), behavioral style (cf. Moscovici, 1985; Jentsch & Smith-Jentsch, 2001), and use of effective impression management tactics (cf. Levine & Kaarbo, 2001).

There are also several characteristics of the group that may affect the extent to which newcomers produce innovation. These include group openness, group staffing level, group

development, group leadership, and group performance. For example, open groups (that are experienced and comfortable with member turnover) are likely to be more receptive to newcomer influence than are closed groups (that are not so experienced and comfortable) (Ziller, Behringer, & Jansen, 1961); understaffed groups are likely to be more receptive than are adequately staffed or overstaffed staffed groups (Cini, Moreland, & Levine, 1993); groups in early stages of development are likely to be more receptive than are groups in later stages of development (cf. Ford & Sullivan, 2004; Moreland & Levine, 1988); groups with democratic leaders are more likely to be receptive than are groups with autocratic leaders (cf. Nystrom, 1979); and low-performing groups are more likely to be receptive than are high-performing groups (Choi & Levine, 2004; Ziller & Behringer, 1960).

Group and newcomer characteristics may also interact in influencing a group's receptivity to a newcomer's attempted innovation (e.g., Hansen & Levine, 2009; Kane, Argote, & Levine, 2005). For example, Hansen and Levine (2009) had three-person groups work on a computer-based air-surveillance task for three shifts. Group performance in Shifts 1 and 2 was varied to manipulate members' performance optimism for Shift 3 (low, moderate, or high). At the beginning of Shift 3, a low-status group member was replaced by a (confederate) newcomer who used either an assertive or a non-assertive behavioral style in suggesting that the group adopt a new task strategy. When group members' expectations about their future performance were clear (i.e., their performance optimism was either high or low), the newcomer's assertiveness in suggesting a strategy change did not affect the groups' receptivity to this suggestion. However, when group members' expectations about future performance were unclear (i.e., their performance optimism was moderate), groups were significantly more receptive to a strategy change suggested by an assertive, as opposed to a non-assertive, newcomer.

Group and newcomer characteristics may interact in other ways as well. For example, a group's receptivity to a newcomer's innovation may depend on whether there is a "match" between the group's motivational orientation toward the task and the framing of the newcomer's strategy suggestion. On the one hand, if the group is focused on *attaining positive outcomes*, then the newcomer may be more effective if he or she frames the strategy as *a way to succeed* rather than as a way to avoid failure. On the other hand, if the group is focused on *avoiding negative outcomes*, then the newcomer may be more effective if he or she frames the strategy as *a way to avoid failure* rather than as a way to succeed. Regulatory Fit Theory (Higgins, 2000, 2006) seeks to explain the consequences of matches/mismatches between a person's (or group's) (a) motivational orientation toward a goal and (b) behavioral strategies for attaining that goal. The first component of regulatory fit theory -- motivational orientation toward a goal -- is the focus of a prior theory, Regulatory Focus Theory (Higgins, 1997), which will be discussed next.

1.2 REGULATORY FOCUS THEORY

According to the well-established *hedonic principle*, humans (and other organisms) are motivated to approach pleasure and avoid pain. Building on this principle, Regulatory Focus Theory (Higgins, 1997) argues that there are two distinct motivational orientations. The first -- *promotion focus* -- emphasizes the pursuit of gains (and the avoidance of non-gains) and the desire to reduce discrepancies between the actual self and the ideal self. In a promotion state, people are concerned about advancement, accomplishment, and fulfilling aspirations. The second motivational orientation -- *prevention focus* -- emphasizes the avoidance of losses (and the pursuit of non-losses) and the desire to reduce discrepancies between the actual self and the

ought self. In a prevention state, people are concerned about protection, safety, and fulfilling responsibilities¹.

Regulatory focus has been shown to influence a variety of individual psychological processes and behaviors. For example, Crowe and Higgins (1997, Study 2) used a recognition memory task to examine the strategic preferences of promotion- and prevention-focused participants. In this study, participants who had seen a list of nonsense words were presented with those words as well as new words. Their task was to identify the words they had seen before. Participants with a promotion focus used an eager strategy (i.e., reporting they had seen words that they in fact had not seen) whereas those with a prevention focus used a vigilant strategy (i.e., reporting they had not seen words that they in fact had seen). In signal detection terms, people with a promotion focus used a strategy that maximized correct acceptances (hits) and minimized errors of omission (misses), whereas people with a prevention focus used a strategy that maximized correct rejections and minimized errors of commission (false alarms). This tendency for promotion-focused people to adopt eager strategies and prevention-focused people to adopt vigilant strategies has been replicated in several additional studies using other manipulations of regulatory focus and other measures of strategic preferences (e.g., Forster, Higgins, & Bianco, 2003; Friedman & Forster, 2001; Shah, Higgins, & Friedman, 1998).

In addition to its effect on strategic preferences, regulatory focus has been found to affect a number of other individual responses. For example, research on creativity has found that promotion-focused individuals were more likely to search for unique problem-solving responses and to engage in divergent thinking than were prevention-focused individuals (Friedman & Forster, 2001, 2002). Research on consumer behavior has found that consumers were interested in different features of a product depending on their regulatory focus. Promotion-focused

individuals tended to concentrate on comfort-oriented qualities, whereas prevention-focused individuals tended to concentrate on safety-oriented qualities (Werth & Forster, 2007). Furthermore, research on emotions has found that promotion-focused individuals responded to promotion success with cheerful emotions and to promotion failure with dejection. In contrast, prevention-focused individuals responded to prevention success with quiescence and to prevention failure with agitation (Brockner & Higgins, 2001; Crowe & Higgins, 1997; Higgins, 1997, 2001). Additional regulatory focus effects have been found in such domains as judgment and decision making (Halamish, Liberman, Higgins, & Idson, 2008; Liberman, Idson, & Higgins, 2005) and perceptions of justice (Cropanzano, Paddock, Rupp, Bagger, & Baldwin, 2008).

Recently, researchers have become interested in the implications of regulatory focus for intergroup and intragroup processes (see Sassenberg & Woltin, 2008, for a review). For example, in regard to intergroup processes, Shah, Brazy, and Higgins (2004) found that regulatory focus influenced how people responded emotionally and behaviorally to ingroups and outgroups. Specifically, people with a promotion focus expressed increased positive emotional and behavioral reactions to ingroup members, whereas people with a prevention focus expressed increased negative emotional and behavioral reactions to outgroup members. Along similar lines, Sassenberg and Hansen (2007) found that regulatory focus moderated how people responded to learning that they were the object of social discrimination. People with a prevention focus responded to ostensible discrimination with stronger negative affective responses and greater intentions to act against the outgroup than did people with a promotion focus. This finding was attributed to prevention-focused people being more vigilant than promotion-focused people to negative events (in this case, social discrimination).

More relevant for present purposes is research showing that regulatory focus can influence intragroup processes. In an early study, Levine, Higgins, and Choi (2000) argued that group members can develop a shared regulatory focus, which in turn can influence collective behavior. In this study, three-person groups were given instructions designed to induce either a promotion or prevention focus in all members. Groups were then asked to complete three blocks of recognition memory trials in which they were asked to identify which nonsense words they had seen earlier in the experiment. As predicted, promotion-focused groups converged more on risky strategies than did prevention-focused groups. That is, promotion-focused groups were more likely than prevention-focused groups to report having seen a word when they in fact had not seen that word (thereby exhibiting errors of commission).

In an extension of Levine et al.'s (2000) experiment, Florack and Hartmann (2007) investigated the effect of shared regulatory focus and time pressure on investment decisions made by three-person groups. In their study, as in the Levine et al. study, regulatory focus was manipulated prior to group interaction, and all members were induced to have the same focus. After the manipulation, participants played the role of small business owners who decided how to invest money on behalf of their company. As predicted, promotion-focused groups made riskier investments than did prevention-focused groups. This difference, however, was only significant when groups had ample time for discussion, suggesting that shared regulatory focus became stronger over time.

In another study, building on ideas from social identity theory (Tajfel & Turner, 1979) and self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), Faddegon, Scheepers, and Ellemers (2008) argued that group members adopt a regulatory focus that is prototypical, or normative, for their group. Once such a norm is adopted, it influences members'

subsequent behavior. In their studies, after participants were categorized into groups based on their responses to a (bogus) mental association test, they were presented with group mottos ostensibly chosen by other members of their group. Participants then performed the same recognition task used by Levine et al. (2000). In two studies, results showed that participants whose fellow group members endorsed promotion-focused mottos demonstrated a risky bias, whereas participants whose fellow group members endorsed prevention-focused mottos demonstrated a conservative bias.

Finally, Faddegon, Ellemers, and Scheepers (2009) investigated the impact of task characteristics on the emergence of group regulatory focus. In one condition, the group task was framed as disjunctive, in that the performance of the group depended on the performance of the best member. In the other condition, the (same) group task was framed as conjunctive, in that the performance of the group depended on the performance of the worst member. The investigators predicted that a disjunctive task would induce a promotion focus, because members would strive to perform well, whereas a conjunctive task would induce a prevention focus, because members would strive not to perform poorly. Consistent with these predictions, when the task was framed as disjunctive, a promotion focus emerged among group members. Contrary to predictions, however, a conjunctive task did not lead to the emergence of a prevention focus. The authors speculated that specific aspects of the experimental situation may have caused this asymmetry.

