ABSTRACT

Title of Document: PROMOTION-FOCUSED *AND* PREVENTION-FOCUSED? REGULATORY FOCUS AMBIDEXTERITY AND ITS EFFECTS ON TEAM PROCESSES AND OUTCOMES

Rin (Lynn) Imai, Doctor of Philosophy, 2012

Directed By: Professor Michele J. Gelfand
Department of Psychology

Regulatory Focus Theory (Higgins, 1997, 1998), which states that individuals have distinct processes through which they approach desired end-states, has generated a tremendous amount of research activity in recent years. This literature shows that whether an individual pursues a goal with either a promotion focus or a prevention focus has important psychological consequences. However, research has focused largely on the individual-level, and not the team-level consequences of regulatory focus. Furthermore, the paradigm of contrasting the predominantly promotion-focused from the predominantly prevention-focused has precluded researchers from understanding the role of ambidextrous individuals who are simultaneously promotion-focused and prevention-focused.

Accordingly, the goal of this dissertation was to examine whether having a higher proportion of certain regulatory focus types in the team (i.e., predominantly

promotion-focused, predominantly prevention-focused, and ambidextrous types) is advantageous for team creativity and team timeliness, as well as the team processes that lead to each outcome. It was proposed that 1) teams with a higher proportion of predominantly promotion-focused types are more likely to attain team creativity as well as the processes that lead to it (i.e., placement of goal importance on creativity, idea generation, and task conflict), and 2) teams with a higher proportion of predominantly prevention-focused types are more likely to attain team timeliness as well as the processes that lead to it (i.e., placement of goal importance on timeliness and adoption of an early team pacing style). This dissertation also explored whether teams with higher proportion of ambidextrous types are more likely to attain higher team creativity *and* team timeliness, as well as the team processes that lead to these outcomes, relative to teams with lower proportions of such individuals.

Based on a lab study of 89 simulated project teams, it was found as expected, that teams with higher proportions of ambidextrous types achieved greater team creativity than teams with lower proportions of such individuals. It was also found unexpectedly, that teams with higher proportions of ambidextrous types placed less importance on timeliness as a goal at the outset of the team task. In all, hypotheses were largely unsupported. Theoretical and practical implications are discussed along with directions for future research.

PROMOTION-FOCUSED *AND* PREVENTION-FOCUSED? REGULATORY FOCUS AMBIDEXTERITY AND ITS EFFECTS ON TEAM PROCESSES AND OUTCOMES

By

Rin (Lynn) Imai

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2012

Advisory Committee:
Professor Michele J. Gelfand, Chair
Professor Gilad Chen
Professor Paul J. Hanges
Professor Arie W. Kruglanski
Professor Cheri Ostroff

Acknowledgements

This long journey would not have been possible without the support of many people. First and foremost, I owe my deepest gratitude to my advisor, Michele Gelfand. MG, when I first came to Maryland, I knew I was lucky to be able to work with my first choice among other professors. What I didn't know was that on top of being a brilliant scholar, you are probably one of the best mentors that can be afforded to a graduate student—something that especially comes to mind these days, as I navigate my way through the hectic lifestyle of being a faculty member myself. Thank you for pouring countless number of hours into our meetings and providing feedback on my manuscripts, for setting high standards, for showing me how to "be bold" and push the envelope—all the while being contagiously energetic, positive, and showing genuine enthusiasm for your students' work. I would also like to thank my committee members, Paul Hanges, Cheri Ostroff, Gilad Chen, and Arie Kruglanski—talk about an unbelievable team of all-stars! Your expertise and advice were invaluable in the development and refinement of this research. An extra thank you goes to Paul, for explaining statistics to me often (with his beloved whiteboard), and to Cheri, for all the great mentoring advice. I would also like to thank my fellow students, as graduate school would not have been the same without you. Thank you for creating such a fun environment both within and outside of school. A special thank you to Kirsten Keller, for her friendship as we grew up together in the program, and to Jana Raver, for her invaluable mentoring along the way. Finally, I would like to thank Ryan Fanselow for his constant love, encouragement, and humor, and to my family for their unwavering support over the years.

Table of Contents

List of Tables

Chapter 1: Introduction and Overview

Since its inception, Regulatory Focus Theory (Higgins, 1997, 1998) has ignited an explosion of research activity in psychology. This theory, which proposes that there are distinct self-regulatory processes through which people approach desired end-states, extends the age-old hedonic principle by elucidating that people not only approach pleasure and avoid pain, but they can do so in fundamentally different ways. People with a promotion focus, serving the need for growth and advancement, focus on their hopes and aspirations and become sensitive to the presence and absence of positive outcomes. In contrast, people with a prevention focus, serving the need for safety and security, focus on their duties and obligations and become sensitive to the presence and absence of negative outcomes (Higgins, 1997, 1998). Given that regulatory focus theory refines the hedonic principle that has been the pillar of intellectual thought on motivation for many—from ancient philosophers to a wide variety of modern-day psychologists, the major impact that the theory has had, and continues to have, is indisputable. Indeed, its influence is clearly apparent from the several hundred journal articles published on the topic in little over a decade. Much empirical evidence supports the basic tenets of the theory and research has uncovered an impressive array of important psychological consequences of regulatory focus, across various cognitions, emotions, and behaviors (see Molden, Lee, & Higgins, 2008 for review).

Despite this significant progress, however, critical gaps nevertheless remain in the regulatory focus literature. One major limitation that becomes apparent, especially when surveying the literature from an organizational perspective, is that the vast majority of studies have focused on the *individual-level* consequences of regulatory focus, without

the consideration of consequences at higher levels of analysis (see Florack & Hartmann, 2007; Galinsky, Leonardelli, Okhuysen, & Mussweiler, 2005; Kark & van Dijk, 2007; Levine, Higgins, & Choi, 2000 for exceptions). Yet, given that organizational life requires individuals to work in socially interdependent contexts such as teams, and often towards higher-level outcomes than that of the individual such as team outcomes, one critical question that remains to be answered is, *what are the team-level consequences of regulatory focus?*

Second, the methodological paradigm of the regulatory focus literature is of explicitly contrasting predominantly promotion-focused individuals with predominantly prevention-focused individuals on a specific outcome of interest. However, given that Higgins (1997, 1998) originally conceptualized the promotion and prevention focus dimensions of chronic regulatory focus to be orthogonal, and there is empirical support for this notion (e.g., Fellner, Holler, Kirchler, & Schabmann, 2007; Higgins et al., 2001; Ouschan, Boldero, Kashima, Wakimoto, & Kashima, 2007; Wallace & Chen, 2006; Wallace, Johnson, & Frazier, 2009), it is entirely possible for a person to be high on both promotion focus and prevention focus at the same time (Wallace & Chen, 2006; Wallace et al., 2009). Yet, research on the role of such individuals, or a group of such individuals, is virtually non-existent, and remains to be an issue to be explored in the regulatory focus literature.

The purpose of this dissertation, therefore, is to address these gaps by examining the team composition effects of chronic regulatory focus on team processes and outcomes. More specifically, I examine how the inclusion of a higher proportion of team members with a particular individual-level *regulatory focus type* influences team

processes and outcomes. In doing so, I focus on several of such regulatory focus types including a) the predominantly promotion-focused type, or individuals with a high promotion focus and a low prevention focus, and b) the predominantly prevention-focused type, or individuals with a low promotion focus and a high prevention focus. Furthermore, I explore the role of the "ambidextrous" type, or individuals who simultaneously have a high promotion focus and a high prevention focus.

Moreover, I examine the effects of having higher proportions of each of these regulatory focus types on team processes and outcomes, specifically in the context of simulated project teams working on a creative task under a deadline (i.e., generating ideas and creating a radio commercial for a product). Therefore, in this dissertation, I focus on *team creativity* and *team timeliness* as the main outcome variables of interest. I argue that teams with a higher proportion of members with a predominantly promotion-focused type are more effective in attaining team creativity as well as the processes that lead to team creativity (i.e., placement of *goal importance for creativity* at the outset of the task, *idea generation*, and *task conflict*) than teams with lower proportions of such individuals. I also expect that teams with a higher proportion of members with a predominantly prevention-focused type are more effective in attaining team timeliness as well as the processes that lead to team timeliness (i.e., placement of *goal importance for timeliness* at the outset of the task, and adoption of more an early *team pacing style* than a deadline team pacing style) than teams with lower proportions of such individuals. Furthermore, I explore the possibility that teams with a higher proportion of team members with an ambidextrous type have a particular advantage in being able to attain higher team creativity *and* higher team timeliness, as well as both sets of team processes that lead to

these team outcomes, relative to teams with lower proportions of ambidextrous individuals.

Looking across these propositions more broadly, this dissertation focuses on the effects of having a collection of *individual-level* regulatory focus types on *team-level* processes and team-level outcomes. Thus, from a multi-level perspective, I provide theory on the way in which individual-level phenomena—the regulatory focus types—translate into team-level phenomena—the team processes and outcomes, with the team processes having a central role in explaining how team creativity and team timeliness ultimately emerge from the collection of individual-level regulatory focus types.

Given this strong focus on team-level constructs in this dissertation, it is crucial that there be an explicit discussion of levels of analysis issues. Therefore, in the following chapters, I begin by first defining as well as specifying the multi-level nature of each team-level construct in this dissertation (Chapter 2). Next, I provide a literature review, drawing mostly on research on regulatory focus from social psychology but also team composition effects from organizational psychology and organizational behavior (Chapter 3). I then discuss the significance of team creativity and team timeliness as important outcomes in an organizational context (Chapter 4), after which I present the theory, hypotheses, and exploratory research questions (Chapter 5), methods (Chapter 6), results (Chapter 7), and finally, a discussion of the findings (Chapter 8).

Chapter 2: Construct Definitions and Levels of Analysis

Given the focus of this dissertation on team-level phenomena, it is important that there is clarity on the precise multi-level nature of each construct that appears in this research. Therefore, in this chapter, I define each team-level construct in this dissertation, as well as specify the functional relationship each team-level construct has with its individual-level units (i.e., specify how the team-level construct emerges from its individual-level units). Accordingly, I discuss the following constructs below: proportion of regulatory focus type, goal importance for creativity, goal importance for timeliness, idea generation, task conflict, team pacing style, team creativity, and team timeliness.

Proportion of Regulatory Focus Type

I define proportion of regulatory focus type as the proportion of individuals within a team with a particular pattern of scoring across the individual-level promotion focus and prevention focus dimensions. I focus on proportions, instead of the more common approach of examining means of an attribute within teams, as I am interested specifically in examining the influence of having a collection of team members with a particular *within-person* regulatory focus pattern, on team processes and outcomes. As discussed above, I mainly focus on the predominantly promotion-focused type (high promotion, low prevention) and the predominantly prevention-focused type (low promotion, high prevention), but also exploring the role of the ambidextrous type (high promotion, high prevention) [1-2].

It should be noted here explicitly, using Hofmann and Jones (2004)'s multi-level terminology, that by focusing on proportions, I am interested simply in the *collection* of

team members' attributes (i.e., regulatory focus type) which combine to influence team processes and outcomes. This is distinct from a *collective phenomenon*, which specifically refers to a shared norm that emerges within the team from the social interaction of its members (Giddens, 1993; Kozlowski & Klein, 2000; Morgeson & Hofmann, 1999). Moreover, to be specific on the form of emergence that underlies the proportion of regulatory focus type, I argue that the summary index model (Chen et al., 2004; or additive model; Chan, 1998) applies here. Although I use proportions instead of means in aggregating the lower-level units into the team-level construct, it is still a simple summary of the lower-level units where consensus among the lower-level units is irrelevant for the justification of the existence of the team-level construct[3].

Goal Importance for Creativity and Goal Importance for Timeliness

I define goal importance for creativity as the level of importance team members place on creativity as a task-relevant goal, on average, at the outset of working on the team task and prior to interacting with each other. Similarly, I define goal importance for timeliness as the level of importance team members place on timeliness as a task-relevant goal, on average, at the outset of working on the team task and prior to interacting with each other. As I am interested in the team average for summarizing team members' individual endorsement of creativity or timeliness as important task goals—regardless of consensus among team members, or team members' shared perceptions about the team (which is not possible, as goal importance is measured prior to team members coming into contact with one another to form the team), I specify a summary index model (Chen et al., 2004; or additive model; Chan, 1998) for both goal importance for creativity and goal importance for timeliness.

Idea Generation

Idea generation refers to the total frequency of ideas that is generated within the team, as members work on an open-ended creative task under a deadline. As the team rate of idea generation is an additive frequency count of each idea put forth by individual team members, I again propose the summary index model (Chen et al., 2004; or additive model; Chan, 1998) for the form of emergence underlying the idea generation construct.

Task Conflict

Specific to work team contexts, task conflict refers to disagreements team members have over ideas and opinions regarding the task at hand (Jehn & Mannix, 2001). Unlike those described above, task conflict is conceptualized as a collective construct, where team members' individual-level perceptions of the extent to which there is task conflict in the team becomes shared as a result of their social interaction and mutual experiences of conflict incidents (Kozlowski & Klein, 2000). Thus, for task conflict, the referent-shift model of aggregation (Chen et al., 2004; or referent-shift consensus, Chan, 1998) applies, where consensus among team members' individual perceptions of the extent to which the team engages in task conflict must be statistically demonstrated to justify the collective nature of this construct.

Team Pacing Style

At the individual level, pacing style refers to an individual's tendency in how he or she distributes levels of task activity over time, when working on a particular project under deadline conditions (Gevers, Rutte, & van Eerde, 2006). For example, an early pacing style involves higher levels of task activity at the start of the project and lower

levels of activity towards the deadline; in contrast, a deadline pacing style denotes lower levels of task activity at the start of the project and higher levels of activity near the deadline.

At the group level, I define team pacing style as the tendency that team members collectively adopt in terms of how to distribute levels of task activity over time when working under deadline conditions. I propose that team members' individual-level perceptions of how the team tends to distribute levels of activity over time converge as a result of their social interaction and mutual experiences, such as giving each other temporal reminders. Such social interaction then forms team pacing style as a collective phenomenon. Thus, for this construct, I advance the reference-shift model of aggregation (Chen et al., 2004; or referent-shift consensus, Chan, 1998), where agreement among team members' perceptions of the team's pacing style must be statistically demonstrated to justify the collective nature of the construct.

Team Creativity

Team creativity refers to "the production of novel and useful ideas concerning products, services, processes, and procedures by a team of employees working together (Shin & Zhou, 2007, p.1715)." In terms of the multi-level nature of this construct, the functional relationship between team creativity and its lower-level units highly depends on the nature of the creative task (Pirola-Merlo & Mann, 2004; Sacremento, Dawson, & West, 2008). As will be elaborated in more detail in a later section, the creative task in this research involves team members coming up with a radio commercial for a product, and involves many elements such as incorporating music tracks, sound tracks, creating a scenario, as well as creating a script. Therefore, this interdependent creative task benefits

from the sum of each individual member's contributions, as team members combine and build off one another's ideas to produce an overall creative product. At the same time however, the task also has a disjunctive component, where the contributions of the most creative member can weigh more heavily than the others'. Thus, I argue that the functional relationship between team creativity and its lower level units lies somewhere between an additive, summary index model (Chen et al., 2004; Chan, 1998), and the select score model (i.e., maximum score model; Chen et al., 2004). However, given that it is extremely difficult to measure the individual contributions on creativity on an interdependent team task, team creativity in this research is measured using external, objective ratings, as is conventionally done in the team creativity literature.

Team Timeliness

I define team timeliness as the extent to which a team implements its task in a timely manner. As team timeliness will be measured simply by how long it takes a team to finish its task, I propose that this construct is a global unit property.

Now that each construct has been defined and specified in terms of its multi-level nature, in the next chapter, I provide the literature review, drawing mostly from research on regulatory focus in social psychology but also team composition effects from organizational psychology and organizational behavior.

Chapter 3: Review of the Literature

In providing the literature review in this section, I begin with a discussion of Regulatory Focus Theory, followed by a concentrated review of empirical findings on the individual-level consequences of regulatory focus, namely, creativity and timeliness, and regulatory fit, that will become pertinent to my later arguments. I then elaborate on the limitations of the current regulatory focus literature, wherein I also briefly review the team composition literature.

Regulatory Focus Theory

As an extension to the hedonic principle that people are motivated to approach pleasure and avoid pain, Regulatory Focus Theory (Higgins, 1997, 1998) proposes that there are two fundamentally distinct processes or foci, through which people approach pleasure and avoid pain. That is, individuals can have a promotion focus or a prevention focus during goal pursuit, the two foci differing on a) the primary type of need that individuals are trying to serve, b) the type of self-standard individuals are trying to align themselves with, and c) the kind of psychological situation that individuals become sensitive to during goal pursuit. At the most fundamental level, Higgins (1997, 1998) argues that promotion-focused individuals have *growth and advancement needs* that are of primary concern, whereas prevention-focused individuals have *safety and security needs* that are of primary concern. As such, growth and advancement needs motivate promotion-focused individuals to align themselves with their *ideal selves* where goals are represented as hopes, wishes, and aspirations. In contrast, safety and security needs motivate prevention-focused individuals to align themselves with their *ought selves* where goals are represented as duties, obligations, and responsibilities. Consequently, striving

for hopes and aspirations make promotion-focused individuals psychologically more sensitive to the *presence and absence of positive outcomes* (i.e., gains vs. non-gains), whereas striving for duties and obligations make prevention-focused individuals more sensitive to the *presence and absence of negative outcomes* (i.e., losses vs. non-losses). Higgins (1997, 1998) also adds that regulatory focus can be both a chronic individual difference as well as a momentarily induced state that can be triggered through a variety of situations, such as being asked to think of hopes and aspirations versus duties and obligations, or gains and non-gains versus losses and non-losses.

Regulatory Focus: Empirical Findings

Whether conceptualized as a chronic individual difference or a momentarily induced state, the predominant methodological paradigm underlying regulatory focus research in social psychology has been to contrast predominantly promotion-focused individuals with predominantly prevention-focused individuals. For example, in terms of chronic regulatory focus, researchers independently assess an individual's level of promotion focus and prevention focus and then take the difference score, or, in terms of momentary states, researchers experimentally induce a predominantly promotion-focused or a predominantly prevention focused state. Based on this tradition, a vast amount of research has shown that regulatory focus has widespread cognitive, emotional, and behavioral consequences (see Molden et al., 2008 for review). Among these, two that are especially relevant to this dissertation are individual-level creativity and individual-level timeliness, which are discussed below.

Individual-level Creativity. Research suggests both indirectly and directly that having a predominant promotion focus rather than a predominant prevention focus

facilitates individual-level creativity. For example, a number of studies have found that promotion-focused individuals, with their focus on gains, adopt an *eager and risky goal-pursuit strategy*, whereas prevention-focused individuals, with their focus on losses, adopt a *vigilant and conservative goal-pursuit strategy* when performing cognitive judgment tasks (Crowe & Higgins, 1997; Florack & Hartmann, 2007; Forster, Higgins, & Idson, 1998; Levine et al., 2000). Crowe and Higgins (1997) found that when participants were presented with a series of words and were asked to respond "yes" or "no" as to whether each word had appeared in a previously studied list, promotion-focused individuals with their primary concern for the presence and absence of positive outcomes had a risky bias of saying "yes", ensuring hits and avoiding errors of omission (i.e., missed opportunities). However, prevention-focused individuals, with their primary concern for the presence and absence of negative outcomes, had a conservative bias of saying "no", ensuring correct rejections and avoiding errors of commission (i.e., mistakes). Given that the willingness to take risks is known to be associated with creativity (e.g., Dewett, 2006, 2007), this research suggests that a promotion focus rather than a prevention focus benefits creativity.

The propensity of promotion-focused individuals to ensure hits and avoid errors of omission (i.e., use an eager strategy) has also been shown to generalize to situations when participants are asked to endorse a number of alternative hypotheses from a given set in order to explain an ambiguous event. Liberman, Molden, Idson, and Higgins (2001) predicted and found that promotion-focused individuals remain open to many possibilities and endorse multiple hypotheses in order to avoid missed opportunities. In contrast, prevention-focused individuals were found to endorse only one hypothesis, but a more certain one in order to avoid mistakes, consistent with a vigilant strategy. Given that

openness is also known to be associated with creativity (e.g., McCrae, 1987, Perrine & Brodersen, 2005), this research also suggests that promotion focus rather than prevention focus benefits individual-level creativity.

Finally, Friedman and Forster (2001) directly found that individuals with a predominant promotion focus are more creative than individuals with a predominant prevention focus, as evidenced by the promotion-focused individuals' greater ability in generating higher quantity and quality of innovative uses for common every objects, as well as in overcoming previous associations formed in memory in order to produce novel responses to word completion problems. Their findings is consistent with their theory that because people with a predominant promotion focus have a need for growth and advancement, they perceive their environment to be relatively benign and adopt an exploratory style of processing that enhances creativity. On the other hand, because people with a predominant prevention focus have a need for safety and security, they perceive their environment to be relatively threatening and adopt a cautious style of processing that impairs creativity.

