A MULTILEVEL INVESTIGATION OF THE EFFECT OF TASK CONFLICT ON CREATIVE PERFORMANCE: FOCUSING ON THE ROLE OF INFORMATION SHARING AND TEAM TRUST

BY

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DISSERTATION

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ABSTRACT

This dissertation proposes a complex and nuanced view to understand the effect of task conflict on creativity, emphasizing the role of critical contingencies. For a team-level phenomenon, I argue that teams can harvest the benefits of task conflict when they engage in information and knowledge sharing activities and maintain high levels of trust in the team, actions that both affect the mechanism through which informational resources generated by task conflict are effectively utilized for team creativity. For an individual-level analysis, I focus on each individual's asymmetric conflict perception within a team and its relation to individual creativity. I argue that individuals perceiving higher levels of task conflict than other members of the team are likely to achieve greater individual creativity. I also propose that team's information sharing climate and team trust would moderate the relationship between an individual’s conflict perception of task conflict and his or her creative performance.

Results of the data analysis provide evidence for the claim that the effect of task conflict on creativity is affected by team-level contextual factors. Teams that were high in information sharing climate or team trust achieved greater team creativity than teams that were low in either condition at any given levels of task conflict. However, the enhancing moderating effects of both information sharing climate and team trust decreased as task conflict increased within the team. The relationship between individual conflict perception and individual creativity has been also supported, proving that the benefits of task conflict exist also at an individual level. Team's information sharing climate was found to be a facilitative context that influences the creative behaviors of individuals, however; the role of team trust was not supported.
The key implication of this research is that task conflict can be beneficial to creativity both at an individual and team level, and that the benefits of task conflict can be amplified when teams are engaged in open and extensive information sharing or maintain high team trust. The findings of this research also suggest that effective conflict management should now focus on the utilization of a conflict rather than the control of it with a consideration of other important team processes. Finally, this thesis calls for more empirical examinations to test the contingency perspective of conflict and to identify critical conditions that may amplify the benefits of task conflict in order to enhance and refine our understanding of the effects of team conflict.
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# TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION ......................................................................................... 1

CHAPTER 2: CONFLICT IN TEAMS – A CONTINGENCY PERSPECTIVE ................... 9

CHAPTER 3: THE ROLE OF INFORMATION SHARING CLIMATE AND TEAM TRUST .............................................................................................................. 22
  3.1 Task Conflict and Team Creativity ......................................................................... 22
  3.2 Individual Conflict Asymmetry and Individual Creativity ........................................ 37

CHAPTER 4: METHODOLOGY ..................................................................................... 49

CHAPTER 5: RESEARCH FINDINGS ............................................................................. 56

CHAPTER 6: DISCUSSION AND CONCLUSIONS ....................................................... 70

REFERENCES ............................................................................................................... 85

APPENDIX .................................................................................................................. 95
CHAPTER 1: INTRODUCTION

Conflict is not an episodic phenomenon bracketed off from the daily functions of an organization. Rather, it is an inherent and ongoing part of organizational life (Kolb & Putnam, 1992; Pondy, 1967, 1992). Katz and Kahn (1978) emphasized that “Every aspect of organizational life that creates order and coordination of effort must overcome tendencies to action, and in that fact lies the potentiality for conflict” (p. 617). Conflict occurs at multiple levels of an organization and arises over various issues. For example, conflict may occur due to limited resources, the desire to maintain a positive self-identity and value, or opposing opinions and beliefs (De Dreu & Gelfand, 2008).

Recognizing that conflict is prevalent and inevitable in teams and organizations, conflict researchers have paid the most attention to the consequences of conflict (for an overview see De Dreu & Weingart, 2003). Whether conflict enhances or hinders the effectiveness of particular teams has been a key question structuring much past conflict research (e.g., Baron, 1991; Putnam, 1993) and continues to be one in the present (e.g., Tjosvold, 2008). However, previous research has only yielded inconsistent results with some studies showing that task conflict has positive effects on team performance and other studies demonstrating negative effects. The question of whether task conflict in teams is beneficial or detrimental to team outcomes has not yet been clearly answered.

This dissertation proposes an approach with the goal of reconciling the divergent findings in the previous research and, further, proposes an answer to the central question of the effect of conflict on team performance. Since most existing research that has taken on the simple assumption that task conflict is either positive or negative for team outcomes only produced mixed findings, conflict researchers have begun to examine conditions or
situations assuming that the effect of conflict on team outcomes may vary depending on context. Drawing on this contingency perspective, this dissertation proposes a more complex and nuanced view to understand the effect of task conflict in teams, emphasizing the role of critical contingencies. The thesis of this dissertation is that the effect of task conflict is likely to be determined by the extent to which individuals and teams effectively materialize the creative resources made available by task conflict in teams, and that two important team-level factors will influence the extent to which individuals and teams harvest the creative potentials for team-level creativity and individual-level creativity.

For a team-level phenomenon, I argue that teams can harvest the benefits of task conflict when they engage in active information and knowledge sharing activities and maintain high levels of trust in the team, actions that both affect the mechanism through which informational resources generated by task conflict are effectively utilized for team outcomes, specifically for creative performance. Teams can harvest the creative potentials arising from their differences in ideas and perspectives only when the broad range of diverse ideas and perspectives are fully exchanged and shared for the sake of sharing and increasing uniqueness to the team's information pool, and, more importantly, for the generation of a newer and better set of ideas. Therefore, the form of the relationship between task conflict and team creativity will depend on the extent to which a team's potential informational resources are facilitated and further explored by possibly all team members.

Team trust is another critical factor that may affect the process through which a team's creative potentials can be harvested. In other words, a team’s active information sharing will help the team make good use of diverse informational resources revealed by task conflict, and it is high team trust that will create a psychological and social context in
which team members can better embrace differences and feel motivated to discuss and explore the issues in depth for the team's collective outcome. Teams that are high in team trust will achieve greater team creativity for given levels of task conflict as they are better able to be induce collective efforts from their team members, and prevent possible negative psychological outcomes that may result from high levels of task conflict. Teams with high team trust will be able to focus on a team task without being at a risk of becoming emotionally distressed.

Previous conflict research, particularly the ones that have emphasized the role of contexts, mostly focused on the cognitive aspect of the process in which the potentials of task conflict are realized and examined moderators that could enhance team's cognitive ability. However, it is also important to examine team's psychological and motivational context—whether team members are willing to participate in the cognitive process and work hard for the team's collective goals—to understand when and how task conflict can contribute to team creativity. In this regard, team's information sharing climate and team trust seem like an important set of moderators to consider in conflict research. They are expected to facilitate the process by which the informational resources associated with task conflict are realized to team creativity in a complementary manner.

As information sharing climate and team trust seem to work in a complementary way for the process in which the creative potentials of task conflict are realized, it is expected that the creative potentials of task conflict will be best achieved when both conditions exist, suggesting a three-way interaction among task conflict, information sharing climate, and team trust. Teams will be better able to harvest the benefits of task conflict when their
cognitive processes are assisted by active information exchange and sharing activities and fueled by collective motivation from their team members.

In addition to the group-level examination of the effect of task conflict on team creativity, I also examine how individual's conflict perception would play out for individual creativity. In the individual-level analysis, I focus on each individual's asymmetric conflict perception within a team and examine how one's high or low perception of task conflict within the same team affects his or her individual creativity. Most existing research in organizational conflict has primarily focused on the aggregated level of conflict within the team or unit and has examined its effect on various team-level outcomes. In this study, however, I focus on each individual’s asymmetric perception of the team's task conflict. I do so since I believe that in order to understand the effects of conflict on individual-level outcomes, it is important to examine the role of individual-level perceptions of conflict, which are likely to vary across team members, rather than the role of mean levels of team conflict.

I believe that individuals perceiving higher levels of task conflict than other members of the team are likely to achieve greater creative performance, proposing a positive direct relationship between an individual's perception of task conflict and individual creativity. Individuals who perceive higher conflict within the team than other members would be more open to the diversity of ideas and willing to use the perceived differences to reconsider and reevaluate their own ideas and perspectives. In other words, individuals who perceive relatively higher levels of conflict than other members in the team are more likely to take high perceptions of the team's task conflict as intellectual stimuli to review their own ideas and perspectives and the information they have, and to make additional efforts to
verify the information if possible, which is a key to one's creative activities. On the other hand, individuals who perceive little task conflict within the team may be overly confident with what they know or have and feel no need to engage in further information seeking or reflection. Therefore, I argue that an individual's high perception of team's task conflict will be positively related to his or her individual creativity.

In addition to examining the effect of each individual's varying perceptions of task conflict on individual creativity, I also propose that the relationship will be moderated by the extent to which team members participate in an exchange of information and knowledge within the team and by how much they trust one another. High perceivers of conflict, who would spend time thinking about the conflict perceived and would seek out an opportunity to make better sense of the conflict, will find the team’s active information sharing activities beneficial and useful as they can receive additional informational inputs from other members. Therefore, I propose that team's information sharing climate will strengthen the positive relationship between an individual’s asymmetric perception of task conflict and his or her creative performance. Team trust is also expected to strengthen the positive relationship between an individual’s asymmetric perception of task conflict and creative performance by providing a supportive group environment where individuals can feel reduced psychological risks to propose new ideas and suggestions.

This research makes several distinct contributions to research on organizational conflict. First, previous conflict research has been disproportionately focused on generally-defined team performance measures as a consequence of conflict, but only showed mixed findings. This study focuses on creative performance both at the individual and team level and empirically shows that the beneficial effect of task conflict is most likely to be found in
creative outcomes for which diverse informational resources prompted by disagreements among team members are essential. A narrower focus on the outcome that has the most intuitive link with task conflict could provide one way to resolve inconclusive findings of research on the effect of task conflict on team outcomes.

Second, this study provides new insights regarding the contextual manner in which task conflict affects creative outcomes. An important premise of the argument in current research is that the creative potentials generated by task conflict will not automatically translate into team creativity unless teams are able to effectively use the unique informational resources for the team's collective goals. It is meaningful that the two critical contingencies are developed from a theoretical ground of what affects creativity. Specifically, the I-P-O model of team effectiveness research and team creativity literature suggest that it is not enough to have sufficient collective resources for teams to be successful, but rather it is also important to have effective group processes through which those resources are combined into a group level response and to have team member involvement in such group processes. Information sharing climate and team trust are two important team-level contexts that can help the teams with their group processes by respectively facilitating the exploration and utilization of informational resources and increasing team members' collective involvement in such information processing. This study extends the contingency perspective by indentifying two team conditions that could promote the process in which task conflict is positively related to creative outcomes.

This enhanced contextual perspective and supportive findings will extend the stream of research that explores functional contexts that enhance the outcomes of task conflict. Despite the wide recognition of the contextual perspective of the effect of conflict in conflict
research, far too little evidence exists to support critical contingencies shaping the beneficial effect of conflict. This study also provides useful implications for conflict and conflict management in an organization, particularly for the managers and organizations who believe in the positive functions of task conflict and who are interested in utilizing potential benefits of task conflict in teams for creative performance.

Third, there has been a call for research examining the effect of conflict at multiple levels and the various cross-level contexts in which employee conflict develops and is managed. Existing conflict research has, for the most part, not incorporated a multilevel thinking and analysis despite its explicit relevance and significance (De Dreu & Gelfand, 2008). This dissertation examines the effect of task conflict on creative performance both at an individual- and team-level. Research has emphasized a need to examine more than one outcome, preferably at multiple levels, for a fuller, accurate understanding of the effect of conflict in an organization. It is important to extend the question of whether task conflict can be productive for teams into if it is positive, where the benefits of task conflict occur, teams or individuals, to complete a puzzle. This study is one of a few to explore the moderating roles of critical contingencies on creative outcomes at different levels of analysis based on a multi-level approach.

Finally, this research makes a meaningful contribution to the creativity literature by examining the effect of task conflict on team and individual creativity using a large sample of business teams across various functions in a field setting. Data for this study were collected from multiple large Korean companies in the industries of machinery, transportation, construction, heavy manufacturing, and energy. Prior efforts aimed at revealing the sources and nature of creativity have been disproportionately concentrated on
laboratory studies with student subjects (e.g., Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012; Paulus, 2008) or knowledge teams (e.g., Farh, Lee, & Farh, 2010; Shin & Zhou, 2007). This study uses a large sample of work teams across different types of tasks, thus complementing the dominance of laboratory studies in prior research on team creativity. In addition, as the current research examines the conflict-creativity model using data from Korea, it will be able to test whether the multi-level creativity model with team-level task conflict is generalizable to the context outside of the U.S., where prior research on creativity has been primarily conducted (Zhou & Shalley, 2008).