As the above studies demonstrate, regulatory focus can influence various responses of groups as well as individuals. However, as noted above, regulatory focus relates to only one aspect of goal pursuit, namely individuals' or groups' motivational orientations toward a goal. As suggested earlier, people not only experience the phenomenological states of prevention and promotion during goal pursuit, they also utilize specific behavioral strategies to achieve their

goal. The relationship between an individual's or a group's motivational orientation toward a goal and the behavioral means used to reach that goal can be characterized by either "fit" or "non-fit." Regulatory Fit Theory (Higgins, 2000, 2006) focuses on the consequences of such fit/non-fit for a variety of cognitive, affective, and behavioral responses.

1.3 REGULATORY FIT THEORY

According to Regulatory Fit Theory (Higgins, 2000, 2006), there are two categories of behavior by which individuals and groups can pursue goals: eagerness and vigilance. For example, consider two soccer teams trying to win a game. One team may utilize primarily eager means to pursue this goal by congregating around the opponent's goal and trying to score. Another team may utilize primarily vigilant means by congregating around their own goal and trying to prevent the opponent from scoring. In this example, there is a natural fit between promotion focus and eager means, because trying to score sustains an advancement orientation toward the goal of winning. Similarly, there is a natural fit between prevention focus and vigilant means, because trying to prevent the opponent from scoring sustains a protection orientation toward the goal.

Recently, researchers have evaluated the effects of regulatory fit on several classes of responses. Most relevant for the present study is research showing that regulatory fit can increase persuasion, an effect that has been demonstrated in several domains, including social policy (Cesario, Grant, & Higgins, 2004; Cesario & Higgins, 2008; Holler, Hoelzl, Kirchler, Leder, & Manetti, 2008), health behavior (Hong & Lee, 2008; Latimer et al., 2008; Spiegel, Grant-Pillow, & Higgins, 2004), advertising (Florack & Scarabis, 2006; Lee & Aker, 2004), and leadership (Stam, van Knippenberg, & Wisse, 2010).

As one example, Cesario et al. (2004, Studies 1-3) investigated the effects of fit/non-fit on message recipients' feelings about, and perceptions of, a persuasive message. They found that when the message fit recipients' strategic orientation (an eager message paired with a promotion focus or a vigilant message paired with a prevention focus), recipients felt more "right" about the message and judged it to be more persuasive than when the message did not fit their strategic orientation (an eager message paired with a prevention focus or a vigilant message paired with a promotion focus). As another example, Cesario and Higgins (2008) studied how the gestures used by a message source affected the source's persuasiveness. In this study, promotion- and prevention-focused individuals watched a video in which an actor advocated implementing a new after-school program for children. In one condition, the actor used gestures reflecting an eager delivery style, whereas in the other condition, he used gestures reflecting a vigilant delivery style. When the source's gestures fit participants' regulatory focus, they felt more right about the message and reported more positive attitudes toward the after-school program. Finally, as a third example, Lee and Aker (2004) tested the moderating roles of both regulatory focus and perceived risk on message framing effects. They found that gain frames were more persuasive when the appeal was promotion-focused, and this effect was especially strong when perceived risk was low. In contrast, loss frames were more persuasive when the appeal was prevention-focused, and this effect was especially strong when perceived risk was high.

What might explain the effects of regulatory fit on persuasion? At a general level, when people experience regulatory fit, they feel right about what they are doing (Higgins, 2005, 2006). According to Higgins and his colleagues, fit influences persuasion because it "makes people feel right about their experience during message reception" (Cesario, Higgins, & Scholer, 2007, p. 448). Two aspects of this experience are especially relevant. First, fit can make people feel right

about the message itself. Feeling right about the message, in turn, can be used as information when people infer their attitude toward the message. When fit makes people feel right about a message, they have a more positive attitude toward it (Cesario & Higgins, 2008). Second, fit can make people feel right about their emotional reaction to the message. Feeling right about this reaction, in turn, can increase the intensity of the reaction. Thus, if the reaction to a message is positive, fit intensifies that reaction, which increases persuasion (Cesario & Higgins, 2004).

Research testing the effect of regulatory fit on persuasion has generally focused on situations in which participants have a positive predisposition toward the message. As noted above, in such cases fit presumably makes people feel right about their evaluation, and thus positive feelings toward the message are intensified. However, the effect of fit is not limited to cases in which participants have a positive predisposition toward the message (Cesario et al., 2004). According to Avnet and Higgins (2006), “[The experience of] regulatory fit is suggested to increase decision makers’ confidence in their reactions; to increase the importance of their reactions; and in general, to increase their engagement in their reactions *whatever those reactions happen to be*” (p. 2, italics added). In other words, if participants have a *positive* predisposition toward the message, then fit will increase this positivity, but if participants have a *negative* predisposition toward the message, then fit will increase this negativity.

In addition to influencing persuasion, regulatory fit has also been shown to influence various aspects of information processing (Cesario & Higgins, 2008; Koenig, Cesario, Molden, Kosloff, & Higgins, 2009; Lee & Aker, 2004). One such aspect is ease of information processing. Cesario et al. (2007) argued that regulatory fit increases strength of engagement in information processing activity, which in turn causes processing to feel easier. For example, Lee and Aker (2004) presented participants with an advertisement for grape juice, which emphasized

either promotion focus concerns or prevention focus concerns. To induce regulatory fit, participants were then presented with a catch-phrase that was framed in terms of either eagerness or vigilance. In addition to affecting participants' attitude towards the grape juice, regulatory fit affected their reported ease of processing the message. That is, participants in fit conditions reported the message to be easier to process than did participants in non-fit conditions. Subsequent research has replicated this finding and also shown that the increased ease of information processing in fit conditions is related to participants' strength of engagement (Lee, Keller, & Sternthal, 2010, Study 4).

To date, very few studies have examined the effects of regulatory fit on group processes. However, researchers have recently argued that because groups serve important self-regulatory goals, people are likely seek out membership in groups that serve their regulatory needs. For example, in a study reported earlier, Shah et al. (2004) speculated that, in an effort to achieve regulatory fit, people with a prevention focus should avoid "dangerous" groups and seek membership in groups that meet their need for safety and security. People with a promotion focus, in contrast, should avoid "safe" groups and seek membership in groups that meet their need for advancement and growth. In a study testing these predictions, Sassenberg and his colleagues found that fit between group power and individual regulatory focus had a positive effect on the perceived value of group membership (Sassenberg, Jonas, Shah, & Brazy, 2007). Specifically, higher-power groups were seen as providing the opportunity to act in line with the preferred strategies of promotion-focused individuals, whereas lower-power groups were seen as providing the opportunity to act in line with the preferred strategies of prevention-focused individuals.

In a study investigating the impact of regulatory fit on reaction to opinion deviance, Alexander, Levine, and Higgins (2009) manipulated the regulatory focus of three-person groups, which were then asked to come to consensus on a proposal requiring seniors to write a thesis before graduating (which participants opposed). Following the discussion, groups were exposed to an individual (an opinion deviate) who argued in favor of the thesis proposal. The deviate's message was framed in either an eager or a vigilant way, creating either fit or non-fit with group members' regulatory focus. After hearing the deviate present his position, groups rated the deviate. It was predicted that, because groups typically respond *negatively* to opinion deviates (e.g., Levine, 1989; Levine & Kerr, 2007), groups in fit conditions would evaluate the deviate more negatively than would groups in non-fit conditions (cf. Avnet & Higgins, 2006). And this is indeed what occurred

1.4 THE PRESENT EXPERIMENT

As discussed earlier, newcomers are a potentially important source of ideas for improving group performance, but often current group members do not accept their ideas. The literatures on regulatory focus and regulatory fit suggest a potentially fruitful avenue for increasing group members' receptivity to newcomer innovation. According to this literature, groups serve important self-regulatory needs of their members (e.g., Sassenberg et al., 2007), develop strategic norms that are consistent with either a promotion focus or a prevention focus (e.g., Levine et al., 2000; Florack & Hartmann, 2007), and incorporate those norms into the identity of the group (Faddegon et al., 2008). Furthermore, fit between message recipients' regulatory focus (promotion or prevention) and the strategic orientation of the message (eager or vigilant) has

been shown to increase persuasion when the initial response to the message is positive (Cesario et al., 2004). Consequently, an important factor that may influence the extent to which a group accepts a newcomer's suggested innovation is the fit between the group's regulatory focus and the newcomer's strategic orientation in presenting his or her idea.