Individual-level Timeliness. In contrast to creativity, research shows that individual-level timeliness, or how early individuals prefer to start and finish pursuing their goals, is facilitated by having a predominant prevention focus rather than a predominant promotion focus. For example, Freitas, Liberman, Salovey, and Higgins (2002) found that when participants are asked to imagine applying for a fellowship in the future and asked when they think they would start working on their applications, prevention-focused individuals preferred to start earlier than promotion-focused individuals. This was consistent with their theory that because prevention focus leads

people who are primarily concerned for safety and security to see their goals as minimal goals that they *must* attain, individuals feel stronger pressure to start working earlier. In contrast, because promotion focus leads people who are primarily concerned for growth and advancement to see their goals as maximal goals that they *hope* to attain, individuals feel little pressure to start working earlier (see Pennington and Roese (2003) for similar findings).

Regulatory fit. Apart from research showing that regulatory focus has main effects on various consequences such as individual-level creativity and individual-level timeliness, the related literature on regulatory fit suggests that the match between the goal pursuit strategies people use (i.e., an eager or vigilant strategy) and their regulatory focus (promotion or prevention) also has important consequences. For example, Higgins (2000) argues that when there is regulatory fit (i.e., goals are pursued with an eager strategy for promotion-focused individuals, and vigilant strategy for prevention-focused individuals), people experience the feeling that what they are doing is "right," correct, and proper (Higgins & Freitas, 2007), and increases the value of the activity they are engaging in. By contrast, when there is lack of regulatory fit (i.e., goals are pursued with a vigilant strategy for promotion-focused individuals, and eager strategy for prevention-focused individuals), people feel "wrong" about what they are doing (Higgins & Freitas, 2007). Indeed, Freitas and Higgins (2002) found that individuals report more positive evaluations of activities when they involve regulatory fit than regulatory non-fit. Furthermore, research on regulatory fit has also found that the increased value people experience from regulatory fit transfers to a variety of things such as the monetary value of objects (Higgins, Idson, Freitas, Spiegel, & Molden, 2003), the persuasiveness of

proposals in decision-making contexts (Cesario, Grant, & Higgins, 2004), and even moral evaluations (Camacho, Higgins, & Luger, 2003).

In summary, research on the individual-level consequences of regulatory focus shows that having a predominant promotion focus rather than a predominant prevention focus facilitates individuals to be more creative, whereas having a predominant prevention focus rather than a predominant promotion focus leads individuals to initiate their goal pursuits in a timelier manner. Furthermore, research on regulatory fit shows that the fit between individuals' goal pursuit strategies and their regulatory foci increases the value of the activity itself, and that this "value-from-fit" transfers to various aspects of the person's immediate surroundings.

Limitations of the Regulatory Focus Literature

Though much progress has been made in understanding the consequences of regulatory focus, the literature is not without significant limitations. First, as evident from the review above, the outcomes of regulatory focus effects are typically determined by participants' performance on simple tasks (e.g., signal detection tasks, word completion tests, hypothetical scenarios) that are conducted in a social vacuum; thus, these outcomes are inherently at the individual level of analysis. Research that examines the role of regulatory focus when participants engage in complex, socially interdependent tasks such as those found in team contexts, is lacking. Consequently, little understanding exists on how regulatory focus may influence phenomena at higher-levels of analysis, such as team processes and team outcomes.

This paucity of regulatory focus research in team contexts is surprising, especially from an organizational perspective, given that there is 50 years worth of research on team

composition effects that examines how a collection of team members' attributes combine to influence team process and outcomes (Mathieu, Maynard, Rapp, & Gilson, 2008). Most research in this area has examined how the mean value of a particular attribute in the team influences team effectiveness. For example, a recent meta-analysis by Bell (2007) found that the average levels of all the big five personality dimensions are advantageous for team performance in field contexts. Other attributes also found to be beneficial include achievement orientation (LePine, 2003), dependability (LePine, 2003), assertiveness (Pearsall & Ellis, 2006), locus of control (Boone, Van Olffen, Van Witteloostuijn, & De Brabander, 2004), goal orientation (e.g., LePine, 2005; Porter, 2005; Bunderson & Sutcliffe, 2003; DeShon et al., 2004), team-work orientation (e.g., Bell, 2007; Harris & Barnes-Farrell, 1997; Jung & Sosick, 1999; Watson, Johnson, & Merritt, 1998), as well as competencies such as cognitive ability (see Devine & Philips, 2001 for meta-analysis) and KSAOs (knowledge, skills, abilities, and others) pertaining to team work (e.g., Cooke et al., 2003; Hirschfeld, Jordan, Field, Giles, & Armenakis, 2005; McClough & Rogelberg, 2003; Stevens & Campion, 1999). In addition to these studies that examine the mean levels of attributes within teams, other research has focused mostly on the effects of team diversity of various attributes on team effectiveness, but with mixed findings. Some studies show that team diversity is advantageous, including diversity of age (Kilduff, Angelmar, & Mehra, 2000), tenure (Jehn & Bezrukova, 2004), function (Carpenter, 2002; Jehn & Bezrukova, 2004; Pelled, Eisenhardt, & Xin, 1999; Pitcher & Smith, 2001), and personality (Mohammed & Angell, 2003; Neuman, Wagner, & Christiansen, 1999), whereas others show that it is detrimental, including diversity of race and ethnicity, gender, age, tenure, education, function, and personality (e.g., Jackson,

Joshi, & Erhardt, 2003; Kirkman, Tesluk, & Rosen, 2001; Knight et al., 1999; Leonard, Levine, & Joshi, 2004; Li & Hambrick, 2005; Mohammed & Angell, 2003; Pelled et al., 1999; Simons, Pelled, & Smith, 1999; Timmerman, 2000; Townsend & Scott, 2001; Watson et al., 1998; see Webber and Donahue, 2001 for meta-analysis). Clearly, a wide range of team member attributes have been studied so far in the team composition literature; however, it is notable for the purposes of this dissertation, that little research exists on motivational constructs in general, and regulatory focus in particular.

Futhermore, another limitation of the regulatory focus literature is that the paradigm of contrasting predominantly promotion-focused with predominantly prevention-focused individuals—by taking the difference score of independent assessments of each chronic regulatory focus dimension—has precluded researchers from recognizing the existence of individuals who score highly on both dimensions at the same time. Indeed, Higgins (1997) originally conceptualized promotion focus and prevention focus to be orthogonal dimensions; moreover, a closer examination of recent studies on the self-report measures of regulatory focus reveals that the two foci are at best, weakly correlated, and thus, are independent (e.g., Fellner et al., 2007; Higgins et al., 2001; Ouschan et al., 2007; Wallace & Chen, 2006; Wallace et al., 2009). Yet, empirical research that aims to understand the role of such ambidextrous individuals is non-existent.

Despite this dearth of research, however, to the extent that ambidextrous individuals are chronically both highly promotion-focused and highly prevention-focused, it could be speculated that they possess a number of characteristics that distinguish them from their predominantly promotion-focused or predominantly prevention-focused counterparts. For example, it may be that ambidextrous individuals have greater *flexibility*

in pursuing a task with either a promotion focus or a prevention focus, as they have equally strong chronic *needs* for both growth and nurturance as well as safety and security. Such a possibility implies that ambidextrous individuals are especially competent in multi-faceted situations that demand them to effectively engage in tasks that benefit from having a promotion focus and a risky strategy (e.g., being creative), as well as tasks that benefit from having a prevention focus and a vigilant strategy (e.g., being timely)—as they are able to derive *fit* and *liking* for a wider variety of tasks than their counterparts. Furthermore, it is possible that ambidextrous individuals are able to shift quickly and comfortably between working on tasks that benefit from having a promotion focus, and working on tasks that benefit from having a prevention focus, as they channel whichever regulatory focus that is most beneficial to the task at hand. Given these likely advantages that ambidextrous individuals possess, it is important that research explores the role of such individuals, and especially in team contexts, as team members often face multi-faceted situations where they are required to perform a variety of tasks—including those that benefit from having a promotion focus as well as those that benefit from having a prevention focus.

Considering the above-mentioned limitations together, the goal of this dissertation then is to examine whether there are team composition effects of regulatory focus types (i.e., proportions of predominantly promotion-focused types, predominantly prevention-focused types, and ambidextrous types, respectively) on team-level processes and outcomes. In doing so, I focus on team creativity and team timeliness as the main outcome variables of interest, and the team processes that help to explain how these team-level outcomes ultimately emerge from a collection of individual-level regulatory focus

types. Before presenting the theory, hypotheses, and exploratory research questions in a later section, in the next chapter, I give a brief overview of the significance of team creativity and team timeliness as the main outcomes of interest in this dissertation.

Chapter 4: Team Creativity and Team Timeliness

Given that creativity is critical for organizational competitiveness (Amabile, 1988; Oldham & Cummings, 1996), and employees nowadays often work together in teams (Campion, Medsker, Higgs, 1993), understanding team creativity, or the extent to which teams produce novel and useful ideas for products, services, processes, or procedures (Shin & Zhou, 2007), is of great importance. Indeed, more and more researchers are beginning to examine what predicts team creativity, although this sub-area of research remains nascent relative to older topics within the teams literature (Shalley, Zhou, & Oldham, 2004). Notably, research on what individual differences are relevant for team creativity is an issue that remains to be addressed (Shalley et al., 2004).

In addition to team creativity, another highly important team outcome is team timeliness (Freeman & Beele, 1992). Teams must not only fulfill its assigned task (such as producing a creative product or service), but they must do so in a timely manner in order to avoid missing deadlines. Being untimely and missing deadlines are indeed a worrisome concern, given its negative consequences and the high frequency in which it occurs. For example, when project teams are untimely and their products enter the market six months late, an organization can earn up to 33% less, over a five year period than what they would have earned being on time (Vesey, 1991). Moreover, as much as 56% of project team managers report that deadlines are often missed (Tukel & Rom, 1998). Clearly, understanding what predicts team timeliness is an important topic; however, research in this area, like team creativity, has lagged behind (Mohammed, Hamilton, & Lim, 2009).

Focusing on team creativity and team timeliness, I examine whether there are team composition effects of regulatory focus types on these outcomes as well as the processes that lead to these outcomes. In indexing team composition, I specifically focus on the *proportion* of team members (c.f. Barry & Stewart, 1997) with a particular individual-level regulatory focus type, as doing so allows me to examine the effects of having a collection of team members with a certain *within-person* regulatory focus pattern (i.e., predominantly promotion-focused, predominantly prevention-focused, ambidextrous) on team processes and outcomes. I generally argue that teams with a higher proportion of members with a predominantly promotion-focused type are more effective in attaining team creativity as well as the processes that lead to team creativity (i.e., placement of goal importance for creativity at the outset of the task, idea generation, and task conflict) than teams with lower proportions of such individuals. I also expect that teams with a higher proportion of members with a predominantly prevention-focused type are more effective in attaining team timeliness as well as the processes that lead to team timeliness (i.e., placement of goal importance for timeliness at the outset of the task, and adoption of more an early team pacing style than a deadline team pacing style) than teams with lower proportions of such individuals. Furthermore, I explore whether teams with a higher proportion of team members with an ambidextrous type are able to attain higher team creativity *and* higher team timeliness, as well as both sets of team processes that lead to these outcomes, relative to teams with lower proportions of ambidextrous individuals.

Across these propositions at a broader level, and from a multi-level perspective, I provide theory on how a collection of *individual-level* phenomena—the regulatory focus

types—translate into *team-level phenomena*—the team processes and outcomes, with the team processes having a central role in explaining how team creativity and team timeliness ultimately emerge from the collection of individual-level regulatory focus types.

In the next chapter, I present the theory as well as the hypotheses and exploratory research questions. I discuss each team process or outcome variable in turn, where I make predictions as to how having a higher proportion of predominantly promotion-focused, predominantly prevention-focused, and ambidextrous individuals in the team would respectively, influence the team process or outcome variable in question.

Chapter 5: Theory and Hypotheses

In this section, I present the theory, hypotheses, and exploratory research questions pertaining to the team composition effects of individual-level regulatory focus types (i.e., proportions of predominantly promotion-focused, predominantly prevention-focused, and ambidextrous types) on each team-level process and outcome. I begin by discussing the team process of goal importance for creativity and goal importance for timeliness, followed by idea generation, task conflict, and team pacing style. Later, I elaborate on how these team processes help to explain how the team-level outcomes of team creativity and team timeliness ultimately emerge from having a higher proportion of certain regulatory focus types at the lower, individual level.

Goal Importance for Creativity and Goal Importance for Timeliness

I propose that the team composition of regulatory focus type influences the average level of importance team members individually place on particular goals as being important for the overall team task—*prior* to interacting with each other. Given that this research focuses on a project team context where team members engage in a creative task under a deadline, I focus on goal importance across two goals, namely, goal importance for creativity and goal importance for timeliness.

In the teams literature, what goals team members place importance on, or how they come to prioritize across multiple goals are research topics that have received very little attention. Nevertheless, it is widely accepted in the literature that the presence of goals have a strong influence on performance at both the individual and team levels of analysis, as they increase effort and persistence, as well as steering the direction of the

effort towards task-relevant activities (Locke & Latham, 1991; O'Leary-Kelly, Martocchio, & Frink, 1994). Thus, teams that have an overall endorsement of creativity or timeliness as a highly important goal for the team task should be inclined to direct their efforts towards activities that lead them to achieve team creativity or team timeliness, respectively.

In terms of my predictions more specifically, I propose that the higher the proportion of predominantly promotion-focused types in the team, there will be higher average goal importance placed on creativity, but lower average goal importance placed on timeliness, at the outset of the team task. In contrast, I propose that the higher the proportion of predominantly prevention-focused types in the team, there will be higher average goal importance placed on timeliness, but lower average goal importance placed on creativity, at the outset of the team task.

I arrive at these predictions based on the following considerations: Success on creativity and timeliness each benefit from having a fundamentally different goal-pursuit strategy. In attaining creativity, it is more beneficial to have an eager and risky strategy, where a bias towards ensuring as many hits as possible and avoiding missed opportunities—facilitates creativity. In contrast, in attaining timeliness, it is more beneficial to have a vigilant and conservative strategy where a bias towards ensuring the absence of mistakes, such as missing deadlines, facilitates the early pursuit of goals and timeliness. Furthermore, when an individual's goal-pursuit strategy and regulatory focus orientation match such that there is *regulatory fit* (i.e. an eager strategy and a predominant promotion focus, or a vigilant strategy and a predominant prevention focus), the individual feels that the activity in question feels "right" or "correct" and places positive

value on that activity. On the other hand, when there is misfit (i.e., a vigilant strategy and a predominant promotion focus or an eager strategy and a predominant prevention focus), the individual feels that what he or she is doing is "wrong" or "incorrect" and places negative value on that activity (Higgins, 2000).

In the context of a team task that includes aspects of creativity as well as timeliness, individuals should place more positive value and greater anticipated goal importance on the aspect of the task that produces regulatory fit, and place negative value and less anticipated goal importance on the aspect of the task that produces regulatory misfit. For predominantly promotion-focused individuals, the task that produces regulatory fit is creativity, as it requires an eager strategy, whereas the task that produces regulatory misfit is timeliness, as it requires a vigilant strategy. In contrast, for predominantly prevention-focused individuals, the task that produces regulatory fit is timeliness, whereas the task that produces regulatory misfit is creativity.

Thus, at the group level, when there is a higher proportion of individuals who are predominantly promotion-focused, who place greater importance on creativity and less importance on timeliness, there should be higher average levels of goal importance for creativity and lower average levels of goal importance for timeliness in the team, based on an additive process of combination. Similarly, when there is a higher proportion of individuals who are predominantly prevention-focused, who place greater importance on timeliness and less importance on creativity, there should be higher average levels of goal importance for timeliness and lower average levels of goal importance for creativity in the team overall. Based on this discussion, I hypothesize the following:

H1: *The team composition of regulatory focus type will influence the average*

level of goal importance for creativity and goal importance for timeliness placed by members within the team.

H1a: *Teams with higher proportions of predominantly promotion-focused types will have higher average goal importance for creativity than teams with lower proportions of these individuals.*

H1b: *Teams with higher proportions of predominantly promotion-focused types will have lower average goal importance for timeliness than teams with lower proportions of these individuals.*

H1c: *Teams with higher proportions of predominantly prevention-focused types will have higher average goal importance for timeliness than teams with lower proportions of these individuals.*

H1d: *Teams with higher proportions of predominantly prevention-focused types will have lower average goal importance for creativity than teams with lower proportions of these individuals.*

In addition to these formal hypotheses concerning the predominantly promotion-focused and predominantly prevention-focused regulatory focus types, I explore whether having higher proportions of ambidextrous individuals; that is, those who are highly promotion-focused and prevention-focused at the same time, increase levels of both goal importance for creativity *and* goal importance for timeliness in the team. As discussed earlier, it can be speculated that ambidextrous individuals have greater flexibility in being able to pursue a task with either a promotion focus or a prevention focus compared to the other regulatory focus types. Such a possibility would imply that ambidextrous individuals are able to derive regulatory fit from tasks that benefit from having an eager

strategy such as creativity—as well as tasks that benefit from having a vigilant strategy such as timeliness. Consequently, ambidextrous individuals may place positive value and goal importance on creativity as well as timeliness, which at the group level would imply that when there is a higher proportion of ambidextrous individuals in the team, there will be higher average levels of goal importance for creativity *and* goal importance for timeliness, based on an additive process of combination. Based on this discussion, I pose the following exploratory research questions:

> ***RQ1a:*** *Do teams with higher proportions of ambidextrous types have higher average goal importance for creativity than teams with lower proportions of these individuals?*
>
> ***RQ1b:*** *Do teams with higher proportions of ambidextrous types have higher average goal importance for timeliness than teams with lower proportions of these individuals?*

Idea Generation

I further propose the team composition of regulatory focus type to influence the extent of idea generation that occurs within the teams; or more specifically, the number of ideas team members produce and share with each other as they work on a creative task under a deadline condition. The number of ideas that groups generate in creative contexts has long been a focus of the group creativity literature, as much research shows that quantity of ideas breeds the quality, or originality of ideas (e.g., Diehl & Stroebe, 1987; Parnes & Meadow, 1959; Simonton, 1999; see also Osborn, 1957, 1963; Thompson, 2003 for discussion). Recent research in this area suggests that the mechanism for this relationship may be that generating a greater number of ideas ensures that easily

accessible and unoriginal ideas are depleted before original ideas are discovered (Rietzschel, Nijstad, & Stroebe, 2007). Furthermore, having many alternative ideas allow group members to build off of each other, and integrate each other's inputs into an overall creative idea (Thompson, 2003).

In terms of my predictions regarding the proportion of regulatory focus types and idea generation, I propose that teams with higher proportions of predominantly promotion-focused types will engage in greater idea generation than teams with lower proportions of such individuals, whereas teams with higher proportions of predominantly prevention-focused types will engage in lower idea generation than teams with lower proportions of such individuals.

At the individual level, as reviewed before, predominantly promotion-focused individuals, with their need for growth and advancement, perceive their environment to be benign, and are more likely to adopt an exploratory style of processing that enables them to generate a high quantity of novel ideas (Friedman & Forster, 2001). In a team context specifically, I argue that not only are these individuals likely to generate a high quantity of ideas on their own internally, but they are also likely to hold onto as many ideas of their own as possible in order to share them with the team, as they would want the team itself to ensure hits and avoid missed opportunities (i.e., ensure great ideas). At the group level then, I argue that the more of these predominantly promotion-focused individuals there are in the team, the greater the number of ideas produced in the team overall, based on an additive process of combination where each team member has a role in contributing towards the total number of ideas generated within the team. Furthermore, the sharing of ideas in the team should come easily for teams with many predominantly

promotion-focused team members, as they are biased towards the positive, and will most likely give positive (as opposed to negative) feedback to each other, fostering a team atmosphere that is conducive to members comfortably sharing ideas with each other. Thus, teams with higher proportion of predominantly promotion-focused types are more likely to generate a greater number of ideas in the team compared to teams with lower proportions of such individuals.