The remainder of this dissertation is composed of five chapters. Chapter 2 reviews previous research on the effect of task conflict on team outcomes and major findings and then discusses a contingency model of the effect of conflict. Chapter 3 proposes a model that examines the effect of task conflict on creative outcomes at different levels of analysis—individual and team. The model draws on the contingency perspective and suggests that the effects of task conflict on both team creativity and individual creativity are moderated by the extent to which team members are involved in information and knowledge sharing and the extent to which they maintain their trust in the team. Chapter 4 describes research samples and outlines the research methodology used for testing the model. Chapter 5 provides empirical results from two analyses. Finally, Chapter 6 concludes by discussing the theoretical and practical implications derived from the study.
CHAPTER 2: CONFLICT IN TEAMS – A CONTINGENCY PERSPECTIVE

Conflict is an inevitable but key component of team processes. It can play a particularly important role in a team or work group setting because a team, by definition, requires a great deal of coordination among members (Guzzo & Dickson, 1996). Such coordination means that the effective use of combined resources and information is key to a team’s success, yet, at the same time, there exists great potential for conflict (Brett, 1984; Schmidt & Kochan, 1972; Schneider & Northcraft, 1999). Take, for example, cross-functional teams where each member brings in different perspectives and knowledge from different organizational functions or departments (i.e. R&D, marketing, or sales). A product development team, a specific type of cross-functional team, may benefit from the wide array of expertise team members possess in terms of creating innovative products or efficient processes (Lovelace, Shapiro, & Weingart, 2001), but also has great potential for conflict resulting from the diversity in viewpoints and processes (Lovelace et al., 2001; Parker, 1994). Therefore, finding a good balance between these two phenomena and, if possible, benefiting from both seems critical for the performance and success of the product development team. A team's effectiveness may ultimately depend on the extent to which the team is able to leverage various, sometimes competing, interactions and processes within the team (Mischel & Northcraft, 1998).

Conflict in Teams and Team Outcomes

Researchers have suggested that certain types of conflict hinder group and organizational performance, while others enhance such outcomes (Jehn, 1994; Jehn, 1995). More specifically, task conflict, often referred to as cognitive or information conflict, has
been conceptually and empirically linked to positive effects on various measures of team effectiveness (Amason, 1996; De Dreu & Van De Vliert, 1997; Jehn, 1995). Relationship- or person-related conflict, on the other hand, has been shown to negatively affect team performance and individual well-being (Chen & Chang, 2005; De Dreu & Van Vianen, 2001; Simons & Peterson, 2000). While there has been little debate over the negative effects of relationship conflict,\(^1\) two contrasting perspectives have been developed regarding the effects of task conflict on team-level outcomes, and empirical evidence is mixed accordingly.

Task conflict is defined as divergent ideas, views, or opinions regarding work issues (Amason & Sapienza, 1997; Jehn, 1995). Similar to the diversity effect, which has been described as a *double-edged sword* in diversity literature (Milliken & Martins, 1996; Williams & O'Reilly, 1998), it seems conflicts have a dual nature that can be beneficial to the group as well as detrimental (Minichilli, Zattoni, & Zona, 2008). In fact, the literature suggests task conflict is capable of having both positive and negative effects on team outcomes, thus making it difficult to come to a straightforward conclusion regarding the effect of task conflict. In general, task conflict has been linked to two types of team outcomes—team performance and team effectiveness in decision-making or decision quality, although the two are not entirely independent.

Dominant research that has focused on general team performance suggests that task conflict usually increases group members’ tendency to scrutinize task issues and to engage in deep and deliberate processing of task-relevant information (Amason & Schweiger, 1997; Janssen, Van De Vliert, & Veenstra, 1999). This fosters learning and the development of

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\(^1\) Theoretical and empirical research consistently suggests that relationship conflict is detrimental from the point of view of both individual and organizational outcomes (Amason, 1996; De Dreu & Van Vianen, 2001; De Dreu & Weingart 2003; Jehn & Mannix, 2001).
new and sometimes highly creative insights, ultimately helping the group to become more effective, efficient, and innovative (De Dreu & West, 2001; Jehn & Mannix, 2001; Pelled, Eisenhardt, & Xin, 1999; van Woerkom & van Engen, 2009). The common reasoning underlying the assertion that task conflict can benefit team performance is that task conflict leads to critical questioning, deeper exploration of issues, learning, and the integration of divergent ideas into a solution (Jehn, 1995; van Woerkom & van Engen, 2009).

Jehn’s research (1995, 1997) is the pioneering work in this stream of investigation that has examined the effect of different types of conflict on team performance. Jehn (1995) argued that task conflict in groups positively affects team performance based on the negative effects caused by a lack of task conflict (i.e., inactivity or conformity) and the beneficial effects of task conflict (i.e., diversity of perspectives and ideas in discussion). Extending the work, Jehn (1997) proposed a generalized conflict model based on her qualitative investigation of six organizational teams. The analysis showed that high-performing groups tend to have low levels of relationship conflict and high levels of task conflict or have low levels of all types of conflict.

The benefits of task conflict have also been examined for groups working on non-routine tasks that often require team discussion such as, most commonly, decision-making tasks (Amason, 1996; Amason & Schweiger, 1997). Researchers who have focused on the positive function of task conflict for a team's decision-making argue that task conflict prevents groupthink (Janis, 1972; Turner & Pratkanis, 1997) and premature group decision-making (De Dreu & West, 2001), and provides team members with a chance to engage in a productive debate and the collective pursuit of an optimal solution (De Dreu & West, 2001; Eisenhardt, Kahwajy, & Bourgeois, 1997; Tjosvold, 1997).
Research suggested that disagreements about the work being performed can, in certain settings, lead to healthy dialogue and debate. Such healthy debate or productive controversy can be linked to enhanced quality decisions (De Dreu & De Vries, 1997; Jehn, 1995; Simons, Pelled, & Smith, 1999). For instance, task conflict may be able to function through the procedure of devil’s advocacy, where someone deliberately attempts to find all that is wrong with the plan and set forth the reasons why the plan should not be accepted, and, thus, promotes high quality decisions by making people seek better alternatives or solutions (Schulz-Hardt, Jochims, & Frey, 2002; Schwenk, 1990).

Tjosvold’s (1985) study on the value of controversy provides a useful implication for the argument in favor of the beneficial effect of task conflict on decision outcomes. He differentiated controversy from other kinds of conflicts of interest as it purely involves ”differences of opinion that at least temporarily prevent, delay, or interfere with reaching a decision” (p.22). He further argued that disagreement itself is never enough to enhance decision making without facilitative interpersonal conditions that allow people in controversy to become open to opposing views and try to integrate them when making their decisions. In a similar vein, De Dreu and West (2001) focused on minority dissent and showed how it stimulates divergent thinking and enhances team innovation in teams performing a variety of tasks. In a top management team (TMT) setting, Amason (1996) showed that task conflict contributed to decision quality. He argued that task conflict promoted the synthesis of diverse perspectives, naturally leading to a better decision than any lone individual would make.

While the optimistic view has been widely held in past research and there is considerable evidence supporting the positive effect of task conflict on team outcomes, the
significance of the positive evidence should be inevitably compromised as there are some studies that have reported negative correlations between task conflict and team performance as well. For example, Vodosek (2007) showed that task conflict in science research groups was negatively related to group performance, although the negative impact of task conflict on the group performance was smaller than that of other types of conflict (e.g., relationship conflict). The negative effect of task conflict stems from the fact that disagreements among team members make it hard to achieve consensus, consequently impeding a team’s ability to find integrative, innovative solutions (Lovelace et al., 2001). Lovelace and colleagues (2001) showed that task disagreement within a new product team is negatively associated with team innovativeness.

In addition, using a sample of the teams from a wide range of organizations in both the public and private sectors, van Woerkom and van Engen (2009) examined the mediating role of team learning on the relationship between task conflict and team performance, but demonstrated that task conflict was not related to team learning and was negatively related to team performance. Furthermore, task conflict may function as a potential threat to team activities (Chatman & Flynn, 2001). To the extent to which team members perceive differences in each other, they are less likely to feel socially integrated or connected (Van Knippenberg, De Dreu, & Homan, 2004), leading to the development of independent norms rather than interdependent and cooperative norms within the team (Chatman & Flynn, 2001). Also, De Dreu and Weingart (2003), in their meta-analysis, showed that both task and relationship conflicts are equally disruptive to team performance.

Reviewing existing literature and particularly drawing on the rather weak evidence supporting the positive effect of conflict that has been suggested in the previous literature,
De Dreu (2008) proposed a pessimistic view of the effect of workplace conflict on teams and organizations. He argued that the positive functions of conflict are found under an extremely limited set of conditions, and that even if there are some positive functions, there is always a chance for it to be offset by the negative functions of conflict, thereby making it hard to find positive conflicts. In his conclusion, he further argued that conflict is primarily negative rather than positive, and there needs to be a measure undertaken to minimize the potentially negative effects of conflict on various outcomes for individuals and groups involved.

Integrating previous research on the effect of task conflict on team outcomes, de Wit, Greer, and Jehn (2012) concluded that there may not be a significant relationship between task conflict and team performance, which is not surprising given that previous studies have shown both positive and negative evidence for the effect of task conflict on team outcomes. They analyzed 116 studies, including those in De Dreu and Weingart (2003), and their results showed that both the 90 percent and 95 percent credibility intervals included zero for the effect of task conflict on team performance, although the relationship between task conflict and team performance was distinctly more positive for a certain type of team (e.g., TMT teams). This finding provides meaningful evidence that the positive effect of task conflict on team performance that has been previously asserted and documented in research needs further assessment and validation.

A body of research has attempted to resolve the inconclusive findings on the effect of task conflict on team outcomes by suggesting that the effect can be positive or negative depending on the conflict level. For example, Jehn (1995) proposed that low to moderate levels of conflict are positively related to team performance while moderate to high conflict
negatively affects team performance. De Dreu (2006) showed that teams had more
innovations in terms of improving procedures or methods of doing work when the level of
task conflict was moderate instead of low or high. More recently, Shaw and colleagues
(2011) demonstrated that the curvilinear relationship between task conflict and team
performance hold only when low levels of relationship conflict exist within the team.

The fact that empirical evidence on the role of task conflict on team performance
outcomes exists in all possible directions (positive and negative) and manners (linear and
curvilinear) shows that the question of whether task conflict in teams is beneficial or
detrimental to team outcomes is still ongoing, and emphasizes a need for a more systematic
approach to make sense of the equivocal findings. Further development of current research
on the effect of task conflict on team outcomes should be made in this direction. A
contingency perspective that focuses on the contexts or situations that influence the effect of
conflict on teams and individuals responds to this call. As opposed to a simple assumption
that some types of conflicts are detrimental and some types are beneficial, all types of
conflict may be functional at times and detrimental at others depending on the context (De
Dreu & West, 2001; Tjosvold, Hui, & Yu, 2003). The focus of conflict research has moved
from whether conflict is good or bad to when conflict can be good.

A Contingency Perspective on the Effect of Conflict

Alongside the competing perspectives on the direct effects of task conflict, which
have generated a pattern of mixed findings, researchers have suggested a contingency
perspective that points to the need to examine the conditions that determine the effects of
conflict on outcomes (Jehn & Bendersky, 2003). De Dreu (2008) argued that all conflicts
may be potentially negative because researchers have observed the positive role of workplace conflict only under an extremely limited set of circumstances. Thus, for example, the positive task conflict effects have largely been documented in the absence of relationship-related conflict; in circumstances where group members are willing to settle on suboptimal instead of optimal decision alternatives; and when the team climate is characterized by high trust and psychological safety (p. 9).

One of the clear implications of this evidence is that the effects of conflict on outcomes are highly contingent on the context under which it develops. The notion that the effects of conflict on individual and group-level outcomes are influenced by the specific context in which they occur is consistent with a contingency perspective that has received increasing attention in the conflict management literature (see for one of the first conceptual discussion on the contingent effect of conflict on outcomes; Jehn & Bendersky, 2003). At its core, the contingency perspective asserts that the extent to which different types of conflicts are functional or dysfunctional for teams and their members is the product of, among other things, a set of contextual variables (De Dreu & West, 2001; Tjosvold, 2008; Tjosvold et al., 2003).

Jehn and Bendersky (2003) proposed a comprehensive Conflict-Outcome Moderated (COM) model in which the relationship between conflict and different measures of effectiveness is contingent on different types of moderating factors, the specific type of conflict, and the timing of the conflict’s occurrence. These proposed moderators fall into four categories differentiated based on whether the moderator weakens or strengthens the positive and/or negative effects of conflict: amplifiers, suppressors, ameliorators, and exacerbators. It is argued that these types of contextual factors are likely to alter the direct
effects of different types of conflict on specific organizational, group and individual outcomes.

