The Pennsylvania State University

The Graduate School

College of the Liberal Arts

WORTH FIGHTING FOR: INVESTIGATING THE IMPACT OF CONTEXTUAL FACTORS ON TASK CONFLICT AND CREATIVITY

A Thesis in

Psychology

by

Amanda J. Drescher

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

August 2015

The thesis of Amanda J. Drescher was reviewed and approved* by the following:

Samuel T. Hunter
Associate Professor of Psychology
Thesis Adviser

Susan Mohammed
Associate Professor of Psychology

Jose A. Soto
Associate Professor of Psychology

Melvin M. Mark
Professor of Psychology
Head of the Department of Psychology

*Signatures are on file in the Graduate School.

ABSTRACT

This study investigates the impact of various contextual variables on the relationship between task conflict and creative performance. In particular, this research applied a framework suggested by Bradley, Klotz, Baur, & Banford (2013) and tested whether the contextual factors of team characteristics (relationship conflict, leadership style, and mean general self-efficacy) and task characteristics (task condition) were able to influence the relationship between task conflict and creative performance. Relationship conflict and task condition failed to moderate the relationship between task conflict and creativity and leadership style failed to differentially impact relationship conflict. However, results did reveal a successful moderated mediation where relationship conflict mediated the relationship between task conflict and creative performance, and mean general-self-efficacy moderated the relationship between task conflict and relationship conflict. These findings were discussed in terms of the importance that team-level personality can play in how team members react to conflict and the consequences that can have on team performance.

TABLE OF CONTENTS

LIST OF TABLES v
LIST OF FIGURES vi
LIST OF MATERIALS vii
ACKNOWLEDGEMENTS viii

INTRODUCTION 1
Conflict 3
Task Conflict and Creativity 4
Contextual Factors 7
Team Characteristics 8
Task Characteristics 16
METHODS 18
Sample 18
Experimental Design 19
Measures 22
RESULTS 23
Descriptive Statistics 23
Hypothesis Testing 26
Exploratory Analyses 28
DISCUSSION 33
Implications 34
Limitations 35
Conclusion 36

REFERENCES 38
APPENDIX A: Tables 44
APPENDIX B: Figures 46
APPENDIX C: Materials 49

LIST OF TABLES

1. Means, Standard Deviations, and Correlations between Individual-Level Variables
2. Means, Standard Deviations, and Correlations between Team-Level Variables

LIST OF FIGURES

1. An Overall Model Depicting the Hypothesized Relationships in this Study
2. Individual-level Interaction of Mean-Centered Perceived Task Conflict and General Self-Efficacy
3. Team-level interaction of Mean-Centered Task Conflict and General Self-Efficacy

LIST OF MATERIALS

1. Protocol for Confederates Acting As Pragmatic Leaders
2. Protocol for Confederates Acting As Charismatic Leaders

ACKNOWLEDGEMENTS

I would like to thank my advisor, Sam Hunter, for his support during the course of this project. His patient expertise was much appreciated. I also value the time and efforts of Susan Mohammed and Jose Soto, who lent their expertise as committee members. On a personal level, I would be remiss if I was not particularly thankful for the love and support of my parents, who have been invaluable both during my time at Penn State and during my previous graduate work at the University of Memphis. I am also grateful to the rest of my family and friends, for their love and support. Finally, I would like to dedicate this thesis to my grandparents, three of whom passed away prior to my completion of this milestone; I wish they could have seen me achieve this, I know they would have been proud.

Worth Fighting For: Investigating the Impact of Contextual Factors on Task Conflict and Creativity

Introduction

The use of teamwork has become prevalent in contemporary organizations (Anderson, De Dreu, & Nijstad, 2004; De Dreu, 2002; Edmondson & Roloff, 2009) and, in these swiftly altering surroundings, a team's ability to thrive will largely depend on its facility for adaptability, broadly, and innovation, more specifically (Burke, Stagl, Salas, Pierce, & Kendall, 2006; De Dreu, 2002). Despite the prevalence of teamwork in organizations, however, little attention has been given to team-level creativity (Reiter-Palmon, Wigert, & de Vreede, 2012), where idea generation is the responsibility of a group rather than an individual (Kurtzberg & Amabile, 2001). In response to this gap in the team-level creativity literature I have chosen to investigate ways to maximize creativity in teams.

A promising avenue in terms of maximizing creativity in teams is in the relationship between task conflict and creativity. In the minority dissent literature (De Dreu & West, 2001), task conflict has been posited to increase team creativity through increased information exchange, reevaluation of the status quo, and increased examination of the task at hand (Hulsheger, Anderson, and Salgado, 2009). To date, however, neither the minority dissent nor creativity literature has been able to conclusively determine either the direction or shape of the relationship between task conflict and creativity. Hulsheger et al. (2009) suggest that the nonsignificant relationship between task conflict and creativity in their meta-analysis is reflective of this dissension in the literature. Moreover, the *unresolved* nature of the relationship between

task conflict and creativity is likely due to contextual factors (De Dreu & Weingart, 2003; Hulsheger et al., 2009).

One potential mitigating factor is that of relationship conflict. Relationship conflict has been consistently and negatively related to team creativity in the literature (De Dreu & Weingart, 2003; De Wit, Greer, & Jehn, 2012). Moreover, across studies relationship conflict was strongly, positively related to task conflict (De Dreu & Weingart, 2003). Though this would seem to make a positive relationship between task conflict and creativity less likely, there is some evidence suggesting task conflict is beneficial to creativity (Curseu, 2010; Nemeth, Personnaz, Personnaz, & Goncalo, 2004). Thus leading to the question: how can we maximize creativity using a potentially beneficial variable (task conflict), if we unintentionally gain a detrimental variable with it?

While the sporadic nature of the evidence suggesting task conflict will facilitate the emergence of team creativity does not provide inarguable support, it does suggest that task conflict may at least be positively related to creativity under specific conditions. Providing empirical support for this assertion, De Dreu and Weingart (2003) found that though the relationship between task conflict and relationship conflict was positive overall, the strength of that relationship varied greatly across studies. Moreover, the authors found that among studies with a strong correlation between task and relationship conflict, the correlation between task conflict and performance was small (though negative), while studies with a strong correlation between task and relationship conflict had a stronger negative relationship between task conflict and performance (De Dreu & Weingart, 2003). Thus, it seems plausible that the inconsistent relationship between task conflict and team creativity may be due to the unintentional presence

of relationship conflict, which differentially influences task conflict's ability to influence team creativity.

In addition to investigating the nature of the relationships between task conflict, relationship conflict, and creativity, I seek to introduce two experimental manipulations (task characteristics and team leadership style) which are meant to influence particular segments of this overall model.

Conflict

In a recent paper, DeChurch, Mesmer-Magnus, and Doty (2013) reconceptualized the nature of team conflict and, heavily influenced by the team process literature, established team conflict as being composed of *emergent states* and *processes*. Emergent states refer to team-level properties that develop from individual's thoughts and feelings, while processes refer to, "members' interdependent cognitive, verbal, and behavioral activities directed toward organizing task-work to achieve collective goals" (Marks, Mathieu, & Zaccaro, 2001, p. 357). According to DeChurch et al. (2013), task and relationship conflict (as conceptualized by Jehn, 1995; 1997) both exist as emergent states within a team.

Thus, it will be useful to begin with some background information on Jehn's typology of conflict (1995; 1997). As defined by Jehn (1997), task conflict refers to conflict regarding the task activities, job, or project a group is focused on, and relationship conflict refers to interpersonal or people conflict. In her study, Jehn (1997) found that task conflict in particular was positively related to performance, while relationship conflict was negatively related to performance. This typology stimulated not only research investigating the relationship between task conflict and performance generally, but also research investigating the relationship between task conflict and creative performance specifically.

Task Conflict and Creativity

As discussed previously, the relationship between task conflict and creativity that has been presented in the literature could easily be characterized as inconsistent in terms of both direction and shape. As this study seeks to aid in clarifying this relationship, it will be worthwhile to look more closely at the evidence presented in the literature thus far.

Positive relationship. In addition to having a positive relationship with performance, task conflict has also been shown to have a positive relationship with creativity. For instance, in their review of the innovation and creativity literature, Anderson et al. (2004) suggest that minority dissent, defined by De Dreu and West (2001) as, "when a minority in a group publicly opposes the beliefs, attitudes, ideas, procedures, or policies assumed by the majority of the group" (p. 1191), and task conflict can produce increases in team creativity when the team climate is constructive. Moreover, from a qualitative study consisting of interviews with managers of ten *Fortune 500* companies, Egan (2005) stated that more than three-quarters of the managers interviewed identified 'fostering productive conflict' as a methodology they themselves use to encourage creativity.

To provide further clarification on management practices regarding creativity, Rosa, Qualls, and Fuentes (2008) conducted a qualitative study consisting of direct observation within four different organizations, complemented by analyzing publicized accounts of management practices. From this analysis, the authors suggest that task conflict should certainly not be *dis*couraged in work teams, and maybe should even be *en*couraged. The authors even went so far as to label organizations that encourage conflict "non-complacent", so-called because these organizations were seen as actively using the evaluative nature of task conflict to improve performance outcomes (Rosa et al., 2008).