In contrast, predominantly prevention-focused individuals, with their need for safety and security, perceive their environment to be threatening; therefore, are more likely to adopt a vigilant style of processing that inhibits the generation of ideas (Friedman & Forster, 2001). In a team context, I argue that not only do these individuals generate few ideas on their own internally, but they are also likely to continuously reject their own ideas before sharing them with the team, as they would want the team to make correct rejections (i.e., avoid poor ideas). At the group level then, I argue that the more of these predominantly prevention-focused individuals there are in the team, the fewer the number of ideas produced overall, based on an additive process of combination. Furthermore, given that predominantly prevention-focused individuals fixate on the negative, the way in which they give feedback to their fellow team members should also be negative, which would foster a critical team atmosphere where team members feel discouraged from sharing ideas with each other. Thus, teams with higher proportion of predominantly prevention-focused types are likely to generate a fewer number of ideas compared to teams with lower proportions of such individuals. Based on the above discussion, I hypothesize the following:

H2: *The team composition of regulatory focus types will influence the extent to which team members engage in idea generation.*

H2a: *Teams with higher proportions of predominantly promotion-focused types will engage in greater idea generation than teams with lower proportions of these individuals.*

H2b*: Teams with higher proportions of predominantly prevention-focused types will engage in less idea generation than teams with lower proportions of these individuals.*

In addition to these hypotheses, I explore whether teams with higher proportions of ambidextrous types will engage in greater idea generation than teams with lower proportions of such individuals. It is possible that while ambidextrous individuals chronically possess a high promotion focus as well as a high prevention focus, that they are able to implicitly channel whichever regulatory focus orientation that best benefits the task, to the task at hand. Thus, in this case, ambidextrous individuals may be able to "use" their promotion focus and the exploratory style of processing that comes with it in order to facilitate idea generation. This would imply then that at the group level, similar to teams comprised mostly of predominantly promotion-focused individuals discussed earlier, that teams comprised mostly of ambidextrous individuals might also engage in frequent idea generation and idea sharing within a positive team atmosphere. Thus, I pose the following exploratory research question:

RQ2: *Do teams with higher proportions of ambidextrous types engage in greater idea generation than teams with lower proportions of these individuals?*

Task Conflict

In addition to idea generation, I expect the team composition of regulatory focus type to influence the level of task conflict in teams. Specific to work team contexts, task conflict refers to disagreements team members have over ideas and opinions regarding the task at hand (Jehn & Mannix, 2001). Extensive research on task conflict has been conducted in a variety of contexts including decision-making teams (e.g., Amason & Mooney, 1990; Janssen, van de Vliert & Veenstra, 1999), top management teams (e.g., Amazon, 1996; Amason & Sapienza, 1997; Simons & Peterson, 2000) and diverse teams (e.g., Jehn, Northcraft, & Neale, 1999; Pelled, 1996; Pelled et al., 1999). A recent meta-analysis by De Dreu and Weingart (2003) suggests that task conflict can be beneficial for team performance, specifically under certain conditions, such as when teams have high levels of trust, openness, and psychological safety (e.g., Amason, 1996; Jehn, 1995; see De Dreu & Weingart, 2003 for meta-analysis). Moreover, a recent study by Farh, Lee, and Farh (2010) shows that moderate task conflict is advantageous for team creativity.

Regarding my specific predictions, I propose that teams with higher proportions of predominantly promotion-focused types will experience greater task conflict than teams with lower proportions of such individuals. I further expect teams with higher proportions of predominantly prevention-focused types to experience less task conflict than teams with lower proportions of such individuals.

I arrive at these predictions by building off my previous discussion regarding idea generation. As mentioned earlier, I argued that at the individual level, predominantly promotion-focused team members would generate many ideas, which they would readily share with the team in order for the team to collectively ensure hits and avoid missed

opportunities. I also argued at the group level, that the greater the proportion of predominantly promotion-focused members in the team, the greater the number of ideas generated overall, for two reasons: first, based on an additive process of combination where each team member has a role in contributing to the total number of ideas generated in the team, and second, based on the likelihood that team members will develop a positive team atmosphere where they would feel encouraged to share ideas with each other. With respect to task conflict specifically then, I argue that teams with higher proportions of predominantly promotion-focused individuals will experience greater task conflict because team members simply have more ideas to have disagreements over, and because the positive team atmosphere that ensues within the team encourages members to express conflict openly without fearing negative repercussions from others. Thus eventually, as members observe conflict incidents that occur over time within the team, they should develop a shared perception of the level of task conflict that ensued throughout their interaction.

In contrast, for predominantly prevention-focused team members, I argued that at the individual level, they would generate a fewer number of ideas which they would continuously reject on their own before sharing them with the team in order to make sure that the team correctly rejects poor ideas. I also reasoned that at the group level, the greater the proportion of predominantly prevention-focused team members there are, the fewer number of ideas the team would generate overall, for two reasons: first, based on an additive process of combination, and second, based on the likelihood of the critical team atmosphere that would develop, which would discourage team members from sharing their ideas. Extending these arguments to task conflict then, I argue that teams with higher

proportions of predominantly prevention-focused individuals will experience less task conflict because team members simply have little to disagree about, and over time, their mutual observation of conflict incidents (or lack thereof) would lead team members to develop a shared perception of the low level of task conflict that ensued within the team. Thus, based on the above discussion, I hypothesize the following:

H3. *The team composition of regulatory focus types will influence the level of task conflict experienced within the team.*

H3a*. Teams with higher proportions of predominantly promotion-focused types will experience greater task conflict than teams with lower proportions of these individuals.*

H3b*. Teams with higher proportions of predominantly prevention-focused types will experience less task conflict than teams with lower proportions of these individuals.*

In addition to these hypotheses, I explore whether teams with higher proportions of ambidextrous types will experience greater task conflict than teams with lower proportions of such individuals. As discussed earlier, ambidextrous individuals may be able to implicitly channel whichever regulatory focus orientation that best benefits the task, to the task at hand. If they are able to "use" their promotion focus and exploratory style of processing to facilitate idea generation at the individual level, and engage in frequent idea generation and idea sharing as they develop a positive team atmosphere at the group level, teams that are comprised of higher proportions of ambidextrous types may also experience greater task conflict, based on disagreements over the many ideas generated in the team

and the positive team atmosphere that encourages the open expression of conflict over ideas. Thus, I propose this exploratory research question:

> ***RQ3***. *Do teams with higher proportions of ambidextrous types experience greater task conflict than teams with lower proportions of these individuals?*

Team Pacing Style

I also propose that the team composition of regulatory focus type will influence team pacing style, or the collective tendency the team adopts in distributing work activity across time, in deadline conditions. Research on temporal constructs in general has received little attention in the organizational literature; however, more and more researchers are beginning to examine time as a critical aspect of many work processes. In the teams literature in particular, research has focused on understanding what predicts teams to manage their time efficiently such that they can be timely and avoid missing deadlines (e.g., Chang, Bordia, & Duck, 2003; Gersick, 1989; Gevers, Rutte, & van Eerde, 2006; Waller Giambatista, & Zellmer-Bruhn, 1999; Waller, Zellmer-Bruhn, & Giambatista, 2002). For example, research by Gevers and colleagues (2006) show that team members bring distinct individual-level pacing styles to the team; that is, preferences for how levels of task activity should be allocated across time when deadlines exist. Individuals who prefer more *early-pacing* (and less *deadline-pacing*) tend to start task activities relatively early, whereas individuals who prefer more *deadline-pacing (*and less *early-pacing*) tend to start task activities shortly before the deadline. Furthermore, Gevers et al. (2006) found that when team members have similar pacing styles, they come to collectively adopt that particular pacing style as a team; in other words, team members develop a shared perception regarding their team's pacing style. The authors suggest that

this occurs through implicit as well as explicit processes. For example, team members come to develop shared perceptions unconsciously by the virtue of their commonality in pacing style that they have to begin with, as well as through group communication about time, such as giving temporal reminders. Indeed, research shows that talking about time facilitates the development of temporal norms (Janicik & Bartel, 2003). Finally, research also shows that teams that are relatively early-paced are more likely to be timelier and finish tasks before the deadline, whereas teams that are relatively deadline-paced are more likely to be less timely and miss deadlines (Gevers et al., 2006).

With respect to the specific propositions then, I predict that teams with higher proportions of predominantly prevention-focused types are more likely to be relatively early-paced (i.e., less deadline-paced) than teams with lower proportions of such individuals. Furthermore, I predict that teams with higher proportions of predominantly promotion-focused types are more likely to be relatively deadline-paced (i.e., less early-paced) than teams with lower proportions of such individuals.

First, I argue that, at the individual level, predominantly prevention-focused individuals are more likely to have an early pacing style and less likely to have a deadline pacing style. Given that people with a predominant prevention focus are primarily concerned for safety and security, pre-occupied with negative outcomes, and cautious, I argue that they would anticipate potential obstacles that might impinge on their path towards task completion and would prefer to pursue a task as early as possible in order to leave room for such unexpected challenges. Furthermore, as discussed earlier, research shows that when predominantly prevention-focused individuals are about to work on a task, they construe the task goals as minimal goals that they *must* attain (versus maximal

goals that they *hope* to attain) and feel strong pressure to start working as early as possible (Freitas et al., 2002). At the group level, then, I argue that when there are higher proportions of predominantly prevention-focused individuals in a team, there is greater similarity among team members in their individual preferences for an early pacing style. Furthermore, through their mutual observations of each others' behaviors—such as verbally communicating the importance of being early-paced and giving temporal reminders, a shared norm for early pacing develops at the team level of analysis. I further argue that such a shared norm develops through a compositional (or additive) model of emergence (Kozlowski & Klein, 2000), such that each individual's early pacing behavior adds equal weight towards reinforcing the development of the shared norm in the team. Thus, the more there are predominantly prevention-focused members in the team, the greater the likelihood that the collective early pacing style (and the less likelihood for the collective deadline pacing style) emerges.

In contrast, I argue that predominantly promotion-focused individuals are more likely to have a deadline pacing style and less likely to have an early pacing style. As reviewed earlier, research suggests that people with a predominant promotion focus, because they are primarily concerned with growth and advancement, construe goals as maximal goals that they *hope* to attain (as opposed to minimal goals that they *must* attain) and feel little pressure to start working on their tasks as early as possible (Freitas et al., 2002). At the group level, I argue that when there are higher proportions of predominantly promotion-focused individuals in a team, there is greater similarity among team members in their individual preferences for a deadline pacing style and, through their mutual observations of team members' individual pacing behaviors—such as not being

concerned for time at the beginning phases of the task and suddenly becoming concerned for time near the deadline, a shared norm for deadline pacing develops at the team level of analysis. I further argue that such a shared norm develops through a compositional model of emergence (Kozlowski & Klein, 2000), such that each individual's deadline pacing behavior adds equal weight towards reinforcing the development of the shared norm in the team. Thus, the greater the number of predominantly promotion-focused members in the team, the greater the likelihood for the collective deadline pacing style (and the less likelihood for the collective early pacing style) to emerge. Based on the above discussion,

> ***H4*****:** *The team composition of regulatory focus type will influence the relative type of pacing style that is collectively adopted by team members.*
>
> ***H4a****: Teams with higher proportions of predominantly prevention-focused types will be less likely to adopt a deadline team pacing style than teams with lower proportions of these individuals.*
>
> ***H4b****: Teams with higher proportions of predominantly promotion-focused types will be more likely to adopt a deadline pacing style than teams with lower proportions of these individuals..*

In addition to these hypotheses, I explore whether teams with higher proportions of ambidextrous types will be less likely to adopt a deadline team pacing style (and more likely to adopt an early team pacing style) as hypothesized for teams with higher proportions of predominantly prevention-focused team members. As speculated before, given that ambidextrous individuals are both promotion-focused and prevention-focused, they might be able to channel whichever regulatory focus that most benefits the task, to the task at hand. In this case, if ambidextrous team members can "use" their prevention

focus towards the time-related aspects of the team task, then perhaps individually, they can engage in early pacing behavior, and collectively, work towards developing a shared team norm for early pacing. Thus, based on this discussion, I pose the following exploratory research question:

> ***RQ4****: Are teams with higher proportions of ambidextrous types less likely to adopt a deadline team pacing style than teams with lower proportions of these individuals?*

Team Creativity and Team Timeliness

Finally, I propose that the team composition of regulatory focus type influences team creativity and team timeliness. In doing so, I argue that the previously discussed team processes (i.e., goal importance, idea generation, task conflict, and team pacing style) help to explain how team creativity and team timeliness—which are phenomena at the team level of analysis, ultimately emerge from having higher proportions of regulatory focus types—which are a collection of phenomena at the individual level of analysis.

Regarding team creativity, I propose that teams with higher proportions of predominantly promotion-focused types will achieve higher team creativity than teams with lower proportions of such individuals based on several considerations. Previously, I argued that at the individual level, predominantly promotion-focused types are inclined to place greater positive value and importance on creativity as a task goal over timeliness, because creativity, which benefits from having an eager goal pursuit strategy would produce anticipatory regulatory fit for these individuals. I also argued that at the group level, when there is a higher proportion of these individuals who place greater importance

on creativity and less importance on timeliness, there should be higher average levels of goal importance placed on creativity in the team, prior to team interaction, based on a simple additive process of combination.

Along with higher levels of average goal importance placed on creativity, I further argue that teams with greater proportions of predominantly promotion-focused individuals have greater similarity among team members in prioritizing creativity over timeliness as an important task goal—and I expect that this similarity will encourage the development of a shared norm for valuing creativity through a compositional model of emergence (Kozlowski & Klein, 2000). For example, as each team member who places high goal importance on creativity communicates this through his or her behaviors, team members will mutually observe that these behaviors are valued in the team, and over time, converge on perceiving that creativity is valued for the team as a whole. Such a norm for valuing creativity in teams with higher proportions of predominantly promotion-focused individuals should reinforce the team process of idea generation that these teams are well-equipped to do in the first place, given team members' individual ease in generating ideas, and the likelihood that they will collectively be encouraging each other to share ideas through a positive team atmosphere.

As high quantities of ideas are generated, teams with higher proportions of predominantly promotion-focused types should also experience greater task conflict, as there are more ideas to discuss and debate. Task conflict should then encourage team members to achieve team creativity (Far et al., 2010) through expending great effort into thinking about which few ideas among the generated alternatives are the best and/or how best to integrate the alternatives into one overall idea. Thus, I argue that at the group

level, team creativity is a function of a disjunctive (i.e., maximum) model of emergence, where team creativity is achieved through the most creative (i.e., predominantly promotion-focused) member and his/her ideas, as well as an additive model of emergence, where team creativity is achieved through the sum (or integration) of each predominantly promotion-focused team member's creative contributions.

In contrast to teams with higher proportions of predominantly promotion-focused individuals, teams with higher proportions of predominantly prevention-focused individuals should achieve lower team creativity than teams with lower proportions of predominantly prevention-focused individuals. Parallel to the reasons stated above, at the individual level, predominantly prevention-focused individuals are prone to placing less value and importance on creativity as a task goal relative to timeliness, because creativity, which benefits from having an eager goal pursuit strategy would produce anticipatory regulatory misfit. At the group level then, when there is a higher proportion of individuals who place relatively little importance on creativity and more importance on timeliness as a task goal, there should be lower average levels of goal importance placed on creativity in the team, prior to team interaction, based on a simple additive process of combination. Furthermore, I argue that along with lower levels of average goal importance placed on creativity, teams with greater proportions of predominantly prevention-focused individuals also have greater similarity among team members in placing relatively little importance on creativity relative to timeliness as an important task goal. As such, these teams are less likely to develop a shared norm that values creativity. This, in combination with the fact that predominantly prevention-focused individuals are not well equipped to generate ideas given their propensity for vigilant processing and are likely to develop a

critical team atmosphere, teams with many predominantly prevention-focused individuals should produce a low quantity of ideas. With only a few ideas generated in the team, the alternative ideas to choose from, or to integrate, are more likely going to be conventional ideas, hindering team creativity.

In addition to team creativity, I predict that teams with higher proportions of predominantly prevention-focused types will achieve higher team timeliness than teams with lower proportions of such individuals. As discussed earlier, predominantly prevention-focused individuals should place greater positive value and importance on timeliness rather than creativity as a task goal, given that timeliness benefits from a vigilant goal pursuit strategy and would produce anticipatory regulatory fit for these individuals. Furthermore, as discussed previously, predominantly prevention-focused individuals are more likely to have an early rather than a deadline pacing style because they should anticipate potential obstacles to task completion and feel the pressure in fulfilling what they *must* do in contrast to what they hope to do. At the group level then, I argue that when there is a higher proportion of predominantly prevention-focused individuals, there is greater similarity among team members in wanting to place greater goal importance on timeliness than creativity, as well as preferring to adopt an early pacing style. Such a similarity should then facilitate the development of a collective early team pacing style, based on a compositional model of emergence (Kozlowski & Klein, 2000), as team members mutually observe each other's prioritization of being timely, through behaviors such as communicating the importance of being on time and giving temporal reminders. Teams that collectively adopt an earlier team pacing style should

then be able to achieve higher team timeliness, as shown in recent research (Gevers et al., 2006).

In contrast, teams with higher proportions of predominantly promotion-focused types should achieve lower team timeliness than teams with lower proportions of such individuals. Predominantly promotion-focused individuals should place less positive value and importance on timeliness compared to creativity as a task goal, given that timeliness benefits from a vigilant goal pursuit strategy and would produce anticipatory regulatory misfit for these individuals. Furthermore, as discussed previously, predominantly promotion-focused individuals are more likely to have a deadline rather than an early pacing style because they focus on what they *hope* to attain in contrast to what they *must* do, and feel little time pressure. At the group level then, I argue that when there is a higher proportion of predominantly promotion-focused individuals, there is greater similarity among team members in wanting to place less goal importance on timeliness than creativity, as well as preferring to adopt a deadline pacing style. Such a similarity should then facilitate the development of a collective deadline team pacing style, based on a compositional model of emergence (Kozlowski & Klein, 2000), as team members mutually observe each other's laxness with time. Teams that collectively adopt a more deadline team pacing style should achieve lower team timeliness (Gevers et al., 2006). Thus, based on this discussion, I hypothesize the following:

> ***H5****: The team composition of regulatory focus types will influence team outcomes of team creativity and team timeliness.*

***H5a**. Teams with higher proportions of predominantly promotion-focused types will achieve higher team creativity than teams with lower proportions of these individuals.*

***H5b**. Teams with higher proportions of predominantly prevention-focused types will achieve lower team creativity than teams with lower proportions of these individuals.*

***H5c**. Teams with higher proportions of predominantly prevention-focused types will achieve higher team timeliness than teams with lower proportions of these individuals.*

***H5d**. Teams with higher proportions of predominantly promotion-focused types will achieve less team timeliness than teams with lower proportions of these individuals.*

In addition to these hypotheses, I explore whether teams with greater proportions of ambidextrous types can achieve higher team creativity as well as higher team timeliness compared to teams with lower proportions of such individuals. Given that ambidextrous types are both highly promotion-focused and highly prevention-focused, one could speculate at the individual level that they simultaneously place positive value and goal importance on creativity—which benefits from an eager strategy, as well as timeliness—which benefits from a vigilant strategy, and are able to derive anticipatory regulatory fit from both. At the group level, when there is a higher proportion of individuals who place importance on creativity as well as timeliness, there should be higher average levels of goal importance placed on creativity as well as timeliness prior to team interaction, based on a simple additive process of combination. Furthermore, having

many ambidextrous individuals in a team should bring greater similarity among team members in valuing creativity as well as timeliness and early pacing behavior, resulting in the development of both a shared norm for valuing creativity as well as a shared norm for an early pacing style, through a compositional model of emergence (Kozlowski & Klein, 2000). Thus, it is possible that in teams with higher proportions of ambidextrous individuals, that such norms facilitate both sets of team processes that lead to team creativity (i.e., idea generation, task conflict) as well as team processes that lead to team timeliness (i.e., early team pacing). Thus, based on this discussion, I pose the following exploratory research questions:

> ***RQ5a***. *Do teams with higher proportions of ambidextrous types achieve greater team creativity than teams with lower proportions of these individuals?*
>
> ***RQ5b***. *Do teams with higher proportions of ambidextrous types achieve higher team timeliness than teams with lower proportions of these individuals?*

Exploratory Research Questions on Collective Regulatory Focus and Diversity of Regulatory Focus Types

In addition to the formal set of hypotheses and exploratory research questions put forth so far, I pose a number of additional exploratory research questions in this final section.

First, does the team proportion of regulatory focus type lead to *collective* regulatory focus? In other words, does having a higher proportion of certain regulatory focus types in the team lead to the development of a shared norm for either a promotion focus or a prevention focus (i.e., a collective promotion focus or a collective prevention

focus)? Collective phenomena refer to norms that occur in the collective as a whole (Hofmann & Jones, 2005) that emerge from team member social interaction (Giddens, 1993; Kozlowski & Klein, 2000; Morgeson & Hofmann, 1999), and requires consensus among team members' perceptions in order to be measured. They are distinct from the simple *collection* of individuals' attributes (as indexed by the team mean, proportion etc.), which is commonly studied in the team composition literature as predictors of team processes and outcomes (e.g., Barrick, Stewart, Neubert, & Mount 1998; Barrick & Stewart, 1997, Neuman, Wagner, & Christiansen, 1999). For example, Quigley and Shardner (2007) distinguish mean levels of personality in the team from collective personality, and found that the former is an antecedent to the latter (i.e., mean extraversion, mean openness to experience, and mean conscientiousness leads to collective extraversion, collective openness to experience, and collective openness to experience, respectively). Indeed, collective phenomena are gaining more and more attention in the teams literature, as they have a strong influence on team members' behaviors.