One of the amplifier moderators that supposedly strengthen the positive and negative effects of conflict is collaborative conflict management processes. Jehn and Bendersky (2003) argued that task conflict can positively affect organizations in terms of productivity, creativity, and decision-making when task conflict is pro-actively managed. In fact, there has been considerable research that showed that collaborative conflict management was an important condition for the beneficial effect of task conflict on teams and organizations. For example, Tjosvold (1989, 1998) showed that team members achieved better productivity when they engaged in constructive discussion and debate over task conflicts than when conflicts were handled competitively. However, Jehn and Bendersky (2003) also argued that using collaborative conflict management processes can aggravate the negative effect of relationship conflict on team outcomes since talking about relationship conflict distracts team members from their tasks.

The contingency perspective has been further developed by other scholars who examined situations under which the beneficial effect of task conflict on creativity in teams and general performance is moderated. For example, Lovelace and colleagues (2001) showed that the effect of conflict on team performance can be contingent on the extent to which team members rely on collaborative, rather than contentious, communication to resolve differences. The study conducted by Shaw and his colleagues (2011) adds evidence of how team-level context interferes with the way task conflict enhances team performance. Using two samples of work teams in Taiwan and Indonesia, they demonstrated that task conflict no longer positively affected team performance when individuals were distracted by
work-related discussions due to high levels of relationship conflict. Although the focus is on individual outcomes rather than performance, a recent empirical work by Avgar, Lee, and Chung (2013) also showed that the effect of conflict is affected by both individual and team level contingencies. More specifically, they demonstrated that the negative effect of task conflict on employees’ job stress is influenced by the extent to which the discretion allowed to employees and the negative effect of relationship conflict on employees' turnover intention is moderated by the team-level social capital.

Although the contingency perspective on the effect of conflict has been extensively acknowledged in conceptual work and tested in a number of empirical studies, the accumulated evidence from the past decade regarding the important moderating contexts does not provide a strong, consistent pattern of results. The meta-analysis done by de Wit and colleagues (2012) which was discussed above shows, task type or a group's cultural context had no significant moderation effect on the relationship between three types of intra-group conflict and both proximal and distal group outcomes. As a lone exception, the co-occurrence of other conflict types, for example, the existence of relationship conflict for the effect of task conflict, had a meaningful influence on the effect of task conflict on group performance (e.g., Shaw et al., 2011), a replication of the findings by De Dreu and Weingart (2003).

The lack of supporting evidence on the critical moderating contexts affecting the effect of conflict as well as on the direct effect of task conflict on various group outcomes highlights the need to further examine a newer and unique set of possible moderators that are theoretically relevant. Farh, Lee, and Farh's (2010) research extends the set of moderators by integrating a temporal factor, and suggests that task conflict would be most
likely to induce team creativity when it occurs at the early phase of a project team's life cycle rather than later. However, more research should identify critical contingencies that are more directly related to the process in which informational resources surfaced by task conflict are communicated and utilized for a team's creative performance, thus providing insights on how to make use of task conflict in the workplace. Such efforts would contribute to turning a rather passive point of view in understanding the effect of task conflict in teams into a more proactive and constructive approach to harvesting benefits from task conflict.

On the basis of the literature review, I find three potential ways to contribute to the research on the effect of task conflict on team outcomes. First, the discussion on the beneficial effect of task conflict has been limited to the team outcome of overall effectiveness or performance that is often broadly defined rather than a specific type of team outcome. As it is suggested that the constructive potential of task conflict is mostly related to the flow of diverse informational resources triggered by disagreements among team members, the effect of task conflict is expected to be best assessed with the kind of team outcome that would benefit most from the informational resources— diverse ideas and perspectives facilitated by task-related disagreements within the team. Therefore, focusing on creative outcomes that have the most intuitive link with task conflict within the team, and examining the effect of task conflict on individual and team creativity will be a more productive path of inquiry rather than maintaining a general claim that task conflict can be good for the team. Despite the intuitively appealing link between task conflict and team creativity, only a few studies have been done to examine the effect of task conflict on team creativity or innovation in the conflict literature (e.g., De Dreu, 2006). The examination of
the effect of task conflict on team creativity deserves more research attention, and it will add a focus and depth to the conflict research.

Second, the existing conflict research has been disproportionately focused on the consequences of conflict on team performance measures as if conflict affected teams only (De Dreu & Van Vianen, 2001; De Dreu & Weingart, 2003; Jehn & Mannix, 2001; Peterson & Behfar, 2003). Conflict, however, often takes an emotional toll on employees (Giebels & Janssen, 2005; Simons & Peterson, 2000) and affects individuals' performances as well (Jehn, 1995). Therefore, it will be a meaningful step toward a fuller understanding of the functioning of conflict in organizations to expand the dialogue on creative outcomes as a consequence of conflict across levels by considering both individual- and team-level creative performance. De Dreu (2008) emphasized a need for more multi-level studies as it is possible that conflict may have positive consequences at one level that may be negative at another level. It has also been suggested that it is important to conduct a multi-level study that considers more than one set of outcome parameters simultaneously. There is a call for research incorporating multilevel thinking and analysis to study the effect of conflict (De Dreu & Gelfand, 2008).

Third, the mixed findings of previous conflict research and the review of contextual perspective highlight the usefulness of the perspective but also show some areas for development. There should be a continuing line of research that explores critical contexts that affect the effect of task conflict. A few contexts that have been shown to influence the effect of task conflict on team outcomes including team creativity focused mostly on minimized levels of relational tensions and conflict (Shaw et al., 2011) or the way conflict is managed (DeChurch & Marks, 2001; Lovelace et al., 2001). There is a need to study a
broader set of contingencies that affect the conflict-outcome relationship, however, the contingencies should be recognized from a solid theoretical understanding of the positive consequences we believe conflict may bring and the processes through which potential resources associated with task conflict are utilized. In other words, the examination of what contextual variables would shape the positive functioning of task conflict on individual and team outcomes should be driven by a logical reasoning that reveals the critical contingencies necessary for the beneficial effect of task conflict to exist for teams and individuals.

In the following chapter, I examine the effect of task conflict on individual and team creativity and will discuss how this study responds to the calls identified in the conflict literature and makes unique contributions to the relevant research. The key theme of previous conflict research has been identifying the beneficial effect of task conflict on team outcomes, and the study conducted in this research will help us understand where the benefits of task conflict occur—at a team- or individual-level—or what critical contingencies shape the beneficial effect of task conflict in teams.
CHAPTER 3: THE ROLE OF INFORMATION SHARING CLIMATE AND TEAM TRUST

3.1. Task Conflict and Team Creativity

Creativity has long been considered a crucial component in the success of an organization, and the significance of creativity in organizations is growing in the current market environment in which changes occur at an increasingly faster rate (Baer, Leenders, Oldham, & Vadera, 2010; Rietzschel, De Dreu, & Nijstad, 2009; Shipton, West, Dawson, Birdi, & Patterson, 2006; Somech & Drach-Zahavy, 2011). Because creativity can be relevant across various work types and organizations (Mumford, Whetzel, & Reiter-Palmon, 1997), whether teams can generate novel and appropriate ideas, solutions, or processes in the context of team objectives is an important criterion of team success (Amabile, 1996).

With the growing significance of creativity in organizations, organizations are increasingly turning to teams for innovation and creativity. Although creative ideas may come from either individuals or groups, it is popularly assumed that a group of individuals have a broader array of resources of diverse knowledge, ability, and skills for creativity than an individual, and, thus, team creativity is superior to individual creativity (Milliken, Bartel, & Kurtzberg, 2003; Milliken & Martins, 1996; Williams & O'Reilly, 1998). However, team creativity is a function of not only the resources brought by individual members but also the efficiency of the processes whereby the resources are combined (Diehl & Stroebe, 1987; Mullen, Johnson, & Salas, 1991; Taylor, Berry, & Block, 1958); therefore, team creativity cannot be simply measured by the number of creative resources teams have.
Research on team and group effectiveness, in particular on team creativity, has adopted a process-oriented model to find sources of team creativity outcomes and/or the components affecting effective team processes (e.g., Baer et al., 2010; Farh et al., 2010; Gilson & Shalley, 2004; Nijstad, Rietzschel, & Stroebe, 2006; Shin & Zhou, 2007; Taggar, 2002; Woodman, Sawyer, & Griffin, 1993). The I-P-O model suggests two important determinants of group performance: the resources that each member of a group brings to the group and the processes through which those resources are combined into a group level response. Drawing on an input–process–output model of team effectiveness (Hackman & Morris, 1975), a number of studies explored key input factors and group processes that predict team creativity and innovation (e.g., Bunce & West, 1995; Burningham & West, 1995; Nemiro, 2002).

In the same vein, Nijstad, Rietzschel, and Strobe (2006) proposed a combination of contributions framework for group creativity. The authors maintained that group creativity is contingent on the group creativity potential, collective resources that group members have, and the productivity of group processes through which the resources contributed by group members are combined to realize the transformation of group creativity potential into group creativity outcome. They argued that group creativity is determined by a function of creative potentials in a collective set of team resources and the productivity of two specified processes—idea generation and idea selection. In idea generation processes the goal is to generate diverse ideas, and in idea selection processes the goal is to make a collective choice of optimal output. Team creativity depends on the size of the benefit and the cost of these processes. The perspective that entails the key group processes contributing to team
creativity provides useful insights to understand how task conflict would affect team creativity.

**Task Conflict as Team's Creative Capability**

Although there is relatively little prior work done on team-level antecedents of team creativity in the extensive creativity literature, task conflict in teams has been one important antecedent that was considered in the research on team creativity. Task conflict exposes team members to new ideas, and diverse thoughts and perspectives. Expectedly, these resources are likely to be used for generating more creative outcomes in the team. Task conflict is like a measure of how creative a team potentially can be. However, previous research shows that there exists considerable variance in effect sizes for the task conflict–team creativity relationship. Thus, it is yet difficult to draw definitive and reliable conclusions about the presumed relationship (Hülsheger, Anderson, & Salgado, 2009).

This current study suggests task conflict by itself is not likely to enhance team creativity although it poses great creative potentials. More specifically, the role of two critical contingencies that affect both cognitive and motivational aspects of creative processes will be highlighted as part of the relationship between task conflict and team creativity. Those two team-level contingencies are based on the process-oriented understanding of team creativity as well as a deeper understanding of what task conflict in teams really means to team members.

The core element in the definition of task conflict is that task conflict reveals unique information and knowledge that has been held by each team member in the form of disagreements, and, thus, the diversity in informational resources is achieved by task
conflict. However, as suggested in several process-oriented models of team creativity, the diverse knowledge and information facilitated by task conflict will be translated to a group's creative outcomes only when the team processes aforementioned operate properly. A pool of informational resources itself cannot make an impact on creative performance until those resources are actually used through creative team processes.

With regard to the team information processes, previous research has commonly assumed that task conflict activates a team's systematic and thorough understanding and processing of information, ideas, and perspectives, a key process in which a beneficial effect of task conflict on team outcomes is realized. However, it appears that most existing research has oversimplified how task conflict triggers intellectual and collaborative processes in which team members evaluate and integrate ideas and cooperate in coming up with better sets of ideas or solutions. Task conflict can be a facilitator of divergent ideas and opinions to be considered by the team (Farh et al., 2010), yet it is still far from causing the team to make use of such creative potentials for team creativity. Unique ideas and information possessed by an individual team member may still remain as differences among team members or as awareness of differences in opinions and perspectives unless they are acknowledged and fully shared among team members and used for the team's creative performance. Inconsistent, often insignificant, findings in previous research with regard to the effect of task conflict on team outcomes may be an indication that the key processes in which the benefits of task conflict for group performance emerge are not automatically realized and leveraged as supposed. It is also possible that there may exist a dysfunctional process enacted by task conflict that in essence disrupts the alleged informational processes.
Based on this reasoning, I propose that the relationship between task conflict and team creativity should be examined with a consideration of key contingencies that would facilitate the necessary informational processing. It would be important to make the diverging ideas and opinions that each member has accessible to all and promote the effectiveness of team processes in which team members evaluate the merits and demerits of ideas (De Dreu & West, 2001; Eisenhardt et al., 1997; Tjosvold, 1997). Also, team members should be readily motivated and available to take part in sorting out and utilizing diverse resources for the team's collective creative performance. The emphasis on the importance of key contingencies is not to refute the previous claims that task conflict can have a beneficial effect on team outcomes by facilitating the synthesis and integration of ideas, opinions, and knowledge but to suggest that there have to be critical conditions for that to happen and for the teams to take advantage of the processes.