1.4.1 Design and Hypotheses

In the current study, three-person groups worked for two shifts on a computer-based air-surveillance task involving information search and exchange (cf. Choi & Levine, 2004, Hansen & Levine, 2009; Levine & Choi, 2004). Following the first shift, all groups were given feedback indicating that they had failed to meet a performance criterion. Then, ostensibly to simulate the turnover often experienced by real groups, a newcomer (confederate) replaced one of the original members. Following the introduction of the newcomer, group members were exposed to either a promotion or a prevention focus manipulation. Prior to the second shift, the newcomer suggested a major change in the group's task strategy using either an eager or a vigilant message framing.

In Alexander et al.'s (2009) experiment on reaction to opinion deviance mentioned earlier, participants whose regulatory focus fit the deviate's message framing evaluated that person more negatively than did participants whose regulatory focus did not fit the deviate's message framing. These findings were attributed to the fact that the deviate initially elicited a negative reaction from other members and hence fit increased this negativity. Although the newcomer in the present study can also be viewed as a deviate, it was expected that, rather than eliciting an initially negative response, the newcomer would elicit an initially positive response from other members. This is because the team's failure prior to the newcomer's entry is likely to cause members to doubt the efficacy of their current strategy and motivate them to change this

strategy, which in turn should cause them to be positively disposed toward someone who suggests a plausible way to do so. This reasoning is consistent with previous research showing that newcomers who enter failing teams are more effective than are newcomers who enter succeeding teams (Choi & Levine, 2004; Hansen & Levine, 2009). Consequently, it was predicted that fit between group members' regulatory focus and the newcomer's message framing would increase the likelihood that the newcomer's suggestion would be accepted. Specifically, it was expected that the group's regulatory focus and the newcomer's message framing would interact in determining the group's receptivity to the newcomer's suggestion. Groups experiencing fit between their regulatory focus and the newcomer's message framing (i.e., promotion group/eager message and prevention group/vigilant message) should be more likely to accept the newcomer's suggestion than groups experiencing non-fit (i.e., promotion group/vigilant message and prevention group/eager message).

In addition, another potential impact of regulatory fit was explored. In light of work indicating that regulatory fit can influence ease of information processing (e.g., Lee & Aker, 2004; Lee et al., 2010), the amount of time oldtimers spent discussing the newcomer's strategy suggestion before deciding whether to accept or reject it was measured. It was expected that groups experiencing fit between their regulatory focus and the newcomer's message framing would spend less time discussing the strategy before making a decision than would groups experiencing non-fit.

2.0 METHOD

2.1 PARTICIPANTS

Three hundred and six male undergraduates at a large university participated in the experiment in partial fulfillment of a course requirement for Introductory Psychology. Participants were randomly assigned to 3-person groups, and groups were randomly assigned to each of four conditions in a 2 (group regulatory focus: promotion vs. prevention) X 2 (newcomer message framing: eager vs. vigilant) between-participants design.

2.2 EXPERIMENTAL TASK

Groups worked on a computer-based air-surveillance task (TAST), running on networked personal computers, that involves the collection, distribution, and processing of a large amount of information under time pressure (cf. Choi & Levine, 2004; Hansen & Levine, 2009). TAST embodies many of the challenges faced by real-world groups, including high communication and coordination load, dynamically changing information distributed across group members, use of computer systems for acquiring and transmitting information, time pressure and performance-contingent payoffs, and role, status, and power differences among group members.

Members of groups using TAST were assigned to play one of two roles. One person served as the leader of the group, and two people served as operators (A and B). During the work period, multiple planes flew through the simulated airspace the group was monitoring. When each plane entered the airspace, eight of its characteristics (e.g., radar signal, airspeed, engine thrust) could be accessed by the operators. The operators' job was to monitor and relay information about plane characteristics to the leader, who then used the information to assign runways to the planes using a mathematical formula. Because the characteristics of the planes changed while they were in the airspace, the operators had to monitor the planes continuously, and the leader had to update the planes' runway assignments frequently. Participants in prior experiments using this paradigm found the task to be both challenging and highly involving.

2.3 PROCEDURE

Participants were brought into the laboratory in groups of three and given a brief introduction to the study, during which they were told that they would work as members of a runway assignment team at an airport². Further, they were told that they would have an opportunity to earn money based on the speed and accuracy of their work. Finally, they were told that the team's composition would change later in the session to simulate the turnover often experienced by real teams. After the introduction, participants were randomly assigned to the role of either leader or operator and trained on the task for approximately 30 minutes.

During the training, the operators were taught how to use their computers to look up information about eight characteristics of the planes. These characteristics were: Airspeed (in miles per hour), Altitude (in feet), Angle (degree of the plane's ascent or descent), Corridor

(whether the plane was in, outside, or on the edge of its authorized flight path), Direction (the size, in degrees, of the course adjustment the plane would have to make in order to fly directly over the airport), Radar Signal (low signal quality, medium signal quality, high signal quality), Range (the plane's distance, in miles, from the airport), and Engine Thrust (low, medium, high). When the operators looked up the information for any given characteristic, they were given the raw value of that characteristic. For example, when checking Airspeed, an operator might see 510 mph. The operator then used a table to convert that raw value into a parameter value (ranging from 1 to 3) for the characteristic in question (e.g., for Airspeed, $< 435 \text{ mph} = 1$; $436\text{-}570 = 2$; $> 570 = 3$). The operator then used the email function on his computer to transmit that parameter value (2 in this case) to the leader.

The leader was taught to calculate and update runway assignment values for the planes based on the information he received from the operators. After receiving parameter values for all eight characteristics of a plane, the leader used a formula to determine the weight assigned to each parameter value (ranging from 1 to 6), multiplied the parameter values by these weights, and then added the resulting products to arrive at a runway assignment value for the plane. Next, the leader used a table of runway assignment values to assign runways (1-7) to the planes and entered these assignments into his computer. (Assignments were visible to the operators on their computers.) After the training session, participants were given a five-minute practice session during which the operators looked up and transmitted information about one plane to the leader and the leader used that information to calculate a runway assignment value and assign a runway to the plane.

Participants were told that, during the upcoming trials, the eight characteristics of each plane would be divided between the two operators such that each operator would monitor and

report information about four characteristics. They then received a description of two strategies that the group could use for apportioning the characteristics between operators. The “weight” strategy divided the characteristics on the basis of their importance in the leader’s runway assignment formula. This strategy divided the characteristics such that each operator would monitor an equal number of more and less important characteristics. The “range” strategy divided the characteristics on the basis of the difficulty of monitoring them. This strategy divided the characteristics such that each operator would monitor an equal number of easy and difficult characteristics. After receiving a description of the two strategies, the group was given 10 minutes to discuss the strategies and select one.

Following the strategy choice discussion, each group completed an initial 15-minute shift (Shift 1) on the runway assignment task, using the strategy it had selected. Following this shift, participants were given feedback indicating that their performance had been inadequate. Specifically, they were told that a score of 75 is considered good group performance and that they scored 65. Next, they were told that the group’s composition would change in the next shift. Specifically, they were told that, “In real teams, old members sometimes leave the team, and new members sometimes join. In this experiment, we will simulate this by replacing operator B with a new operator, who has received individual training on the task, but has not yet worked as a part of a team.” The participant playing the role of operator B was then taken to another room, and the newcomer (confederate) was brought in.

After the newcomer had been introduced, the experimenter gave him a short (public) description of the group’s prior performance and the strategy it had used in Shift 1. The newcomer was told that the group scored 65 and used either the weight or the range strategy. The

experimenter then informed the newcomer which plane characteristics he would monitor (i.e., the four characteristics that had been monitored by the original operator B).

Next, the manipulation of regulatory focus was introduced. Participants were told that they could earn money in the experiment, depending on their performance on the second shift (Shift 2). Regulatory focus was manipulated by framing the task incentives in terms of either (a) gaining or not gaining money (for promotion focus) or (b) losing or not losing money (for prevention focus). Similar manipulations of regulatory focus have been used successfully in several previous studies (e.g., Grimm, Markman, Maddox, & Baldwin, 2008; Idson, Liberman, & Higgins, 2000; Levine et al., 2000; Shah et al., 1998). As indicated below, the two regulatory focus conditions (promotion and prevention) contained identical reinforcement contingencies (\$15.00 for success and \$6.00 for failure), and the success criterion was the same in each case (a score of 75).

In the promotion focus condition, participants were told:

“Your group will start with \$6.00 to be equally divided among the members, but there is a possibility for your group to gain an additional \$9.00. Your group will gain this \$9.00 if it scores 75 or higher on the second shift. In other words, you will get an additional \$9.00 if you score 75 or higher, but you will not get an additional \$9.00 if you do not score 75 or higher.”

In the prevention focus condition, participants were told:

“Your group will start with \$15.00 to be equally divided among the members, but there is a possibility for your group to

lose \$9.00. Your group will lose this \$9.00 if it does not score 75 or higher on the next shift. In other words, you will lose \$9.00 if you score less than 75, but you will not lose \$9.00 if you do not score less than 75.”