Analogous to Quigley and Shardner (2007)'s findings, it could be speculated that teams with higher proportions of individuals with a specific regulatory focus type may, through their social interaction, develop a shared norm that is consistent with that regulatory focus type. Specifically, it may be that greater team proportions of predominantly promotion focused types and proportions of ambidextrous types lead to the development of a collective promotion focus, whereas greater team proportions of predominantly prevention focused types and proportions of ambidextrous types lead to the development of a collective prevention focus. Furthermore, this collective norm for

either a promotion focus or a prevention focus may manifest not only in the team members' shared perceptions of such norms existing, but also in the actual frequency of promotion-focused and prevention-focused behaviors during the team interaction. Thus, I examine the following additional set of exploratory research questions:

> ***RQ6a****: Do teams with higher proportions of predominantly promotion- focused types, and teams with higher proportions of ambidextrous types lead to higher collective promotion focus and/or greater frequency of promotion-focused behaviors?*
>
> ***RQ6b****: Do teams with higher proportions of predominantly prevention-focused types, and teams with higher proportions of ambidextrous types lead to higher collective prevention focus and/or greater frequency of prevention-focused behaviors?*

Second, while the focus so far in this dissertation has been on proportions of regulatory focus types in the team, another exploratory question is, what are some consequences of having a *diversity* of regulatory focus types in the team? To start exploring this issue, I focused specifically on process and relationship conflict. In contrast to task conflict discussed earlier, process conflict refers to the awareness of controversies surrounding how task accomplishment should proceed (Jehn & Mannix, 2001), and relationship conflict refers to the awareness of interpersonal incompatibilities among team members based on personality, values, and attitudes (Jehn & Mannix, 2001). Research shows that unlike task conflict which can sometimes be beneficial for team performance, process and relationship conflict consistently have detrimental effects on team performance (e.g., Jehn, 1997; Jehn & Mannix, 2001; see De Dreu & Weingart, 2003 for

meta-analysis), as procedural controversies and interpersonal friction detract team members from focusing on the task at hand (Jehn, 1995, 1997).

It may be the case that teams with higher diversity in its members' regulatory focus types will experience higher process and relationship conflict. In terms of process conflict, for example, team members with various regulatory focus types may bring different priorities to the table, which leads to differences in opinion regarding how the team process should proceed. Predominantly promotion-focused individuals, with their need to fulfill their growth and advancement needs and bias towards ensuring the best possible outcome may prioritize spending as much time as possible on tasks such as generating great ideas in order to stand out from the rest, whereas predominantly prevention-focused individuals, with their need to fulfill their safety and security needs and bias towards preventing any negative outcome may prioritize tasks such as deciding on an idea quickly and moving on to implement an idea.

Moreover, in terms of relationship conflict, it can be speculated that teams with a diversity of regulatory focus types will experience interpersonal clashes because team members will come into contact with others who are using goal pursuit strategies that do not fit their own regulatory focus. As discussed before, the regulatory fit literature suggests that when there is regulatory misfit between the regulatory focus orientation of the individual and the type of strategy that is used for goal pursuit (i.e., eager vs. vigilant strategies), the individual devalues the activity itself, feeling that it is "wrong" or "incorrect (Higgins, 2000)," and such feelings transfer to the individual's immediate surroundings (e.g., Cesario et al., 2004; Camacho et al., 2003). It could be that when team members with a particular regulatory focus orientation come into contact with others who

use a non-preferred goal pursuit strategy, this results in the feeling that what others are doing is "wrong" and the negative feelings transfer to other team members. For example, predominantly prevention-focused individuals may feel that predominantly promotion-focused individuals who eagerly brainstorm ideas without critically evaluating the feasibility of each idea are doing things in a wrong manner, whereas predominantly promotion-focused individuals may feel that predominantly prevention-focused individuals cautiously criticizing each idea as they come forth are also doing things in a wrong manner. Such incompatibilities are likely to lead team members to become annoyed and frustrated with each other. Thus, I explore the following set of exploratory research questions:

RQ7*. Do teams with higher diversity in regulatory focus types experience higher process conflict than teams with lower diversity?*

RQ8*. Do teams with higher diversity in regulatory focus types experience greater relationship conflict than teams with lower diversity?*

Finally, in addition to the two sets of exploratory research questions, I also explored whether team processes (e.g., goal importance for creativity, goal importance for timeliness, idea generation, task conflict, team pacing style) that are significantly predicted by the proportions of regulatory focus types (i.e., proportion of predominantly promotion-focused type, proportion of predominantly prevention-focused type, proportion of ambidextrous type) is related to team creativity and team timeliness.

Chapter 6: Method

Participants

Undergraduate students at a large public university were recruited through advertisements to participate in a paid study. The advertisement informed potential participants of the two-part nature of the study, where they would be first filling out an online survey for 10 dollars from home, and later coming into the laboratory to engage in a teams study for an additional 20 dollars. 500 participants filled out the online survey, and out of this initial sample, 341 participants came back to complete the teams study. This final sample consisted of 129 males and 212 females, with a mean age of 19.6 years. The racial composition was 51.9% Caucasian, 12.9% African-American, 4.7% Hispanic, 19.6% Asian or Pacific Islander, 7.9% multi-racial, and 2.9% other.

Procedure

In the first part of the study, participants were asked to fill out a 45-minute online survey from home, that assessed regulatory focus, demographic characteristics (gender, age, undergraduate year, race) and other individual difference characteristics that would potentially serve as control variables (individual creativity, individual risk-taking, individual pacing style, tolerance for ambiguity, self-efficacy, extraversion, agreeableness, conscientiousness, emotional stability, openness, regulatory mode).

In the second part of the study, at least one week after completing the online survey, participants came into the laboratory to engage in a two-hour teams study. Each two-hour timeslot had four participants scheduled in order to create four-person teams. In cases where only three participants were present, the study was run with three-person teams. As participants arrived, they were seated individually in a large room with dividers

where they were initially asked to read and sign the informed consent form. Participants were then given the team task instructions to read individually, where they learned that their task along with the other participants were to role-play a team of advertising executives who must brainstorm, create, and practice a 30-second radio commercial while working with a time deadline. They were also told that their finalized radio commercial would be tape-recorded by the research assistant in one take. After reading the team task instructions, participants were asked to individually fill out a pre-task questionnaire that assessed participants' perceptions of goal importance for creativity and timeliness. Once all participants were ready, they were seated together at a large table that had a timer attached in the middle. On the table were resources participants were to use in their task including four music track CDs, two sound effect CDs, a CD player, paper, and pens. A video camera was also placed in the corner of the room in order to capture the team interaction. After pointing out these features to the participants, they were also instructed to keep in mind that they were being timed, and that they were to come get the research assistant outside the room as soon as possible when they were ready to record their radio commercial—regardless of whether they have met the deadline or not. At this point, the research assistant set the timer to 45 minutes, turned on the video camera, and exited the room as participants began their team task. Outside the room, the research assistant used a stopwatch to record how long the team took to finish their task.

When participants were finished with the task, a research assistant tape-recorded their radio commercial. Participants were then separated again to individually fill out a post-task questionnaire assessing their perceptions of their team dynamic, including team pacing style, team conflict (task, relationship, and process conflict), and collective

regulatory focus. Idea generation, team creativity, team timeliness, and promotion and prevention-focused behaviors were coded from the video recordings. Finally, participants were fully debriefed and paid at the end of the study.

Team Task

The team task used in this study was based on a project team simulation originally developed by Gersick (1989), that is still commonly used in the time and teams literature in its original or modified forms (e.g., Chang et al., 2003; Giambatista, 1999; Waller et al., 2002). For the purposes of this research, the original task was pilot-tested among teams of participants, and necessary adaptations were made.

Gersick (1989)'s original project team simulation is an open-ended creative task, where participants are told that they are part of a team of advertising executives who must brainstorm, construct, and tape-record a 60-second radio commercial for a client (an airline company). Participants are given a number of resources, including a tape player, several music and sound effect tracks, a clock, and a hypothetical budget where various costs for making the commercial must be taken into account (e.g., cost for using each music/sound effect track, cost for studio time, cost for using an actor etc.) Participants are also given guidelines for the commercial itself such as needing to stress the company's low costs, friendly atmosphere, mission statement, as well as being humorous, using at least one music track, etc.) Finally, participants are given a deadline of 60 minutes to complete the task at which point the team members must record the commercial in one take with the help of a research assistant. In order to provide an incentive to take the task seriously, participants are told that the team with the best advertisement at the end of the semester will win $10 for each team member.

Extensive piloting of this task among teams of participants revealed that there were several elements that needed to be calibrated for the purposes of this study. First, given that timeliness is one of the main dependent variables for this research, it was important to have variance on this outcome. With a 60-minute deadline, most teams found that this was more than enough time to complete a 60-second commercial—especially, since a 60-second commercial does not challenge team members to be succinct in the commercial's message, acting, etc. Thus, teams ended up invariably finishing the task right at 60 minutes. Accordingly, the task was changed such that teams were given a 45-minute deadline to create a 30-second commercial, which ensured variability on team timeliness.

Second, participants were not experiencing time realistically given the artificial nature of the laboratory, and since there was no negative consequence associated with not meeting the deadline, as would be in the real world. Thus, several changes were made to address this problem. First, a loud ticking timer was placed in the middle of the table where participants worked, in order to make time salient for participants. Second, and more importantly, the team task was re-written based on a *point system*, such that teams that went past the deadline would experience an actual negative outcome, or the loss of points. More specifically, teams were instructed that for every five minutes that they went past the deadline (up to 15 minutes), the team would lose a fixed number of points. The loss of points was a real negative consequence for the teams, as they were told that the higher the total number of points they had at the end of the task, the greater the chances of winning the cash prize at the end of the semester.

Third, in addition to timeliness, the pilot-test revealed that there was little variance

on creativity. Therefore, in order to increase variance, participants were made aware that "being creative" in constructing the radio commercial is an important criterion, along with other criteria (i.e., stressing the features of the product being advertised, having a company slogan, the commercial being exactly 30 seconds, using at least one music and sound effect track). Furthermore, each of these criteria was associated with the possibility of gaining of a certain number of points, if fulfilled. The number of points that could be gained in being creative and the number of points that could be lost in going past the deadline were purposefully made equivalent, in order for creativity and timeliness to be equally important for participants.

Fourth, the pilot-test also revealed that the incentive of giving members of the best team $10 each at the end of the semester was not motivating enough. Therefore, the monetary amount was increased, and participants were told that the best team would win $200 collectively at the end of the semester. In order for the team task to be motivating at the individual level as well, participants were told that how the $200 will be split among the team members will depend on each member's individual performance, and that each member will be receiving individualized feedback on this from an expert at the end of the study. In reality, each member of the winning team would receive an equal amount of money at the end of the semester and this was debriefed at the end of the study session. Finally, to further engage the participants, the company was changed from an airline company to a wireless device company selling smart phones, to make the task more relatable to current undergraduate participants. The final team task instructions that incorporate all of the adaptations discussed above can be found in Appendix A.

Regulatory Focus Measures

Regulatory Focus. Individual differences in regulatory focus were measured with the 14-item Regulatory Focus Strategies Scale (RFSS; Ouschan et al., 2007; see Appendix B for items), which was filled out by participants from home, online, at least one week prior to coming into the laboratory to complete the teams portion of the study. The RFSS assesses the extent to which individuals endorse promotion-focused and prevention-focused strategies during goal pursuit. The RFSS was chosen among several other existing self-report measures of regulatory focus based on the fact that each of the other measures was associated with a potentially problematic issue. For example, the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001), assesses participants' histories of success in attaining goals with a promotion focus and with a prevention focus (e.g., "How often have you accomplished things that got you "psyched" to work even harder?" "How often did you obey rules and regulations that were established by your parents?") Based on having participants fill out the RFQ alongside the RFSS in this research, as well as two other mass-testing sessions conducted prior to this research, the reliability of the RFQ promotion focus scale was consistently found to be below acceptable standards ($\alpha < 0.70$).

Another measure of individual differences in regulatory focus is Lockwood, Jordan, and Kunda's (2002) Promotion-Prevention Scale, that asks participants about their chronic promotion and prevention concerns, such as achieving positive outcomes and fulfilling hopes and aspirations, versus avoiding negative outcomes and fulfilling responsibilities and obligations. Although having acceptable reliabilities relative to the RFQ, Lockwood et al.'s (2002) scale confounds promotion focus concerns with approach

motivation and prevention focus concerns with avoidance motivation, when they are theoretically conceived as being independent (Molden et al., 2008). For example, its items such as "I frequently imagine how I will achieve my hopes and aspirations (promotion)" and "In general, I am focused on preventing negative events in my life (prevention)" exclude conditions in which an individual has an approach motivation with a prevention focus and an avoidance motivation with a promotion focus (e.g., approaching security and non-losses, avoiding non-fulfillment and non-gains). Finally, other self-report measures of regulatory focus are specifically designed for organizational work contexts, being inappropriate for the purposes of this research (e.g., Work Regulatory Focus (WRF) Scale; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008; Regulatory Focus at Work Scale (RWS; Wallace et al., 2009). Thus, based on the fact that the RFSS is most ideal in terms of scale reliabilities, construct validity, as well as contextual appropriateness, it was chosen to be used this study. The internal consistency reliabilities for the promotion focus and prevention focus subscales were 0.76 and 0.78, respectively[4]. Example items of the RFSS included "Taking risks is essential for success (promotion focus)" and "To achieve something, it is most important to know all the potential obstacles (prevention focus)." All items were measured on a 1 (strongly disagree) to 5 (strongly agree) scale. As expected, the promotion focus subscale (M = 3.49, SD = 0.59; Minimum = 1.63, Maximum = 5.00) and the prevention focus subscale (M = 3.30, SD = 0.59; Minimum 1.67, Maximum 5.00) were not significantly correlated with each other ($r = -0.07$, $p > 0.10$).

Team Proportions of Regulatory Focus Type. In order to determine the proportion of members in the team who belonged to a particular regulatory focus type, the promotion

focus and prevention focus scores of all 341 individuals in the sample were transformed into T scores for promotion focus and prevention focus, respectively. T scores are calculated as a function of Z scores (T = 10*Z + 50), and are commonly used in the personality literature, where an individual is considered to be high on a particular personality with a T score above 55, mid-range with a T score between 45 and 55, and low with a T score below 45. Based on this criterion, all individuals in the sample were then categorized as having low, medium, or high scores for promotion focus as well as prevention focus. Looking at whether individuals scored low, medium, or high across the promotion focus and prevention focus dimensions, they were then categorized into one of nine regulatory focus types—with parentheses below indicating the percentage of individuals within the sample that fell into each category: low prevention low promotion—LL (9.4%), low prevention medium promotion—LM (14.1%), low prevention high promotion—LH (13.2%), medium prevention low promotion—ML (8.5%), medium prevention medium promotion—MM (13.2%), medium prevention high promotion—MH (8.8%), high prevention low promotion—HL (9.4%), high prevention medium promotion—HM (13.2%), and high prevention high promotion—HH (10.3%)[5] (See footnote 5 for alternative method of categorization using median splits). Thus, the low prevention – high promotion individuals (LH) were the predominantly promotion-focused type, the high prevention – low promotion individuals (HL) were the predominantly prevention-focused type, and the high prevention – high promotion individuals (HH) were the ambidextrous type. Finally, for each team, the proportion of team members belonging to each regulatory focus type was calculated such that the proportions across the nine types summed to one.

Team Diversity of Regulatory Focus Types. Team diversity of regulatory focus types was measured using a variant of Blau's (1977) index, $Blau_{N,}$ which assesses the spread of team members across qualitatively different categories. The computational formula used was $1 - [S[n_k(n_k-1)/n(n-1))]$, where a team member belongs to one of k possible categories, n_k represents the frequency of team members in the kth category, and n represents the team size (Harrison & Klein, 2007). This variant was used instead of the original Blau (1977)'s index calculated by $1 - S\ p_k^2$ (where p_k is the proportion of team members in the kth category), following the recommendation of Biemann and Kearney (2010), who showed that the new formula corrects for varying team sizes in a research sample, whereas the original formula does not.

Collective Regulatory Focus. Collective regulatory focus was measured with a scale consisting of nine items developed for this research, that participants individually rated as part of the post team-task questionnaire. The referent of these items was at the team level (see Appendix B). Example items included "Team members focused on achieving positive outcomes (collective promotion focus)" and "Team members focused on being cautious (collective promotion focus)." All items were measured on a 1 (strongly disagree) to 5 (strongly agree) scale, and the internal consistency reliabilities for the collective promotion focus and collective prevention focus subscales were 0.82 and 0.83, respectively.

Team Process Measures

Goal Importance for Creativity and Goal Importance for Timeliness. Individuals' perceptions of goal importance for creativity and timeliness for the team task were assessed with a new scale developed for this research, administered as part of the pre

team-task questionnaire. Given that a pilot test revealed that simply asking individuals to rate the importance of creativity and timeliness goals on a Likert scale elicits little variance in the ratings (i.e., the vast majority of individuals rate both goals as highly important), and using a forced choice measure does not allow participants to endorse both creativity and timeliness goals at the same time, participants were instead presented with multiple goals—of which creativity and timeliness were a part, to distinguish as well as rate in terms of their importance. More specifically, participants were presented with six goals relevant to the team task: not missing the deadline, being cooperative, enjoying the task, being creative, communicating well, and being competitive. Participants were then asked to indicate the personal importance of each goal on a scale of 1 (not important) to 5 (very important) while trying to distinguish as much as possible between the goals by using all the scale numbers. Participants were instructed to choose the most important goal and rate it first, and then to choose the least important goal and rate it as not important. They were then asked to rate the rest of the goals with no more than two of the goals being rated as very important (see Appendix B). This type of measure has been used in previous research (see Schwartz Value Survey; Schwartz, 1992).

Team Pacing Style. Team pacing style was assessed by adapting an individual-level pacing style measure developed by Gevers et al. (2006) to the team level, and administering the measure as part of the post team-task questionnaire. Participants were presented with five graphs, each depicting a different pacing style, or the way in which the team distributed its task activity level over time. A statement explaining the pacing style also accompanied each graph (see Appendix B). Participants were asked to choose one out of five pacing styles that best described how their team organized its time.

Example statements included, "1- The team started right away and finished the work long before the deadline" and "5 - The team did most of the work in a relatively short period of time before the deadline."

Task, Process, and Relationship Conflict. Task, process, and relationship conflict were assessed with scales administered as part of the post team-task questionnaire. Task and relationship conflict were each measured with four items taken from Jehn (1995). An example item for task conflict was, "To what extent were there differences of opinion in your team?" and for relationship conflict, "How much friction was there among members in your team?" Process conflict was measured in two ways. First, Jehn et al. (1999)'s three-item measure was used where an example item asked, "How frequently did members of your team disagree about the way to complete the group task?" Second, eight new items were developed that were more specific to the team task used in this research, including items such as, "How much disagreement was there within your team about how much time to spend on different phases of the overall task?" Internal consistency reliabilities for task conflict, relationship conflict, and the two process conflict measures were 0.77, 0.86, 0.77, and 0.91, respectively (see Appendix B for full items).

Aggregation Statistics

Aggregation statistics were calculated for team pacing style, task conflict, relationship conflict, process conflict, collective promotion focus, and collective prevention focus, to justify the aggregation of individual-level scale scores to the team level. As shown in table 1, all variables had median and mean r_{wg} values over the recommended 0.70 (Cohen, Doveh, & Eick, 2001; Klein et al., 2000), indicating sufficient within-group agreement. Furthermore, ICC(1) values were statistically

significant for almost all variables except for collective promotion focus. Finally, the ICC(2) values failed to reach the recommended cutoff of 0.70 (Klein et al., 2000). However, ICC(2) values are sensitive to group size and it is not uncommon for these values to be lower with smaller group sizes (Bliese, 2000). Furthermore, given that ICC(2) values represent the reliability of the group means, and lower ICC(2) values creates a more conservative test of the hypotheses, it was decided for all variables to be aggregated by assigning each team the group mean of the individual-level scale scores of each variable.