**Team's Information Sharing Climate as a Critical Contingency**

Researchers have viewed teams as information processors (Gibson, 2001; Hinsz, Tindale, & Vollrath, 1997). The information-processing perspective\(^2\) emphasizes the importance of information and the effective use of information in teams as key determinants of team performance. In a model of collective cognition of work groups, Gibson (2001) conceptualized four process phases—accumulation, interaction, examination, and accommodation. In brief, teams need to acquire knowledge and information that are useful to the completion of their task (accumulation); team members interact with each other to better use the information collected (interaction) and work together to interpret the

\(^2\) This perspective views teams as information processors and focuses on various processes related to how teams collect, exchange, share, and process relevant information to perform intellectual tasks (Gibson, 2001; Hinsz et al., 1997; Tindale, 1989).
information as a group (examination); and, finally, team members’ opinions and judgments should be integrated to generate a decision (accommodation). A team’s ability to process information is determined by how each step is performed (Dahlin, Weingart, & Hinds, 2005).

Team information sharing is obviously related to the “interaction” phase according to Gibson's (2001) information process framework. As Jehn and Shah (1997) suggest, information sharing refers to "making statements to other group members about the task" (p. 777), specifically referring to disclosing factual, task relevant information to other group members (Henry, 1995; Stasser, 1992). Task behaviors are also included in the definition, such as offering opinions, suggestions, and information relevant to the task (Bales, 1951) and keeping other group members informed about task progress (Andres & Zmud, 2002). Examples of information sharing include talking about the task details and progress, expressing feelings and ideas, and exchanging task-related thoughts.

Team information sharing has been positively related to group performance (Bunderson & Sutcliffe, 2002; Moye & Langfred, 2004; Quigley, Tesluk, Locke, & Bartol, 2007; Straus, 1996). Mesmer-Magnus and DeChurch (2009) showed that in their meta-analysis team information sharing positively affects team performance both in subjective and objective measures as well as decision effectiveness. They also argued that past research on the role of information sharing in teams on performance can be divided into two domains depending on which aspect of information sharing is emphasized between uniqueness and openness and how either of them enhances team functioning and consequently improves team performance.

The uniqueness of information sharing refers to the extent to which unique information that has been held by only a few members becomes accessible and shared with
other members. Most work focusing on the uniqueness of information sharing draws on Stasser and Titus’s (1985, 1987) biased information sampling model, which demonstrates that groups tend to spend the more time discussing shared information (information already known by all group members) than unshared information (unique information held by a few). Stasser and Titus (1985) argued that groups often fail to effectively pool information that group members have because group members tend to discuss information that members hold in common and information that is in favor of their existing preferences, even though the primary goal of discussion is to pool expertise and knowledge distributed among members. However, when group members engage in active information sharing in such a way as to bring out all the unique information hidden and enlarge the group's collective information pool, the group’s decisions and overall group performance improve (Dahlin et al., 2005; Lam & Schaubroeck, 2000; Mesmer-Magnus & DeChurch, 2009; Winquist & Larson, 1998).

In this research, a team's information sharing climate refers to team members' shared perceptions and understanding of the extent to which information and knowledge sharing activities occur within their team. For example, teams that are high in information sharing climate mean that the team members understand team-level expectations concerning information sharing activities and actively participate in the sharing and exchange of task-related information and knowledge within the team.

The role of team's information sharing climate as a critical contingency in which task conflict contributes to team creativity primarily draws on the greater uniqueness of information that results from the team's open and extensive information sharing activities. In teams experiencing task conflict, team members have differences in ideas, information, thoughts, and perspectives that can potentially be a large, collective information pool for the
team's use. However, teams cannot gain any benefits from this pool unless the diverse ideas and information are processed and further analyzed. In order to realize such a large pool of information and knowledge and to utilize it, information sharing has to take place continuously among group members so that they can understand the unique informational resources in such disagreements or differences observed. More importantly, increased understanding of the differences and unique information among team members will lead to mutual cognitive stimulation, increasing the accessibility of knowledge stored in each member’s long-term memory that would not have been accessible otherwise. Through this process, a newer and more creative set of ideas may be promoted in each team member (Dugosh, Paulus, Roland, & Yang, 2000; Nijstad & De Dreu, 2002; Paulus & Yang, 2000; Tulving & Pearlstone, 1966).

A team's active sharing of unique information also plays a critical role in the optimal selection of the creative ideas that were generated by members. When group members collectively evaluate and select generated ideas, different information relevant to evaluating each creative item may be dispersed among group members, sometimes mutually exclusively. In this case, the optimal collective choice from among the available creative ideas may not be possible without sharing all the unique information possessed by each member (Stasser & Birchmeier, 2003; Stasser & Titus, 1985, 1987).

Taken together, the disagreements and differences in opinions within the team become a potentially useful source for team creativity when they are coupled with team's active information sharing and exchange activities. A team's information sharing climate can complement the effect of task conflict on team creativity by assisting the development of new and sometimes highly creative insights from the existing set of ideas and information,
leading the team to become more effective and innovative. A team's idea selection process also benefits from the newly introduced information that may be used for evaluating ideas and deciding on the most creative solutions. Therefore, I argue that team's information sharing climate is likely to be a moderator of the task conflict-team creativity relationship, and that the relationship is going to be a function of the variation in information sharing climate across work teams.

Hypothesis 1: The relationship between task conflict and team creativity is moderated by team's information sharing climate in such a way that task conflict is more positively related to team creativity when team's information sharing climate is high than when team's information sharing climate is low.

The Role of Team Trust

Although previous conflict research has focused on informational processes related to task conflict, namely, the process in which diverse ideas and perspectives associated with task conflict provide the group with informational resources that may be used for team decision-making and creative solutions, much less is known about the psychological states and processes that team members are bound to go through for each level of task conflict and how that would affect the way task conflict influences creative outcomes. Therefore, I focus on team trust as another critical condition necessary for the benefits of task conflict to be realized for a team's creative performance.

Despite the extensive focus on the cognitive aspect of task conflict, task conflict is not purely cognitive. Task conflict involves emotions and feelings as well. More
specifically, task conflict in teams can give rise to the perception of cognitive dissonance and psychological discomfort among team members, which may not only impede the team's cognitive processing of information but also lead to reduced commitment to the team’s efforts. It has been suggested that team members are likely to perceive cognitive dissonance as teams experience task-related disagreements with one another. Several modern interpretations of dissonance theory have recognized that the source of dissonance can reside in social relations as well as within individuals (Adler & Kwon, 2002; Chiu & Tsai, 2006; Lu, Zhou, & Leung, 2011). In other words, dissonance can occur when people evaluate their attitude and behavior and find them discrepant with some standard of judgment.

Cognitive dissonance is associated with negative experiences for team members, including psychological discomfort and tension. Various theoretical accounts of why disagreement with others instigates negative tension seem to converge on the idea of people’s inherent preference and motivation to maintain consistency and harmony in judgments with others. People value consistency with external social norms (Vandenberg, Richardson, & Eastman, 1999), and people feel higher confidence in their own attitudes when consistency and agreement are perceived with others (Harmon et al., 2003). In an experimental setting, Matz and Wood (2005) demonstrated that being grouped with others who hold opinions opposed to one’s own induced feelings of dissonance and discomfort. The greater the level of disagreement perceived, the greater the discomfort would be experienced. Therefore, team members will likely feel more psychological discomfort as task conflict increases within the team.

Cognitive disagreement or discussion over task issues can also cause relational tensions and distress and other negative emotions, especially when task conflict escalates.
Differences in ideas and viewpoints over task issues are assumed to be communicated in a rational way and resolved through fact-based communication (Wagner III, 1994), but the reality is often that disagreements are not merely factual and can involve emotionality and personal feelings even if initiated as task-based facts. It is because an individual’s perception of fact can be quite personal and disagreements that arise during task conflict can easily transform from debates about facts into personal attacks or emotional defenses, especially when individuals continue proposing and defending their own views.

The psychological states associated with task conflict are likely to distract individuals from work issues and intervene in the team’s cognitive processing of diverse information and members’ collective efforts to generate creative ideas and solutions. A recent empirical study conducted by Shaw and his colleagues (2011) demonstrates that task conflict no longer positively affects team performance when people are distracted from work-related discussions due to high levels of relationship conflict. In other words, team members’ perception of psychological discomfort is likely to increase as task conflict becomes extensive within the team, and that perception further plagues the conflict situation with relational distress, as a result disrupting the cognitive process of exploring and elaborating task information.

I argue that team trust will provide team members with an emotional buffer that makes team members less likely to feel dissimilar or uncomfortable when disagreements are encountered. To support this hypothesis, I build on the core features of trust, the confidence in each other’s good intentions (McAllister, 1995) and the extent to which one cares about the group’s interests (Dirks, 1999). High levels of team trust likely allow team members to view a stressful situation, specifically a conflict situation, as less threatening and distressing.
because team members share the belief that their differences in ideas and opinions or disagreements will not be held against them or that they will not be taken advantage of. Whether individuals trust each other’s intentions and care for the group's interests can affect the extent to which team members focus on task issues and on the information processes without being emotionally challenged and disturbed. As a result, members in a team that is high in team trust would suffer less from psychological discomfort from task-related disagreements. Bradley and colleagues (2012) showed that a team climate in which team members can focus on team tasks with less concern for negative interpersonal issues can facilitate the performance benefits of task conflict in teams.

The moderating role of team trust also relates to team members’ enhanced understanding of shared goals and more collective efforts induced, which would increase a team’s engagement in creative processes (Gilson & Shalley, 2004). High trust teams precisely correspond with the pro-social tendency, making collective efforts rather than focusing on one's own individual goals (Dirks, 1999). de Jong and Elfring (2010) showed that team trust promotes greater team effort from team members and motivates them to work hard for a team task. Team members basically have a choice as to the extent to which they engage in creative processes, and team members in the team with high team trust are more likely to participate in the team's creative process—diverse information potentials are examined and integrated for creative solutions—, and work hard to contribute to team creativity. It is certain that teams will achieve greater creativity as an outcome when more team members participate in the team process in which creative potentials associated with task conflict are realized for team creativity with their unique point of views without
shirking or free-riding. Heide and Miner (1992) found that close social interactions between exchange partners enhance their efforts to engage in shared problem solving.

In sum, team members in a team where high levels of team trust exist are likely to sense less discomfort from task conflicts because team trust may alleviate the concern and tensions misinterpreted as a personal attack and be transformed into relationship conflict. In addition, team trust emphasizes that team members share common group goals, and, thus, encourages team members to engage in the team's creative process with greater motivation. Therefore, I propose that team trust will moderate the relationship between task conflict and team creativity by mitigating the negative psychological responses that may be caused by task conflict and by enhancing the productivity of the team's creative processes.

*Hypothesis 2: The relationship between task conflict and team creativity is moderated by team trust in such a way that task conflict is more positively related to team creativity when team trust is high than when team trust is low.*

I further suggest that there exists a three-way interaction effect among task conflict, information sharing climate, and team trust. Thus far, it has been suggested that teams can harvest the benefits of task conflict by engaging in the communication and exchange of task relevant information and opinions and by minimizing the psychological discomfort and emotional distress that can be accompanied by task conflict. I expect that teams will benefit most from task conflict when both conditions exist. I argue that the effectiveness of team's information sharing climate and its impact on the process through which informational resources are realized for team creativity will be enhanced to the extent that team members have high levels of trust in each other.
As discussed above, high levels of team trust help team members suffer less from potential negative psychological states such as discomfort and relational tensions by making them believe that the differences in ideas and opinions are truly work-related issues rather than personal ones, and that team members would not behave against each other's interests. Such beliefs in each other's motives and intention and willingness to be vulnerable to one another can increase the breadth and openness of the exchange of information and communication (Jones & George, 1998). Information sharing activities within the team can be further facilitated through repeated exchanges based on mutual honesty and integrity (Choi, 2006; Jones & George, 1998).

In addition, it has been suggested that team creativity is promoted when team members' motivation to explore new information and engage in systematic information processing is accompanied by the pro-social tendency of being concerned with communal outcomes (De Dreu, Nijstad, Bechtoldt, & Baas, 2011). De Dreu, Nijstad, and van Knippenberg (2008) proposed a notion of epistemic motivation —"the willingness to expend effort to achieve a thorough, rich, and accurate understanding of the world, including the group task or decision problem at hand" (p. 23) along with social motivation (i.e., pro-self versus pro-social) as determinants of the extent to which an individual or group is engaged in searching, processing, communicating, and integrating information and the kind of information that would be subject to such activities.