Providing further support for the positive relationship between task conflict and creativity, Nemeth et al. found that, though conflict was induced using two different methods in two different studies, conflict was still positively related to creativity in both instances (2004; 2007). For instance, when Nemeth and Ormiston (2007) investigated the impact of changing group membership on creativity, they found that groups with membership change were more creative than groups that kept the same members, providing proximal evidence that task conflict is positively related to creativity. Nemeth and Ormiston suggest that one of the benefits of changing group membership is that, by disrupting the comfort and cohesion the group has developed, new members may spur idea generation and potentially arouse divergent thought and minority dissent (2007). Similarly, in Nemeth et al. (2004), the authors found that teams given instructions to debate, rather than traditional brainstorm instructions, produced more creative solutions to the given challenge. It is worth noting that the benefits of debate training held for samples in both the U.S. and France (Nemeth et al., 2004).

Finally, Curseu (2010) conducted a study where he asked teams of business students to design and develop a web page and then assessed their levels of intrateam conflict and creativity. He found that teams experiencing intrateam conflict ultimately ended up with the most creative and complex website designs (Curseu, 2010).

Negative relationship. Although there is a fair amount of support in the literature, as evidenced above, for the positive relationship between task conflict and creativity, there is also evidence supporting the opposite claim; that task conflict is negatively related to creativity. For instance, Kurtzberg and Mueller (2005) conducted a study that measured the impact of all three types of conflict on perceived individual and team level creativity. At the team level, all three types of conflict were shown to negatively impact perceptions of team creativity on the day of

the conflict. The authors found that task conflict had a positive impact on perceptions of individual creativity, though they also indicated that the negative impact of task conflict on perceptions of team level creativity superseded whatever benefits were present at the individual level. As such, this study emphasizes the overall negative impact of everyday task conflict in work teams (Kurtzberg & Mueller, 2005).

Additionally, Van Knippenberg, De Dreu, and Holman (2004) suggest that, even if there were a positive relationship between task conflict and creativity, it is not conflict itself that promotes performance; instead, they posit that conflict actually promotes creative processing of diverse information and viewpoints, and it is *these processes* that in turn affect performance. The authors suggest that conflict itself does not guarantee this creative processing; this outcome is reached (or not) through the ways in which conflict is managed. Thus, when managed poorly, conflict could range from simply being not useful to being detrimental to team performance. Through the authors' suggestion that there are other, perhaps more consistent, ways to reach this creative processing, it is not much of a leap to suggest that conflict may not add much in terms of predictive value to the outcomes of creativity and/or performance (Van Knippenberg et al., 2004).

Finally, in their validation of the Team Climate Inventory, Anderson and West (1998) found that task orientation (of which constructive controversy is one element) was not predictive of either number of innovations or self-ratings of creativity. Rather, participative safety (defined as working team environment perceived as interpersonally non-threatening) was the variable most predictive of both quantity of innovation and perception of creativity.

Curvilinear relationship. To add to the confusion, in addition to the positive and negative relationships between task conflict and creativity that have been described in the

literature, there is another portion of the literature that suggests the relationship between task conflict and creativity is actually a curvilinear one. Such that, when conflict is at moderate levels, creativity is at its highest, and when conflict is at either extreme (low or high), creativity is at its lowest. In their review of the literature Kurtzberg and Amabile suggest that task conflict is most beneficial to creativity when it is present in moderate amounts rather than high amounts (2001). Additionally, in their study investigating the relationship between task conflict and creativity in information technology teams, Farh, Lee, and Farh found evidence of a curvilinear relationship between task conflict and creativity (2010). This curvilinear relationship was in the form of an inverse 'U', such that creativity was at its highest point when the levels of task conflict were moderate (Farh et al., 2010). Providing further support for the curvilinear relationship between task conflict and creativity is a 2006 study by De Dreu. Much as Farh et al. (2010) did, De Dreu (2006) found that the relationship between task conflict and creativity was curvilinear, with creativity at its highest when task conflict was at moderate levels.

Contextual Factors

With conflicting evidence as to whether task conflict is beneficial for creativity abounding, it is unsurprising that Hulsheger et al. (2009) blamed their nonsignificant meta-analytic results on the confusion in the literature. The authors suggested that further research investigate contextual factors that could influence the relationship between task conflict and creativity relationship.

Several studies serve to illustrate that task conflict and creativity will be positive when certain contextual variables are present. For instance, De Dreu et al. found a positive relationship between task conflict and creativity, but only in instances where reflexivity (2002) and a high degree of participation in decision-making (De Dreu & West, 2001) were present. Though this

literature serves to support Hulsheger et al.'s (2009) call to research, it is hardly exhaustive in terms of the quantity of research necessary to truly investigate the full range of possible contextual variables and the degree to which they support the positive relationship between task conflict and creativity.

Bradley, Klotz, Baur, & Banford (2013) found four types of conditions likely to moderate the relationship between task conflict and team performance: "characteristics of the conflict (e.g., type, level, and timing), characteristics of the task (e.g., routineness, interdependence, and desired outcomes), characteristics of the team (e.g., psychological safety conflict, open discussions of conflict, and structure), and characteristics of the team members (e.g., personality, demographics, and background) (p. 3). According to Bradley et al. (2013), these categories are exhaustive, exclusive, and equivalent in terms of level of specificity. Thus, this framework should not only be used to categorize prior research, but should also be used as foundation which future work in this area can build upon.

With the aim of contributing to the body of knowledge concerning contextual factors' potential to influence the relationship between task conflict and performance, I have chosen to focus on contextual factors that have the potential to successfully moderate the relationship between task conflict and creativity in particular. Thus, even though Bradley et al. (2013 were concerned with team performance more broadly, as I look for variables likely to moderate the relationship between task conflict and creativity (a particular type of team performance) it seems logical to begin with the basic framework these authors provided.

Team Characteristics

Team characteristics can refer to a variety of team-level variables, including discussion norms, conflict management strategies, and co-occurrence of conflict types (Bradley et al.,

2013). Of the potential team characteristics capable of moderating the relationship between task conflict and creativity, two team characteristics in particular seem critical: relationship conflict and leadership.

Relationship conflict. As stated earlier, the varied nature of the evidence specifying the shape and direction of the relationship between task conflict and creativity may be due to the additional presence relationship conflict. As such, it is important to consider that task conflict and relationship conflict differentially affect performance and other outcome variables. For instance, De Dreu and Weingart (2003) found that relationship conflict was more negatively related to satisfaction (ρ = -.48) than task conflict (ρ = -.27). Replicating their results, De Wit et al. (2012) also found that relationship conflict is more negatively related to satisfaction (ρ = -.61) than task conflict (ρ = -.27). Furthermore, relationship conflict was also negatively related to cohesion (ρ = -.44), positive affect (ρ = -.48), and group performance (ρ = -.16), while task conflict was not related to cohesion (ρ = .00), non-significantly related to positive affect (ρ = .05), and not related to performance (ρ = -.01) (De Wit et al., 2012). This series of meta-analytic correlations clearly suggest that task conflict is less harmful (or not harmful at all) to a variety of outcome variables, including performance, than is relationship conflict.

As such, it should be unsurprising that as Jehn's typology of conflict has been investigated, it looks increasingly likely that a conditional relationship exists between task conflict, relationship conflict, and performance. For instance, De Wit et al. (2012) found that the relationship between task conflict and performance was positive when the relationship between task conflict and relationship conflict was weakest. Furthermore, for moderately complex tasks, the positive relationship between task conflict and performance was substantially stronger when the relationship between task and relationship conflict was low than for when it was high (De

Wit et al., 2012). Moreover, in their study of work teams, Shaw et al. (2011) found the relationship between task conflict and performance to be contingent on relationship conflict. More specifically, the authors found that when relationship conflict was low, the relationship between task conflict and performance was curvilinear (in the shape of an inverted U), while when relationship conflict was high, the relationship between task conflict and performance was linear and negative.

Both of these studies suggest that the relationship between task conflict and performance is contingent upon levels of relationship conflict; which leads to my first hypothesis:

> *Hypothesis 1A*: Relationship conflict will moderate the relationship between task conflict and team creativity such that, when relationship conflict is low, the relationship between task conflict and creative performance (originality) will be positive. When relationship conflict is high, the relationship between task conflict and originality will be negative.
> *Hypothesis 1B*: Relationship conflict will moderate the relationship between task conflict and team creativity such that, when relationship conflict is low, the relationship between task conflict and creative performance (quality) will be positive. When relationship conflict is high, the relationship between task conflict and quality will be negative.

Given this hypothesis, as I develop the rest of the model it will be particularly critical to choose variables that have the potential to directly impact relationship conflict, as those variables in turn will impact the relationship between task conflict and creativity. In addition, variables to be included in the model should also fit into the framework laid out by Bradley et al. (2013), as variables within that framework will also have the potential to impact the relationship between

task conflict and creativity. Two potential variables that are likely to impact relationship conflict directly and fit within this framework are leadership style (another type of team characteristic) and type of task (a characteristic of the task itself).

Leadership. Utilization of work teams to achieve performance increases has become commonplace among organizations (Orlitzky & Benjamin, 2003), with teams becoming the basic unit of structure (Devine, Clayton, Phillips, Dunford, & Melner, 1999). With the increased use of teams, however, comes the potential for an increase in counterproductive interactions and processes (such as team conflict). In such circumstances, it falls on team leaders to manage the team conflict effectually, so as to not negatively impact team performance. Given the importance of team leaders in managing conflict, it seems logical then, that various leadership styles might differentially impact conflict processes. In their study of 97 work teams, Ayoko and Callan (2010) found that transformational leadership moderates the relationship between task conflict and team performance. This study seeks to contribute to the literature by investigating whether other forms of leadership (charismatic and pragmatic) might also play a role in the relationship between task conflict and, in this case, creative performance.