Coding of Team Processes (for Exploratory Research Questions)

In addition to the measures above, idea generation, promotion-focused behaviors, and prevention-focused behaviors were coded from the video recordings in order to determine the overall frequency in which these respective behaviors occurred within the teams. More specifically, the team interaction was coded at the level of the speaking turn of the team members, where each speaking turn was coded as an idea generation, a promotion-focused behavior, a prevention-focused behavior, or a miscellaneous behavior. The overall frequency of each behavior was then determined by counting the number of times the behavior occurred throughout the duration of the team interaction.

Appendix C shows the coding guidelines that were developed for the purposes of this research that outlines definitions and examples for each of the coded behaviors. A team member's speaking turn was counted as an *idea generation* when it had to do with contributing an original idea, or building off a previously mentioned idea while working towards the creation of the radio commercial. Idea generation could be about any aspect of the radio commercial including ideas about the scenario/story, the script, the use of

music and sound effects, the slogan, as well as ideas on how these elements should be sequenced and combined.

Moreover, a speaking turn counted as a *promotion-focused behavior* when it generally expressed a concern for achievement, a concern for going beyond conventions and rules, or having to do with the presence and absence of positive outcomes. More specifically, comments were coded as promotion-focused behaviors when they possessed one of the following patterns: "*we should do this because other people do not do this", "we should not do this because other people do this", "we should do this because it will lead to a positive outcome", "we should not do this because it will not lead to a positive outcome",* and "*we need to aspire/achieve/do more".* By contrast, a speaking turn counted as a prevention-focused behavior when it generally expressed a concern for safety, following conventions and rules, or having to do with the presence and absence of negative outcomes. Specifically, comments were coded as prevention-focused when they fit one of these patterns: "*we should do this because other people do this", "we should not do this because other people do not do this", "we should do this because it will avoid a negative outcome", "we should not do this because it will lead to a negative outcome", and "we need to stick within the guidelines".*

These criteria were outlined in a coding manual (see Appendix C), and given to three research assistants, blind to the study hypotheses, who were trained to code the videos. After having the coders review the coding manual, they were instructed to code the videos in five-minute segments and to pause the video at each speaking turn, in order to facilitate the process of coding directly off the videos. The research assistants practiced their coding through multiple practice sessions. In each practice session, the author and

the three research assistants coded a practice video individually, and then went over them together. If any disagreement emerged regarding the application of codes to a speaking turn, the author and the coders resolved it together. The coders were trained until each pair of coders reached high inter-rater agreement based on three randomly drawn videos. At the end of the practice sessions, the inter-rater agreement between each pair of coders was high for each of the three videos—Cohen's Kappa (Cohen, 1960) between any two coders for any one video ranged from 0.84 to 0.90, indicating high inter-rater agreement. After having reached high inter-rater agreement, each research assistant was given his or her own set of videos to code independently. The total frequency of each team's idea generation, promotion-focused behaviors, and prevention-focused behaviors were counted at the end of the coding process.

Team Outcome Measures

Team Creativity. The creativity of the teams' finalized radio commercials were assessed using Amabile (1982)'s consensual assessment technique, a commonly used method in the creativity literature (e.g., Pearsall et al., 2008; Shalley & Perry-Smith, 2001). The consensual assessment technique involves having independent judges, who are familiar with the domain in which the product is created, subjectively rate the creativity of the product—the assumption being that a product is creative to the extent that observers agree that it is creative. In other words, this technique assumes that there is an implicitly shared standard of creativity for a given product in a certain domain. For this study, two coders blind to the hypotheses were first given the team task instructions to review in order to familiarize themselves with the context in which the radio commercials were created. In addition, as recommended by Amabile (1982), coders were not given

specific criteria for creativity so that ratings would be based on an implicitly shared standard of creativity. Coders were, however, instructed to judge the creativity of the radio commercials relative to each other rather than against some absolute standard. To assess inter-rater reliability, the two coders rated a sub-set of 16 radio commercials presented in random order in terms of the question, "To what extent is this advertisement creative, overall?" on a scale of 1 (not creative at all) to 5 (extremely creative). Given that the inter-rater reliability was high ($r = 0.88$, $p < 0.01$; ICC = 0.83, df (15), $p < 0.01$), each coder was then given half of the remaining radio commercials to rate independently. The ratings for the initial 16 radio commercials were averaged between the two coders.

Team Timeliness. Team timeliness was assessed by the time it took in minutes for the team to finish their task and to notify the research assistant that they were ready to tape-record their finalized radio commercial. Minutes were multiplied by -1 such that higher values would indicate greater timeliness.

Control Variable

Team size was measured as a potential control variable.

Chapter 7: Results

Aggregation, Descriptive Statistics, and Analyses

Prior to analyses, individual-level measures of team pacing style, task conflict, relationship conflict, process conflict, collective promotion focus, and collective prevention focus were aggregated to the team level by assigning each team the mean of its members' scale scores. Means and standard deviations of all team-level variables (proportions of regulatory focus types, team processes, and team outcomes) as well as the inter-correlations among them are shown in table 2. All hypotheses were tested using multiple regressions. Given that team size was significantly correlated with a number of dependent variables of interest (i.e., idea generation ($r(87) = .21$, $p < 0.05$), both process conflict measures ($r(87)_{\text{8-item measure}} = .28$, $p < 0.01$; $r(87)_{\text{3-item measure}} = .22$, $p < 0.05$)), and frequency of prevention-focused behaviors ($r(87) = .30$, $p < 0.01$)), and considering what is commonly practiced in the teams literature, team size was entered as a control variable in the first step in all regression analyses. The sample consisted of 89 teams with three or four members.

Test of Hypotheses

Hypothesis 1a predicted that teams with higher proportions of predominantly promotion-focused types would place higher goal importance on creativity at the outset of the team task on average, than teams with lower proportions of these individuals. Team size was entered in the first step and the proportion of predominantly promotion-focused types (LH) was entered in the second step. As shown in table 3, the proportion of predominantly promotion-focused types did not significantly predict goal importance for

creativity (B = 0.08, p = .44; ΔR^2 =.01, ns); thus, hypothesis 1a was not supported. In other words, the level of proportion of members in the team with the predominantly promotion-focused regulatory focus type did not predict the extent to which team members placed importance on creativity as a goal at the outset of the team task.

Hypothesis 1b predicted that teams with higher proportions of predominantly promotion-focused types would place lower goal importance on timeliness at the outset of the team task on average, than teams with lower proportions of these individuals. After controlling for team size in the first step, the proportion of predominantly promotion-focused types (LH) was entered in the second step. Table 4 shows that the proportion of predominantly promotion-focused types did not significantly predict goal importance for timeliness (B = 0.02, p =.83; ΔR^2 = .00, ns), providing no support for hypothesis 1b. In other words, the level of proportion of members in the team with the predominantly promotion-focused regulatory focus type did not predict the average extent to which team members placed importance on timeliness as a goal at the outset of the team task.

Hypothesis 1c predicted that teams with higher proportions of predominantly prevention-focused types would place greater goal importance on timeliness at the outset of the team task on average, than teams with lower proportions of these individuals. Team size was entered in the first step, and the proportion of predominantly prevention-focused types (HL) was entered in the second step. As shown in table 5, the proportion of predominantly prevention-focused types did not significantly predict goal importance for timeliness (B = 0.02, p = .89; ΔR^2 =.00, ns), providing no support for hypothesis 1c. The level of proportion of members in the team with the predominantly prevention-focused

regulatory focus type did not predict the extent to which team members placed importance on timeliness as a goal at the outset of the team task.

Hypothesis 1d predicted that teams with higher proportions of predominantly prevention-focused types would place lower goal importance on creativity at the outset of the team task on average, than teams with lower proportions of these individuals. Entering team size in the first step, and the proportion of predominantly prevention-focused types (HL) in the second step, table 6 shows that hypothesis 1d was not supported. The proportion of predominantly prevention-focused types did not significantly predict goal importance for creativity (B = - 0.03, p = .76; ΔR^2 = .00, ns). The results show that the level of proportion of members in the team with the predominantly prevention-focused regulatory focus type did not predict the extent in which team members place importance on creativity as a goal at the outset of the team task.

Research Question 1a asked whether teams with higher proportions of ambidextrous types would place higher goal importance on creativity at the outset of the team task on average, than teams with lower proportions of these individuals. Entering team size in the first step and the proportion of ambidextrous types (HH) in the second step, table 7 shows that the proportion of ambidextrous types did not significantly predict goal importance for creativity (B = 0.14, p = .19; ΔR^2 =.02, ns). The results show that the level of proportion of members in the team with the ambidextrous regulatory focus type did not predict the extent in which team members place importance on creativity as a goal at the outset of the team task.

Research Question 1b asked whether teams with higher proportions of ambidextrous types would place greater goal importance on timeliness at the outset of the

team task on average, than teams with lower proportions of these individuals. Team size was entered in the first step and the proportion of ambidextrous types (HH) in the second step. As shown in table 8, proportion of ambidextrous types is significantly related to goal importance for timeliness (B = - 0.28, $p < .01$; ΔR^2 =.08, $p < .01$), but in the opposite direction than what was expected. In other words, the greater the proportion of members in the team with the ambidextrous regulatory focus type, team members placed less importance on timeliness as a goal at the outset of the team task.

Hypothesis 2a predicted that teams with higher proportions of predominantly promotion-focused types would engage in greater idea generation than teams with lower proportions of these individuals. Team size was entered in step one. The proportion of predominantly promotion-focused types (LH) was entered in step two. Table 9 shows that the proportion of predominantly promotion-focused types did not significantly predict idea generation (B = 0.03, $p = .77$; ΔR^2 =.00, ns), providing no support for hypothesis 2a. The results show that the level of proportion of members in the team with the predominantly promotion-focused regulatory focus type did not predict the extent to which team members generated ideas in creating the advertisement.

Hypothesis 2b predicted that teams with higher proportions of predominantly prevention-focused types would engage in less idea generation than teams with lower proportions of these individuals. Controlling for team size in the first step and entering the proportion of predominantly prevention-focused types in the second step, table 10 shows that the proportion of predominantly prevention-focused types did not significantly predict idea generation (B = - 0.05, $p = .67$; ΔR^2 =.00, ns). The results show that the level of proportion of members in the team with the predominantly prevention-focused

regulatory focus type does not predict the extent to which team members generated ideas while creating their advertisements.

Research Question 2 asked whether teams with higher proportions of ambidextrous types would engage in greater idea generation than teams with lower proportions of these individuals. In testing this, team size was entered in the first step and the proportion of ambidextrous types (HH) was entered in the second step. As shown in table 11, the proportion of ambidextrous types was not significantly related to idea generation (B = 0.17, p = .12; ΔR^2 =.03, ns). The results show that the proportion of members in the team with the ambidextrous regulatory focus type is not related to the extent to which team members generate ideas when creating their advertisements.

Hypothesis 3a predicted that teams with higher proportions of predominantly promotion-focused types would experience greater task conflict than teams with lower proportions of these individuals. In testing hypothesis 3a, team size was entered in the first step and the proportion of predominantly promotion-focused types (LH) was entered in the second step. As shown in table 12, the proportion of predominantly promotion-focused types did not significantly predict task conflict (B = 0.01, p =.91; ΔR^2 =.00, ns), providing no support for hypothesis 3a. The results show that the level of proportion of members in the team with the predominantly promotion-focused regulatory focus type is not related to the extent to which team members experienced task conflict.

Hypothesis 3b predicted that teams with higher proportions of predominantly prevention-focused types would experience less task conflict than teams with lower proportions of these individuals. Team size was entered in the first step and the proportion of predominantly prevention-focused types (HL) was entered in the second step. As

shown in table 13, the proportion of predominantly prevention-focused types did not significantly predict task conflict (B = 0.20, p = .06; ΔR^2 = .04, ns) providing no support for hypothesis 3b. The results show that the level of proportion of members in the team with the predominantly prevention-focused regulatory focus type did not predict the extent to which team members experienced task conflict.

Research Question 3 asked whether teams with higher proportions of ambidextrous types would experience greater task conflict than teams with lower proportions of these individuals. Team size was entered in the first step and the proportion of ambidextrous types (HH) was entered in the second step. As shown in table 14, the proportion of ambidextrous types did not significantly predict task conflict (B = - 0.03, p = .82; ΔR^2 =.00, ns). The results show that the level of proportion of members in the team with the ambidextrous regulatory focus type did not predict the extent to which team members experienced task conflict.

Hypothesis 4a predicted that teams with higher proportions of predominantly prevention-focused types would be less likely to adopt a deadline team pacing style than teams with lower proportions of these individuals. Team size was entered in the first step. The proportion of predominantly prevention-focused types (HL) was entered in the second step. Table 15 shows that proportion of predominantly prevention-focused types did not significantly predict team pacing style (B = 0.00, p = .97; ΔR^2 =.00, ns), providing no support for hypothesis 4a. In other words, teams with higher proportions of the predominantly prevention-focused regulatory focus type were not less likely to adopt deadline pacing styles than teams with lower proportions of such individuals.

Hypothesis 4b predicted that teams with higher proportions of predominantly promotion-focused types would be more likely to adopt a deadline team pacing style than teams with lower proportions of these individuals. Team size was entered in the first step. The proportion of predominantly promotion-focused types (LH) was entered in the second step. As shown in table 16, proportion of predominantly promotion-focused types did not significantly predict team pacing style (B = 0.03, p =.79; ΔR^2 = .00, ns), thus not supporting hypothesis 4b. In other words, the proportion of members in the team with the predominantly promotion-focused regulatory focus type was not related to the way in which the team adopted a pacing style.

Research Question 4 asked whether teams with higher proportions of ambidextrous types would be less likely to adopt a deadline pacing style than teams with lower proportions of these individuals. Team size was entered in the first step. The proportion of ambidextrous types (HH) was entered in the second step. As shown in table 17, proportion of ambidextrous types did not significantly predict team pacing style (B = 0.20, p = .07; ΔR^2 =.04, ns). Thus, the proportion of members in the team with the ambidextrous regulatory focus type was not related to the way in which the team adopted a pacing style.

Hypothesis 5a predicted that teams with higher proportions of predominantly promotion-focused types would achieve higher team creativity than teams with lower proportions of these individuals. In testing hypothesis 5a, team size was entered in the first step and the proportion of predominantly promotion-focused types (LH) in the second step. As shown in table 18, the proportion of predominantly promotion-focused types was not significantly related to team creativity (B = 0.09, p = .41; ΔR^2 = .01, ns),

providing no support for hypothesis 5a. Thus, the number of members in the team with the predominantly promotion-focused regulatory focus type was not related to the level of creativity found in the teams' advertisements.

Hypothesis 5b predicted that teams with higher proportions of predominantly prevention-focused types would achieve lower team creativity than teams with lower proportions of these individuals. Team size was entered in the first step and the proportion of the predominantly prevention-focused types was entered in the second step (HL). Table 19 shows that the proportion of prevention-focused types did not significantly predict team creativity (B = 0.06, p = .58 ΔR^2 =.00, ns), therefore not supporting hypothesis 5b. Thus, the proportion of members in the team with the predominantly prevention-focused regulatory focus type was not related to the level of creativity of the teams' advertisements.

Hypothesis 5c predicted that teams with higher proportions of predominantly prevention-focused types would achieve greater team timeliness than teams with lower proportions of these individuals. Again, team size was entered in the first step. The proportion of predominantly prevention-focused types (HL) was entered in the second step. As shown in table 21, the proportion of predominantly prevention-focused type did not significantly predict team timeliness (B = - 0.06, p = .59; ΔR^2 =.00, ns); thus, providing no support for hypothesis 5c. In other words, the proportion of members in the team with the predominantly prevention-focused regulatory focus type did not predict how timely the teams were in finishing their task.

Hypothesis 5d predicted that teams with higher proportions of predominantly promotion-focused types would achieve less team timeliness than teams with lower

proportions of these individuals. Team size was entered in the first step, and the proportion of predominantly promotion-focused types (LH) was entered in the second step. Table 22 shows that the proportion of predominantly promotion-focused types did not predict team timeliness (B = - 0.08, p = .46; ΔR^2 =.01, ns), thus providing no support for hypothesis 5d. Thus, the proportion of members in the team with the predominantly promotion-focused types regulatory focus type did not predict how timely the teams were in finishing their task.

Research Question 5a asked whether teams with higher proportions of the ambidextrous types would achieve higher team creativity than teams with lower proportions of these individuals. In testing this, team size was entered in the first step, and the proportion of the ambidextrous types was entered in the second step (HH). As predicted, table 20 shows that the proportion of ambidextrous types significantly predicted team creativity (B = 0.32, p < .01; ΔR^2 =.10, p < 0.01). Thus, the more there were members in the team with the ambidextrous regulatory focus type, the more creative were the teams' advertisements.

Research Question 5b asked whether teams with higher proportions of the ambidextrous types would achieve higher team timeliness than teams with lower proportions of these individuals. In testing this, team size was entered in the first step, and the proportion of ambidextrous types (HH) was entered in the second step. Table 23 shows that the proportion of ambidextrous types did not predict team timeliness (B = - 0.12, p = .29; ΔR^2 =.01, ns). Thus, the proportion of members in the team with the ambidextrous regulatory focus type did not predict how timely the teams were in finishing their task.

Exploratory Research Questions on Collective Regulatory Focus and Diversity of Regulatory Focus Types

Research question 6a asked whether teams with higher proportions of predominantly promotion-focused types, and teams with higher proportions of ambidextrous types develop higher collective promotion focus and/or engage in greater frequency of promotion-focused behaviors. Two separate regression analyses were run to analyze this question, each controlling for team size in the first step. First, using the survey measure of collective promotion focus as the dependent variable, table 24 shows that neither the proportion of predominantly promotion-focused types nor the proportion of ambidextrous types predicted collective promotion focus (B = - 0.04, p = .70, B = 0.16, p = .15). Second, looking at the actual team frequency of promotion-focused behaviors as the outcome variable, table 25 shows that neither the proportion of predominantly promotion-focused types nor the proportion of ambidextrous types significantly predicted team frequency of promotion-focused behaviors (B = 0.06, p = .61; B = 0.09, p = .40). In all, the results suggest that neither the proportion of predominantly promotion-focused types nor the proportion of ambidextrous types in the team predict the extent which teams develop a collective promotion focus or the extent to which they engage in promotion-focused behaviors.

Research question 6b asked whether teams with higher proportions of predominantly prevention-focused types, and teams with higher proportions of ambidextrous types develop higher collective prevention focus and/or engage in greater frequency of prevention-focused behaviors. Again, two separate regression analyses were run to analyze this question, each controlling for team size. First, using the survey

measure of collective prevention focus, table 26 shows that neither the proportion of predominantly prevention-focused types nor the proportion of ambidextrous types predicted collective prevention focus ($B = 0.12$, $p = .25$, $B = 0.03$, $p = .76$). Second, using the actual team frequency of prevention-focused behaviors, table 27 shows that the proportion of predominantly prevention-focused types significantly predicted team frequency of prevention-focused behaviors ($B = 0.31$, $p < 0.01$); however, the proportion of ambidextrous types did not ($B = - 0.02$, $p = .82$). Thus, the results suggest that the higher the proportion of predominantly prevention-focused types in the team, the more the team engaged in prevention-focused behaviors.

Research question 7 asked whether teams with higher diversity in regulatory focus types would experience greater process conflict than teams with lower diversity. Accordingly, two separate regression analyses were conducted using different measures of process conflict, each controlling for team size.. The first measure was an eight-item measure developed for the purposes of this research, while the second measure was Jehn et al. (1999)'s three-item measure. Table 28 and 29 show that team diversity was not predictive of process conflict, whether measured by the eight-item measure or Jehn et al.'s (1999) measure ($B = - 0.07$, $p = .48$; $B = - 0.01$, $p = .96$, respectively). Thus, the results suggest that team diversity does not influence the level of process conflict experienced by teams.

Research Question 8 asked whether teams with higher diversity in regulatory focus types would experience higher relationship conflict than teams with lower diversity. Entering team size as a control variable in the first step and team diversity in the second step, table 30 shows that team diversity in regulatory focus types did not predict

relationship conflict ($B = 0.01$, $p = .92$). Put differently, teams with greater diversity in the different regulatory focus types did not experience more relationship conflict than in teams with less diversity.

The final exploratory question asked whether the team processes significantly predicted by team proportions of regulatory focus types, is related to expected team outcomes. As presented in table 31, entering team size in the first step and idea generation in the second step, idea generation was found to significantly predict team creativity ($B = 0.24$, $p < 0.05$; $\Delta R^2 = .05$, $p < 0.05$; see footnote 7 for auxiliary analyses).