Building on the MIP-G (Motivated Information Processing in Groups) model (De Dreu et al., 2008), De Dreu and colleagues (2011) further suggested that teams can be more creative when team members are willing to expend efforts on systematic information processing as well as having social motivation to value collective interests and success. A
number of studies provide supporting evidence that team creativity may not be optimal or be hurt seriously when the group climate is characterized by interpersonal competition and self-preservation rather than being harmonious and cooperative (e.g., Camacho & Paulus, 1995; Shin & Zhou, 2007; Taggar, 2002). Consistently, a number of studies that examined the role of important boundary conditions in making a team's creative processes function more or less effectively support the idea that team creativity is most enhanced when a team is fully engaged in various information processes and when those cognitive activities are run for the team's collective goals.

For example, Shin and Zhou (2007) highlighted the significance of team processes in which team members work effectively together to share the information and perspectives that they possess and cooperate with one another to come up with new and better ideas. They argued that teams achieve higher team creativity when they can minimize the negative effects of diversity on team interactions while keeping the benefits of diversity, for example, through team leadership emphasizing common goals, new approaches to ideas, and each individual's free expression of ideas. Grant and Berry (2011) also showed that individual’s creativity was enhanced when his/her intrinsic motivation was coupled with high prosocial motivation to help others—coworkers, supervisors, or customers.

In keeping with previous research exploring the critical contingencies that affect the effect of task conflict on team outcomes (e.g., Bradley et al., 2012; De Dreu, 2006; Farh et al., 2010; Shaw et al., 2011), I propose that team creativity is likely to be greatest in teams in which high levels of information sharing are coupled with high levels of team trust.

_Hypothesis 3: There is a three-way interaction involving team trust, team's information sharing climate, and task conflict in such a way that_
the positive moderating role of team's information sharing climate on
the relation between task conflict and team creativity will be stronger for
teams with high team trust than for teams with low team trust.

3.2. Individual Conflict Asymmetry and Individual Creativity

The researchers who believed in the positive functioning of task conflict in teams
predominantly assumed that the benefits would exist at the aggregate team level, for team-
level outcomes as conflict exists in a group of individuals. However, conflict is still
perceived and experienced by an individual, and it is important to note that individuals can
be affected by their perceptions of team conflict as well as their personal conflict experience.
Conflict will be a more vivid, intense event to an individual than when aggregated to a group
or team, and the effect of conflict, particularly the positive effect of task conflict, on
individuals may be more evident and visible.

Despite the fact that conflict is basically a personal and individual experience,
conflict perception at an individual level and its effect on individuals have been extremely
understudied. Especially, previous individual-level studies mostly focused on relationship
conflict and the negative consequences it has on individuals such as turnover intention, job
satisfaction, and stress (De Dreu & Van Vianen, 2001; De Dreu & Weingart, 2003; Jehn,
1997). I argue that this understudied aspect of conflict research can be addressed with a
continuous examination of the research question that has been popularly studied at the
aggregate team level—whether task conflict is functional or dysfunctional. Extending the
question of whether task conflict can be productive or not to an individual-level analysis
creates an opportunity to further analyze the mechanism through which the beneficial effects
of task conflict is being shaped and where the benefits primarily exist, teams or individuals, if they exist at all. The second part of this dissertation attempts to complete this complex puzzle with a multi-level approach.

**Individual Conflict Asymmetry**

Although research in organizational conflict has primarily focused on the aggregated level of conflict within the team or unit and has examined its effect on various team-level outcomes, it is equally important to examine individual-level perceptions, which are likely to vary across team members, and the effects of such individual perceptions of conflict on individual-level outcomes in order to achieve a more complete understanding of the effect of conflict. The neglect of the possibility that team members may have varying perceptions of conflict, the asymmetry of perceptions, is a limitation of past research on group conflict (Jehn, Rispens, & Thatcher, 2010; Neuman & Avgar, 2012).

The notion that members of the same team or unit may perceive different levels of conflict has been established in an emerging body of research on conflict asymmetry (e.g., Jehn & Chatman, 2000; Jehn et al., 2010). The interest in the dispersion or dissensus of team-level constructs among team members has been increasing, and the implications of such asymmetric perceptions are sought in a broader range of group-level constructs (e.g., asymmetric perceptions of trust within a team; De Jong & Dirks, 2013). Evidence regarding the effect of conflict asymmetry on team functioning as well as the effect of conflict asymmetry on an individual's attitudes and experience at work highlights the need for conflict research to consider the manner in which individual perceptions of conflict, rather than aggregated team levels, affect various outcomes of individuals and teams.
In contrast to the longstanding assumption that team members share a common perception of this group-level phenomena, Jehn and Chatman (2000) introduced the concept of perceptual conflict composition that refers to “the degree to which each individual in a group perceives levels of conflict differently compared to other member perceptions in the group” (p. 61). They argued that individuals tend to perceive conflict more or less saliently depending on their personal involvement in conflict experience and that each individual’s perceptual conflict provides a better explanation for that individual’s attitudes and performance than would the levels of conflict aggregated to the group. It is possible that individuals have different perceptions about the amount of conflict that exists in their group and their behaviors and performance are affected by that rather than how much conflict team members think they have on average.

Adding to this stream of research, Neuman and Avgar (2012) emphasized that individuals in a team can have different conflict experiences, and their ability to accurately identify conflict among team members, namely, an individual’s conflict judgment accuracy, is in fact affected by individual, interpersonal, and social factors. Their work challenges two assumptions in existing conflict research—1) members in a team share common conflict experiences, and 2) individuals accurately recognize the presence of conflict. Further, they argued that more conflict research should try to capture actual conflict episodes in dyads or a group instead of using perception-based measures or a dispersion measure based on the aggregated construct.

Conflict asymmetry in a group has been approached in two ways. One is to examine the magnitude of variance in individuals' perceptions of conflict, and the other is to focus on the degree to which an individual is different from other members of a group. I take the
second approach in this study, and focus on how individuals who perceive high or low team-level task conflict compared to other team members’ performances in terms of creative behaviors. Jehn and colleagues (2010) offered the first study that introduced the concept of individual conflict asymmetry and provided empirical evidence for the associations between individuals' asymmetric perceptions of conflict (both task and relationship conflict) and their satisfaction with the group and performance.

In an effort to contribute to this line of research, I examine the relationship between individuals’ perceptions of task conflict and their creative performance, which has not been the focus in any previous research. I advance the argument that individuals who perceive higher levels of task conflict than other members in a team are likely to achieve greater creativity. The reasoning is twofold. First, high perceivers of task conflict, regardless of the mean level of conflict in the team, are likely to be the ones who pay close attention to what is going on around them and who tend to be sensitive to environmental influences. Therefore, they are more likely to spend time and energy questioning, reflecting, and discussing the perceived conflict. Jehn and colleagues (2010) argued such behaviors are ineffective and can harm one's task-related performance, however, an individual's engagement in such behaviors may not be necessarily a waste of time, and instead it may develop into creative endeavors that often include rethinking and challenging ideas.

Perceptions of greater extent of differences and disagreement within the team may lead individuals to believe that it is hard to get their ideas or suggestions approved in their team. Such a belief is related to the reduced confidence in the accuracy and validity of their own opinions and preferences, and, thus, high conflict perceivers will try to spend more time to rethink their ideas and opinions. Research has suggested when people perceive
differences in each other’s opinions, they tend to engage in systematic and effortful information searching and processing to gain assurance for the information they have (De Dreu & De Vries, 1996).

The extra efforts to question and verify information and ideas very much resemble an individual's involvement in creativity-relevant methods or processes, which can ultimately contribute to creative performance. Zhang and Bartol (2010) proposed the term "creative process engagement" that includes problem identification, information searching and encoding, and idea and alternative generation. They argued that realistically it can be challenging for an individual employee to engage in creative processes and make creative endeavors while dealing with other duties and responsibilities that are part of their job. However, the more actively an individual participates in the creative processes, the greater the likelihood is that he or she achieves high creativity.

Individuals differ in the levels of how much time and attention they are willing to devote to such creative processes (Zhang & Bartol, 2010). I argue that individuals who perceive more task conflict in the team than others are likely to be motivated to put themselves into high levels of creative process engagement than those who perceive less task conflict in the team. One possible opposing argument may be that high conflict perceivers will likely be less motivated to work hard because they develop negative perceptions of the work environment (e.g., Jehn et al., 2010). However, the argument that high perceivers of conflict may draw negative perceptions of the work environment may not necessarily be accurate because individuals have different beliefs about conflict (i.e., conflict belief, Jehn, Rupert, & Nauta, 2006; Sanchez-Burks et al., 2008). Also, it is possible that high perceivers of conflict are simply being accurate in perceiving conflicts within the
team for personal and interpersonal reasons (Neuman & Avgar, 2012) rather than being negative about the work environment. The bottom-line of the argument here is that those individuals who perceive relatively higher levels of conflict than other members in the team, whether the mean level of conflict in the group is high or low, are more likely to be sensitive to group dynamics, susceptible to the effect of the level of conflict, and likely to take high perceptions of the team's task conflict as intellectual stimuli to reconsider their own ideas and perspectives, which is a key to one's creative activities.

On the other hand, individuals who perceive lower levels of task conflict in the team are likely the ones with “positive illusions.” The concept of positive illusions has been used in Jehn et al. (2010)'s study to support the argument that individuals who perceive lower conflict than others tend to view things in an optimistic and positive way and are likely to have high satisfaction and performance. However, it is arguable that those with positive illusions would perform better than those who do not have positive illusions especially when creativity is emphasized for the team.

Furthermore, the evidence that having positive emotions is helpful for the situation of conflict or for the person who is involved in conflict is equivocal. For example, Jehn and Bendersky (2003) argued that being in a good mood or having positive emotions with team members can further stimulate constructive debate and group decision processes, which are the key processes that contribute to the positive effect of task conflict while reducing the negative effects of relationship and process conflicts. However, they also argued that the role of positive emotions is somewhat limited in that there are situations where positive emotions let people resort to low-effort information processing and less accurate quick judgments (Bless, Bohner, Schwarz, & Strack, 1990; Sinclair & Mark, 1995). Likewise, low
conflict perceivers' positivity and optimism may blind the individuals with flaws or shortcomings in their ideas and perspectives and have them fail to engage in extra informational activities through which ideas can be reviewed and alternatives sought. Taken together, I argue that individuals who perceive higher levels of task conflict than others in the team will achieve greater individual creativity.

_Hypothesis 4: A team member who perceives more task conflict than other team members within the team achieves greater individual creativity._

**Team's Information Sharing Climate as a Facilitative Group Environment**

Creativity research has focused on identifying contextual factors that promote individuals’ creative performance (Amabile, 1996; Choi, 2012; Shalley, Zhou, & Oldham, 2004). Researchers have maintained that creativity can be enhanced by appropriate job design or characteristics (Amabile, 1996; Farmer, Tierney, & Kung-McIntyre, 2003; Oldham & Cummings, 1996), with time pressure (Amabile, Hadley, & Kramer, 2002; Baer & Oldham, 2006), with support for creativity from supervisors and coworkers (Choi, 2012; Shalley & Gilson, 2004) or through organization (George & Zhou, 2001; Zhou, 2003), and under certain motivational and supervisory practices such as rewards and evaluation (Eisenberger & Rhoades, 2001; Zhou, 1998; Zhou & Oldham, 2001).

Shalley and colleagues (2004) argued, in their review of employee creativity research, that the effects of several contextual characteristics confirm the intrinsic motivation perspective, although some of the factors that had been examined produced inconsistent results. Among the possible explanations for the inconsistent results is the fact they emphasized the possibility that contextual characteristics may interact with individuals’
personal characteristics to affect employee creativity. For example, individuals with certain personalities may respond negatively to a certain reward scheme (e.g., contingent rewards) while individuals with different personality characteristics might respond quite positively. They also emphasized that more work is needed to examine a broader set of contextual factors as well as to examine whether those contextual conditions interact with individual characteristics.