Leadership condition (charismatic vs. pragmatic). The theory of leadership with styles best suited to differentially impact relationship conflict moderating the relationship between task conflict and creativity is the Charismatic, Ideological, and Pragmatic Leadership Theory (or CIP Theory). In this theory, charismatic leadership is style of leadership that relies on an emotionally evocative vision. Leaders who are best able to not only articulate their vision, but also enhance that vision with particular attributes (communication, attractiveness, confidence, etc.) will be the most effective charismatic leaders (Mumford, 2006). Ideological leadership is similar to charismatic leadership in that it is a vision-centric style of leadership. That being said, while

charismatic leadership focuses on a vision based on the virtues of the future, ideological leadership focuses on a vision based on the virtues of the past. In contrast to charismatic and ideological leadership, pragmatic leadership is neither vision-centric nor emotionally evocative. Rather, pragmatic leadership has two important elements: first, pragmatic leaders must understand the social system they are operating within and, second, pragmatic leaders must understand the causal variables that shape that system's maneuvers (Mumford, 2006).

In an effort to find circumstances where leadership will best influence levels of relationship conflict, the current study has chosen to focus on one style of leadership that seeks to elicit emotion (charismatic leadership) and one style of leadership that does not (pragmatic leadership).

Pragmatic and charismatic leadership. As I expect charismatic and pragmatic leadership to differentially affect relationship conflict, it will be worthwhile to compare each style of leadership on various behavioral dimensions in order to develop a deeper understanding of each style of leadership. The differences in each behavioral dimension (social impact, problem solving, and communication) include both observed behavioral differences and expected/predicted behavioral differences, the expected behavioral differences having been derived by Mumford (2006) from CIP Theory itself.

First, although no differences were found between charismatic and ideological leaders on social-impact performance criteria, some evidence has been found to suggest that pragmatic leaders would fare better on these criteria than charismatic leaders (Mumford, 2006; Mumford & Van Doorn, 2001). Given the limited scope of Mumford & Van Doorn's (2001) study, however, (the study looked at the contributions of Benjamin Franklin as a single participant) the evidence

suggesting pragmatic leaders may perform better on social-impact criteria than charismatic or ideological leaders is hardly conclusive.

Second, within the realm of creative problem solving, pragmatic and charismatic leaders approach problems in different ways: pragmatic leaders tend to focus on information gathering and idea generation in the creative process while charismatic leaders tend to focus on problem identification and idea generation (Mumford, 2006). Third, it is predicted that political tactics may also vary among pragmatic and charismatic leaders, such that pragmatic leaders will gravitate towards tactics such as selectively presenting information, where charismatic leaders will gravitate towards tactics such as emotion activation (Mumford, 2006).

Finally, outstanding leaders all have in common extraordinary powers of communication, but leadership styles have been shown to differentially influence both the style and content of communication (Mumford, 2006). For instance, pragmatic leaders focus more on economic arguments and objective information when communicating, while charismatic leaders focus more on arousing affect, typically accentuating the personal and social implications of events.

Pragmatic leadership and emotion constraint. Taking this information into account, the leadership style that I propose will best lead to constraining emotion activation is pragmatic leadership. The comparison between pragmatic and charismatic leadership drawn in the previous section supports this expectation, particularly the differences between how pragmatic and charismatic leaders use political tactics and simply communicate in general. Each of these behavioral dimensions resulted in charismatic leaders using a technique that relied on emotion activation; whereas pragmatic leaders used techniques that relied on carefully crafting what/how information was presented (Mumford, 2006). Given that relationship conflict has a strong affective component to it, I propose that any leadership style that draws on emotion activation

will be likely to increase affectively-driven relationship conflict, whereas a leadership style that does not rely on emotion (such as pragmatic leadership) will be more likely to decrease relationship conflict.

Pragmatic leadership is a functional approach to leadership where leaders are problem and solution focused and comparatively unfocused on followers' identity and personal meanings (Mumford & Van Doorn, 2001). Pragmatic leadership does not involve visioning (Mumford & Van Doorn, 2001). Rather, pragmatic leaders exert their influence through understanding the social system and the causal mechanisms that shape its operations. Pragmatic leaders work by identifying key social problems, then manipulating situations in order to affect the most practical solutions. According to Mumford and Van Doorn (2001), as a result of this approach followers will demonstrate less of an investment in the leader as a person, which will make pragmatic leaders much less likely to prompt an affective reaction from followers.

Pragmatic leaders enact this functional approach by assisting teams with the decision-making process and facilitating team discussion, and accomplish these tasks by promoting adherence to rules of conduct, providing guidance, and managing expectations of group members (Kotlyar, Karakowsky, & Ng, 2011). Through so doing, the leader has applied enough focus to other areas that he/she is not at all focused on inciting ego or emotions. Moreover, the pragmatic leader is very focused on carefully managing emotional outbreaks through techniques such as reprimanding inappropriate behavior and refocusing the team on rules of conduct. Thus, the pragmatic leader is focused on minimizing negative affect potentially associated with appraisal, judgment, attribution, and anticipation and actively guides the team towards more cognitive or task-oriented conflicts (Kotlyar et al., 2011).

From the evidence provided by Mumford and Van Doorn (2001) and Kotlyar et al. (2011), it would seem that pragmatic leadership develops a socio-emotional bond that should successfully allow for the constraint of emotions. Some support for this was provided by Kotlyar et al. (2011), who found that relationship conflict was much lower in groups with pragmatic leaders than groups with either charismatic leaders or shared leadership.

Charismatic leadership and emotion activation. While I expect pragmatic leadership to constrain affective responses for the reasons previously mentioned, I expect charismatic leadership to affective responses. In instances of charismatic leadership, followers will find meaning through a vision that the charismatic leader constructs (Mumford & Van Doorn, 2001). Charismatic leaders will evaluate a given environment to find weaknesses in the current state of affairs, drawing followers by presenting a vision to them that seems fundamentally different than that current state of affairs (Conger & Kanungo, 1998; Mumford & Van Doorn, 2001). This vision that the charismatic leader constructs will define follower values while still allowing followers to express their individual identities through this shared vision (Mumford & Van Doorn, 2001).

Charismatic leaders accomplish this by making sure that follower's self-concepts are strongly linked and so (in a way) dependent, on the leader, the group, and the group's mission/goals (Kotlyar et al., 2011). Charismatic leaders also impact followers through the affective relationship they have built with followers. Unlike pragmatic leaders, charismatic leaders emphasize the emotional component of the leader-follower relationship (Gardner & Avolio, 1998; Kotlyar et al., 2011). By leading in such a way, the charismatic leader has not only placed an emphasis on ego and emotions, by placing such emphasis on followers' self-concepts he has created a situation where group members will fight harder for their positions and will

interpret criticism of their positions as a personal attack (Kotlyar et al., 2011). Thus, the charismatic leader has created a situation that fosters emotional outbreak and takes no steps to minimize the negative affect potentially associated with appraisal, judgment, attribution, and anticipation.

From the evidence provided by Mumford and Van Doorn (2001) and Kotlyar et al. (2011), it would seem that charismatic leadership develops a socio-emotional bond that should result in the activation of emotions and the moderation of affective and cognitive processing. Some support for this was provided by Kotlyar et al. (2011), who found that relationship conflict was much lower in groups with pragmatic leaders than groups with either charismatic leaders or shared leadership. As such, I predict that:

> *Hypothesis 2*: Leadership style will influence levels of relationship conflict within the team, such that as team leaders change from pragmatic to charismatic, relationship conflict within the team will increase.

Task Characteristics

According to the framework laid out by Bradley et al. (2013), the relationship between task conflict and performance is likely to be moderated by one of the following types of variables: task characteristics, team characteristics, individual characteristics, and characteristics of the conflict itself. As I explained above, leadership style was chosen to be part of the model due to both its potential to influence relationship conflict and the way it neatly fit into Bradley et al.'s framework (2013) as a team characteristic. Similarly, manipulating the nature of the task itself (a task characteristic) fits into the aforementioned framework cleanly and has the potential to influence the relationship between task conflict and creative performance.

Tasks. In the creativity literature, tasks can largely be divided into two categories: heuristic and algorithmic (Amabile, 1996). Heuristic tasks have no specific rules and no description of a desired end-state. Rather, they require exploration and flexibility to reach a desired outcome. Algorithmic tasks, however, require following a specific set of rules and it is only through the systematic application of these rules that the desired outcome can be reached. Given these two task types have distinctly different processes required to reach a desirable outcome, it seems logical that they may differentially impact the relationship between task conflict and creative performance.

Task condition (noncreative vs. creative). Creative tasks are inherently heuristic in nature, with fewer rules, and fewer constraints placed on what is considered a desired outcome. Additionally, creativity as it's more traditionally conceptualized, often involves tasks with less structure and greater task complexity (Rietzschel, Slijkhuis, & Van Yperen, 2014). However, research has also shown that utilizing some structure within a creative task can increase creative output (Rietzschel, Nijstad, & Stroebe, 2007). Thus, for the purposes of this study, the creative task condition will be involve less structure, greater task complexity, and be more heuristic in nature. Alternatively, the noncreative task condition will have much more structure, less task complexity, and be more algorithmic in nature.