Chapter 8: Discussion

Despite the abundance of research on regulatory focus that has been generated in social psychology since the original publication of Higgins' (1997, 1998) Regulatory Focus Theory, little understanding exists on the higher-level consequences of regulatory focus, which from an organizational and management perspective is a critical limitation. Accordingly, I set out in this dissertation to examine whether there are team-level consequences of having a higher proportion of individuals with a specific chronic regulatory focus type, focusing on the outcomes of team creativity and team timeliness, as well as the team processes that help to explain how these outcomes at the team level ultimately emerge from having a collection of regulatory focus types at the individual level. I broadly argued that teams with a higher proportion of predominantly promotion-focused types are more likely to attain team creativity as well as the processes that lead to team creativity—including goal importance for creativity, idea generation, and task conflict—relative to teams with a lower proportion of such individuals. I also argued that teams with a higher proportion of predominantly prevention-focused types are more likely to attain team timeliness as well as the processes that lead to team timeliness—including goal importance for timeliness and a more early-paced than deadline-paced team pacing style—relative to teams with a lower proportion of such individuals. Moreover, given the dearth of understanding in the regulatory focus literature on the role of individuals who are highly promotion-focused and prevention-focused at the same time, I also examined ambidextrous individuals, and explored whether teams with a higher proportion of ambidextrous types have a particular advantage in being able to attain both team creativity and team timeliness, as well as the processes that lead to both of these

outcomes.

The most interesting significant finding of this dissertation was, as expected, that teams with higher proportions of ambidextrous types achieve higher team creativity than teams with lower proportions of ambidextrous types. Despite this finding however, the large majority of hypotheses were unsupported. Therefore, in the following sections, after I discuss the theoretical and practical implications of the significant finding, I focus the discussion on the possible reasons for the null findings, as well as how future research can improve upon this dissertation.

Theoretical and Practical Contributions

The finding that teams with higher proportions of ambidextrous types achieve higher team creativity than teams with lower proportions of such individuals, alone, makes theoretical contributions to several different bodies of literature. First, this dissertation expands the regulatory focus literature in social psychology, by showing that in addition to the much-researched consequences of regulatory focus at the individual level of analysis, there can be important consequences at higher levels of analysis as well—in this case, at the team level. Moreover, this research shows that regulatory focus not only has effects in contexts where individuals work on simple, artificial tasks in a social vacuum (e.g., signal detection tasks, hypothetical scenarios, word completion tests), but also in contexts where a group of individuals must work together on a complex and realistic task that requires much social interdependence. Furthermore, at the individual level, this research provided more evidence for the notion that the promotion focus and prevention focus dimensions are largely independent, consistent with previous research on self-report measures of regulatory focus (Fellner et al., 2007; Higgins et al.,

2001; Ouschan et al., 2007; Wallace & Chen, 2006; Wallace et al., 2009). Indeed, ambidextrous individuals, who simultaneously score highly on both promotion focus and prevention focus were present in the data. Moreover, having a higher proportion of these ambidextrous types in the team was shown to have advantageous consequences for team creativity.

Second, while this dissertation contributes to social psychology, it also contributes to several areas within organizational behavior. For example, while past research in the team composition literature has examined classes of team member attributes such as personality (e.g., the big five traits), competencies (e.g., mental ability, KSAOs), as well as orientations and values (e.g., team work orientation, collectivism), by demonstrating that there are beneficial effects of having proportions of certain regulatory focus types in the team, this research shows that motivational constructs are also important to study in team composition research. Furthermore, this study also contributes to the team creativity literature. While many scholars have recently lamented the fact that team creativity research has lagged behind in organizational behavior despite its obvious practical importance, and the fact that there is a dearth of research on what individual differences predict team creativity in particular (Shalley et al., 2004), the present research shows that team members' regulatory focus ambidexterity can enhance team creativity.

Notably, the fact that having higher proportions of ambidextrous types enhanced team creativity, yet did not translate into greater goal importance for creativity, idea generation, nor task conflict, suggests that team creativity does not necessarily have to be achieved through these proposed team processes. Rather, when the team has many ambidextrous members, it can achieve team creativity through the highly creative ideas

that one or more of the team members contribute to begin with, without having to go extensively into generating many ideas, and engaging in much discussion and debate in order to select the best idea, or integration of multiple ideas.

Finally, in addition to the theoretical contributions, the significant result of this dissertation point to a practical implication as well. That is, in organizational contexts where team creativity is a crucial component of team effectiveness, as is often the case for R&D, marketing, and advertising teams for example, managers should select for ambidextrous regulatory focus types in order to maximize team creativity. Indeed, researchers have recently called for managers to start designing selection systems specifically geared towards teamwork, including those based on the individual differences of employees (e.g., Morgeson, Reider, & Campion, 2005).

Possible Explanation for Null Findings

Despite the significant result found for team creativity, none of the hypotheses involving time-related constructs, including goal importance for timeliness, team pacing style, and team timeliness were supported in the expected direction. Thus, I found no evidence that teams with higher proportions of predominantly prevention-focused types place greater goal importance on timeliness, adopt an earlier team pacing style, or attain greater team timeliness than teams with lower proportions of such individuals. I also found no evidence that teams with higher proportions of ambidextrous types adopt greater goal importance for timeliness, earlier team pacing style, or attain greater team timeliness than teams with lower proportions of such individuals. Therefore, in terms of my overall speculation that there might be an ambidextrous advantage, where teams with higher

proportions of ambidextrous types can achieve team creativity *and* team timeliness at the same time, along with its related processes, was not found.

The lack of results for time-related constructs in general in this dissertation may be explained by the limited nature of the task design, where participants may not have perceived going over the deadline as a negative enough outcome for the proportions of predominantly prevention-focused types and proportions of ambidextrous types to exert effects in the team. To elaborate, my previous reasoning for why I expected teams with higher proportions of predominantly prevention-focused types and possibly ambidextrous types to adopt a more earlier team pacing style and achieve team timeliness, was that at the individual level, the high prevention focus in these team members would make them construe the task as a minimal goal that they *must* attain—and would exert pressure on them to avoid the negative outcome of missing the deadline. At the group level, I argued that the similarity on such a characteristic among team members would, through the mutual observance of their time-related behaviors, foster the development of a collective early team pacing style, which would then facilitate team timeliness. Thus, if each participant did not perceive missing the deadline as a realistic negative outcome, then ultimately, the proportions of predominantly prevention-focused types or ambidextrous types in the team would not have exerted any effects on the team pacing style or timeliness of the team.

As discussed in the methods section, the task used in this dissertation was indeed designed such that participants would perceive going over the deadline as a negative outcome. Specifically, participants were informed that if their team misses the deadline, this would result in the loss of points for the team, which would then translate into a

decreased probability of winning money at the end of the semester. Thus, even though this design allowed for a concrete negative outcome to occur, participants may not have perceived it as threatening enough. Accordingly, one improvement that can be made for future research is to examine how team proportions of the various regulatory focus types influence team creativity, team timeliness, and the related processes in a context where there is a stronger and realistic threat associated with missing the deadline. In hindsight, this context is extremely difficult to create in a laboratory setting, but an alternative approach could be to study students enrolled in a semester-long business course, where they are to work on a creative team project under a real deadline. This way, the negative outcome of missing the deadline such as getting deductions in their course grades would be a strong realistic threat. Another approach would be to examine real project teams working under a deadline in organizational contexts. The threat associated with missing the deadline in this context would also be realistic, as doing so would negatively impact team members' job performance, reputation from their bosses and colleagues, as well as the organization itself due to profit losses.

Furthermore, in this dissertation, the hypotheses—that the team proportions of the predominantly promotion-focused type, the predominantly prevention-focused type, and possibly the ambidextrous type would respectively influence the way in which team members place average goal importance on creativity and timeliness—were unsupported. Examining the descriptive statistics for goal importance for creativity and goal importance for timeliness suggests that in general, participants rated both creativity and timeliness to be highly important goals. One possible explanation for the lack of expected results is that the team task instructions may have created too strong a situation for any

subtle priority differences among the distinct regulatory focus types to manifest itself in the data. More specifically, the task instructions informed participants that they will gain points for being creative and lose points for going over the deadline, with both point values being equal in magnitude. It could be that by asking participants to rate goal importance soon after they read these task instructions, the instructions biased them to rate both goals as highly important, resulting in a lack of variance in these variables. A possible way to deal with this limitation in future research is to examine how participants place goal importance on creativity and timeliness in a more implicit way. For example, one can code the way in which team members talk about creativity and timeliness at the planning phases of the team interaction as an indicator of their endorsement for creativity and timeliness as important goals.

Moreover, I found no significant relationships between team proportions of each of the three regulatory focus types and task conflict. Again, looking at the descriptive statistics for task conflict, the data shows that there were very low levels of task conflict that occurred across teams in general, suggesting that there is too little variance for any true relationships between team composition of regulatory focus types and task conflict to become evident. Given the context of this study where students were asked to come into the lab to interact with strangers in the same room, in hindsight, one could have only expected a limited level of task conflict to arise. Thus, future research should examine the predicted relationships between team proportions of various regulatory focus types and task conflict in a different setting. As mentioned before, examining students enrolled in a semester-long course, where they work on a team project for a portion of their course grade would be a much better alternative. Such a context would ensure that students know

each other well enough to be comfortable in expressing task conflict, and the longer course of time allotted for the team project would probably also facilitate task conflict to arise within the teams.

In addition to task conflict, process conflict and relationship conflict were also examined in this dissertation in order to answer the exploratory research questions of whether team diversity of regulatory focus types lead to process and relationship conflict, respectively. I did not find any significant results for either type of team conflict, and the low variance issue identified above for task conflict, applies to both process and relationship conflict as well. Therefore, the relationship between team diversity of regulatory focus types and process and relationship conflict should also be re-examined in a more naturalistic study context where team conflict has more of an opportunity to arise within the teams (e.g., semester-long student project teams; organizational project teams, etc.).

Finally, the other set of exploratory research questions in this dissertation asked whether the team proportion of regulatory focus types influence the development of collective promotion focus and collective prevention focus, respectively. Specifically, I wanted to explore whether teams with a higher proportion of predominantly promotion-focused types and ambidextrous types develop a collective promotion focus, and whether teams with a higher proportion of predominantly prevention-focused types and ambidextrous types develop a collective prevention focus. Whether collective promotion focus and collective prevention focus were operationalized through survey measures or the actual frequency of team members' promotion-focused and prevention-focused behaviors, I did not find strong support for my speculated pattern of results. Given that

collective phenomena arise only after team members interact, develop a norm, and adhere to the shared expectations that reinforce the norm, it is possible that there was simply too little time for team members to interact to develop a collective regulatory focus.

Future Directions

Given the inconclusive results of this dissertation, first and foremost, the immediate direction that should be taken to build upon this research is, as mentioned above, to test the same set of hypotheses in alternative study contexts. Focusing on teams outside the laboratory context, such as MBA student teams working on a graded semester-long project, or projects teams in the field such as R&D, marketing, or advertising teams, would be more appropriate in looking at the effects of team composition of regulatory focus types on team creativity and team timeliness. These settings would be more suitable in ensuring that 1) there is a realistic negative outcome that is salient enough that predominantly prevention-focused and ambidextrous team members are purported to pay attention to; 2) there is more opportunity for team conflict; and 3) there is enough time throughout the project duration such that team conflict can arise, and for any collective norms to develop such as collective promotion focus and collective prevention focus.

Furthermore, while I speculated about the likely advantages ambidextrous team members have over those who are predominantly promotion-focused and predominantly prevention-focused, individual-level research on these purported advantages ambidextrous individuals possess is virtually non-existent. Thus, future research should directly examine whether ambidextrous individuals are indeed more flexible than their counterparts. For example, while predominantly promotion-focused and predominantly

prevention-focused individuals are more likely to derive regulatory fit from either eager or vigilant strategies, ambidextrous individuals are more likely flexible in being able to derive regulatory fit from using both types of strategies. Ambidextrous individuals should also be more likely to be able to shift quickly and comfortably between tasks that benefit from having a promotion focus and tasks that benefit from having a prevention focus, and be able to use their high promotion focus and high prevention focus to their advantage depending on what is best fitted for the immediate task at hand.

Beyond these immediate needs, there are several potential avenues for future research. For example, in focusing on how various collective team-level constructs emerge from the proportion of regulatory focus types at the individual level, this dissertation assumed mostly a compositional model emergence (Kozlowski & Klein, 2000). That is, in focusing on proportions of regulatory focus types, it assumed that each team member contributed the same type and amount of regulatory focus towards the emergence of any team-level construct. However, it is possible to study the relationship between individual-level regulatory focus type and team-level processes and outcomes that assume other models of emergence, such as those that are compilational in nature (Kozlowski & Klein, 2000). A compilational model of emergence assumes wide variability in the type and amount of regulatory focus contributed from each team member towards emergence of a team-level construct. Thus, consistent with a more compilational model of emergence, one could study polarized factions or faultlines (Lau & Murnighan, 1998) of regulatory focus types and its impact on team processes and outcomes. For example, one could design an experimental study comparing teams with various team patterns of regulatory focus types including a) those with a faultline between

the predominantly promotion-focused and predominantly prevention-focused (i.e., two predominantly promotion-focused and two predominantly prevention-focused types); b) those that are fully homogenous and predominantly promotion-focused (i.e., four predominantly promotion-focused types) c) those that are fully homogenous and predominantly prevention-focused (four predominantly prevention-focused types); and d) those that are fully homogenous and ambidextrous (four ambidextrous types). It might be that such a design would allow for stronger team composition effects of regulatory focus types to emerge than what was found in this dissertation.

Furthermore, while this research examined the team composition of chronic regulatory focus types, it would be interesting to explore whether predominant promotion focus, predominant prevention focus, and ambidexterity can be primed. If this were indeed the case, then there would be important practical implications in organizational contexts. For example, team leaders may be able to strategically induce regulatory focus among team members at strategic points along the phases of a team project as needed, in order to maximize team effectiveness.

Finally, while this dissertation focused on the role of regulatory focus in teams impacting team-level outcomes, it would be worthwhile to also examine the role of regulatory focus in organizations impacting organizational-level outcomes. That is, is it possible to have a promotion-focused, prevention-focused, and ambidextrous organizational culture? If so, does this impact how well the organization responds to its environment? A predominantly promotion-focused organizational culture may lead an organization to overly focus on its growth needs without taking into consideration its

security needs, and vice versa for a predominantly prevention-focused organizational culture.

Conclusion

Despite the tremendous amount of research that exists on regulatory focus, this literature has been limited to examining the consequences of regulatory focus at the individual level of analysis, without much understanding of consequences at higher-levels of analysis. This dissertation provides support that there is indeed an important consequence of regulatory focus at the team-level, by showing that team creativity is maximized by having higher proportions of ambidextrous individuals in the team. Furthermore, this dissertation provides further evidence for the existence of ambidextrous individuals who are highly promotion-focused and prevention-focused at the same time, and shows that having a higher proportion of ambidextrous individuals is beneficial in team contexts.

Footnotes

[1]Although this dissertation focused on *proportions* in indexing the team composition of regulatory focus, auxiliary analyses were conducted to examine whether the *mean*, *minimum*, and *maximum* levels of promotion focus as well as prevention focus influence team processes and outcomes. See footnote 7 and Appendix D for detailed description and results.

[2] As elaborated in a later section on exploratory research questions, this dissertation also examined the potential team-level consequences of having a greater diversity of regulatory focus types in the team. In particular, I explored whether having a greater diversity of regulatory focus types in the team influences process conflict and relationship conflict.

[3] Despite this distinction between a *collection* of team members' attributes and *collective phenomena* (Hofmann & Jones, 2004), this dissertation nevertheless explored whether the former leads to the latter in terms of regulatory focus. As will be discussed later, I explored whether having a higher proportion of a certain regulatory focus type (e.g., proportion of predominantly promotion-focused type, proportion of predominantly prevention-focused type, or proportion of ambidextrous type) leads to the development of a corresponding shared regulatory focus norm (i.e., a collective promotion focus or a collective prevention focus).

[4]All reliability estimates are based on the initial online survey sample of N = 500.

[5]An alternative approach to determining individuals' regulatory focus type was categorizing each individual as low or high on the prevention focus and promotion focus dimensions, using the median split method. Based on this approach, 22.3% of individuals

fell into the low prevention low promotion (LL) type, 22.6% into the low prevention high promotion (LH) type, 30.2% into the high prevention low promotion (HL) type, and 24.9% into the high prevention high promotion (HH) type. Accordingly, the proportion of members in the team with each regulatory focus type was determined based on this alternative regulatory focus type classification. Tests of hypotheses using this alternative classification where team size was entered as a control variable in the first step and the proportion of regulatory focus type (based on the median split method) was entered in the second step of the regression equation, the results remained nearly identical to the original set of findings. Exceptions include hypothesis 1f, where the non-expected significant negative relationship between proportion of ambidextrous types and goal importance for timeliness became non-significant; hypothesis 4c, where the unexpected marginal negative relationship between proportion of ambidextrous types and deadline team pacing style became significant ($B = 0.21$; $p < .05$); and hypothesis 5c, where the expected significant positive relationship between proportion of ambidextrous types and team creativity became marginal ($B = 0.20$; $p = .07$)

[6] Team diversity of regulatory focus types were not predictive of the team outcomes—team creativity and team timeliness.

[7] Several sets of auxiliary analyses were conducted to supplement the test of hypotheses and exploratory research questions. First, in addition to examining the team composition of regulatory focus as indexed through proportions, supplementary analyses were conducted to explore whether the *mean* levels of promotion focus and prevention focus, influence team processes and outcomes. *Minimum* and *maximum* promotion focus and prevention focus were also examined. Second, as an alternative way of examining

ambidexterity in teams, the potential interactive effect between mean promotion focus and mean prevention focus was examined. Third, to supplement the exploratory research questions concerning team diversity of regulatory focus types and process/relationship conflict, additional analyses examined whether the *standard deviation* of promotion focus as well as the standard deviation of prevention focus have effects on process conflict and relationship conflict. Finally, auxiliary analyses were also conducted to examine if collective promotion focus and collective prevention focus (instead of individual differences in regulatory focus) predict team processes and outcomes. The results for these sets of auxiliary analyses can be found in Appendix D.