A team is an immediate social surrounding to employees, and team’s information sharing climate can be an important contextual characteristic for individual creativity as it dictates the extent to which team members typically communicate and interact with one another and constitutes the group climate of the team. Research has suggested that employees achieve increased creativity when group climate is characterized as mutual openness and shared commitment to the project (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Specific to the setting of conflict perception, a team’s active information sharing provides an opportunity for high perceivers of conflict to figure out the sources of task conflict and more effectively perform the cognitive creative processes, including verifying the information and searching for more. In teams whose members actively participate in a collective sharing of information and knowledge, high perceivers of task conflict are able to exchange their task-related thoughts and gain additional unique, but related information to understand the perceived differences and disagreements within the team. Similar to the role played at the team-level, a team's extensive information sharing can facilitate individuals' learning about the conflict perceived and create a positive social climate for open communication. While most existing work that has examined the effect of relationships with coworkers on employees’ creativity focused on how encouraging and supporting the
relationship was (e.g., Choi, 2004, 2012; Scott & Bruce, 1994), Zhou and George (2001) showed that coworkers’ informational feedback helped employees to channel their job dissatisfaction into creativity. Also, relevant literature suggests that task-related feedback directs individuals' attention to the task at hand and further enhances their interest in the task.

As an attempt to extend the argument that contextual characteristics may interact with personal attributes to affect an employee's creativity (Oldham & Cummings, 1996), I argue that a team's active information sharing that enables a deeper understanding of each other and exchanges of information will be particularly useful for high perceivers of conflict to produce creative outcomes. Individuals who perceive high task-related conflict are primarily motivated to seek further informational cues to make sense of the conflict perceived, and, thus, they are likely to try to take advantage of the opportunity to learn about others’ opinions and thoughts and use them for their completion of tasks. On the other hand, individuals who perceive few task-related disagreements and differences within the team would be less likely to see the value in and understand the purpose of exchanging information, knowledge, and skills with other team members.

Hypothesis 5: The relationship between individual conflict asymmetry and individual creativity is moderated by team's information sharing climate in such a way that a high conflict perceiver is more effective in creativity when team's information sharing climate is high than when team's information sharing climate is low.

Team Trust as a Supportive Group Climate

Generating creative ideas or innovation may begin with the realization of problems, a gap between a current and ideal situation, or irrationality encountered in the workplace
(Kanter, 1988). In attempting to deal with such problems and irregularities, a worker may choose to adapt herself or modify elements of the work context. Person-environment fit theories (e.g., Caplan, 1983; French, Caplan, & Van Harrison, 1982) suggest that such adaptation can be done by one's modification of cognitions, beliefs, abilities, and behavioral patterns (Anderson, De Dreu, & Nijstad, 2004) or by one’s changing of elements in the work environment, such as task objectives and characteristics, working methods, job design, or interaction patterns.

High perceptions of task conflict within the team may be thought by individuals in the team as a gap between a current and ideal state of the team and, thus, likely motivate individuals to initiate a change and work on new ideas to alter the current situation. As noted above, such changes may relate to an attempt to change work conditions and the environment, the way work is done in the team, or an individual’s ideas and personal values. Individuals who perceive a greater extent of task conflict within the team may be more interested in proposing changes and new ways to do work rather than trying to maintain the status quo.

However, proposing new ideas and initiating a change are not always easy. Initiative may not be approved by peers or supervisors because it interrupts routines, and it can be perceived as a threat by those who may be directly affected by the change (Baer & Frese, 2003). In this regard, I argue that team trust could provide psychological support to help individuals with conflict perceptions voice their own concerns and suggest new ideas. In teams with high team trust, individuals may feel less threatened to talk about changes. Team trust is based on the belief that other team members would not behave to harm one’s interests or the team’s collective interests. Hence, one in a team with high team trust is less
likely to raise doubts or hold oppositions when members talk about a change as he or she has a belief that the change would not be something harmful to the team. The beliefs collectively offer a psychologically safe environment to the individuals who are interested in proposing ideas and initiating changes. Further, teams with high team trust can provide a supportive climate for team members, approving individuals’ creative efforts and attempts by being accepting and encouraging. Research has suggested that a climate that provides psychological support plays a critical role in fostering innovation and in fully implementing an innovation in an organization (Baer & Frese, 2003). In comparison to the role of team’s information sharing climate, which presents individuals with opportunities to gain additional information to understand the conflict and create new ideas, team trust complements the creative process of an individual by loosenning one’s psychological burden and reducing the risks for proposing new ideas or alternative ways to solve problems.

Creativity research also provides indirect evidence for the contextual role of psychological support perceived within the team during an individual’s creative process. It has been suggested that positive relationships with coworkers and a supportive group climate function as an important group-level context that enhances individuals’ intrinsic motivation to be creative (Deci, Connell, & Ryan, 1989; Zhou & George, 2001). For example, Amabile et al. (1996) found that individuals in work teams in which coworkers were supportive and nurturing were more creative. Hence, I expect team trust to play a similar supportive role in boosting individuals' creativity by helping individuals to channel their conflict perceptions toward producing new ideas, evaluating innovative ideas, and looking for ways to implement the ideas, with reduced psychological risks.
Hypothesis 6: The relationship between individual conflict asymmetry and individual creativity is moderated by team trust in such a way that a high conflict perceiver is more effective in creativity when team trust is high than when team trust is low.

The figure below presents a theoretical framework including all relationships proposed in this study.

Figure 3.1: A Proposed Theoretical Model
CHAPTER 4: METHODOLOGY

Research Setting and Participants

Data were collected from 492 teams at 10 Korean companies of various sizes in the industries of machinery, transportation, construction, heavy manufacturing, and energy. Since this research was conducted as a part of organizational initiatives for organizational diagnosis and change, it received strong support from top executives of the participating firms, enabling a high response rate. The teams performed one of seven different functional tasks of a) administration, b) business development, c) design, operation management, e) production technology, f) R&D, and g) sales, providing an opportunity to examine the factors and mechanism of team creativity in a representative context of work teams.

All participants were invited to complete an online survey sent to their company email in March 2011. The survey was composed of two parts including different questions—one about individual characteristics and the other about team experience. The participants received an invitation to complete each part with a two-week time gap. The surveys were completed by 3176 individuals, achieving a 71% response rate. For the team-level analysis, some teams missed team leader’s ratings for team creativity, and thus a final usable sample size was 325 teams. Since I study team-level processes and outcomes in this research, it is critical to acquire as many responses as possible for each team to gain a fair understanding of team characteristics. The average response rate per team was 68.6 % in the final sample. For the individual-level analysis, the final usable sample was 3059 individuals.

The average team size was 8.86. The two dominant task types that accounted for more than 50% of the sample were production technology and sales. I found that 90.4%
were men, and 97.2% of respondents had some college and above education. The average age was 32.7 years. The average company tenure was 4.7 years, and average department tenure was 12.4 months. Table 4.1 shows key statistics about the sample.

Table 4.1: Sample Statistics

<table>
<thead>
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<th></th>
<th>Mean</th>
<th>SD</th>
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<td>Organizational Tenure (year)</td>
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<td>4.55</td>
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<table>
<thead>
<tr>
<th>Education Major</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering</td>
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<td>22.8</td>
</tr>
<tr>
<td>Naval Architecture</td>
<td>210</td>
<td>11.2</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>181</td>
<td>9.6</td>
</tr>
<tr>
<td>Business</td>
<td>177</td>
<td>9.4</td>
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<td>Computer Science</td>
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<td>5.2</td>
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<td>Civil Engineering</td>
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</tr>
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<td>Industrial Engineering</td>
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<td>2.0</td>
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<td>Chemistry</td>
<td>37</td>
<td>2.0</td>
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<tr>
<td>Etc.</td>
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<td>24.2</td>
</tr>
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</table>

<table>
<thead>
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<th>Team Task</th>
<th>Frequency</th>
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<td>Administration</td>
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<tr>
<td>Business Development</td>
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<td>.60</td>
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<tr>
<td>Design</td>
<td>34</td>
<td>10.5</td>
</tr>
<tr>
<td>Operation Management</td>
<td>9</td>
<td>2.8</td>
</tr>
<tr>
<td>Production Technology</td>
<td>88</td>
<td>27.1</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>28</td>
<td>8.6</td>
</tr>
<tr>
<td>Sales</td>
<td>86</td>
<td>26.5</td>
</tr>
<tr>
<td>Total</td>
<td>325</td>
<td>100%</td>
</tr>
</tbody>
</table>
Measures for Team-level Variables

Survey instruments were prepared in Korean after an iterative translation process to ensure that the original meaning remained intact (Brislin, 1980).

**Team Creativity.** Consistent with previous creativity research, team creativity was evaluated by a team leader on each team. This variable was measured by four items adopted from Zhou and George (2001). Team leaders were asked to indicate, on a 7-point scale ranging from 1 (Strongly disagree) to 7 (Strongly agree), the extent to which their team being rated was creative. Sample items were “My team suggests new ways to achieve goals or objectives,” and “My team comes up with new and practical ideas to improve performance.” I averaged responses to the four items to create a measure of team creativity. Cronbach’s alpha for team creativity was .95.

**Task Conflict.** I used three items adapted from Jehn and Mannix (2001) to assess the perceived level of disagreements over task-related issues within a team. The original scale was questions, and I transformed them into statements. Sample items were “There are conflicts about ideas in my team/work unit” and “There is conflict about the work that we do in my team/work unit” Team members responded on 7-point scales ranging from 1 (Strongly disagree) to 7 (Strongly agree). The Cronbach’s alpha for this measure was .90.

**Information Sharing Climate.** This variable was measured by 7 items adapted from Srivastava, Bartol, and Locke (2006). Four items (Faraj & Sproull, 2000) measured individual perceptions of the extent of knowledge sharing by team members, and three items (Durham, 1997) measured the extent to which team members engage in task-relevant information sharing. Team members were asked to respond on a 7-point scale ranging from
1 (*Strongly disagree*) to 7 (*Strongly agree*). Sample items were “People in our team share their special knowledge and expertise with one another,” and “Team members freely provide other members with hard-to-find knowledge or specialized skills.” The Cronbach’s alpha for this measure was .96.

**Team Trust.** Team trust was measured using 6 items adapted from Robinson and Rousseau (1994). The items originally assessed the employee’s degree of trust in his or her employer, based on the basis of trust identified by Gabarro and Athos (1976), but reworded for the team. Team members were again asked to respond on a 7-point scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Sample items were “My team members are open and upfront with me,” and “My team members are always honest and truthful.” The Cronbach’s alpha for this measure was .97.

**Control Variables.** On the basis of previous literature (e.g., George & Zhou, 2001; Grant, 2008; Shalley et al., 2004), I included several control variables to partial out the potential impacts on a team’s creative performance in the statistical analyses. First, I included task routinization as a control variable because research has documented that task routinization is one of the task characteristics that affect individuals’ creative behavior either positively or negatively (Choi, Anderson, & Veillette, 2009; Ohly, Sonnentag, & Pluntke, 2006). Task routinization was measured by three items from Bacharach, Bamberger, and Conley (1990). The items were adapted for the context of team tasks. Responses were again made on 7-point scales ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The Cronbach’s alpha for this variable was .71. A representative item is “In my team, there is something new happening almost every day” (reverse coded). I also included relationship conflict in the analysis as a control variable following previous research that suggested that task conflict
and relationship conflict are highly correlated with each other and may affect the effect of
the other type of conflict (De Dreu & Weingart, 2003; Simons & Peterson, 2000). It was
measured using survey items from Jehn and Mannix (2001). Survey items included
questions about the degree to which there are disagreements over personal issues, as well as
the amount of friction, tension, and personality conflict within the team. Again, they were
transformed into statements. Sample items include “There is friction among members in my
team/work unit” and “There is tension between members in my team/work unit” The item
used the scale of (1) to (7) where (1) is Strongly disagree and (7) is Strongly agree. The
cronbach’s alpha for this measure was .89.

In addition, I included mean scores for each of these demographic variables (age,
gender, department tenure, and organizational tenure) to partial out their potential effects on
team creativity. Also, as Jackson and colleagues (2003) suggested, I included a diversity
measure of educational background (college major) in the analysis. The educational
background heterogeneity of each team was calculated by Blau’s index formula (Blau,
1977), following prior research (Harrison & Klein, 2007). Finally, team size and dummy
variables for type of team tasks were included as controls.

**Measures for Individual-level Variables**

**Individual Creative Performance.** Individual employees' creative performance was self-
reported. This variable was measured by nine items adopted from Janssen (1999).
Respondents were asked to indicate, on a 7-point scale ranging from 1 (Strongly disagree) to 7 (Strongly agree), the extent to which they engage in creative behaviors. Sample items were “Generating original solutions for problems," and "Transforming innovative ideas into
useful applications.” I averaged responses to the nine items to create a measure of team creativity. Cronbach’s alpha for team creativity was .95.