Participants were then allowed to communicate with one another using email, allegedly so that the oldtimers and the newcomer could get acquainted and talk about the task. During the emailing period, the newcomer suggested a major change in the group’s task strategy. This strategy was a plausible, but not demonstrably correct, way of dividing up the operators’ work. Specifically, the newcomer suggested that, instead of each operator monitoring and reporting four characteristics for each plane, each operator should monitor all eight characteristics of a given plane (i.e., operator A should monitor all characteristics for plane 1, operator B should do the same for plane 2, and so on). This suggestion was framed in either an eager or a vigilant manner³. Two aspects of this manipulation are important to note. First, according to Regulatory Focus Theory, a promotion orientation is primarily concerned with achieving success, whereas a prevention focus is primarily concerned with avoiding failure (Higgins, 1997). Second, a promotion focus is associated with strategies that maximize speed at the expense of accuracy, whereas a prevention focus is associated with strategies that maximize accuracy at the expense of speed (Forster et al., 2003).

The eager newcomer said:

“hey, i thought of something that might increase our chances of succeeding on this shift. each operator could do all 8

char of a plane. so, A does the 1st plane, i do the second and so on... this might be faster. since i'm new, you guys decide.”

The vigilant newcomer said:

“hey, i thought of something that might reduce our chances of failing this shift. each operator could do all 8 char of a plane. so A does the 1st plane, i do the second and so on... this might be more accurate. since i'm new, you guys decide.”

Following the emailing period, participants were asked to rate one another on several dimensions (self-confidence, expertise, motivation, likeability, friendliness, intelligence), using 9-point Likert scales (1 = very low; 9 = very high). Groups then completed a second 10-minute shift (Shift 2), during which the newcomer assumed the role of a “typical” participant, monitoring and reporting plane characteristics using whichever strategy (the group’s original strategy or the newcomer’s suggested strategy) that the oldtimers had chosen. When the shift was over, participants were given success feedback and told that they had won \$9.00 in the promotion condition or failed to lose \$9.00 in the prevention condition. Finally, participants were debriefed about the experiment and dismissed.

3.0 RESULTS

Data from seven groups were excluded from the analysis due to technical problems or participants' failure to follow directions. In addition, data from eight groups were excluded due to participants' suspicion about the purpose of the experiment and/or the identity of the newcomer. (Suspicion was ascertained from the computer log-files containing participants' comments during the emailing period in which the newcomer offered his suggestion). These latter groups were distributed approximately evenly across the four conditions. The remaining 87 groups were distributed across the conditions as follows: promotion group/eager message: $n = 22$; promotion group/vigilant message: $n = 22$; prevention group/eager message: $n = 22$; prevention group/vigilant message: $n = 21$.

3.1 CODING OF RECEPTIVITY TO NEWCOMER'S SUGGESTION

To determine whether oldtimers (i.e., operator A and the leader) accepted or rejected the newcomer's suggestion prior to Shift 2, two independent coders examined the computer log files from the emailing discussion period. The coders were in agreement on all 87 groups. Inspection of the log files from Shift 2 also revealed that all groups that accepted the newcomer's suggestion used this strategy during that shift, whereas all groups that rejected the suggestion continued to use the strategy that they had used in Shift 1.

3.2 IMPACT OF SHIFT 1 STRATEGY AND GROUP PERFORMANCE ON RECEPTIVITY TO NEWCOMER'S SUGGESTION

As noted earlier, before groups began working on the task, they decided which of two strategies to use for monitoring and reporting plane characteristics. All groups reached a decision about monitoring strategy within the time limit of 10 minutes. As expected on the basis of prior work (Choi & Levine, 2004; Hansen & Levine, 2009), approximately half of the groups chose each of the two strategies (weight: 44%, range: 56%). Oldtimers' responses to the newcomer's suggestion yielded a dichotomous dependent variable that was coded 1 for acceptance and 0 for rejection. Analyses revealed that there was no significant relationship between the strategy chosen and groups' subsequent acceptance/rejection of the newcomer's suggestion ($\chi^2(1) = 1.16$, *ns*). In addition, analyses revealed that there was no significant relationship between groups' performance on Shift 1 (defined as the difference between (a) the leader's actual runway assignments for all planes during the shift and (b) the correct assignments calculated by the TAST program using the leader's formula) and their subsequent acceptance/rejection of the newcomer's suggestion ($r_{pb} = .001$, *ns*).

3.3 RATINGS OF NEWCOMER

Team members' ratings of the newcomer's self-confidence, expertise, motivation, likeability, friendliness, and intelligence were subjected to a factor analysis using varimax rotation. This analysis yielded only one factor with an eigenvalue above 1.0, which accounted for 76.7% of the variance. A composite newcomer rating score was therefore computed by calculating the mean

responses of operator A and the team leader to the six items (Cronbach's Alpha = .94) and then averaging these two responses. These composite scores were analyzed using a 2 (group regulatory focus: promotion/prevention) x 2 (newcomer message framing: eager/vigilant) analysis of variance. Neither main effect nor the interaction attained significance (all $ps > .10$)⁴. Moreover, across conditions the newcomer ratings were high (overall $M = 7.21$ on a 9-point scale, $SD = .84$), indicating that participants perceived the newcomer positively, which is a necessary condition for the prediction that newcomer influence will be higher in fit than in nonfit conditions.

3.4 RECEPTIVITY TO NEWCOMER'S SUGGESTION

It had been predicted that groups in the two fit conditions (promotion group/eager message and prevention group/vigilant message) would be more receptive to the newcomer's suggestion than would groups in the two non-fit conditions (promotion group/vigilant message and prevention group/eager message). This was indeed the case -- 72% of groups in the fit conditions accepted the newcomer's suggestion, compared to 54.5% of groups in the non-fit conditions. A chi-square analysis comparing acceptance in fit vs, non-fit conditions was significant, $\chi^2(1) = 3.92, p < .05$.

To further examine group receptivity to the newcomer's suggestion, acceptance/rejection scores were entered into a step-wise logistic regression analysis. In the first step of the analysis, group regulatory focus (coded 1 for promotion and 0 for prevention) and newcomer message framing (coded 1 for eager and 0 for vigilant) were entered as predictors of acceptance/rejection (coded 1 and 0, respectively). The combined effect of these two variables was not significant, $\chi^2(2) = .95, ns$. In the second step, the interaction term (computed by multiplying group

regulatory focus and newcomer message framing) was entered as a predictor. This analysis revealed a marginally significant effect, $\chi^2(1) = 2.92, p < .10$ (see Figure 1). Follow-up analyses revealed that the acceptance rate in the promotion group/eager message condition was significantly higher than in the promotion group/vigilant message condition (77% versus 50%; $p = .05$, *Fisher's exact test*). In addition, the acceptance rate in the prevention group/vigilant message condition was higher than in the prevention group/eager message condition, although this difference was not significant (67% versus 59%; $p = .4$, *Fisher's exact test*).

3.5 LENGTH OF GROUP DISCUSSION

The computer log files from the emailing period were also inspected to measure the time it took groups to decide whether to accept the newcomer's suggestion or to continue using the strategy they had used in Shift 1. Groups had a total of 10 minutes (600 seconds) for their discussion. To test the hypothesis that groups in fit conditions (promotion group/eager message and prevention group/vigilant message) would spend less time discussing whether to accept or reject the newcomer's strategy than would groups in non-fit conditions (promotion group/vigilant message and prevention group/eager message), a *t*-test comparing their discussion times was computed. Results revealed, as predicted, that groups in fit conditions spent less time discussing the suggestion than did groups in non-fit conditions, $t(1, 85) = 2.53, p < .05$ ($M_s = 398.09$ seconds and 455.09 seconds for groups in fit and non-fit conditions, respectively).

To further explore the effect of regulatory fit on the length of group discussion, a 2 (group regulatory focus: promotion/prevention) x 2 (newcomer message framing: eager/vigilant) analysis of covariance was conducted on discussion time (in seconds), using receptivity to the

newcomer's suggestion (coded 1 or 0) as a covariate. The covariate was used because discussion time was correlated with receptivity to the newcomer's suggestion ($r_{pb} = -.22, p < .05$). Although neither main effect attained significance (both $ps > .10$), there was a significant group regulatory focus x newcomer message framing interaction, $F(4, 82) = 6.98, p < .05$. Follow-up contrasts using the Bonferroni correction ($p < .05$) revealed that mean discussion times were significantly shorter in the promotion group/eager message condition than in the promotion group/vigilant message condition ($Ms = 386.14$ seconds and 461.55 seconds, respectively). In addition, mean discussion times were shorter in the prevention group/vigilant message condition than in the prevention group/eager message condition, although this difference was not significant ($Ms = 408.91$ seconds and 452.82 seconds, respectively).

4.0 DISCUSSION

Newcomers in groups are generally thought of as targets rather than sources of influence. However, newcomers can produce changes in groups they enter under certain conditions (e.g., Choi & Levine, 2004; Hansen & Levine, 2009; Levine & Choi, 2010, in press), and the purpose of this study was to investigate the impact of a previously unexplored factor -- regulatory fit -- on newcomer innovation. Specifically, this study examined how the fit between (a) the group's regulatory focus and (b) the newcomer's message framing affected the group's receptivity to the newcomer's attempt to change the group's current task strategy.