Table 1

Aggregation Statistics for Team-Level Variables

	Mean $R_{wg\ (j)}$	Median $R_{wg\ (j)}$	ICC(1)	ICC(2)
Team Pacing Style	0.73	0.83	0.26*	0.57
Task Conflict	0.90	0.94	0.34*	0.67
Relationship Conflict	0.94	0.97	0.31*	0.63
Process Conflict (8-items)	0.94	0.97	0.18*	0.46
Process Conflict (3-items)	0.92	0.95	0.09*	0.29
Collective Promotion Focus	0.95	0.96	0.04	0.12
Collective Prevention Focus	0.76	0.81	0.10*	0.30

* $p < 0.05$

Table 2

Descriptive Statistics and Inter-correlations among Team-level Variables

	Variable	M	SD	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00
1	Team Size	3.83	0.38	.02	-.09	.00	.06	.12	.07	.08	.00	-.20	.01	-.13	-.10	.17	-.11	.30**	-.11	.15	.12	.15	.28**	.22*	-.13	-.02	.21*
2	Proportion of Low Prev-Low Prom	0.09	0.15	-	-.22*	-.06	-.18	.07	-.10	-.16	-.28**	-.01	.10	-.12	-.04	-.01	-.19	-.21	-.03	.04	.03	.07	.00	.19	-.18	.14	-.21
3	Proportion of Low Prev-Medium Prom	0.14	0.18		-	.00	.01	-.26*	-.24*	.01	-.08	-.36**	.04	.05	.18	-.02	-.03	.03	-.26*	-.11	.02	.04	.10	.13	.04	.00	.00
4	Proportion of Low Prev-High Prom	0.13	0.16			-	-.13	-.10	-.02	-.39**	-.29**	-.02	.04	.08	.02	.06	-.04	.00	-.12	.03	.01	-.09	-.07	.00	.09	-.08	.03
5	Proportion of Medium Prev-Low Prom	0.08	0.14				-	-.15	-.01	-.21	-.06	-.16	.11	-.11	-.02	-.06	.07	-.14	.09	-.14	-.09	-.14	-.05	-.06	-.13	.15	.00
6	Proportion of Medium Prev-Medium Prom	0.13	0.16					-	-.15	-.10	-.25*	-.06	-.02	.01	.13	.12	-.03	.03	-.04	-.16	-.13	-.07	-.15	-.03	-.07	.08	-.06
7	Proportion of Medium Prev-High Prom	0.09	0.14						-	-.08	-.05	-.22*	.03	.00	.03	-.07	-.05	.00	-.01	.12	-.04	-.12	-.07	-.13	-.19	-.07	.03
8	Proportion of High Prev-Low Prom	0.09	0.15							-	-.02	-.04	-.21*	-.04	.01	.04	.00	.34**	.11	.01	.21*	.27**	.27**	.10	.05	-.06	-.03
9	Proportion of High Prev-Medium Prom	0.13	0.18								-	-.12	-.09	-.07	-.08	-.11	.08	.03	.22*	.05	.04	.12	.12	-.09	.01	-.03	.10
10	Proportion of High Prev-High Prom	0.11	0.16									-	.01	.16	-.25*	.05	.17	-.09	.05	.16	-.05	-.11	-.17	-.11	.34**	-.11	.12
11	Team Diversity of RF Types	0.89	0.13										-	-.12	.01	-.04	-.10	-.06	-.16	-.01	-.01	.01	-.07	.00	-.05	-.11	-.02
12	Goal Importance Creativity	4.10	0.43											-	-.20	-.11	-.05	-.07	.01	.02	.14	.07	.13	.08	.06	-.06	.02
13	Goal Importance Timeliness	4.23	0.50												-	-.06	.14	-.16	.14	-.33**	-.18	-.25*	-.23*	-.10	.01	.09	-.01
14	Promotion-focused Behaviors	5.15	4.60													-	.05	.28**	-.05	.06	.13	.20	-.01	.13	.20	.07	.00
15	Collective Promotion Focus	4.59	0.25														-	.05	.59**	-.10	-.40**	-.37**	-.42**	-.38**	.27*	-.02	-.03
16	Prevention-focused Behaviors	31.62	9.79															-	-.06	.21	.10	.17	.16	.06	-.08	-.29**	.18
17	Collective Prevention Focus	3.81	0.48																-	-.13	-.26*	-.18	-.31**	-.32**	.11	.24*	-.19
18	Team Pace	3.28	0.58																	-	.10	.00	.28**	.26*	.01	-.55**	.25*
19	Task Conflict	2.13	0.46																		-	.71**	.70**	.59**	-.12	-.14	.03
20	Relationship Conflict	1.30	0.38																			-	.55**	.44**	.07	.05	-.05
21	Process Conflict (8-items)	1.63	0.38																				-	.69**	-.09	-.23*	.10
22	Process Conflict (3-items)	1.42	0.30																					-	-.04	-.19	.01
23	Team Creativity	2.64	0.78																						-	.05	.20
24	Team Timeliness	-44.31	4.09																							-	-.40**
25	Idea Generation	71.98	25.37																								-

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prev = Prevention Focus
Prom = Promotion Focus

Table 3

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Goal Importance for Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.15	.12	-.13
Step 2	Proportion of Low Prevention - High Promotion	.22	.29	.08

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .01$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 4

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Goal Importance for Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.13	.14	-.10
Step 2	Proportion of Low Prevention - High Promotion	.07	.34	.02

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 5

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Goal Importance for Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.13	.14	-.10
Step 2	Proportion of High Prevention - Low Promotion	.05	.36	.02

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .00$ ($p > .05$)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 6

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Goal Importance for Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.15	.12	-.13
Step 2	Proportion of High Prevention - Low Promotion	-.10	.31	-.03

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 7

Regression Analysis for Proportion of Ambidextrous Type Predicting Goal Importance for Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.15	.12	-.13
Step 2	Proportion of High Prevention - High Promotion	.39	.29	.14

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .02$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 8

Regression Analysis for Proportion of Ambidextrous Type Predicting Goal Importance for Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.13	.14	-.10
Step 2	Proportion of High Prevention - High Promotion	-.89	.33	-.28**

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .08$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 9

Regression Analysis For Proportion of Predominantly Promotion-focused Type Predicting Idea Generation

	Variable	*B*	*SE B*	B
Step 1	Team Size	14.23	7.08	.21*
Step 2	Proportion of Low Prevention - High Promotion	4.93	16.68	.03

Note. $R^2 = .0.05$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 10

Regression Analysis For Proportion of Predominantly Prevention-focused Type Predicting Idea Generation

	Variable	*B*	*SE B*	B
Step 1	Team Size	14.23	7.08	.21*
Step 2	Proportion of High Prevention - Low Promotion	-7.55	17.85	-.05

Note. $R^2 = .05$. for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}$ $p < 0.10$

Table 11

Regression Analysis for Proportion of Ambidextrous Type Predicting Idea Generation

	Variable	*B*	*SE B*	B
Step 1	Team Size	14.23	7.08	.21*
Step 2	Proportion of High Prevention - High Promotion	26.86	16.85	.17

Note. $R^2 = 0.05$. for Step 1; $\Delta R^2 = .03$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 12

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Task Conflict

	Variable	*B*	*SE B*	B
Step 1	Team Size	.15	.13	.12
Step 2	Proportion of Low Prevention - High Promotion	.04	.30	.01

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 13

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Task Conflict

	Variable	*B*	*SE B*	B
Step 1	Team Size	.15	.13	.12
Step 2	Proportion of High Prevention - Low Promotion	.61	.32	.20^{+}

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .04$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}$ $p < 0.10$

Table 14

Regression Analysis for Proportion of Ambidextrous Type Predicting Task Conflict

	Variable	*B*	*SE B*	B
Step 1	Team Size	.15	.13	.12
Step 2	Proportion of High Prevention - High Promotion	-.07	.31	-.03

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 15

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Team Pacing Style

	Variable	*B*	*SE B*	B
Step 1	Team Size	.23	.16	.15
Step 2	Proportion of High Prevention - Low Promotion	-.02	.41	.00

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}$ $p < 0.10$

Table 16

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Team Pacing Style

	Variable	*B*	*SE B*	B
Step 1	Team Size	.23	.16	.15
Step 2	Proportion of Low Prevention - High Promotion	.10	.38	.03

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ + $p < 0.10$

Table 17

Regression Analysis for Proportion of Ambidextrous Type Predicting Team Pacing Style

	Variable	*B*	*SE B*	B
Step 1	Team Size	.23	.16	.15
Step 2	Proportion of High Prevention - High Promotion	.72	.39	$.20^{+}$

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .04$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 18

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Team Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.27	.22	-.13
Step 2	Proportion of Low Prevention - High Promotion	.42	.51	.09

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .01$ ($p < .05$)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 19

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Team Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.27	.22	-.13
Step 2	Proportion of High Prevention - Low Promotion	.31	.55	.06

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ ($p < .05$)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 20

Regression Analysis for Proportion of Ambidextrous Type Predicting Team Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.27	.22	-.13
Step 2	Proportion of High Prevention - High Promotion	1.55	.50	.32**

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .10$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 21

Regression Analysis for Proportion of Predominantly Prevention-focused Type Predicting Team Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.22	1.16	-.02
Step 2	Proportion of High Prevention - Low Promotion	-1.61	2.93	-.06

Note. R^2 = .00 for Step 1; ΔR^2 = .00 (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}$ $p < 0.10$

Table 22

Regression Analysis for Proportion of Predominantly Promotion-focused Type Predicting Team Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.22	1.16	-.02
Step 2	Proportion of Low Prevention – High Promotion	-2.02	2.72	-.08

Note. $R^2 = .00$ for Step 1; $\Delta R^2 = .01$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 23

Regression Analysis for Proportion of Ambidextrous Type Predicting Team Timeliness

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.22	1.16	-.02
Step 2	Proportion of High Prevention - High Promotion	-2.96	2.78	-.12

Note. $R^2 = .00$ for Step 1; $\Delta R^2 = .01$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}$ $p < 0.10$

Table 24

Regression Analysis for Proportion of Regulatory Focus Types Predicting Collective Promotion Focus

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.07	.07	-.11
Step 2	Proportion of Low Prevention - High Promotion	-.06	.16	-.04
	Proportion of High Prevention - High Promotion	.24	.17	.16

Note. $R^2 = .01$ for Step 1; $\Delta R^2 = .03$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 25

Regression Analysis for Proportion of Regulatory Focus Types Predicting Team Frequency of Promotion-focused Behaviors

	Variable	*B*	*SE B*	B
Step 1	Team Size	2.03	1.29	.17
Step 2	Proportion of Low Prevention - High Promotion	1.58	3.05	.06
	Proportion of High Prevention - High Promotion	2.65	3.13	.09

Note. $R^2 = .03$ for Step 1; $\Delta R^2 = .01$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 26

Regression Analysis for Proportions of Regulatory Focus Types Predicting Collective Prevention Focus

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.14	.14	-.11
Step 2	Proportions of High Prevention - Low Promotion	.39	.34	.12
	Proportions of High Prevention - High Promotion	.10	.32	.03

Note. R^2 = .01 for Step 1; ΔR^2 = .02 (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 27

Regression Analysis for Proportion of Regulatory Focus Types Predicting Team Frequency of Prevention-focused Behaviors

	Variable	*B*	*SE B*	B
Step 1	Team Size	7.84	2.66	.30**
Step 2	Proportion of Low Prevention - High Promotion	20.16	6.40	.31**
	Proportion of High Prevention - High Promotion	-1.42	6.12	-.02

Note. $R^2 = .09$ for Step 1; $\Delta R^2 = .10$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 28

Regression Analysis for Team Diversity of Regulatory Focus Types Predicting Process Conflict (Eight-item Measure)

	Variable	*B*	*SE B*	B
Step 1	Team Size	.28	.10	.28**
Step 2	Team Diversity of Regulatory Focus Types	-.22	.31	-.07

Note. $R^2 = .08$ for Step 1; $\Delta R^2 = .01$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 29

Regression Analysis for Team Diversity of Regulatory Focus Types Predicting Process Conflict (Three-item Measure)

	Variable	*B*	*SE B*	B
Step 1	Team Size	.18	.08	.22*
Step 2	Team Diversity of Regulatory Focus Types	-.01	.24	-.01

Note. $R^2 = .05$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 30

Regression Analysis for Team Diversity of Regulatory Focus Types Predicting Relationship Conflict

	Variable	*B*	*SE B*	B
Step 1	Team Size	.15	.11	.15
Step 2	Team Diversity of Regulatory Focus Types	.03	.31	.01

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ (ns)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Table 31

Regression Analysis for Idea Generation Predicting Team Creativity

	Variable	*B*	*SE B*	B
Step 1	Team Size	-.24	.21	-.12
Step 2	Idea Generation	.01	.00	.24*

Note. $R^2 = .02$ for Step 1; $\Delta R^2 = .05$ ($p < .05$)
** $p < 0.01$ * $p < 0.05$ $^{+}p < 0.10$

Appendix A: Team Task

In this task, you will be part of a creative team for a respected advertising agency. Your job is to brainstorm and construct a 30-second radio commercial that includes a company slogan for your client.

Your client is LoCoMo Ltd., a wireless device company that specializes in smartphones. LoCoMo is planning to launch their newest model, the Installed Insignia into the smartphone market and has asked your team to help with the advertising. Your final 30-second radio commercial will eventually be tape-recorded for LoCoMo to review.

Depending on the overall quality of your commercial, your team can gain up to 100 points.

The radio commercial should:

- Be creative overall (40 pts)
- Stress these features: (10 pts)
    - super fast processor
    - 32GB memory
    - 3.0 MP camera and video
    - GPS
- Have a slogan (for LoCoMo) that is creative, simple, and memorable (20 pts)
- Exactly 30 seconds (10 pts)
- Use at least one music track (10 pts)
- Use at least one sound effect (10 pts)

Note: You will be able to pause the tape-recorder and cue up different CDs while recording.

You are to stay within a budget of $85,000 for the commercial.

- Studio time: $25,000
- Actors: $15,000 per actor (each participant's voice counts as 1 actor)
- Music track: $10,000 per track
- Sound effects: $5,000 per effect

You will have 45 minutes to create the commercial and practice, excluding the actual recording time. Due to time constraints, your team will have to record the commercial in one take. As soon as you have practiced and are ready to record your advertisement, send a representative to the experimenter's office.

If you go over the 45 minute deadline, you will lose points:

- Going over 1-5 min: lose 10 pts
- Going over 5-10 min: lose 20 pts
- Going over 10-15 min: lose 30 pts
- Going over 15 min: lose 40 pts

The team that has the best radio commercial at the end of this semester (based on the points) will win $200 collectively for real money. How this money will be split up among the team members will depend on your individual performance today. The experimenter who is an expert on teams will be giving you individualized feedback today on your performance.

Appendix B: Survey Measures

Regulatory Focus Strategies Scale (Ouschan, Boldero, Kashima, Wakimoto, & Kashima, 2007)

Promotion Focus

1. To achieve something, one must try all possible ways of achieving it.
2. If you keep worrying about mistakes, you will never achieve anything.
3. To avoid failure, you have to be enthusiastic.
4. To achieve something, you need to be optimistic.
5. You have to take risks if you want to avoid failing.
6. Taking risks is essential for success.
7. The worst thing you can do when trying to achieve a goal is to worry about making mistakes.
8. If you want to avoid failing, the worst thing you can do is to think about making mistakes.

Prevention Focus

9. To avoid failure, it is important to keep in mind all the potential obstacles that might get in your way.
10. Being cautious is the best way to avoid failure.
11. To avoid failure, one has to be careful.
12. To achieve something, it is most important to know all the potential obstacles.
13. Being cautious is the best policy for success.
14. To achieve something, one must be cautious.

Goal Importance for Creativity and Goal Importance for Timeliness (Developed Items)

Listed below are a number of goals that you may or may not consider important for the upcoming team task. In the space before each goal, write the number that indicates the importance of that goal for you, personally. Try to distinguish as much as possible between the goals by using all the numbers. You will, of course, need to use numbers more than once.

Before you begin, read all the goals in the list. Choose the one that is most important to you and rate its importance using the scale below. Next, choose the goal that is not important to you and rate it 1. Then rate the rest of the goals. No more than TWO goals should be rated as Very Important (5).

Not Important		Somewhat Important		Very Important
1	2	3	4	5

GOALS:

_____Not missing the deadline
_____Being cooperative
_____Enjoying the task
_____Being creative
_____Communicating well
_____Being competitive

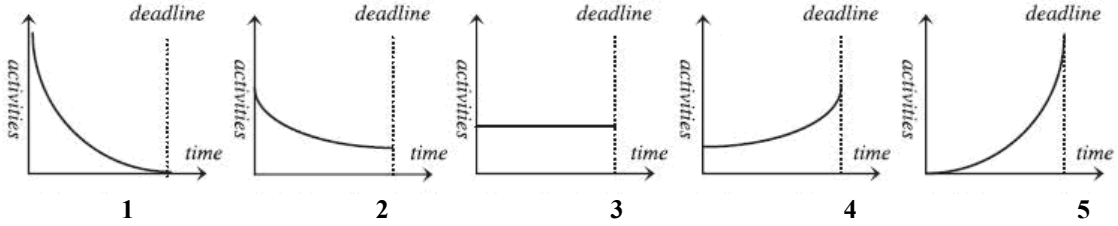
Collective Regulatory Focus (Developed Items)

Collective Promotion Focus
1. Team members focused on fulfilling its ideals and aspirations.
2. Team members focused on making accomplishments.
3. Team members focused on achieving positive outcomes.
4. Team members focused on ensuring gains.
5. Team members were generally eager.

Collective Prevention Focus
6. Team members focused on avoiding negative outcomes.
7. Team members focused on ensuring against losses.
8. Team members focused on being cautious.
9. Team members were generally vigilant.

Team Pacing Style (Adapted from Gevers, Rutte, & van Eerde, 2006)

Which of the following models best represents the way *your team* organized its time when working on the task?



1.The team started right away and finished the work long before the deadline.
2.The team did quite a bit of work at the start, so the team could relax a little towards the end.
3.The team worked steadily on the task, spreading it out evenly over time.
4.The team gradually increased its activities on the task as the deadline approached.
5.The team did most of the work in a relatively short period of time before the deadline.

Task Conflict (Jehn, 1995)
1. How frequently were there conflicts about ideas in your team?
2. To what extent were there differences of opinion in your team?
3. How often did people in your team disagree about opinions regarding the work being done?
4. How much conflict about the work you do was there in your team?

Relationship Conflict (Jehn, 1995)
1. How much friction was there among members in your team?
2. How much were personality conflicts evident in your team?
3. How much tension was there among members of your team?
4. How much emotional conflict was there among members in your team?

Process Conflict—8-item Measure (Developed Items)
1. How much disagreement was there within your team about how much time to spend on different phases of the overall task?
2. How often did members of your team disagree about how to spend the time working on the team task?
3. How frequently did members of your team disagree about how much time to spend on brainstorming ideas?
4. How frequently did members of your team disagree about how much time to spend on finalizing an idea?
5. How frequently did members of your team disagree about how much time to spend on implementing the final idea?

6. How much disagreement was there within your team about when to work on different parts of the overall task?
7. How often did members of your team disagree about what order different aspects of the overall task should be done?
8. How much disagreement was there among members of your team on how to proceed with the task?

Process Conflict—3-item Measure (Jehn, Northcraft, & Neale, 1999)

1. How often did members of your team disagree about who should do what?
2. How frequently did members of your team disagree about the way to complete the group task?
3. How much conflict was there about delegation of tasks within your team?

Appendix C: Coding Manual

Idea Generation Comments
Comments pertaining to original ideas or those that build on previously mentioned ideas relating to a number of aspects of the radio commercial including its scenario and story, script, use of music and sound effects, and the slogan.
“There should be an announcer somewhere in there.”
“So the person can be lamenting how crappy their phone is.”

Promotion-Focused Behaviors	**Prevention-Focused Behaviors**
Comments pertaining to achievement concerns, going beyond conventions and rules, the presence and absence of positive outcomes	**Comments pertaining to safety concerns, following conventions and rules, the presence and absence of negative outcomes**
We should do this because other people do not do this	*We should do this because other people do this*
“That’s great, I haven’t seen that before.”	“I agree that it should be conversational, but I’m just trying to think of how they word things in other commercials and try to follow that.”
“We should do that, that’s a unique idea.”	“Other companies use really short slogans, so we should too.”
We should not do this because other people do this	*We should not do this because other people do not do this*
“I feel like a lot of other teams would use this though.”	“Most commercials don’t use recognizable songs because people associate it with other things.”
“That gets too close to the Old Spice commercials.”	“Geico doesn’t do it, so we shouldn’t either.”
We should do this because it will lead to a positive outcome	*We should do this because we will avoid a negative outcome*
“We should be under budget because it’ll make us look really good.”	“We should use a sound effect or we’ll lose points.”
“The swoosh sound would sound really great there!”	“We should cut that part of the script out, because it’s going to go over 30 seconds.”
We should not do this because it will not lead to a positive outcome	*We should not do this because it will lead to a negative outcome*
“We shouldn’t stop now—it’s not like we’re going to gain extra points for being early.”	“We don’t want to do that because we’ll come across as sexist.”
“That wouldn’t wow them or be amazing.”	“You can only use three actors though if we use music track and sound effects.”
We need to aspire, achieve, do more	*We need to stick within the guidelines*
“Are you sure you want to say that or spice it up a little bit?”	“We got to stress all these features.”
“It has to have enough oomph.”	“It needs to be exactly 30 seconds.”

Appendix D: Auxiliary Analyses

Testing for Main Effects of Mean Prevention Focus and Mean Promotion Focus on Team Processes and Outcomes

In addition to examining team composition of regulatory focus through proportions, auxiliary analyses were conducted by looking at whether the *mean* level of prevention focus or the *mean* level of promotion focus in the team influences team processes and outcomes. Hypotheses where the main predictor was proportion of predominantly prevention-focused type were tested again looking instead at mean prevention focus; hypotheses where the main predictor was proportion of predominantly promotion-focused type were tested again with mean promotion focus. For all analyses, team size was entered as control variables in the first step, and promotion focus and prevention focus were entered simultaneously in the second step (thus controlling for the other regulatory focus dimension). Parallel to the expectations from the proposed hypotheses, it was found that mean promotion focus had a significant positive relationship with goal importance for creativity ($B = 0.23$, $p = .04$); mean promotion focus had a significant positive relationship with creativity ($B = 0.27$; $p = .01$); and mean promotion focus had a marginally negative relationship with timeliness ($B = - 0.19$; $p = .08$). Further analyses revealed that it is the minimum, and not the maximum levels of promotion focus that predicts goal importance for creativity ($B = 0.25$, $p = .03$) as well as timeliness ($B = - 0.26$; $p = .02$).

Testing for Interactive Effects of Mean Prevention Focus and Mean Promotion Focus on Team Processes and Outcomes

Auxiliary analyses were also conducted to look at the interaction between the mean level of prevention focus and mean level of promotion focus. A significant interaction effect would allow a direct examination of whether teams high in both promotion focus and prevention focus would fare more effectively in terms of team processes and outcomes compared to teams that are not as high on both dimensions. In testing for these interaction effects, team size was included as a control variable, entered in the first step; mean promotion focus and mean prevention focus were entered in the next step; followed by the interaction term in the final step. There were no significant interaction effects between mean promotion focus and mean prevention focus for team outcomes (team creativity, team timeliness), nor team processes (goal importance for creativity, goal importance for timeliness, idea generation, task conflict, team pacing style).