**Individual Conflict Perception.** I used three items adapted from Jehn and Mannix (2001) to assess the perceived level of disagreements over task-related issues within a team. The original scale was questions, and I transformed them into statements. Sample items were “There are conflicts about ideas in my team/work unit” and “There is conflict about the work that we do in my team/work unit.” Team members responded on 7-point scales ranging from 1 (Strongly disagree) to 7 (Strongly agree). The Cronbach’s alpha for this measure was .88. In order to compute each individual’s asymmetric conflict perception, I used the following equation suggested by Jehn and colleagues (2010).

\[
\left[\frac{1}{n} \sum \sqrt{(x_i - k_j) \sqrt{x_i - k_j}} \right]
\]

where \(x_i\) is the conflict score of a focal group member, \(k_j\) is the conflict score of group member \(j\), and \(n\) is group size.

This measure is originally based on the relational demography measure used to capture the comparative demographic characteristics of members of dyads or groups (Tsui & O’Reilly, 1989). The conflict asymmetry measure used in this study represents the asymmetric perceptions of a group member based on differences between his/her perceptions and those of each of the other group members. Although the original relational demography score created by Tsui and O’Reilly (1989) contains an absolute value operation, I followed Jehn and colleagues’ (2010) modified equation so that the score can have a direction. For example, a positive score means a member perceived more conflict than the other members in the group (i.e., he/she is a “high perceiver”) and a negative score means a member perceived less conflict than other members in the group (is a “low perceiver”). The
individual conflict asymmetry values ranged between -2.78 and 3.24 for task conflict asymmetry.

**Control Variables.** At an individual level, I included demographic variables such as age, gender, departmental tenure, and organizational tenure in the analyses as controls. At a team level, team size and dummy variables for type of team tasks were included as controls. I also included task routinization as a control variable because research has documented that task routinization is one of the task characteristics that affect individuals’ creative behavior either positively or negatively (Choi et al., 2009; Ohly et al., 2006). In addition, following previous conflict asymmetry research, I controlled for the mean level of task conflict to examine the effect of the asymmetry variable as well as each individual's asymmetric perception of relationship conflict.
CHAPTER 5: RESEARCH FINDINGS

Confirmatory Factor Analysis

A series of confirmatory factor analyses was conducted at the team level to insure that the three variables—task conflict, information sharing climate, and team trust—can be loaded as distinct factors. The results of CFA indicated that the four factor model fits best with the data (a model $\chi^2 = 660.208$, $df = 98$; Confirmed fit index (CFI) = .984; Goodness-of-fit index (GFI) = .959; Incremental fit index (IFI) = .984; Root-mean-square error of approximation (RMSEA) = .054). With the appropriate RMSEA values (lower than .08, suggested by Jöreskog & Sörbom, 1993) as well as important fit indices, these results qualify the evidence of discriminant validity of all measures used in this study. Table 5.1 compares various fit indices for all potential measurement models.

Additional confirmatory factor analyses were conducted at the individual level to insure that the three variables—information sharing climate, team trust, and individual creativity—can be loaded as distinct factors. The results of CFA indicated that the three factor model fits best with the data (a model $\chi^2 = 2011.125$, $df = 202$; Confirmed fit index (CFI) = .975; Goodness-of-fit index (GFI) = .939; Incremental fit index (IFI) = .975; Root-mean-square error of approximation (RMSEA) = .054). With the appropriate RMSEA values (lower than .08, suggested by Jöreskog & Sörbom, 1993) as well as important fit indices, these results qualify the evidence of discriminant validity of all measures used in this study. Table 5.2 compares various fit indices for all potential measurement models.
<table>
<thead>
<tr>
<th>Confirmatory factor analysis models</th>
<th>df</th>
<th>$\chi^2$</th>
<th>$\chi^2/df$</th>
<th>RMSEA</th>
<th>CFI</th>
<th>GFI</th>
<th>NFI</th>
<th>IFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFA 1: 1 factor model</td>
<td>126</td>
<td>101</td>
<td>124.91</td>
<td>.250</td>
<td>.648</td>
<td>.488</td>
<td>.547</td>
<td>.648</td>
</tr>
<tr>
<td>CFA 2: 2 factor model</td>
<td>100</td>
<td>9391.506</td>
<td>93.915</td>
<td>.216</td>
<td>.739</td>
<td>.536</td>
<td>.737</td>
<td>.739</td>
</tr>
<tr>
<td>CFA 3: 3 factor model*</td>
<td>98</td>
<td>650.208</td>
<td>6.737</td>
<td>.054</td>
<td>.984</td>
<td>.959</td>
<td>.982</td>
<td>.984</td>
</tr>
</tbody>
</table>

Note. df=degree of freedom; $\chi^2/df$=Chi-square ratio; RMSEA=root mean square error of approximation; CFI=comparative fit index; GFI=goodness-of-fit index; NFI=normed fit index; IFI=incremental fit index.
CFA 1: All variables are loaded in 1 factor.
CFA 2: Variables are loaded in 2 factors (Task conflict and two moderators).
CFA 3: Variables are loaded in distinct three factors (Task conflict, team's information sharing climate, and team trust).
*CFA 3 fits best the data among the all possible measurement models.
Table 5.2: Results of Confirmatory Factor Analysis Models (Individual-level Variables)

<table>
<thead>
<tr>
<th>Confirmatory factor analysis models</th>
<th>df</th>
<th>$\chi^2$</th>
<th>$\chi^2/df$</th>
<th>RMSEA</th>
<th>CFI</th>
<th>GFI</th>
<th>NFI</th>
<th>IFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFA 1: 1 factor model</td>
<td>205</td>
<td>34432.661</td>
<td>167.964</td>
<td>.234</td>
<td>.535</td>
<td>.343</td>
<td>.533</td>
<td>.535</td>
</tr>
<tr>
<td>CFA 2: 2 factor model</td>
<td>204</td>
<td>16275.845</td>
<td>79.783</td>
<td>.161</td>
<td>.781</td>
<td>.528</td>
<td>.779</td>
<td>.782</td>
</tr>
<tr>
<td>CFA 3: 3 factor model*</td>
<td>202</td>
<td>2011.125</td>
<td>9.956</td>
<td>.054</td>
<td>.975</td>
<td>.939</td>
<td>.973</td>
<td>.975</td>
</tr>
</tbody>
</table>

Note. N = 3059 individuals when missing data was deleted
$df$=degree of freedom; $\chi^2/df$=Chi-square ratio; RMSEA=root mean square error of approximation; CFI=comparative fit index; GFI=goodness-of-fit index; NFI=normed fit index; IFI=incremental fit index.
CFA 1: All variables are loaded in 1 factor
CFA 2: Variables are loaded in 2 factors (Two moderators, and individual creativity)
CFA 3: All variables are loaded in distinctive 3 factors (Team’s information sharing climate, team trust, and individual creativity)
* CFA 3 fits best the data among the all possible measurement models.
Descriptive statistics and correlations for the team-level variables are reported in Table 5.3. The average task conflict in teams was 4.09 (SD = 0.58) and the average team creativity was 5.22 (SD = 0.81). Task conflict was not significantly related to team creativity (p > .10); however, information sharing climate and team trust were positively related to team creativity (p < .01). Table 5.4 shows descriptive statistics and correlations for individual-level variables. The minimum individual conflict asymmetry was -2.78 and the maximum individual conflict asymmetry was 3.24 (SD = 0.81) and the average individual creative performance was 4.66 (SD = 0.88). Conflict asymmetry was significantly related to individual creative performance (p < .00), and team trust was also positively related to individual creative performance (p < .00).

**Aggregation for Team-Level Analysis**

All variables needed to be aggregated to the team level before an analysis since the hypotheses identified the unit of analysis as the team. The aggregation requires that the perceptions of team members within a team are reasonably homogeneous. To justify the aggregation of individual team members’ responses, I computed inter-member reliability (ICC1 and ICC2\(^3\), Bliese, 2000) for the variables, and the values were large enough to suggest there is a significant aggregate effect: task conflict (.08 & .38), information sharing climate (.12 & .48), and team trust (.12 & .48). Furthermore, I performed one-way analyses of variance to determine the between-group variance for all variables. For each, the F value was statistically significant (p < .000), indicating consistent group-level differences.

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\(^3\) ICC1 indicates the proportion of variance in ratings due to team membership, whereas ICC2 indicates the reliability of team mean differences (Bliese, 2000).
Table 5.3: Means, Standard Deviations, and Intercorrelations among Team-level Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
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<th>4</th>
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<td>.117*</td>
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<td>.119*</td>
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<td>.144**</td>
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<td>.041</td>
<td>.028</td>
<td>.004</td>
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<td>.240</td>
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<td>-.028</td>
<td>.004</td>
<td>.063</td>
<td>.085</td>
<td>.052</td>
<td>.093</td>
<td>.138*</td>
<td>.005</td>
<td>.178**</td>
<td>.219** (.95)</td>
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</tbody>
</table>

*Listwise N = 325 teams

*p < .10, *p < .05, **p < .01. All significance tests are two-tailed.
Table 5.4: Means, Standard Deviations, and Intercorrelations among Individual-level Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<th>8</th>
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<td>.234*</td>
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</tr>
<tr>
<td>3. Department Tenure</td>
<td>12.28</td>
<td>24.95</td>
<td>.223*</td>
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<td>4. Relationship Conflict Asymmetry</td>
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<td>-.017</td>
<td>-.002</td>
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<td>5. Task Conflict Asymmetry</td>
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<td>.82</td>
<td>.003</td>
<td>.028</td>
<td>.010</td>
<td>.532*</td>
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<tr>
<td>6. Information Sharing Climate(^b)</td>
<td>4.99</td>
<td>.42</td>
<td>-.046*</td>
<td>.006</td>
<td>-.024</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>(96)</td>
<td></td>
</tr>
<tr>
<td>7. Team Trust(^c)</td>
<td>5.04</td>
<td>.51</td>
<td>.045*</td>
<td>.028</td>
<td>.050*</td>
<td>.000</td>
<td>.000</td>
<td>.018</td>
<td>(.95)</td>
<td></td>
</tr>
<tr>
<td>Dependent Variables</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Individual Creativity</td>
<td>4.66</td>
<td>.88</td>
<td>.192</td>
<td>.174*</td>
<td>.075*</td>
<td>-.087</td>
<td>.049*</td>
<td>-.004</td>
<td>.134*</td>
<td>(.95)</td>
</tr>
</tbody>
</table>

\(^a\) Listwise \(N = 2912\) individuals

\(^b\) Team-level variables

\(^c\) \(p < .10\), \(^*\) \(p < .05\), \(**\) \(p < .01\). All significance tests are two-tailed.
As such, it was deemed appropriate to aggregate scores and conduct the analysis at the team-level.

**Hypothesis Testing**

I ran Ordinary Least Squares (OLS) to test the hypotheses. To minimize any potential problems of multicollinearity, I standardized the predictor variables prior to creating the interaction terms (Aiken & West, 1991). I entered the variables into the regression analysis at four hierarchical steps: (1) the control variables; (2) task conflict and two moderators; (3) two-way interaction terms; and (4) a three-way interaction term. Table 5.5 summarizes the results. To test the hypothesis for the moderating effect of information sharing climate (H1), I entered an interaction term between task conflict and information sharing climate in Model 3, and the results document a significant interaction effect for task conflict and information sharing climate on team creativity ($\beta = -.172, p < .01$). Similarly, as shown in Model 4, the coefficient associated with the two-way interaction between task conflict and team trust was statistically significant ($\beta = -.161, p < .01$), again supporting Hypothesis 2. Simple slope tests\(^4\) confirmed that both slopes for low levels of information sharing climate ($\beta = .26, t = 3.28, p < .01$) and low levels of team trust ($\beta = .26, t = 3.22, p < .01$) are significantly different from zero.