Task conflict is likely to be more beneficial in the creative condition, due to the fact that complex tasks require complex solutions, and complex solutions may best be reached through a combination of open discussion, a variety of opinions, and disagreement (De Wit et al., 2012). In situations with complex tasks requiring complex solutions (such as those laid out in the creative condition), task conflict can be used to enhance and redirect open discussion. Thus, Jehn (1995)

found that high-performing teams completing non-routine work typically had high levels of task conflict.

As such, I predict that:

Hypothesis 3A: Task condition will moderate the relationship between task conflict and creative performance (originality) such that, when the task is creative, the positive relationship between task conflict and originality will be stronger.

Hypothesis 3B: Task condition will moderate the relationship between task conflict and creative performance (quality) such that, when the task is creative, the positive relationship between task conflict and quality will be stronger.

See Figure 1 for a visual representation of the model being tested.

Methods

Sample

A sample of 207 undergraduates from a large northeastern university participated in this study. Participants were recruited via Sona systems and were assigned to teams based on their time availability. Group sizes ranged from two to three participants per team, plus a confederate. The average number of participants per team, not including the confederate, was 2.54 (S.D. = .63). 67.5% of participants were female and the mean age for all participants was 19.06 (S.D. = 1.22). Of those participants, 54% had been enrolled at the university for less than one year, 26% had been enrolled at the university between one and two years, 12% were enrolled between two and three years, 7% between three and four years, and 1% had been enrolled for four or more

years. The large number of students enrolled at the university for less than two years was unsurprising, given participation in Sona systems is largely encouraged by introductory-level psychology courses.

Experimental Design

The study was a two-by-two between-subjects design where participants were randomly assigned to one of four experimental conditions. One factor was leadership style (pragmatic/charismatic) and the other was task type (creative/noncreative). The leadership conditions were manipulated through the behaviors of a trained confederate. The task factors were manipulated through the nature of the experimental task itself.

Procedure. Participants were brought into a room where they were seated around a large table and each seat was provided with a laptop. Before beginning the experimental task, participants were asked to complete an online survey assessing individual personality traits. After all team members had completed the questionnaire, an experimenter walked them through the instructions for the first stage of the task. Participants were given five minutes to review the scenario associated with the task, and then were asked to complete a period of individual idea generation, in response to that scenario. They were given seven minutes for idea generation. The confederate was always playing the role of team leader, though it was made clear to participants that the confederate was randomly assigned the role.

After the individual idea generation task, the experimenter gave the team instructions for how to complete the team task. Teams then had fifteen minutes in the noncreative condition and twenty minutes in the creative condition to share ideas, narrow down options, and come up with a final product. During pilot testing it was determined that due to the added complexity of the creative task, five additional minutes would be beneficial to the teams. After completing the team

task, participants were asked to complete another online survey assessing their perceptions of team dynamics. Finally, participants were debriefed both orally and in writing.

Leader (pragmatic style vs. charismatic style). A confederate was picked as the ideal way to manipulate the leadership condition. Four confederates were used over the course of data collection, two male and two female. All confederates were undergraduate psychology students. These confederates were chosen because of their previous experience working on experimental studies. Undergraduates were used, rather than graduate students, to allow the confederates an opportunity to better blend in to the team. The confederates had no personal investment in the task. During the team task, the confederates were asked to focus on portraying particular behavioral and affective characteristics associated with the leadership conditions. Each confederate played all four roles across conditions so that differences could not be attributed to differences across confederates.

Confederates were trained in how to portray both the charismatic and pragmatic leader roles. First, confederates were provided with a description of both charismatic and pragmatic leaders and how they might be distinguished from each other (see Appendix C for a copy of these materials). Then confederates were asked to find an example of a charismatic leader and a pragmatic leader and detail how they thought their examples represented each leadership style. This process was used to ensure that the confederates' conceptualizations of the roles matched up with the way the roles have been conceptualized in the literature. Finally, during the study while participants were completing the individual idea generation, the confederates were provided with leader training. During this leader training, confederates were provided with a document that reflected the appropriate leadership condition. This document had a brief outline of the style of

leadership, and statements that reflected that style of leadership which confederates were encouraged to use during the session.

Task (creative vs. noncreative). Regardless of condition, initially participants were presented with a scenario where a scandal that occurred at the university and received national media attention has just occurred. Participants in the creative task condition were asked to come up with a commercial, slogan, and logo for a new university ad campaign in an effort to sway public opinion of the university back to positive. Participants in the noncreative condition were asked to generate a list of new NCAA sanctions for the university.

Pilot testing. Following tentative finalization of the study design, three weeks of pilot testing were conducted. Initially, pilot testing was conducted using undergraduate research assistants who were familiar with pilot testing in general, but not familiar with the current study in particular. I had three pilot testing sessions during this time, where the study was iterated after each session. During this phase of piloting, the undergraduate research assistants provided feedback on study logistics, the task conditions, and the leadership conditions.

After pilot testing with the undergraduate research assistants, I ran pilot testing with subject pool participants. Each team of undergraduate research assistants (the person running the study and the confederate) completed three additional pilot sessions with the subject pool participants. During pilot testing, after each study session was complete participants were asked verify whether the confederate had accurately represented the leadership condition (through nonverbal and verbal cues). Finally, the final products from each team were analyzed to determine if the task conditions were allowing for enough variation in idea quality and originality.

Measures

Individual personality variables were measured by participants' self-reports. Responses were on a five-point likert scale with agreement anchors. See Table 1 for means and standard deviations.

General self-efficacy. This scale was from the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). The eight-item scale ($\alpha = .83$) had five-point scale agreement response options (1 = "Strongly Disagree", 5 = "Strongly Agree"). Example items include "I will be able to achieve most of the goals that I have set for myself" and "I will be able to successfully overcome many challenges."

Task and relationship conflict. These scales were adapted from the Intragroup Conflict Scale found in Jehn (1995). Four items were used to measure task conflict ($\alpha = .66$) and three items were used to measure relationship conflict ($\alpha = .78$). While an internal consistency of .66 for task conflict is slightly lower than that of .70, a "rule of thumb" level of acceptable internal consistency, in this case an internal consistency of .66 is expected given the small number of items in the scale (four) and the low average item intercorrelations ($r = .34$) (Cortina, 1993).

Both scales used five-point likert scale agreement response options ranging from "Strongly Disagree" to "Strongly Agree." An example item for task conflict is "How much conflict about the work you do is there in your team?" An example of relationship conflict is "How much are personality conflicts evident in your work unit?"

Creativity. Three coders were trained in coding two dimensions of creativity (the primary dependent variable): quality and originality (Besemer & O'Quin, 1999; Christiaans, 2002). The coders were trained using an initial calibration meeting, where they were presented with examples of final products at various levels of quality or originality. Then coders were

asked to individually rate a series of products, compare their assigned ratings, and determine a mutually agreed upon final rating. Coders continued this process until they had strong agreement on initial comparisons. Finally, coders were provided with a rating booklet that reminded them how each of the creativity dimensions was defined, and how some of the previous products had been rated. This document served as a reference for them for the remainder of the coding. Quality and originality were each rated on a one to five scale (i.e., 1 = least original, 5 = most original).

After all of the coders' ratings were collected, interrater reliability was calculated for each of the creativity variables. I used *ICC*(2, *k*) to assess whether ratings from individual coders should be combined into a single overall rating of originality. This is a two-way random test which assumes and explicitly models a random effects model for raters (Shrout & Fleiss, 1979). I used the same approach in calculating the interrater reliability for quality. The results were such that, with three raters, originality had an *ICC*(2, 3) of .72 ($p < .001$) and quality had an *ICC*(2, 3) of .54 ($p < .001$). While the ICC for originality (*ICC*(2, 3) = .72, $p < .001$) was within an acceptable range, the ICC for quality was low at .54. Alternatively, when the third rater in particular was dropped, the *ICC*(2, *k*) rose to an acceptable level (*ICC*(2, 2) = .68). Thus, this rater was dropped when computing the mean scores for quality.

Results

Descriptive Statistics

Individual level. Table 1 shows the means, standard deviations, and correlations of individual-level study variables (from both analyses of hypotheses and exploratory analyses). There are key things to note about this table. Task conflict and relationship conflict are labeled as

"Perceived." I am referring to these variables in such a way because as emergent states, task and relationship conflict are team-level properties (DeChurch et al., 2013). Though individual-level scores will contribute to these team-level properties, when left at the individual level, we are not seeing task and relationship in their emergent form; rather, we are simply seeing individual perceptions of these variables.

Next, I want to clarify what is meant by "Individual" originality and quality. As stated earlier participants in both task conditions were asked to complete a period of individual idea generation. These variables are coder ratings of the forms completed during this individual idea generation phase.

Finally, with regard to the intercorrelations, correlations were generally low and nonsignificant, with the exception of the correlations: (1) between perceived task conflict and perceived relationship conflict and (2) between individual originality and individual quality. Though the correlation between them is large ($r = .53$, $p < .01$), using Cohen's benchmark of .50 for a large correlation (1988), perceived task conflict only shares 28% of the variance in relationship conflict, still leaving 72% of the variance unaccounted for. This indicates that task and relationship conflict, while strongly related to each other, are still separate constructs. Similarly, while the correlation between individual originality and individual quality is also large ($r = .59$, $p < .01$), individual originality only shares 35% of the variance in individual quality, indicating that (though strongly related) ratings of individual originality and individual quality are independent constructs.