A laboratory experiment was conducted using a computer simulation in which three-person groups, consisting of a leader and two operators, monitored and assigned runways to multiple planes flying through an airspace. Groups completed two shifts on the simulation. After the first shift, all groups received feedback indicating that they had failed to reach a pre-determined success criterion. Before working on the second shift, one of the operators was replaced by a confederate newcomer. Next, groups were given a performance incentive for the second shift. For half of the groups, the incentive was framed in a way that highlighted the possibility of winning extra money if the group performed well or not winning extra money if the group did not perform well (promotion focus). For the other groups, the incentive was framed in a way that highlighted the possibility of losing money if the group did not perform well or not losing money if the group did perform well (prevention focus). Groups then engaged in an

emailing period, during which the newcomer suggested a new strategy for performing the group task. This strategy was framed in either an eager or a vigilant manner. Groups' acceptance or rejection of the strategy served as a behavioral measure of their receptivity to the newcomer's suggested innovation.

Based on Regulatory Fit Theory, it was predicted that fit between the regulatory focus of the group and the message framing of the newcomer would affect the group's receptivity to the newcomer's suggestion. Specifically, groups in fit conditions (promotion group/eager message and prevention group/vigilant message) were expected to be more receptive to the suggestion than were groups in non-fit conditions (promotion group/vigilant message and prevention group/eager message).

What consequence did regulatory fit have for groups' responses to the newcomer's strategy suggestion? As predicted, groups experiencing fit between their regulatory focus and the framing of the newcomer's message were more receptive to his strategy suggestion than were groups experiencing non-fit. Seventy-two percent of groups experiencing fit accepted the newcomer's strategy, compared to 54.5% of groups experiencing non-fit. Moreover, acceptance rates were significantly higher in the promotion group/eager message condition than in the promotion group/vigilant message condition (77% versus 50%) and nonsignificantly higher in the prevention group/vigilant message condition than in the prevention group/eager message condition (67% versus 59%).

In addition to its effect on groups' receptivity to the newcomer's strategy suggestion, regulatory fit also influenced the amount of time groups spent discussing this suggestion during the emailing period in which it was introduced. As expected, based on previous research examining the impact of regulatory fit on information processing, groups in fit conditions had

shorter discussions than did groups in non-fit conditions (398.09 seconds versus 455.09 seconds). Thus, consistent with previous research in other domains, regulatory fit appears to have made information easier to process. Moreover, discussion times were significantly shorter in the promotion group/eager message condition than in the promotion group/vigilant message condition (386.14 seconds versus 461.55 seconds) and nonsignificantly shorter in the prevention group/vigilant message condition than in the prevention group/eager message condition (408.91 seconds versus 452.82 seconds).

Regulatory fit produced the predicted results on both dependent measures. However, on both measures the effect of fit was stronger for promotion groups than for prevention groups. A plausible explanation for these results is that participants viewed the newcomer's suggestion as an opportunity to fulfill aspirations rather than to meet obligations. This is likely because the group had previously failed, and the newcomer provided a plausible strategy for improving its performance. If participants did indeed view the newcomer's suggestion as an opportunity, then a promotion focus manipulation should have had a stronger impact than a prevention focus manipulation. If this was the case, one would expect participants in the promotion condition to be highly sensitive to the difference between an eager and a vigilant newcomer because a strong regulatory focus should produce a strong fit effect. In contrast, one would expect participants in the prevention condition to be less sensitive to the difference between an eager and a vigilant newcomer because a weak regulatory focus should produce a weak fit effect.

It is also interesting to note that group members' evaluations of the newcomer were not affected by regulatory fit. Across conditions the newcomer's ratings were high (overall $M = 7.21$ on a 9-point scale), indicating that participants perceived the newcomer positively. The absence of fit effects may be somewhat counterintuitive considering the results obtained by Alexander et al.

(2009) cited earlier. In that study, regulatory fit affected participants' evaluations of an opinion deviate. However, an important difference between that study and the present experiment is the relative salience of the evaluation target. In Alexander et al.'s study, participants watched a video of the opinion deviate giving a speech. Because the deviate was visible to the participants, he was a natural target of evaluation. Under this condition, regulatory fit influenced participants' evaluation of the deviate himself. In the present experiment, participants sat in separate cubicles, and the newcomer was not directly visible when he made his written strategy suggestion. Thus, this suggestion, rather than the newcomer himself, was a natural target of evaluation. Under this condition, regulatory fit influenced participants' evaluation of the newcomer's message (as indicated by their accepting versus rejecting his suggested strategy).

4.1 CONTRIBUTIONS OF THE PRESENT STUDY

Groups are the building blocks of organizations, and organizational effectiveness depends on the ability of groups to carry out their tasks (e.g., Sundstrom, 1999; Turner, 2001). However, groups only live up to their performance potential if they can capitalize on their members' knowledge and skills. Although newcomers are a potentially valuable source of such knowledge and skills, oldtimers often do not listen to them. Given that personnel turnover is a ubiquitous feature of groups, it is important to understand the conditions under which newcomers can motivate oldtimers to consider and accept their ideas. Previous research has suggested that group and newcomer characteristics can interact to influence groups' receptivity to newcomers' ideas (e.g., Hansen & Levine, 2009; Kane et al., 2005). The present study supports this conclusion by demonstrating the joint impact of the group's regulatory focus and the newcomer's message

framing on the newcomer's ability to produce innovation

In the last decade, interest in how regulatory fit affects persuasion has produced a sizable literature (Cesario et al., 2008). However, with very few exceptions, relevant studies have examined individuals' susceptibility to persuasion. The present study extends this literature by demonstrating that regulatory fit can have important consequences for persuasion at the group level as well. In addition, the study supports previous research indicating that fit makes information easier to process.

4.2 FUTURE DIRECTIONS FOR RESEARCH ON REGULATORY FIT AND NEWCOMER INNOVATION

The present study generates questions that provide a useful starting point for future research. One such question involves the impact of prior group performance on susceptibility to newcomer influence (Choi & Levine, 2004; Hansen & Levine, 2009). All groups in this experiment experienced failure prior to the newcomer's entry. Under this condition, groups are presumably motivated to change their task strategy and hence are positively predisposed to someone suggesting a plausible way to do that. And, as oldtimers' ratings of the newcomer demonstrated, this person was indeed perceived quite positively. If groups experience success prior to newcomer's entry, however, they should not be motivated to change their strategy and hence should respond negatively to someone suggesting a change. As discussed earlier, regulatory fit heightens the intensity of initial affective responses to stimuli (e.g., persuasive messages), regardless of their valence. So if group members' initial response to the newcomer's message is negative because they are not interested in change, then fit between the group's regulatory focus

and the newcomer's message framing should heighten the intensity of this response and thereby *reduce* receptivity to the newcomer's strategy suggestion. Similar effects should occur if the content of the newcomer's message elicits an initial negative response for other reasons (cf. Alexander et al., 2009).

In addition, other factors may cause oldtimers to react negatively to newcomers. For example, Hansen and Levine (2009) found that groups were more receptive to a strategy suggestion from a (mildly) assertive newcomer than from a non-assertive newcomer. Other research suggests a curvilinear relationship between communicator assertiveness and effectiveness, with moderate assertiveness producing more influence than either high or low assertiveness (Ames & Flynn, 2007). High assertiveness may be ineffective because it signals disregard for other group members' feelings and needs, which elicits negative responses to the communicator (Jentsch & Smith-Jentsch, 2001). If this is the case for highly assertive newcomers, then fit between the group's regulatory focus and the newcomer's message framing should *reduce* the newcomer's ability to exert influence.

A second question concerns the manner in which regulatory focus is manipulated. In this study, the same regulatory focus (promotion or prevention) was induced in all the oldtimers. However, it is also possible to induce different regulatory foci in different group members, and this induction might have interesting implications for newcomer innovation. For example, because oldtimers with a promotion focus should respond more favorably to an eager than to a vigilant newcomer, whereas oldtimers with a prevention focus should respond more favorably to a vigilant than to an eager newcomer, conflict between the two factions is likely to emerge regardless of how the newcomer frames his or her message. This conflict, in turn, is likely affect the extent to which the newcomer can produce influence in the group. For example, if higher-

status members experience fit whereas lower-status members do not, then the newcomer's suggestion is more likely to be accepted than if the opposite combination of status and fit occur.

It is also worth noting that regulatory focus was manipulated by varying how performance contingencies were presented. Regulatory focus can also be manipulated differently. For example, as Faddegon et al. (2009) demonstrated, characteristics of the group task can play an important role in inducing regulatory foci. In future studies using the present paradigm, promotion focus could be induced by emphasizing the need for speedy runway assignments, whereas prevention focus could be induced by emphasizing the need for accurate assignments. In addition, rather than using a situational manipulation of regulatory focus, one could employ the Regulatory Focus Questionnaire (RFQ, Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001) to measure potential group members' chronic regulatory focus and then assign people to groups based on their scores.