Testing for Effects of Standard Deviation of Promotion Focus and Standard Deviation of Prevention Focus on Team Processes and Outcomes

Exploratory analyses on team diversity of regulatory focus types were supplemented with multiple regression analyses examining whether the standard deviations $\sqrt{[\Sigma(x_i - x_{mean})^2/n]}$ of promotion focus or prevention focus influences team processes and outcomes. In testing for these effects, team size was included as a control variable, entered in the first step. The standard deviation of promotion focus and the standard deviation of prevention focus were entered in the second step. In terms of results, neither the standard deviation of promotion focus nor prevention focus had any effects on team processes (goal importance for creativity, goal importance for timeliness, idea generation, task conflict, team pacing style) and team outcomes (team creativity, team timeliness).

Testing for Effects of Collective Promotion Focus and Collective Prevention Focus on Team Processes and Outcomes

As an alternative to examining if individual differences in regulatory focus in teams influence team processes and outcomes, supplementary analyses were conducted to examine if shared norms in regulatory focus; that is, collective promotion focus and collective prevention focus influence team processes and outcomes. Accordingly, multiple regression analyses were conducted to see if collective promotion focus and collective prevention focus as predictors, influence 1) idea generation, 2) task conflict, 3) team pacing style, 4) team creativity, and 5) team timeliness (goal importance for creativity and goal importance for timeliness were excluded, as they were measured prior to team member interaction). For each regression analysis, team size was entered in the first step as a control variable.

Collective promotion focus and collective prevention focus were entered in the second step. Results indicated that neither collective promotion focus nor collective prevention focus significantly predicted team pacing style. However, some marginal and/or significant findings emerged for idea generation, task conflict, team creativity, and team timeliness in expected directions. First, collective promotion focus (but not collective prevention focus) had a marginally negative relationship with idea generation (B = - 0.25, p = .06). Second, collective promotion focus (but not collective prevention focus) negatively predicted task conflict (B = - 0.37, p < .01). Third, collective promotion focus (but not collective prevention focus) positively predicted team creativity; B = 0.31, p = 0.02). Finally, collective promotion focus was found to be marginally negatively related to team timeliness; B = - 0.24, p = .06) and collective prevention focus was found to be positively related team timeliness (B = 0.38, p < 0.01). Further analyses revealed that running these regression analyses controlling for team size but also *the proportion of regulatory focus type* elicit identical results.

References

Amabile, T.M. (1982). The social psychology of creativity: A consensual assessment technique. *Journal of Personality and Social Psychology*, *43*, 997-1013.

Amabile, T.M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123–167). Greenwich, CT: JAI Press.

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal, 39*, 123-148.

Amason, A. C., & Mooney, A. C. (1999). The effects of past performance on top management team conflict in strategic decision making. *International Journal of Conflict Management, 10*, 340-359.

Amason, A. C., & Sapienza, H. J. (1997). The effects of top management team size and interaction norms on cognitive and affective conflict. *Journal of Management, 23*, 495-516.

Barrick, M.R., Stewart, G.L., Neubert, M.J., & Mount, M.K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, 83,* 377-391.

Barry, B., & Stewart, G.L. (1997). Composition, process, and the performance in self-managed groups: The role of personality. *Journal of Applied Psychology, 82,* 62-78.

Bell, S.T. (2007). Deep-level composition variables as predictors of team performance: A meta-analysis. *Journal of Applied Psychology*, *92*, 595-615.

Biemann, T., & Kearney, E. (2010). Size does matter: How varying group sizes in a sample affect the most common measures of group diversity. *Organizational Research Methods, 13*, 582-599.

Blau, P.M. (1977). *Inequality and heterogeneity*. New York: Free Press.

Bliese, P. (2000). Within-group agreement, non-independence, and reliability. In K. Klein & S. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 349–381). San Francisco: Jossey-Bass.

Boone, C., van Olffen, W., van Witteloostuijn, A., & De Brabander, B.(2004). The genesis of top management team diversity: Selective turnover among management teams in the Dutch newspaper publisher industry (1970-1994), *Academy of Management Journal, 47*, 633-656.

Brockner, J., Higgins, E.T., & Low, M.B. (2004). Regulatory focus theory and the entrepreneurial process. *Journal of Business Venturing*, *19*, 203.

Brown, V. R., & Paulus, P. B. (2002). Making group brainstorming more effective: Recommendations from an associative memory perspective. *Current Directions in Psychological Science, 11,* 208-212.

Bunderson, J.S., & Sutcliffe, K.M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology*, *88*, 552-560.

Camacho, C. J., Higgins, E. T., & Luger, L. (2003). Moral value transfer from regulatory fit: What feels right is right and what feels wrong is wrong. *Journal of Personality & Social Psychology, 84*, 498-510.

Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology, 46,* 823–850.

Carpenter, M. (2002). The implications of strategy and social context for the relationship between top management team heterogeneity and firm performance. *Strategic Management Journal, 23*, 275-284.

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.

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology, 83*, 234-246.

Chang, A., Bordia, P., & Duck, J. (2003). Punctuated equilibrium and linear progression: Toward a new understanding of group development. *Academy of Management Journal, 46*, 106-117.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4,* 62-83.

Chen, G., Mathieu, J.E., & Bliese, P.D. (2004). A framework for conducting multi-level construct validation. In F.J. Yammarino & F. Dansereau (Eds.), *Research in multi-level issues: Multi-level issues in organizational behavior and processes,* (Vol 3, pp. 273-303). Oxford: Elsevier.

Cohen, J. (1960) A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*, 37-46.

Cohen, A., Doveh, E., & Eick, U. (2001). Statistical properties of the $r_{wg(j)}$ index of agreement. *Psychological Methods, 6*, 297-310.

Cooke, N. J., Kiekel, P.A., Salas, E., Stout, R.J., Bowers, C., Cannon-Bowers, J. (2003). Measuring team knowledge: A window to the cognitive underpinnings

of team performance. *Group Dynamics: Theory, Research and Practice, 7*, 179-199.

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. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*, 741-749.

De Dreu, C.K.W., & West, M.A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology, 86,* 1191-1201.

DeShon, R.P., Kozlowski, S.W., Schmidt, A.M., Milner, K.R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology, 89,* 1035-1056.

Devine, D. J., & Philips, J. L. (2001). Do smarter teams do better: A meta-analysis of cognitive ability and team performance. *Small Group Research, 32*, 507-532.

Dewett, T. (2006). Exploring the role of risk in employee creativity. *Journal of Creative Behavior, 40,* 27-45.

Dewett, T. (2007). Linking intrinsic motivation, risk taking and employee creativity in an R&D environment. *R&D Management, 37,* 197-208.

Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology, 53,*

497-509.

Farh, J.L., Lee, C., & Farh, C.I. (2010). Task conflict and team creativity: A question of how much and when. *Journal of Applied Psychology, 95,* 1173-1180.

Fellner, B., Holler, M., Kirchler, E., & Schabmann, A. (2007). Regulatory focus scale (RFS): Development of a scale to record dispositional regulatory focus. *Swiss Journal of Psychology*, *66*, 109-116.

Florack, A., & Hartmann, J. (2007). Regulatory focus and investment decisions in small groups. *Journal of Experimental Social Psychology, 43,* 626-632.

Forster, J., Higgins, E. T., & Idson, L. C. (1998). Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect. *Journal of Personality & Social Psychology,75*, 1115-1131.

Freeman, M., & Beele, P. (1992). Measuring project success. *Project Management Journal*, *23*, 8-17.

Freitas, A.L., & Higgins, E.T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science, 13,* 1-6.

Freitas, A. L., Liberman, N., Salovey, P., & Higgins, E. T. (2002). When to begin? Regulatory focus and initiating goal pursuit. *Personality & Social Psychology Bulletin, 28*, 121-130.

Friedman, R.S., & Forster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, *81*, 1001-1013.

Galinsky, A.D., Leonardelli, G.J., Okhuysen, G.A., & Mussweiler, T. (2005). Regulatory focus at the bargaining table: Promoting distributive and integrative success. *Personality and Social Psychology Bulletin, 31,* 1087-

1098.

Gersick, C.J. (1989). Marking time: Predictable transitions in task groups. *Academy of Management Journal*, *32*, 274-309.

Gevers, J.M.P., Rutte, C.G., & van Eerde, W. (2006) Meeting deadlines in work groups: Implicit and explicit mechanisms. *Applied Psychology: An International Review*, *55*, 52-72.

Giambatista, R.C. (1999). Reaping the fruits: Dimensions of diversity, communication technology, and team effectiveness. Unpublished doctoral dissertation, University of Wisconsin-Madison.

Giddens, A. (1993). *New rules of sociological method* (2nd ed.). Cambridge: Polity Press.

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality, 40***,** 84-96.

Harris, T.C*.,* & Barnes-Farrell, J.L. *(*1997). Components of teamwork: Impact on evaluations of contributions to work team effectiveness. *Journal of Applied Social Psychology, 27,* 1694-1715.

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52,* 1280-1300.

Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 30, pp. 1-46). New York: Academic Press.

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55,* 1217-1230.

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., Idson, L.C., Freitas, A.L., Spiegel, S., & Molden, D. C. (2003). Transfer of value from fit. *Journal of Personality and Social Psychology, 84,* 1140-1153.

Hirschfeld, R.R., Jordan, M.H., Field, H.S., Giles, W.F., & Armenakis, A.A. (2005). Teams' female representation and perceived potency as inputs to team outcomes in a predominantly male field setting. *Personnel Psychology, 58,* 893-924.

Hofmann, D. A., & Jones, L.M. (2004). Some foundational and guiding questions for multilevel construct validation. In F. Yammarino & F. Dansereau (Eds.), *Multi-level issues in organizational behavior and processes* (pp. 305–317). Amsterdam: Elsevier.

Hofmann, D.A., & Jones, L.M. (2005). Leadership, collective personality, and performance. *Journal of Applied Psychology, 90,* 509-522.

Jackson, S. E., Joshi, A., & Erhardt, N. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management, 29*, 801-830.

Janicik, G. A., & Bartel, C. A. (2003). Talking about time: Effects of temporal

planning and time awareness norms on group coordination and performance. *Group Dynamics: Theory, Research, and Practice*, *7*, 122-134.

Janssen, O., Van de Vliert, E., & Veenstra, C. (1999). How task and person conflict shape the role of positive interdependence in management groups. *Journal of Management*, *25*, 117–141.

Jehn, K. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*, 256-282.

Jehn, K. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly, 42*, 530-557.

Jehn, K., & Bezrukova, K. (2004). A field study of group diversity, group context, and performance. *Journal of Organizational Behavior*, *25*, 703-729.

Jehn, K., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44*, 238-251.

Jehn, K., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly, 44*, 741-763.

Jung, D.I., & Sosick, J.J. (1999). Effects of group characteristics on work group performance: A longitudinal investigation. *Group Dynamics: Theory, Research, and Practice, 3,* 279-290.

Kark, R., & van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *Academy of Management Review,32,* 500-528.

Kilduff, M., Angelmar, R., & Mehra, A. (2000). Top management team diversity and

firm performance: Examining the role of cognitions. *Organization Science, 11*, 21-34.

Kirkman, B.L., Tesluk, P.E., & Rosen, B. (2001). Alternative methods of assessing team-level variables: Comparing the predictive power of aggregation and consensus methods. *Personnel Psychology, 54,* 645-667.

Klein, K. J., Bliese, P. D., Kozlowksi, S. W. J., Dansereau, F., Gavin, M. B., Griffin, M. A., Hofmann, D. A., James, L. R., Yammarino, F. J., & Bligh, M. C. (2000). Multilevel analytical techniques: Commonalities, differences and continuing questions. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 512-553). San Francisco: Jossey-Bass.

Knight, D., Pearce, C.L., Smith, K.G., Olian, J.D., Sims, H.P., Smith, K.A., & Food, P. (1999). Top management team diversity, group process, and strategic consensus, *Strategic Management Journal, 5*, 445-465.

Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3-90). San Francisco: Jossey-Bass.

Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M. N., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To "do the right thing" or to "just do it": Locomotion and assessment as distinct self-regulatory imperatives. *Journal of Personality & Social Psychology, 79*, 793-815.

Lau, D.C., & Murnighan, J.K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review, 23,* 325-340.

Leonard, J. S., Levine, D. I., & Joshi, A. (2004). Do birds of a feather shop together? The effects on performance of employees' similarity with one another and with customers. *Journal of Organizational Behavior, 25*, 731–754.

LePine, J.A. (2003). Team adaptation and post change performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology, 8*8, 27–39.

LePine, J.A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*, 1153–1167.

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.

Li, J.T., & Hambrick, D.C. (2005). Factional groups: A new vantage on demographic faultlines, conflict and disintegration in work teams. *Academy of Management Journal, 48,* 794-813.

Liberman, N., Molden, D. C., Idson, L. C., & Higgins, E.T. (2001). Promotion and prevention focus on alternative hypotheses: Implications for attributional functions. *Journal of Personality & Social Psychology, 80*, 5-18.

Locke, E.A., & Latham, G.P. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes, 50,* 212 – 247.

Lockwood, P., Jordan, C.H., & Kunda, Z. (2002). Motivation by positive and negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology, 83,* 854-864.

Mathieu, J. E., Maynard, M. T., Rapp, T. L., & Gilson, L. L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management, 34*, 410-476.

McClough, A. C., & Rogelberg, S. G. (2003). Selection in teams: An exploration of the teamwork knowledge, skills, and ability test. *International Journal of Selection and Assessment, 11,* 56-66.

McCrae, R. R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology, 52*, 1258–1265.

McLain, D.L. (1993). The MSTAT-I: A new measure of an individual's tolerance for ambiguity. *Educational and Psychological Measurement, 53,* 183–189.

Mohammed, S., & Angell, L.C. (2003). Personality heterogeneity in teams: Which differences make a difference for team performance? *Small Group Research, 34,* 651-677.

Mohammed, S., Hamilton, K., & Lim, A. (2009). The incorporation of time into team research: Past, current, and future. In E. Salas, G.F. Goodwin & C.S. Burke (Eds.), *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 321-348). New York: Routledge.

Molden, D. C., Lee, A. Y., & Higgins, E. T. (2008). Motivations for promotion and prevention. In J. Shah & W. Gardner (Eds.), *Handbook of motivation science* (pp. 169-187). New York: Guilford Press.

Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review, 24*, 249-265.

Morgeson, F. P., Reider, M. H., & Campion, M. A. (2005). Selecting individuals in team settings: The importance of social skills, personality characteristics, and teamwork knowledge. *Personnel Psychology, 58,* 583-611.

Nemeth, C. J., & Staw, B. M. (1989). The tradeoffs of social control and innovation within groups and organizations. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 22, pp. 175-210). New York: Academic Press.

Neubert, M. J., Kacmar, M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, *93,* 1220-1233.

Neuman, G.A., Wagner, S.H., & Christiansen, N.D. (1999). The relationship between work-team personality composition and the job performance of teams. *Group & Organization Management, 24,* 28-45.

Oldham, G.R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors. *Academy of Management Journal*, *39,* 607-634.

O'Leary-Kelly, A. M., Martocchio, J. J., & Frink, D. D. (1994). A review of the influence of group goals on group performances. *Academy of Management Journal*, *37*, 1285-1301.

Osborn, A.F. (1957). *Applied imagination* (Rev Ed.) New York, NY: Charles

Scribner's Sons.

Osborn, A.F. (1963). *Applied imagination* (3rd Ed.) New York, NY: Charles Scribner's Sons.

Ouschan, L., Boldero, J.M., Kashima, Y., Wakimoto, R., & Kashima, E.S. (2007). Regulatory focus strategies scale: A measure of individual differences in the endorsement of regulatory strategies. *Asian Journal of Social Psychology*, *10*, 243-257.

Parnes, S. J. & Meadow, A. (1959). Effects of brainstorming instruction on creative problem solving of trained and untrained subjects. *Journal of Educational Psychology, 50*, 171-176.

Pearsall, M.J., & Ellis, A.P.J. (2006). The effects of critical team member assertiveness on team performance and satisfaction. *Journal of Management, 32,* 575-594.

Pearsall, M.J., Ellis, A.P. J., & Evans, J.M. (2008). Unlocking the effects of gender faultlines on team creativity: Is activation the key? *Journal of Applied Psychology, 93,* 225-234.

Pelled, L. H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization Science, 17*, 615-631.

Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly, 44*, 1-28.

Pennington, G.L., & Roese, N.J. (2003). Regulatory focus and temporal distance. *Journal of Experimental Social Psychology, 39*, 563-576.

Perrine, N.E., & Brodersen, M.R. (2005). Artistic and scientific creative behaviour: Openness and the mediating role of interests, *Journal of Creative Research*, *39*, 217-236.

Pirola-Merlo, A., & Mann, L. (2004). The relationship between individual creativity and team creativity: Aggregating across people and time. *Journal of Organizational Behavior, 25,* 235-257.

Pitcher, P., & Smith, A.D. (2001). Top management team heterogeneity: Personality, power, and proxies. *Organization Science, 12,* 1–18.

Porter, C. O. L. H. (2005). Goal orientation: Effects on backing up behavior, performance, efficacy, and commitment in teams. *Journal of Applied Psychology, 90*, 811-818.

Quigley, N.R., & Shardner, S.D. (2007). Team personality composition, collective personality, and team effectiveness. *Academy of Management Annual Meeting Proceedings, 2007,* 1-6.

Rietzschel, E.F., Nijstad, B.A., & Stroebe, W. (2007). Relative accessibility of domain knowledge and creativity: The effects of knowledge activation on the quantity and originality of generated ideas. *Journal of Experimental Social Psychology*, *43*, 933-946.

Sacramento, C. A., Dawson, J., & West, M. A. (2008). Team Creativity: More than the sum of its parts? In M. Mumford, S. Hunter & K. Beddel (Eds.) *Research in multilevel issues:* Multilevel issues in creativity and innovation. (Vol. 7, pp. 269-279). Oxford: Elsevier.

Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical

advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology*, (Vol. 25, pp. 1-65). San Diego: Academic Press.

Shalley, C. E., & Perry-Smith, J. P. (2001). Effects of social-psychological factors on creative performance: The role of information and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes, 84*, 1–22.

Shalley, C.E., Zhou, J., & Oldham, G.R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management, 30,* 933-958.

Shin, S.J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. *Journal of Applied Psychology, 92,* 1709-1721.

Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal, 42,* 662–673.

Simons, T., & Peterson, R. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology, 85*, 102–111.

Simonton, D. K. (1999). Creativity as blind variation and selective retention: Is the creative process Darwinian? *Psychological Inquiry, 10,* 309-328.

Stevens, M.J., & Campion, M.A. (1999). Staffing work teams: Development and validation of a selection test for teamwork settings. *Journal of Management, 25*, 207–228.

Thompson, L. (2003). Improving the creativity of organizational work groups. *Academy of Management Executive*, *17*, 96-109.

Timmerman, T. A. (2000). Racial diversity, age, diversity, interdependence, and team performance. *Small Group Research, 31*, 592-606.

Townsend, A. M., & Scott, K. D. (2001). Team racial composition, member attitudes, and performance: A field study. *Industrial Relations, 40*, 313-337.

Tukel, O.I., & Rom, W.O. (1998). Analysis of the characteristics of projects in diverse industries. *Journal of Operations Management*, *16*, 43-61.

Vesey, J.T. (1991). The new competitors: They think in terms of speed to market. *Academy of Management Executive*, *5*, 23-33.

Wallace, C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology*, *59*, 529–557.

Wallace, J.C., Johnson, P.D., & Frazier, M.L. (2009). An examination of the factorial, construct, and predictive validity and utility of the regulatory focus at work scale. *Journal of Organizational Behavior*, *30*, 805-831.

Waller, M.J., Giambatista, R.C., & Zellmer-Bruhn, M.E. (1999). The effects of individual attention to time on group polychronicity. *Journal of Managerial Psychology, 14,* 244-256.

Waller, M.J., Zellmer-Bruhn, M.E., & Giambatista, R.C. (2002). Watching the clock: Group pacing behavior under dynamic deadlines. *Academy of Management Journal*, *45*, 1046-1055.

Watson, W., Johnson, L., & Merritt, D. (1998). Team orientation, self-orientation, and diversity in task groups: Their connection to team performance over time.

Group & Organization Management, *23*, 161-188.

Webber, S., & Donahue, L. (2001). Impact of highly and less job-related diversity on work group cohesion and performance: A meta-analysis. *Journal of Management, 27,* 141-162.

West, M. A., & Richter, A. W. (2008). Climates and cultures for innovation and creativity at work. In J. Zhou & Christina E. Shalley (Eds.), *Handbook of organizational creativity* (pp. 211-236). New York: Erlbaum.