Aggregation. All hypotheses for this study concerned team-level variables. For task conflict and relationship conflict in particular, I conceptualized the team level as being the mean, thus before beginning hypothesis testing I needed to assess whether there was evidence to justify

aggregating in this way. First I calculated r_{wg}'s to assess rater agreement. Task conflict had a mean r_{wg} of .79 and relationship conflict had a mean r_{wg} of .79; both well within the range (.71 to .90) LeBreton and Senter suggest represents strong interrater agreement (2008). In addition, I calculated ICC(1)'s to assess the portion of variance in task and relationship conflict ratings that could be attributed to group membership. For task conflict, ICC(1) = .12 (p = .07), indicating that 12.3% of the variance in task conflict ratings is due to group membership. For relationship conflict, ICC(1) = .13 (p = .06), indicating that 12.8% of the variance in ratings of relationship conflict is due to group membership. Though neither of these ICC(1)'s was statistically significant, both of these effect sizes represent a medium effect for group membership, indicating that membership played a role in team member's ratings of task and relationship conflict (LeBreton & Senter, 2008; Murphy & Myors, 1998). Taken together, both the ICC(1)'s and the r_{wg}'s justify aggregation of task and relationship conflict.

Though not directly part of my hypotheses, during the course of exploratory analyses I became interested in the role that individual personality variables would play at the team level. For the purposes of these analyses, I justified my aggregation through theoretical interest; I had no reason to suspect that team membership would influence scores on individual personality variables, thus I did not use r_{wg}'s or ICC(1)'s to justify my aggregation.

Team level. I created a team-level variable of task conflict, relationship conflict, and general self-efficacy by using the mean of the individual ratings on each dimension as a composite variable. Of these three, general self-efficacy is the only variable specified as a mean in Table 2; this is due to the fact that general self-efficacy is the only variable that inherently exists at the individual level. On the other hand, team originality and team quality were rated

from the final idea turned in by each team at the end of the experiment. Thus, these ideas were the result of each team's collaborative efforts and exist only at the team level.

It is also worth noting that, while perceived relationship conflict was not correlated with originality at the individual level, there was a significant, small to moderate, negative correlation between relationship conflict and originality at the team level (r = -.25, p < .05). This serves as additional evidence supporting relationship conflict as a team property likely to negatively influence originality.

Hypothesis Testing

I tested Hypothesis 1, that the strength of the positive relationship between task conflict and creativity will depend on relationship conflict, using bootstrapped moderated regression analysis. In this and all further analyses, I used 1,000 bootstrap samples with a confidence interval of 95%. In addition, in this and further analyses, continuous variables were centered prior to creating the interaction term. Thus, for the test of Hypothesis 1 in particular, task conflict and relationship conflict were centered prior to calculation of the interaction term.

Counter to predictions in Hypothesis 1A, while the relationship between task conflict and originality was positive when relationship conflict was low, the relationship did not change direction from positive to negative when relationship conflict was high. Instead, only the strength of the relationship changed. Conditional effects from the moderated regression analysis showed that, when originality was the measure of creative performance, the strength of the relationship between task conflict and originality was strongest when relationship conflict was a standard deviation below the mean (b = .28, t = 1.13, p = .26), and became weaker as relationship conflict increased to the mean (b = .20, t = .75, p = .45) and weakest as it reached a standard deviation above the mean (b = .11, t = .30, p = .77). This, in addition to the fact that neither the

main effect of task conflict on originality (b = .20, p = .45) nor the interaction term (b = -1.88, p = .65) was statistically significant, fails to provide support for Hypothesis 1A.

Conditional effects from the moderated regression analysis using quality as the measure of creative performance showed that the strength of the relationship between task conflict and quality was strongest when relationship conflict was at its mean (b = .13, t = .65, p = .51), and became weaker as relationship conflict decreased to a standard deviation below the mean (b = .11, t = .59, p = .56) and weakest as it reached a standard deviation above the mean (b = .15, t = .52, p = .60). While the relationship between task conflict and quality was positive when relationship conflict was low, once again the direction of the relationship did not change as relationship conflict became greater. Rather, the relationship between task conflict and quality became more positive as relationship conflict increased. This, in addition to the fact that neither the main effect of task conflict on quality (b = .13, p = .51) nor the interaction of task and relationship conflict (b = .05, p = .88) was significant, fails to provide support for Hypothesis 1B.

Hypothesis 2 was tested using a bootstrapped independent samples t-test. Results indicated there were no significant differences in relationship conflict due to leadership condition (t = -.51, p = .62). Moreover, means from the two groups indicate that mean relationship conflict was higher for the pragmatic leadership condition (mean = 1.89, SD = .41) than the charismatic leadership condition (mean = 1.84, SD = .48). This pattern was counter to that predicted in Hypothesis 2, thus Hypothesis 2 was not supported.

Hypothesis 3A and 3B were also tested using bootstrapped moderated regression. Conditional effects from testing Hypothesis 3A, indicate that when the task is not creative the relationship between task conflict and originality is more strongly negative (b = -.24, t = -.79, p

= .43) than when the task is creative (b = -.05, t = -.21, p = .83). Though Hypothesis 3A predicted positive relationships between task conflict and originality, the conditional effects of the relationship between task conflict on originality indicate that, whether the task is creative or not, the relationship between task conflict and creativity will be negative, which fails to support the direction of the hypothesized relationship. Moreover, the relationship between task conflict and originality was weaker for the creative task than it was for the noncreative task, which was also counter to the predicted pattern. Thus, the results of the moderated regression fail to support Hypothesis 3A.

Finally, Hypothesis 3B was tested. As before, the main effect for task conflict on originality indicated a negative relationship (b = -.08, t = -.56, p = .57). Moreover, the conditional effects indicated that, whether the task was not creative (b = -.14, t = -.60, p = .55) or creative (b = -.04, t = -.21, p = .84) the relationship between task conflict and quality is negative. This fails to support the positive relationship predicted by Hypothesis 3B. Lastly, rather than the relationship between task conflict and quality being stronger when the task was creative (as predicted), the relationship between task conflict and quality was stronger when the task was not creative. Thus, these results fail to provide support for Hypothesis 3B.

Exploratory Analyses

Following Spector, Rogelberg, Ryan, Schmitt, and Zedeck's (2014) call for a balance between theoretically-derived, deductive research and the inductive work that fuels that research, I chose to conduct additional, exploratory analyses not directly related to my hypotheses.

First, I chose to consider the possibility that I had misspecified the relationship between task conflict, relationship conflict, and creativity. It seemed possible that the relationship might

be better captured by a mediation model, where relationship conflict mediates the relationship between task conflict and creative performance.

In addition, as discussed previously, Bradley et al. (2013) posit four types of conditions that moderate the relationship between task conflict and team performance: elements of the conflict, the task, the team, and the individuals within the team. In my study I directly manipulated two of these types: (1) characteristics of the task were manipulated through the task condition and (2) characteristics of the team were manipulated through the leadership condition. Thus, it seemed logical to focus my exploratory analyses on yet another type of condition that may moderate the role between task conflict and performance: individual characteristics. Thus, combining this moderation approach suggested by previous research with the mediation laid out above, my exploratory analyses primarily tested moderated mediation models. Particularly, I chose to investigate whether personality variables of the team might moderate the mediation of the task conflict – creative performance relationship through the link between task conflict and relationship conflict. I chose to test only the moderation at the individual level and the full moderated mediation at the team level.

While I had administered a variety of personality measures, from achievement striving to big five variables such as extraversion and agreeableness, the particular personality variable I chose to use to test this moderated mediation was general self-efficacy. General self-efficacy refers to a person's confidence in their ability to perform well in a wide variety of tasks and situations (Chen et al., 2001). It seems logical that individuals low in general self-efficacy may be more likely to assign internal attributions to task conflict and thus, also more likely to view task conflict as a personal attack. This type of attribution is in turn more likely to lead to

relationship conflict. Thus, general self-efficacy may moderate the relationship between task and relationship conflict.

Individual level. Though I did collect individual measures of creativity from participants during the individual idea generation phase, because this occurred prior to any work they accomplished as a team, it seems unlikely any task or relationship conflict should have occurred prior to their completion of the individual creativity portion of the study. Due to this temporal issue, rather than test the full moderated mediation, I chose to only test the moderation at the individual level. In testing whether general self-efficacy moderates the relationship between perceived task conflict and perceived relationship conflict, I used Hayes' PROCESS macro for SPSS in order to test all conditions simultaneously (Hayes, 2012).

The results of the moderation analysis indicated a significant, negative main effect for general self-efficacy on perceived relationship conflict (b = -.26, t = -2.92, p < .01), indicating that as general self-efficacy increases, perceived relationship conflict decreases. In addition, there was a significant, positive main effect for task conflict on relationship conflict (b = .58, t = 10.37, p < .001), indicating that as perceived task conflict increases, perceived relationship conflict also increases. Finally, the interaction term was also significant (b = -.36, t = -2.91, p <.01). The conditional effects indicate that, as individual general self-efficacy increases, the relationship between task conflict and relationship conflict becomes less positive and less strong. See Figure 2 for a visual representation of this moderation.

Team level. To explore whether moderated mediation (Muller, Judd, & Yzerbyt, 2005; Preacher, Rucker, & Hayes, 2007) exists at the team level, I tested four conditions: (1) whether a direct effect exists between task conflict and originality, (2) whether the interaction between task conflict and general self-efficacy predicts relationship conflict, (3) whether relationship conflict

is significantly related to originality, and (4) whether there are different conditional indirect effects for the mediation at different levels of the moderator. Once again, I used Hayes' PROCESS macro for SPSS in order to test all conditions simultaneously (Hayes, 2012).