A third question concerns the amount of time that oldtimers work on the group task prior to the newcomer's entry. Research on the effect of regulatory focus on group decision making has suggested that group members' convergence on a shared regulatory focus becomes stronger over time (Florack & Hartmann, 2007). Consequently, one might expect that the effect of fit between the group's regulatory focus and the newcomer's message framing on receptivity to innovation would be more pronounced the longer groups have worked in a certain regulatory focus prior to the newcomer's entry. In the present study, because regulatory focus was induced after the newcomer joined the group, this hypothesis could not be tested.

Finally, future studies might profitably investigate the impact of *incidental* (as opposed to *integral*) regulatory fit on newcomer innovation. Incidental fit is created prior to and independent of the persuasion context, whereas integral fit is created within that context. The two kinds of fit

have been found to have similar effects on persuasion (e.g., Cesario et al., 2004). In the present study, regulatory fit was integral to the persuasion context, because the framing of the newcomer's message was used to create fit or non-fit with the group's regulatory focus. To investigate the impact of incidental fit on newcomer innovation, one could manipulate the group's regulatory focus and assign it a strategy that either fits or does not fit with that focus (e.g., strive for accuracy versus speed). Under such conditions, groups will experience either regulatory fit or non-fit *prior to* the newcomer's entry. The newcomer could then suggest a neutral strategy (i.e., neither eager nor vigilant). It would be interesting to determine if this more subtle way of manipulating regulatory fit yields the same pattern of results as found in the present study.

4.3 PRACTICAL IMPLICATIONS

In this experiment, regulatory fit had substantial impact on newcomer innovation in laboratory groups that worked on a task embodying many of the challenges that real-world groups face. What implications might these results have for newcomers and oldtimers in such groups?

For newcomers, the present results suggest the utility of correctly assessing the group's regulatory focus and then adjusting one's own strategic preferences to fit this focus. This is because such fit will increase the likelihood that one's attempted innovation will be successful. Sometimes newcomers have access to information about the group's regulatory focus, for example through prior contact with group members. Other times, however, newcomers do not have access to that kind of information. But as Faddegon et al. (2009) demonstrated, the group's task plays an important role in group members' development of a shared regulatory focus. Thus,

knowing the group's operating environment and its task can provide important clues about the predominant regulatory focus of the group. For example, a newcomer in an airport security team would be wise to frame his or her suggested innovation in prevention terms, whereas a newcomer in a research and design team would be wise to use a promotion frame.

For oldtimers, knowledge of the impact of fit on persuasion can also be useful, but for a different reason. The primary issue for oldtimers is whether or not to respond positively to persuasion efforts by newcomers. Oldtimers who understand the impact of fit on persuasion will have a better understanding of their susceptibility to newcomer persuasion efforts and hence be better able to decide whether or not to accept newcomers' suggestions. In some cases, such suggestions are useful, but this is not always the case. If regulatory fit leads oldtimers to accept a strategy that is inferior to the one they are using, then newcomer influence will have a negative impact on group performance.

REFERENCES

- Alexander, K. M., Levine, J. M., & Higgins, E. T. (2009). *Regulatory fit and reaction to opinion deviance in small groups*. Unpublished manuscript, University of Pittsburgh.
- Amabile, T. M. (1988). A model of organizational innovation. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123-167). Greenwich, CT: JAI Press.
- Argote, L., Insko, C. A., Yovetich, N., & Romero, A. A. (1995). Group learning curves: The effects of turnover and task complexity on group performance. *Journal of Applied Social Psychology, 25*, 512-529.
- Arrow, H., & McGrath, J. E. (1995). Membership dynamics in groups at work: A theoretical framework. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 17, pp. 373-411). Greenwich, CT: JAI Press.
- Avnet, T., & Higgins, E. T. (2006). How regulatory fit affects value in consumer choices and opinions. *Journal of Marketing Research, 43*, 1-10.
- Baas, M., De Dreu, C. K. W., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus. *Psychological Bulletin, 134*, 779-806.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.

- Barron, F., & Harrington, D. M. (1981). Creativity, intelligence, and personality. *Annual Review of Psychology*, 32, 439-476.
- Brockner, J., & Higgins, E. T. (2001). Regulatory focus theory: Implications for the study of emotions at work. *Organizational Behavior and Human Decision Processes*, 86, 35-66.
- Brodbeck, F. C., Kerschreiter, R., Mojzisch, A., & Schulz-Hardt, S. (2007). Group decision making under conditions of distributed knowledge: The information asymmetries model. *Academy of Management Review*, 32, 459-479.
- Cesario, J., Grant, H., & Higgins, E. T. (2004). Regulatory fit and persuasion: Transfer from “feeling right.” *Journal of Personality and Social Psychology*, 86, 388-404.
- Cesario, J., & Higgins, E. T. (2008). Making message recipients “feel right.” How nonverbal cues can increase persuasion. *Psychological Science*, 19, 415-420.
- Cesario, J., Higgins, E. T., & Scholer, A. A. (2008). Regulatory fit and persuasion: Basic principles and remaining questions. *Social and Personality Psychology Compass*, 2, 444-463.
- Choi, H-S., & Levine, J. M. (2004). Minority influence in work teams: The impact of newcomers. *Journal of Experimental Social Psychology*, 40, 273-280.
- Choi, H-S., & Thompson, L. (2005). Old wine in a new bottle: Impact of membership change on group creativity. *Organizational Behavior and Human Decision Processes*, 98, 121-132.
- Cini, M., Moreland, R. L., & Levine, J. M. (1993). Group staffing levels and responses to prospective and new members. *Journal of Personality and Social Psychology*, 65, 723-734.

- Cropanzano, R., Paddock, L., Rupp, D. E., Bagger, J., & Baldwin, A. (2008). How regulatory focus impacts the process-by-outcome interaction for perceived fairness and emotions. *Organizational Behavior and Human Decision Processes, 105*, 36-51.
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes, 69*, 117-132.
- De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict and team effectiveness: A meta-analysis. *Journal of Applied Psychology, 88*, 741-749.
- Edmondson, A. C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies, 40*, 1419-1452.
- Faddegon, K., Ellemers, N., & Scheepers, D. (2009). Eager to be the best, or vigilant not to be the worst: The emergence of regulatory focus in disjunctive and conjunctive group tasks. *Group Processes and Intergroup Relations, 12*, 653-671.
- Faddegon, K., Scheepers, D., & Ellemers, N. (2008). If we have the will, there will be a way: Regulatory focus as a group identity. *European Journal of Social Psychology, 38*, 880-895.
- Farr, J. L., & Ford, C. M. (1990). Individual innovation. In M. A. West, & J. L. Farr (Eds.), *Innovation and creativity at work* (pp. 63-80). New York: Wiley.
- Florack, A., & Hartmann, J. (2007). Regulatory focus and investment decisions in small groups. *Journal of Experimental Social Psychology, 43*, 626-632.

- Florack, A., & Scarabis, M. (2006). How advertising claims affect brand preferences and category-brand associations: The role of regulatory fit. *Psychology and Marketing, 23*, 741-755.
- Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review, 21*, 1112-1142.
- Ford, C. M., & Sullivan, D. M. (2004). A time for everything: How the timing of novel contributions influences project team outcomes. *Journal of Organizational Behavior, 25*, 279-292.
- Forster, J., Higgins, E. T., & Bianco, A. T. (2003). Speed/accuracy decisions in task performance: Built-in trade-off or separate strategic concerns? *Organizational Behavior and Human Decision Processes, 90*, 148-164.
- Friedman, R. S., & Forster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology, 81*, 1001-1013.
- Friedman, R. S., & Forster, J. (2002). The influence of approach and avoidance motor action on creative cognition. *Journal of Experimental Social Psychology, 38*, 41-55.
- Friedman, R. S., & Forster, J. (2005). The influence of approach and avoidance cues on attitudinal flexibility. *Motivation and Emotion, 29*, 69-81.
- Gersick, C. J. G., & Hackman, J. R. (1990). Habitual routines in task-performing teams. *Organizational Behavior and Human Decision Processes, 47*, 65-97.
- Grimm, L. R., Markman, A. B., Maddox, W. T., & Baldwin, G. C. (2008). Differential effects of regulatory fit on category learning. *Journal of Experimental Social Psychology, 44*, 920-927.