The results from testing the main effect of Hypothesis 1, where task conflict was not significantly related to originality, serve as the test of Condition 1 for the moderated mediation. Thus, Condition 1 was not met. To test Condition 2, I used a moderated regression to test whether the interaction of mean general self-efficacy and task conflict significantly predicted relationship conflict. Prior to examining these relationships, general self-efficacy and task conflict were mean-centered. Results showed the interaction term for mean task conflict and general self-efficacy was significant in predicting relationship conflict (b = -1.00, t = -2.83, p < .01). As a result, Condition 2 was satisfied. Results of this moderated regression are presented in Figure 3.

Condition 3 was also met during my test of Hypothesis 1, in which I found that relationship conflict was significantly, negatively related to originality (b = -.47, t = -1.98, p = .05). Though Condition 1 for the mediation was not met, because both the second and third conditions were met, I proceeded to test the fourth condition for moderated mediation.

Finally, I tested Condition 4, which assesses whether the strength of the conditional indirect effect of task conflict on originality via relationship conflict will be different across different levels of general self-efficacy. I examined the confidence intervals and found significant indirect effects for task conflict on originality at low team self-efficacy, mean team self-efficacy, and high team self-efficacy. Significance was determined based on the fact that none of the confidence intervals included zero. Though the indirect effects were significant at all

levels of general self-efficacy, the indirect effect at low team self-efficacy was stronger than that of the effect when team self-efficacy was high. Results are presented in Table 3.

At this point it is important to note that, while the moderated mediation at the team level was largely supported, the direct relationship between task conflict and originality (Condition 1 for the moderated mediation) was not significant. In order to investigate the degree to which the nonsignificance of this direct effect is important, I decided to investigate the possibility of suppression effects within the mediation. In considering the mediation analysis independently of the test of moderated mediation, I found that the direct effect of task conflict on originality indicates that, if relationship conflict is held constant, task conflict is likely to lead to increases in originality (b = .25, t = 1.05, p = .30). However, the indirect effect of task conflict on originality is negative (b = -.36, p < .05), this occurs because of the multiplication of a positive effect (between task and relationship conflict) and a negative effect (between relationship conflict and originality) in calculating the indirect effect. The opposite signs between these indirect and direct effects indicate the presence of suppression effects. As such, we can conclude that the moderated mediation at the team level was successful, given we cannot expect Condition 1 to be significant due to the presence of suppression effects in the mediation model.

The findings from the moderated portion of this mediated moderation model indicate that, as mean general self-efficacy increases within a team, the relationship between task conflict and relationship conflict grows weaker. This, in combination with task conflict's impact on creative performance through relationship conflict, indicates that team level personality characteristics are an important facet in impacting the relationship between task conflict and creativity.

Discussion

By investigating the nature of the relationship between task and relationship conflict and whether that relationship is mediated or moderated, I have found additional evidence clarifying the nature of the relationship between task conflict, relationship conflict, and creativity. My findings suggest that, rather than relationship conflict moderating the relationship between task conflict and team creativity (which would have been consistent with the work of Shaw et al., 2011), relationship conflict mediates the relationship. These findings provide partial support for the mediated relationships found by Friedman, Tidd, Currall, and Tsai (2000) and Medina, Munduate, Dorado, Martinez, & Guerra (2005), who each found that relationship conflict mediated the relationship between task conflict and affective variables. In addition, my findings extended their work by demonstrating that relationship conflict can mediate the relationship between task conflict and performance variables.

Furthermore, I sought to contribute to the work seeking to identify moderators of the relationships between the task conflict, relationship conflict, and performance variables. Contrary to my predictions, however, I did not find that leadership style significantly impacted relationship conflict or that the relationship between task conflict and creativity was dependent on task condition.

Finally, I extended the work of Bradley et al. (2013) which found that openness moderates the relationship between task conflict and team performance. I argued and found that general self-efficacy would moderate the relationship between task and relationship conflict, ultimately resulting in a moderated mediation at the team level. Moreover, though the full moderated mediation model could not be tested at the individual level, the moderated relationship could be tested and the findings supported that general self-efficacy moderates the

relationship between (perceived) task conflict and relationship conflict. Thus, by incorporating general self-efficacy as a moderator, I am one of the first to demonstrate that personality factors comprising team characteristics can influence the mediation of the task conflict creativity relationship.

Implications

The results of this research effort have both theoretical and practical implications. First, the results of this study further the theory that context drives the degree to which task conflict might positively influence creativity. Given the moderated mediation proved to be a successful intervention, it may be that teams with a high level of general self-efficacy were better able to experience task conflict without necessarily experiencing relationship conflict. By increasing general self-efficacy, teams may have increased their ability to experience task conflict and keep from taking that conflict as a personal attack, thus resulting in an increase in creativity.

Of additional importance for researchers is the finding that relationship conflict can mediate the relationship between task conflict and creativity. As mentioned previously, while these results support the work of Friedman et al. (2000) and Medina et al. (2005), they contradict the results of Shaw et al. (2011), whose work showed that relationship conflict moderates the relationship between task conflict and creativity, not moderates it. As such, the theoretical implications of this provide support for the literature showing that relationship conflict mediates the relationship between task conflict and creativity. The contradictory nature of these results to some of the more nascent literature, suggests that future research should investigate whether the relationship between task conflict, relationship conflict, and creativity is one of mediation or moderation.

A key practical implication of this research is that managers looking to increase the creative performance of their work teams should encourage task conflict among teams with strong general self-efficacy. Teams with high mean general self-efficacy are best able to separate task and relationship conflict, resulting in a weaker, less positive relationship between those conflict types. In working with these high self-efficacy teams, managers should recognize that some conflict may be beneficial for creative performance and should build time into the project lifecycle for team members to voice disparate, task-related opinions.

Limitations

Though the findings of this study do have interesting theoretical and practical implications, the study design choices made have particular limitations associated with them. First, due to the structure of the experiment the survey assessing team dynamics (including task and relationship conflict) was only administered once at the end of the experimental session, making this study cross-sectional in nature. Thus, there is no way to tease apart the additional detail temporal considerations might bring to light, and the results should be interpreted with caution. Future research should investigate these relationships through use of a longitudinal design. This would allow researchers to examine how task conflict and relationship conflict develop over the life cycle of a project.

In addition, the choice to use university students as the study participants introduces potential limitations to generalizability. The age of these students, in addition to their limited work experience, and their lack of familiarity with their team members may not generalize to professionals in an organizational setting. Future research should test these relationships in an organizational setting. This would allow researchers to see whether the mediation of the task conflict creativity relationship holds over long-term project teams. In addition, it would test if

mean general self-efficacy truly plays a role in moderating the relationship between task and relationship conflict for full-time workers working on long-term project teams.

An additional limitation of the study design was a lack of a manipulation check incorporated into the team survey participants took at the end of the study. This would have ensured that the confederate leaders were successfully representing their intended styles throughout the study. Though I can be reasonably sure the confederate leaders were representing the leadership styles accurately, due to the extended feedback and practice they received during pilot testing, there is no way to know for certain that the leadership styles were represented as intended without a manipulation check.

Finally, due to the inductive nature of the testing of those relationships, these results represent an introductory look at the relationships between mean general self-efficacy, task conflict, relationship conflict, and creativity. Thus, future research should investigate the mechanisms at work in the moderated mediation uncovered in the exploratory analysis, in order to better understand: (1) the nature of the relationships between these variables, (2) what other variables may also be impactful, and (3) how these concepts might come together to form even more effective interventions.

Conclusion

The findings from this study provide additional support for the idea that task conflict can be beneficial for creativity, when in the proper context. Mean general self-efficacy of a team may serve to reduce the degree to which a team experiences task conflict as a personal attack, thus resulting in better creative performance. It may be that, by creating teams with high mean self-efficacy and/or capitalizing on teams that already have it, organizations can maximize the degree to which task conflict might positively impact creativity. It is my hope that researchers will

further investigate the relationship between general self-efficacy, task conflict, relationship conflict, and creativity. With a more expansive understanding of how these variables relate to each other, interventions might be developed where task conflict can positively impact creative performance while relationship conflict is managed.

References

Anderson, N., De Dreu, C. K., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, *25*(2), 147-173.

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. *Journal of Organizational Behavior*, *19*(3), 235-258.

Ayoko, O.B. & Callan, V.J. (2010). Teams' reactions to conflict and teams' task and social outcomes: The moderating role of transformational and emotional leadership. *European Management Journal, 28*(3), 220-235.

Besemer, S.P., & O'Quin, K. (1999). Confirming the three-factor Creative Product Ananlysis Matrix model in an American sample. *Creativity Research Journal, 12*, 287-296.

Bradley, B. H., Klotz, A., Baur, J. E., & Banford, C. G. (2013, January). When Does Conflict Improve Team Performance? A Review of Evidence and Framework for Future Research. In *Academy of Management Proceedings* (Vol. 2013, No. 1, p. 17093). Academy of Management.

Bradley, B. H., Klotz, A. C., Postlethwaite, B. E., & Brown, K. G. (2013). Ready to rumble: How team personality composition and task conflict interact to improve performance. *Journal of Applied Psychology*, *98(2)*, 385-392.

Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology*, *91*(6), 1189.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4*(1), 62-83.

Christiaans, H.H.C.M. (2002). Creativity as a design criterion. *Creativity Research Journal, 14*, 41-54.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Conger, J. A., & Kanungo, R. N. (1998). *Charismatic leadership in organizations*. Thousand Oaks, CA: Sage.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98-104.

Curşeu, P. L. (2010). Team creativity in web site design: An empirical test of a systemic model. *Creativity Research Journal, 22*(1), 98-107.

De Dreu, C. K. (2002). Team innovation and team effectiveness: The importance of minority dissent and reflexivity. *European Journal of Work and Organizational Psychology, 11*(3), 285-298.

De Dreu, C. K. (2006). When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams. *Journal of Management, 32*(1), 83-107.

De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*(4), 741-749.

De Dreu, C. K., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology, 86*(6), 1191-2001.

De Wit, F. R., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology, 97*(2), 360-390.

DeChurch, L. A., Mesmer-Magnus, J. R., & Doty, D. (2013). Moving beyond relationship and task conflict: Toward a process-state perspective. *Journal of Applied Psychology, 98(4),* 559-578.

Devine, D.J., Clayton, L.D., Phillips, J.L., Dunford, B.B., Melner, S.B. (1999). Teams in organizations: Prevalence, characteristics and effectiveness. *Small Group Research, 30*, 678-711.

Edmondson, A. C., & Roloff, K. S. (2009). Overcoming barriers to collaboration: Psychological safety and learning in diverse teams. *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches*, *34*, 183-208.

Egan, T. M. (2005). Creativity in the context of team diversity: Team leader perspectives. *Advances in Developing Human Resources , 7*(2), 207-225.

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*(6), 1173-1180.

Friedman, R. A., Tidd, S. T., Currall, S. C., & Tsai, J. C. (2000). What goes around comes around: The impact of personal conflict style on work conflict and stress. *International Journal of Conflict Management, 11(1),* 32-55.

Gardner, W. L., & Avolio, B. J. (1998). The charismatic relationship: A dramaturgical perspective. *Academy of Management Review*, *23*(1), 32-58.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from http://www.afhayes.com/public/process2012.pdf

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*(5), 1128.

Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*(2), 256-282.

Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly, 42*(3), 530-557.

Kotlyar, I., Karakowsky, L., & Ng, P. (2011). Leader behaviors, conflict and member commitment to team-generated decisions. *The Leadership Quarterly, 22*(4), 666-679.

Kurtzberg, T. R., & Amabile, T. M. (2001). From Guilford to creative synergy: Opening the black box of team-level creativity. *Creativity Research Journal, 13*(3-4), 285-294.

Kurtzberg, T. R., & Mueller, J. S. (2005). The influence of daily conflict on perceptions of creativity: A longitudinal study. *International Journal of Conflict Management, 16*(4), 335-353.

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods, 11*(4), 815-852.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review, 26*(3), 356-376.

Medina, F. J., Munduate, L., Dorado, M. A., Martínez, I., & Guerra, J. M. (2005). Types of intragroup conflict and affective reactions. *Journal of Managerial Psychology, 20*(3/4), 219-230.

Muller, D., Judd, C.M., & Yzerbyt, V.Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology, 89*, 852-863.

Mumford, M. D. (2006). *Pathways to outstanding leadership*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Mumford, M. D., & Van Doorn, J. R. (2001). The leadership of pragmatism: Reconsidering Franklin in the age of charisma. *The Leadership Quarterly, 12*(3), 279-309.

Murphy, K.R., & Myors, B. (1998). *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests.* Mahwah, NJ: Lawrence Erlbaum.

Nemeth, C. J., & Ormiston, M. (2007). Creative idea generation: Harmony versus stimulation. *European Journal of Social Psychology, 37*(3), 524-535.

Nemeth, C. J., Personnaz, B., Personnaz, M., & Goncalo, J. A. (2004). The liberating role of conflict in group creativity: A study in two countries. *European Journal of Social Psychology, 34*(4), 365-374.

Orlitzky, M. & Benjamin, J.D. (2003). The effects of sex composition on small-group performance in a business school case competition. *Academy of Management Learning and Education, 2*(2), 128-138.

Preacher, K.J., Rucker, D.D., & Hayes, A.F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*, 185-227.

Reiter-Palmon, R., Wigert, B., & de Vreede, T. (2012). Team creativity and innovation: The effect of group composition, social processes, and cognition. In M.D. Mumford (Ed.), *Handbook of organizational creativity* (pp. 295-326). San Diego, CA: Elsevier.

Rietzschel, E. F., Slijkhuis, J. M., & Van Yperen, N. W. (2014). Task structure, need for structure, and creativity. *European Journal of Social Psychology, 44(4)*, 386-399.

Rosa, J. A., Qualls, W. J., & Fuentes, C. (2008). Involving mind, body, and friends: Management that engenders creativity. *Journal of Business Research*, *61*(6), 631-639.

Shaw, J. D., Zhu, J., Duffy, M. K., Scott, K. L., Shih, H. A., & Susanto, E. (2011). A contingency model of conflict and team effectiveness. *Journal of Applied Psychology*, *96*(2), 391-400.

Shrout, P.E. & Fleiss, J.L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, *86*(2), 420-428.

Spector, P. E., Rogelberg, S. G., Ryan, A. M., Schmitt, N., & Zedeck, S. (2014). Moving the pendulum back to the middle: Reflections on and introduction to the inductive research special issue of Journal of Business and Psychology. *Journal of Business and Psychology*, *29*(4), 499-502.

Van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004). Diversity and group performance: An integrated model and research agenda. *Journal of Applied Psychology* , *89*(6), 1008-1022.

Appendix A: Tables

Table 1
Means, Standard Deviations, and Correlations between Individual-Level Variables

	M	SD	1	2	3	4	5
1. Perceived Task Conflict	1.86	.59	--				
2. Perceived Relationship Conflict	1.58	.62	.53**	--			
3. General Self Efficacy	3.99	.39	-.04	-.17	--		
4. Individual Originality	2.48	.67	.05	-.01	-.01	--	
5. Individual Quality	2.59	.62	.08	-.01	.06	.59**	--

Note. $N = 129$ individuals.
*$p < .05$; **$p < .01$.

Table 2
Means, Standard Deviations, and Correlations between Team-Level Variables

	M	SD	1	2	3	4	5
1. Task Conflict	2.19	.42	--				
2. Relationship Conflict	1.85	.44	.57**	--			
3. Mean General Self-Efficacy	3.98	.25	-.05	-.14	--		
4. Team Originality	2.48	.67	-.07	-.25*	.04	--	
5. Team Quality	2.63	.50	-.05	-.16	.01	.49**	--

Note. N = 81 teams.
*$p < .05$; **$p < .01$.

Appendix B: Figures

Figure 1. An overall model depicting the hypothesized relationships in this study.

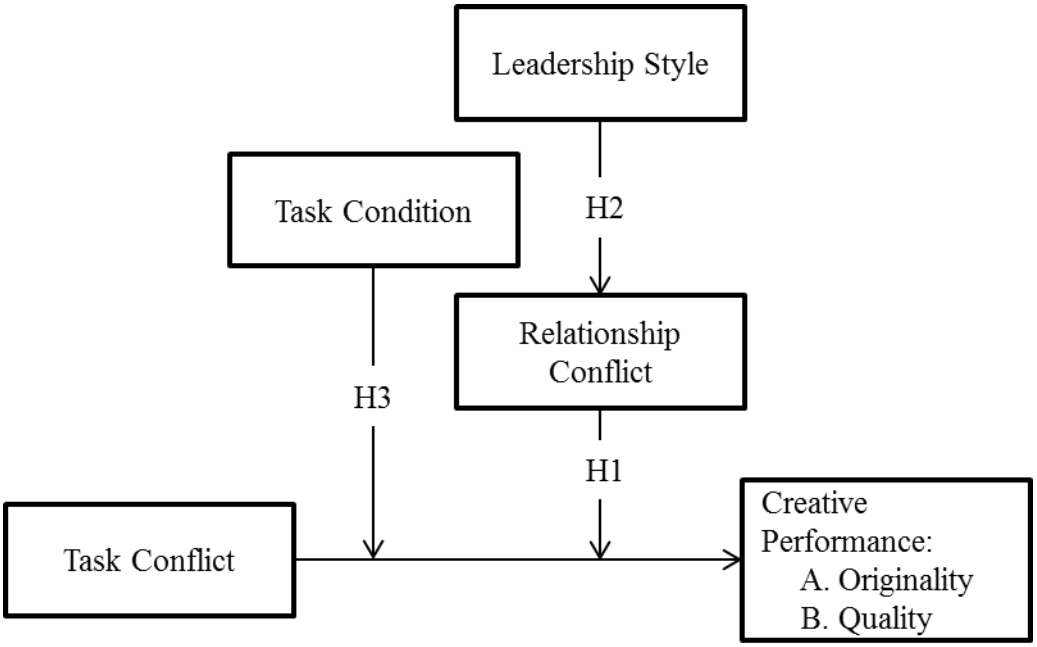


Figure 2. Individual-level interaction of Mean-Centered Perceived Task Conflict and General Self-Efficacy.