- Hackman, J. R., & Katz, N. (2010). Group behavior and performance. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (5th ed., Vol. 2, pp. 1208-1251). Hoboken, NJ: John Wiley.
- Halamish, V., Liberman, N., Higgins, E. T., & Idson, L. C. (2008). Regulatory focus on discounting over uncertainty for losses vs. gains. *Journal of Economic Psychology*, *29*, 654-666.
- Hansen, T., & Levine, J. M. (2009). Newcomer as change agents: Effects of newcomers' behavioral style and teams' performance optimism. *Social Influence*, *4*, 46-61.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, *52*, 1280-1300.
- Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist*, *55*, 1217-1233.
- Higgins, E. T. (2001). Promotion and prevention experiences: Relating emotions to nonemotional motivational states. In J. P. Forgas (Ed.), *Handbook of affect and social cognition* (pp. 186-211). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Higgins, E. T. (2005). Value from regulatory fit. *Current Directions in Psychological Science*, *14*, 209-213.
- Higgins, E. T. (2006). Value from hedonic experience and engagement. *Psychological Review*, *113*, 439-460.
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, *31*, 3-23.
- Higgins, E. T., Shah, J., & Friedman, R. (1997). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social*

- Psychology*, 72, 515-525.
- Holler, M., Hoeltzl, E., Kirchler, E., Leder, S., & Manetti, L. (2008). Framing of information in the use of public finances, regulatory fit of recipients and tax compliance. *Journal of Economic Psychology*, 29, 597-611.
- Hong, J., & Lee, A. Y. (2008). Be fit and be strong: Mastering self-regulation through regulatory fit. *Journal of Consumer Research*, 34, 682-695.
- Idson, L. C., Liberman, N., & Higgins, E. T. (2000). Distinguishing gains from nonlosses and losses from nongains: A regulatory focus perspective on hedonic intensity. *Journal of Experimental Social Psychology*, 36, 252-274.
- Jain, S. P., Agrawal, N., Maheswaran, D. (2006). When more may be less: The effects of regulatory focus on responses to different comparative frames. *Journal of Consumer Research*, 33, 91-98.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why difference makes a difference: A field study of diversity, conflict, and performance in work groups. *Administrative Science Quarterly*, 44, 741-763.
- Jentsch, F., & Smith-Jentsch, K. A. (2001). Assertiveness and team performance: More than "Just say no." In Salas, E., Bowers, C.A., & Edens, E. (Eds.), *Improving teamwork in organization: Applications of resource management training* (pp. 73-84). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-291.

- Kane, A. A., Argote, L., & Levine, J. M. (2005). Knowledge transfer between groups via personnel rotation: Effects of social identity and knowledge quality. *Organizational Behavior and Human Decision Processes*, *96*, 56-71.
- Koenig, A. M., Cesario, J., Molden, D. C., Spee, K., & Higgins, E. T. (2009). Incidental experiences of regulatory fit and the processing of persuasive appeals. *Personality and Social Psychology Bulletin*, *35*, 1342-1355.
- Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, *7*, 77-124.
- Latimer, A. E., Rivers, S. E., Rench, T. A., Katulak, N. A., Hicks, A., Hodorowski, J. K., et al. (2008). A field experiment testing the utility of regulatory fit messages for promoting physical activity. *Journal of Experimental Social Psychology*, *44*, 826-832.
- Lee, A. Y., & Aker, J. L. (2004). Bringing the frame into focus: The influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*, *86*, 205-218.
- Lee, A. Y., Keller, P. A., & Sternthal, B. (2010). Value from regulatory construal fit: The persuasive impact of fit between consumer goals and message concreteness. *Journal of Consumer Research*, *36*, 735-747.
- Levine, J. M. (1989). Reaction to opinion deviance in small groups. In P. B. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 187-231). Hillsdale, NJ: Erlbaum.
- Levine, J. M., & Choi, H-S. (2004). Impact of personnel turnover on team performance and cognition. In Salas, E., & Fiore, S. M. (Eds.), *Team cognition: Understanding the factors that drive process and performance*, (pp. 157-176). Washington, DC: American Psychological Association.

- Levine, J. M., & Choi, H-S. (2010). Newcomers as change agents: Minority influence in task groups. In R. Martin & M. Hewstone (Eds.), *Minority influence and innovation: Antecedents, processes, and consequences* (pp. 229-262). New York: Psychology Press.
- Levine, J. M., & Choi, H-S. (in press). Minority influence in interacting groups: The impact of newcomers. In J. Jetten & M. Hornsey (Eds.), *Rebels in groups: Dissent, deviance, difference, and defiance*. Wiley-Blackwell.
- Levine, J. M., Choi, H-S., & Moreland, R. L. (2003). Newcomer innovation in work teams. In Paulus, P. B. & Nijstad, B. A. (Eds.), *Group creativity: Innovation through collaboration*, (pp. 202-224). New York: Oxford University Press.
- Levine, J. M., & Higgins, E. T. (2001). Shared reality and social influence in groups and organizations. In F. Butera & G. Mugny (Eds.) *Social influence in social reality: Promoting individual and social change* (pp. 33-52). Ashland, OH: Hogrefe & Huber Publishers.
- Levine, J. M., Higgins, E. T., & Choi, H-S. (2000). Development of strategic norms in groups. *Organizational Behavior and Human Decision Processes*, 82, 88-101.
- Levine, J. M., & Kaarbo, J. (2001). Minority influence in political decision-making groups. In C. K. W. De Dreu & N. K. De Vries (Eds.), *Group consensus and minority influence: Implications for innovation* (pp. 229-257). Oxford, UK: Blackwell.
- Levine, J. M., & Kerr, N. L. (2007). Inclusion and exclusion: Implications for group processes. In A. E. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 759-784). New York: Guilford.
- Levine, J. M., & Moreland, R. L. (1985). Innovation and socialization in small groups. In S. Moscovici, G. Mugny, & E. Van Avermaet (Eds.), *Perspectives on minority influence* (pp. 143-169). Cambridge, UK: Cambridge University Press.

- Levine, J. M., Moreland, R. L., & Choi, H-S (2001). Group socialization and newcomer innovation. In M. A. Hogg & R. S. Tindale (Eds.), *Blackwell handbook of social psychology: Group processes* (pp. 86-106). Oxford, UK: Blackwell.
- Liberman, N., Idson, L. C., & Higgins, E. T. (2005). Predicting the intensity of losses vs. non-gains in judging fairness and value: A test of the loss aversion explanation. *Journal of Experimental Social Psychology, 41*, 527-534.
- Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly, 25*, 226-251.
- Mathieu, J., Heffner, T. S., Goodwin, G. F., Salas, E., & Cannon-Bowers, J. A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology, 85*, 273-283.
- Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse of the future. *Journal of Management, 34*, 410-476.
- McGrath, J. E., & O'Connor, K. M. (1995). Temporal issues in work-groups. In M. West (Ed.) *Handbook of workgroup psychology*. London: Sage Publications.
- Milliken, F. J., Morrison, E. W., & Hewlin, P. F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. *Journal of Management Studies, 40*, 1453-1476.
- Moreland, R. L., Argote, L., & Krishnan, R. (1998). Training people to work in groups. In R. S. Tindale, L. Heath, J. Edwards, E. J. Posavac, F. B. Bryant, Y. Suarez-Balcazar, E. Henderson-King, & J. Myers (Eds.), *Theory and research in small groups* (pp. 37-60). New York: Plenum Press.

- Moreland, R. L., & Levine, J. M. (1988). Group dynamics over time: Development and socialization in small groups. In J. E. McGrath (Ed.), *The social psychology of time: New perspectives* (pp. 151-181). Newbury Park, CA: Sage.
- Moreland, R. L., & Levine, J. M. (1992). Problem identification by groups, In S. Worchel, W. Wood, & J. A. Simpson (Eds.), *Group process and productivity* (pp. 17-47). Newbury Park, CA: Sage.
- Moreland, R. L., & Levine, J. M. (1989). Newcomers and oldtimers in small groups. In Paulus, P. (Ed.), *Psychology of group influence* (2nd ed., pp. 143-186). Hillsdale, NJ: Erlbaum.
- Moscovici, S. (1985). Social influence and conformity. In Lindzey, G. & Aronson, E. (Eds.), *The handbook of social psychology*, (Vol. 2, pp 347-412). New York, NY: Random House.
- Nystrom, H. (1979). *Creativity and innovation*. New York: Wiley.
- Price, J. L. (1977). *The study of turnover*. Ames, IA: The Iowa State University Press.
- Rao, R. D., & Argote, L. (2006). Organizational learning and forgetting: The effects of turnover and structure. *European Management Review*, 3, 77-86.
- Ridgeway, C. L. (2001). Social status and group structure. In M. A. Hogg & R. S. Tindale (Eds.), *Blackwell handbook of social psychology: Group processes* (pp. 352-375). Oxford, UK: Blackwell.
- Salas, E., Stagl, K. C., Burke, C. S., & Goodwin, G. F. (2007). Fostering team effectiveness in organizations: Toward an integrative theoretical framework. In B. Shuart, W. Spaulding, & J. Poland (Eds.) *Nebraska Symposium on Motivation: Modeling complex systems* (Vol. 52, pp. 186-242). Lincoln, NE: University of Nebraska Press.

- Sassenberg, K., Jonas, K. J., Shah, J. Y., & Brazy, P. C. (2007). Why some groups just feel better: The regulatory fit of group power. *Journal of Personality and Social Psychology*, *92*, 249-267.
- Sassenberg, K., & Hansen, N. (2007). The impact of regulatory focus on affective responses to social discrimination. *European Journal of Social Psychology*, *37*, 421-444.
- Sassenberg, K., & Woltin, K. A. (2008). Group-based self-regulation: The effects of regulatory focus. *European Review of Social Psychology*, *19*, 126-164.
- Shah, J. Y., Brazy, P. C., & Higgins, E. T. (2004). Promoting us or preventing them: Regulatory focus and manifestations of intergroup bias. *Personality and Social Psychology Bulletin*, *30*, 433-446.
- Shah, J., Higgins, E. T., & Friedman, R. S. (1998). Performance incentives and means: How regulatory focus influences goal attainment. *Journal of Personality and Social Psychology*, *74*, 285-293.
- Simonton, D. K. (2000). Creativity: Cognitive, personal, developmental, and social aspects. *American Psychologist*, *55*, 151-158.
- Smith, S. M., Gerkens, D. R., Shah, J. J., & Vargas-Hernandez, N. (2006). Empirical studies of creative cognition in idea generation. in L. L. Thompson & H. S. Choi (Eds.), *Creativity and innovation in organizational teams* (pp. 3-20). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Spiegel, S., Grant-Pillow, H., & Higgins, E. T. (2004). How regulatory fit enhances motivational strength during goal pursuit. *European Journal of Social Psychology*, *34*, 39-54.
- Stam, D. A., Van Knippenberg, D., & Wisse, B. (2010). The role of regulatory fit in visionary leadership. *Journal of Organizational Behavior*, *31*, 499-518.

- Stasser, G., & Titus, W. (1985). Pooling of unshared information in group decision making: Biased information sampling during discussion. *Journal of Personality and Social Psychology, 53*, 81-93.
- Steiner, I. D. (1972). *Group process and productivity*. New York: Academic Press.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative potential. *Academy of Management Journal, 45*, 1137-1148.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.
- Wegner, D. M. (1986). Transactive memory: A contemporary analysis of the group mind. In B. Mullen & G. R. Goethals (Eds.), *Theories of group behavior* (pp. 185-208). New York: Springer Verlag.
- Werth, L., & Forster, J. (2007). How regulatory focus influences consumer behavior. *European Journal of Social Psychology, 37*, 33-51.
- Ziller, R. C., & Behringer, R. D. (1960). Assimilation of the knowledgeable newcomer under conditions of group success and failure. *Journal of Abnormal and Social Psychology, 60*, 288-292.
- Ziller, R. C., Behringer, R. D., & Jansen, M. J. (1961). The newcomer in open and closed groups. *Journal of Applied Psychology, 45*, 55-58.

5.0 FIGURES

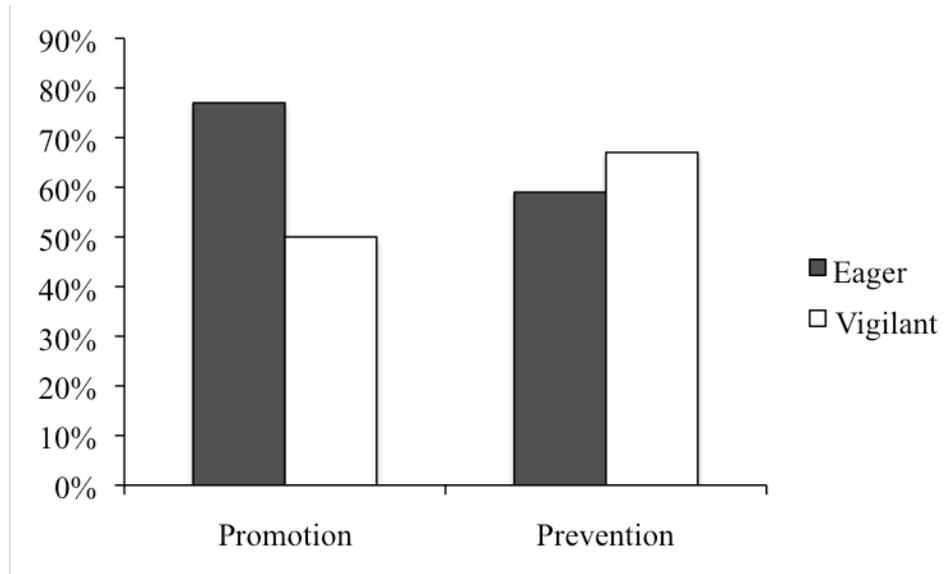


Figure 1. Percent acceptance of the newcomer's strategy as a function of group regulatory focus and newcomer message framing.

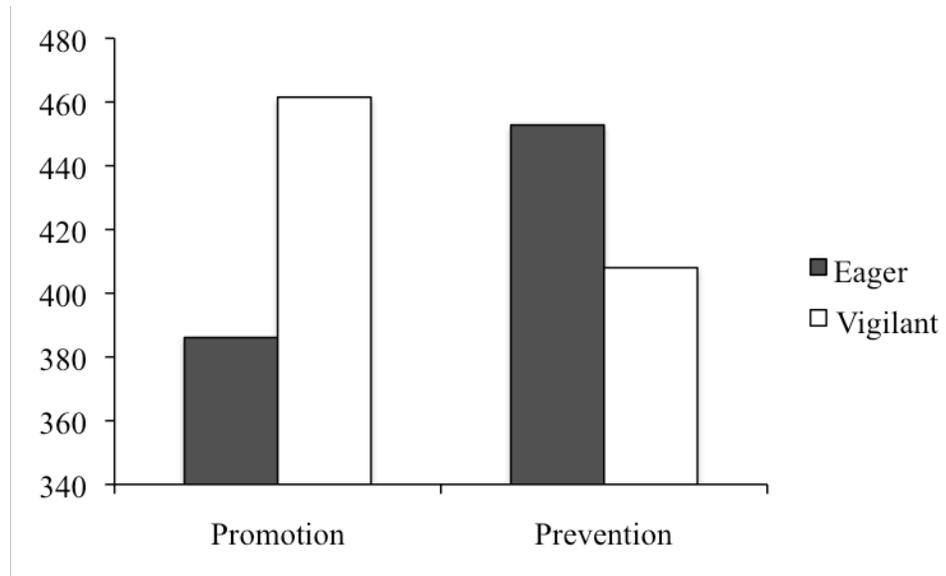


Figure 2. Mean discussion time (in seconds) as a function of group regulatory focus and newcomer message framing.

FOOTNOTES

¹ It is important to distinguish promotion and prevention focus in regulatory focus theory from gain and loss frames in prospect theory (Kahneman & Tversky, 1979). Regulatory focus theory is concerned with striving for accomplishment (promotion focus) versus striving for safety (prevention focus). Prospect theory, in contrast, is concerned with approaching gains as desired end states versus avoiding losses as undesired end states. In regulatory focus theory, both promotion and prevention are relevant to desired end states, and there is no valence distinction between outcomes -- the reference point is always positive (i.e., gains vs. non-losses). In prospect theory, there is a valence distinction between outcomes, and the reference point can be either positive or negative (i.e., gain vs. loss). Thus, it is incorrect to equate promotion with a gain frame and prevention with a loss frame (Levine, Higgins, & Choi, 2000).

² In order to avoid implicitly framing the task in either promotion or prevention terms, a “neutral” runway assignment description was used.

³ The manipulation of strategic orientation was pilot tested in a scenario study using 50 undergraduate students at the same university where the focal study was conducted. All participants read a detailed scenario describing the experimental procedures used in the focal study (e.g., a team working on an air traffic control simulation that had recently experienced failure, the entry of a newcomer who suggested an alternative strategy for collecting plane information). In addition, half of the participants read each of the two messages sent by the newcomer in the focal experiment (eager message or vigilant message). Participants then rated the newcomer on four dimensions -- eager and enthusiastic, careful and cautious, concern about team success, and concern about team failure – using 7-point Likert scales (1 = Not at All; 7 = Very Much).

Ratings were subjected to a factor analysis using varimax rotation. This analysis yielded two factors with eigenvalues above 1.0, and these factors accounted for 79.5% of the variance. The first factor, labeled *Vigilance*, included “careful and cautious” (.89) and “concern about team failure” (.78). The second factor, labeled *Eagerness*, included “eager and enthusiastic” (.90) and “concern about team success” (.83).

Next, two composite scores were computed for each participant. The first score was based on the mean value of the two items that loaded on the Vigilance factor; the second score was based on the mean value of the two items that loaded on the Eagerness factor. The composite scores of participants who had read the eager and vigilant messages were then compared using *t*-tests. Results indicated that participants who had read the vigilant message rated the newcomer as significantly more vigilant than did participants who had read the eager message ($M_s = 4.52$ and 3.84 , respectively), $t(1, 48) = 2.29, p < .05$, one-tailed. Moreover, participants who had read the eager message also rated the newcomer as more eager than did participants who had read the vigilant message, although this difference was not significant ($M_s = 5.12$ and 4.70 , respectively), $t(1, 48) = 1.31, p < .10$, one-tailed.

⁴ A parallel analysis using the leader’s and operator A’s ratings of the original operator B as a covariate yielded the same pattern of findings.