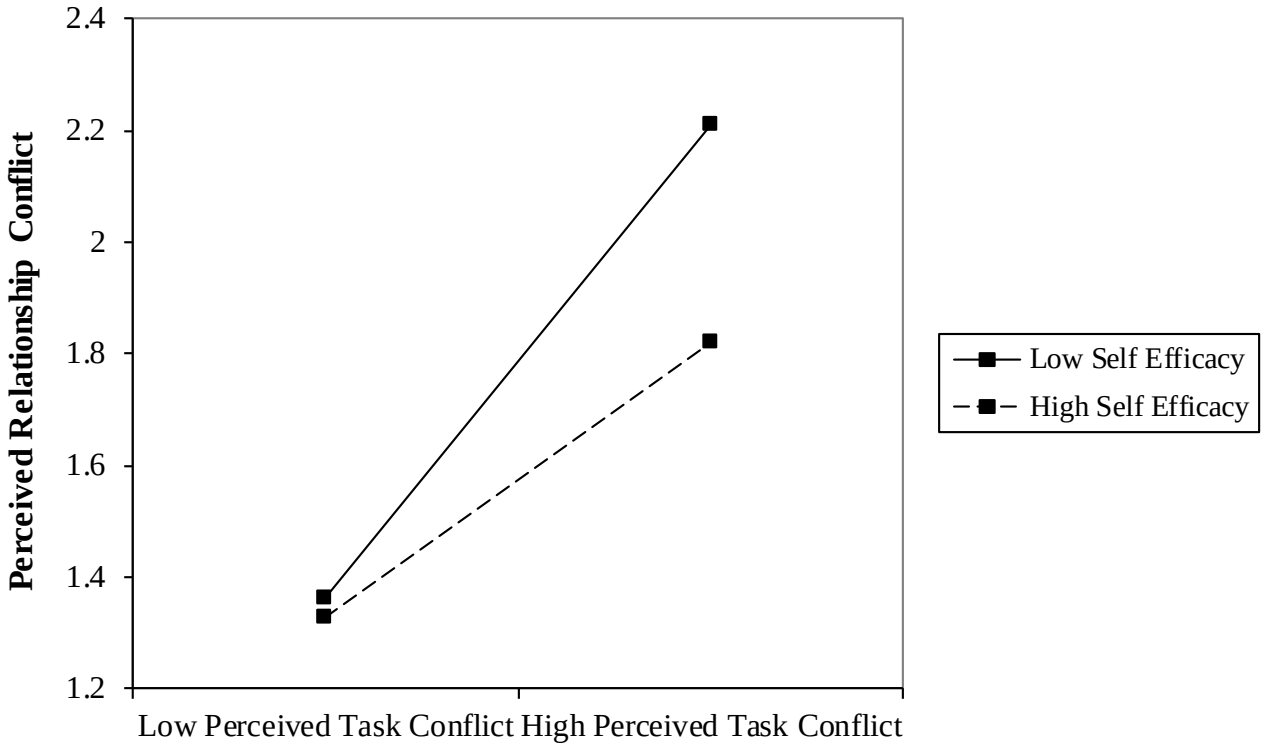
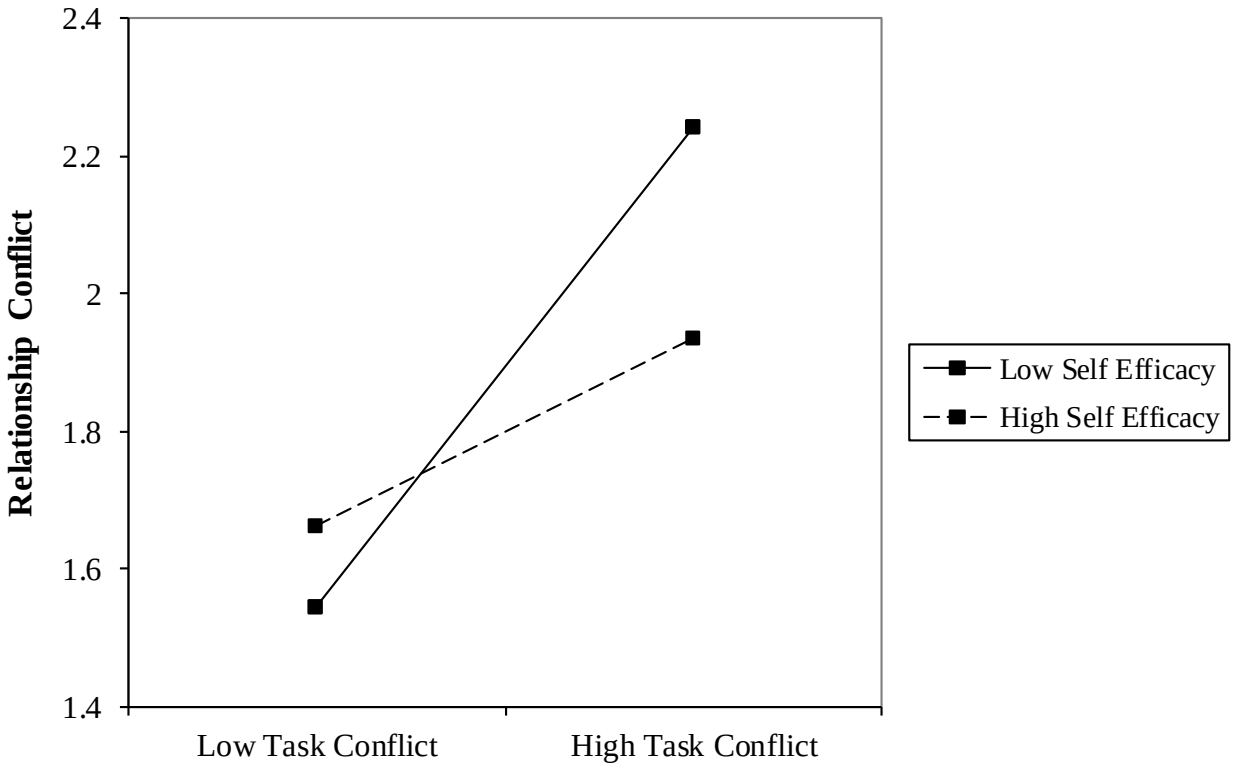


Figure 3. Team-level interaction of Mean-Centered Task Conflict and General Self-Efficacy.



Appendix C: Materials

Material 1. Protocol for confederates acting as Pragmatic Leaders.

You have been randomly selected to serve as the leader in today's study. Below you will find advice on how to lead your team, as well as your required tasks.

A reminder on leadership: The most effective leaders are focused on **directing their team through tasks to reach an end goal**. They focus on **matter-of-fact management** of their team. Effective leaders do NOT appeal to the team members' emotions; as a result, they will **use less inflection/intonation** to convey their points.

Required Tasks:

1. Clarify the group's goal
2. Communicate high performance expectations and exhibit confidence in the group's ability to meet these expectations
3. Assign roles to group members
4. Explain the value of debate (structured-conflict)
5. Establish and maintain positive interaction among group members by:
    a. Specifying acceptable and unacceptable rules of conduct
6. Lead group through the task by:
    a. Keeping track of the time
    b. Giving each member ample opportunity to share their ideas
7. Repeatedly emphasize the larger value of sending a good/quality commercial (suggestions below)
8. Use praise and negative feedback to steer toward debate

Some ways to initiate the conversation and help manage it:

1. "It would be great to design a commercial that changes PSUs reputation."
2. "Coming up with a good commercial could really help sway public opinion about PSU."

Additional Advice:

1. Be matter-of-fact
    a. Be **monotone** (minimal intonation)
    b. Convey points and goals directly, avoid emotionally charged language
    c. Only be as friendly as necessary to complete the task
2. Emphasize the distant, larger goals
    a. Maintain focus on these larger goals (not the individuals)
3. Emphasize importance of task, not individuals
    a. Focus on the importance of the overall goal of creating good sanctions,
    b. Take notes, focus on notes rather than making eye contact

Material 2. Protocol for confederates acting as Charismatic Leaders.

You have been randomly selected to serve as the leader in today's study. Below you will find advice on how to lead your team, as well as your required tasks.

A reminder on leadership: The most effective leaders **focus on building relationships with their team members** and **leading through a 'shared vision**.' This vision is one that they and their team members will have **an emotional connection** to. Effective leaders will **speak with more inflection to their voice**, **appear more interested/excited** in what they and the team are doing, etc.

Required Tasks:

1. Clarify the group's goal
2. Communicate high performance expectations and exhibit confidence in the group's ability to meet these expectations
3. Assign roles to group members
4. Emphasize the value of individual group members in achieving success
5. Explain the value of debate (structured-conflict)
6. Establish and maintain positive interaction among group members by:
    a. Specifying acceptable and unacceptable rules of conduct
7. Lead group through task by:
    a. Keeping track of the time
    b. Giving each member ample opportunity to share their ideas
8. Repeatedly appeal to achievement and esteem needs
    a. These should involve implications for self-identity and consideration of one's contribution to the group
9. Use praise and negative feedback to steer toward debate

Some ways to initiate the conversation and help manage it:

1. "I get a little sad thinking about our negative image. Does anyone else feel that way?"
2. "I'm excited to hear your individual ideas. What we contribute individually will be really important to our group submitting a good list of sanctions."
3. "If Governor Corbett's case is successful, it'll really help Penn State's reputation."
4. "I heard people last year had internship opportunities taken away from them because of their association to Penn State. This could help make that a more positive thing."

Additional Advice:

1. Express emotion, especially **excitement** about the topic
    a. Be friendly and charismatic (smile)
    b. Be enthusiastic about the sanctions
    c. Focus intently on the person speaking, make them feel important
2. Emphasize individuals, make participants feel important
    a. Eye contact and approving head nodding as they speak
3. Make appeals to self-identity and esteem, tie goals to participants
4. Connect team to the task **emotionally**