---

\(^4\) Simple slopes were calculated at 1 SD above and below the mean of information sharing climate and team trust.
Table 5.5: Regression Analysis Results\textsuperscript{a}

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Age</td>
<td>-.040</td>
<td>-.055</td>
<td>-.065</td>
<td>-.062</td>
<td>-.057</td>
<td>-.069</td>
<td>-.067</td>
</tr>
<tr>
<td>Gender Mean</td>
<td>.004</td>
<td>-.006</td>
<td>-.019</td>
<td>-.019</td>
<td>-.024</td>
<td>-.024</td>
<td>-.025</td>
</tr>
<tr>
<td>Average Department Tenure</td>
<td>.058</td>
<td>.071</td>
<td>.068</td>
<td>.066</td>
<td>.060</td>
<td>.069</td>
<td>.069</td>
</tr>
<tr>
<td>Educational Heterogeneity</td>
<td>.075</td>
<td>.075</td>
<td>.073</td>
<td>.075</td>
<td>.075</td>
<td>.076</td>
<td>.075</td>
</tr>
<tr>
<td>Team Size</td>
<td>.110*</td>
<td>.106</td>
<td>.110*</td>
<td>.113*</td>
<td>.108*</td>
<td>.111*</td>
<td>.110*</td>
</tr>
<tr>
<td>Task Routinization</td>
<td>-.065</td>
<td>-.064</td>
<td>-.033</td>
<td>-.026</td>
<td>-.037</td>
<td>-.029</td>
<td>-.033</td>
</tr>
<tr>
<td>Relationship Conflict</td>
<td>-.105*</td>
<td>-.198**</td>
<td>-.176*</td>
<td>-.146+</td>
<td>-.095</td>
<td>-.140+</td>
<td>-.143+</td>
</tr>
</tbody>
</table>

| Independent variable      |         |         |         |         |         |         |         |
| Task Conflict             | .131*   | .180**  | .199**  | .121+   | .191**  | .204**  |

| Moderators                |         |         |         |         |         |         |         |
| Information Sharing Climate (ISC) | .122+   | .020    | .030    | .030    |         |         |         |
| Team Trust (TT)           | .182**  | .167*   | .159+   | .155+   |         |         |         |

| Two-way interaction terms |         |         |         |         |         |         |         |
| Task Conflict \(\times\) ISC | -.172** | -.118   | -.108   |         |         |         |         |
| Task Conflict \(\times\) TT | -.161** | -.069   | -.059   |         |         |         |         |
| ISC \(\times\) TT          |         |         |         | .004    |         |         |         |

| Three-way interaction term |         |         |         |         |         |         |         |
| Task Conflict \(\times\) ISC \(\times\) TT | -.035   |         |         |         |         |         |         |

| F Statistics              | 1.882*  | 2.046*  | 2.634** | 2.783** | 2.261** | 2.587** | 2.325** |
| Model \(R^2\)             | .073    | .085    | .120    | .126    | .105    | .132    | .133    |
| Adjusted \(R^2\)          | .034    | .043    | .075    | .081    | .059    | .081    | .076    |
| \(\Delta R^2\)            | .009    | .035    | .006    | -.021   | .027    | .001    |         |

\textsuperscript{a}Standardized regression coefficients are shown.

\textsuperscript{*}p < .10, \textsuperscript{**}p < .05, \textsuperscript{***}p < .01.

All significance tests are two-tailed.

Task type dummies were included in the analysis as a control.

Simple slope results are displayed in Table 5.6. Nevertheless, in contrast to the hypothesis, the interactions have a negative, not positive, moderating effect. I plotted the interactions graphically in order to illustrate the specific form of the interaction effect. The plot (see Figure 5.1) suggests that the positive relationship between task conflict and team creativity is stronger when information sharing climate is low, which goes against the
hypothesized direction of the interaction effect. Similarly, the plot (see Figure 5.2) suggests that the positive relationship between task conflict and team creativity is stronger when team trust is low.

Finally, Model 7 in Table 5.5 shows that the beta associated with the three-way interaction (Task Conflict × Information Sharing Climate × Team Trust) was not statistically significant ($\beta = -0.35$, $p > .10$), failing to support Hypothesis 3. Taken together, the results provide evidence for the moderating role of information sharing climate and team trust, but the facilitative effects of two moderators hypothesized for the relationship between task conflict and team creativity were not supported. Further discussion is due for the findings that are not consistent with the hypotheses.

<table>
<thead>
<tr>
<th>Group</th>
<th>Slope</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Low Information Sharing Climate)</td>
<td>.262</td>
<td>3.276*</td>
</tr>
<tr>
<td>2 (Average Information Sharing Climate)</td>
<td>.147</td>
<td>2.673**</td>
</tr>
<tr>
<td>3 (High Information Sharing Climate)</td>
<td>.032</td>
<td>0.654</td>
</tr>
<tr>
<td>1 (Low Team trust)</td>
<td>.264</td>
<td>3.217**</td>
</tr>
<tr>
<td>2 (Average Team Trust)</td>
<td>.162</td>
<td>2.793**</td>
</tr>
<tr>
<td>3 (High Team Trust)</td>
<td>.060</td>
<td>1.147</td>
</tr>
</tbody>
</table>

*p < .10, **p < .05, ***p < .01
Figure 5.1: Two-way Interaction Graph of Task Conflict and Information Sharing Climate on Team Creativity

Figure 5.2: Two-way Interaction Graph of Task Conflict and Team Trust on Team Creativity
Hierarchical Linear Modeling

Given the multi-level nature of the data and the nesting of individuals within their teams, I applied hierarchical linear modeling (HLM) analyses to test the hypotheses on the effect of asymmetric conflict perception on individual creative performance (Raudenbush and Bryk, 2002; Raudenbush et al., 2001). HLM simultaneously calculates estimates for the effects of both individual-level and team-level variables while maintaining the appropriate level of analysis. HLM is especially well suited for estimating the cross-level interaction of unit-level moderators, information sharing climate and team trust, on an individual-level relationship (Hofmann et al., 2000). I first ran a null model that included only control variables (with no predictors included) for individual creative performance and found significant level 2 variance. This result demonstrates that there is sufficient between-unit variance in the outcome variable, justifying HLM as the appropriate analytic technique.

First, the results provide support for the direct, positive effect of an individual’s asymmetric conflict perception on creative performance. One's higher perception of task conflict within the team is related to increased levels of one’s creative performance ($r = .095$, $p < .01$) as shown in Model 2 of Table 5.7. Hypothesis 1 was supported. Hypothesis 2 and 3 proposed that team's information sharing climate and team trust moderate the relationships between individual conflict asymmetry and creative performance. The result of the HLM analyses reported in Model 4 in Table 5.7 indicates that team's information sharing climate interacted significantly ($r = -.07$, $p < .05$), supporting Hypothesis 2.

Simple slope tests\(^5\) confirmed that both slopes for high levels of information sharing climate ($r = .38$, $t = 2.05$, $p < .05$) and low levels of information sharing climate ($r = .52$, $t =

---

\(^5\) Simple slopes were calculated at 1 SD above and below the mean of information sharing climate.
2.82, \( p < .01 \) are significantly different from zero.\(^6\) The positive slopes suggest that individuals who perceive higher task conflict than other members of the team achieve greater creative performance both when a team’s information sharing climate is high and low. I plotted the interactions graphically in order to illustrate the specific form of the interaction effect. The plot (see Figure 5.3) suggests that the relationship between individual conflict asymmetry and creative performance is stronger when information sharing climate is low, which goes against the hypothesized direction of the interaction effect. Finally, with regard to Hypothesis 3, as seen in the Model 6 of Table 5.7, I did not find support for the moderating role of team trust on the relationship between individual’s conflict perception and creative performance (\( \gamma = -.05, p > .10 \)).

\(^6\) I also computed a region of significance for simple slope following Preacher, Curran, and Bauer (2006) and using their suggested online tool (available at http://www.quantpsy.org/interact/hlm2.htm). The results were consistent with simple slope tests.
Table 5.7a: Results of Hierarchical Linear Modeling for the Moderation Effect of Information Sharing Climate and Team Trust on Individual Creativity

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
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<td>(.003)</td>
<td>(.003)</td>
<td>(.003)</td>
<td>(.003)</td>
<td>(.003)</td>
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<td>(.058)</td>
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<td>(.058)</td>
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<td>(.058)</td>
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<td>-0.083**</td>
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<td>.095**</td>
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<td>(.024)</td>
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<td>(.209)</td>
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<td>-.002</td>
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<td>(.002)</td>
<td>(.002)</td>
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<td>-.134**</td>
<td>-.134**</td>
</tr>
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<td>Task Routinization</td>
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<td>(.031)</td>
<td>(.032)</td>
<td>(.032)</td>
<td>(.033)</td>
<td>(.033)</td>
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<td>(.039)</td>
<td>(.040)</td>
<td>(.040)</td>
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<td><strong>Moderators</strong></td>
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<tr>
<td>Information Sharing Climate (ISC)</td>
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<td>.183**</td>
<td></td>
<td>.184**</td>
<td>.184**</td>
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</tr>
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<td></td>
<td>(.037)</td>
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<td>Team Trust (TT)</td>
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<td><strong>Cross-level interaction terms (Two-way)</strong></td>
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<td>Task Conflict Asymmetry \times ISC</td>
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<td>Task Conflict Asymmetry \times TT</td>
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<td>-.052</td>
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<td>(.041)</td>
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N = 2913 (Individual-level); N = 492 (Team-level).

a All estimates were calculated with robust standard error.
b Task type dummies were created and included in the model.
*p < .10, *p < .05, **p < .01.
Figure 5.3: Two-way Interaction Graph of Individual Conflict Asymmetry and Information Sharing Climate on Individual Creativity
CHAPTER 6: DISCUSSION AND CONCLUSIONS

This section concludes the dissertation by discussing the model’s implications for two studies examining the effect of task conflict on creative outcomes. Theoretical contributions are to be discussed as well as practical guidelines that will be of value to researchers and practitioners alike.

Key Contingencies for Realizing the Benefits of Task Conflict on Team Creativity

One reason that previous findings regarding the task conflict-team performance link have been inconclusive or insignificant could be a failure to examine the conditions or situations that may influence the effects of task conflict. Researchers have emphasized the need to study the situations or contexts in which conflicts occur and are managed in order to properly assess the effects of conflict (de Wit et al., 2012; Jehn & Bendersky, 2003). Nevertheless, the contingency perspective of conflict has not been systematically tested enough to refine our understanding of the effect of task conflict on team outcomes. Despite the significance of the perspective acknowledged in conflict literature, little empirical evidence exists for the functional contexts that enhance the benefits of task conflict, particularly for creative outcomes.

The goal of this research was to extend previous conflict research and particularly the contingency perspective by examining the role of two critical contingencies for the relationship between task conflict in teams and creative outcomes. In line with the contingency perspective of conflict, this dissertation draws on the overarching proposition that conflict effects should be studied in context (De Dreu, 2008; Tjosvold, 2008), and specifically examines whether a team’s information sharing climate and team trust would
influence the degree to which teams could harvest creative potentials of task conflict. Team’s information sharing climate and team trust are two important team-level factors that are closely related to the process through which teams take advantage of the diverse ideas and perspectives associated with task conflict for creative outcomes.

There are several implications to draw from the results of this research. First, the results of the team-level analysis provide evidence for the claim that the effect of task conflict on team outcomes is affected by team contexts, and, more specifically, the claim that team's information sharing climate and team trust would help teams benefit from team task conflict. Evidence from this analysis suggested that teams that were high in information sharing climate or team trust achieved greater team creativity than teams that were low in either condition at any given levels of task conflict. However, the moderating effects seem to exist in an opposite direction to the hypothesized. More specifically, I expected team’s information sharing climate and team trust would help the teams make use of task conflict in a more productive way for the team’s creative performance, suggesting that the relationship between task conflict and team creativity would be strengthened when teams are high in either information sharing climate or team trust. However, the results showed that the relationship between task conflict and team creativity was more strongly positive when teams were low in either information sharing climate or team trust.

The unexpected pattern of the moderation effect mostly resulted from the diminishing benefits of task conflict in teams that were high in information sharing climate or team trust as task conflict increased. In other words, when faced with a great number of disagreements about the work within the team, team members did not seem to be assisted by high levels of information sharing activities or team trust in dealing with task conflict and
using it for team creativity. The result for team trust is particularly surprising as one of the roles expected from team trust was to assist team members with dealing with potential psychological discomfort and tension that may be accompanied by high levels of task conflict. Future research should continue to identify functional contexts that can enhance the benefits of task conflict on team outcomes, even when extensive conflict exists.

Second, contrary to the prediction, task conflict had a direct, positive relationship with team creativity. This finding suggests that task conflict may be more than just collective informational resources; rather, task conflict itself induces positive team processes that in turn benefit team creativity, such as members' in-depth thinking and a thorough evaluation of ideas and information. This view is consistent with what early conflict researchers set forth as they advocated the benefits of task conflict. This evidence showing that task conflict can enhance team creativity is meaningful as it revitalizes the long standing debate in conflict literature—whether task conflict is functional or dysfunctional for teams.

However, given that the positive effect of task conflict on team creativity was highlighted when the team lacked information sharing activities or team trust, one may argue that task conflict in teams is one of many possible mechanisms through which a team’s cognitive or informational processes are activated, and, thus, it can be supplemented, if necessary, by other team processes that may play a similar role. For example, if teams were actively engaged in high levels of information sharing activities or had high trust among team members, the role of task conflict on team creativity could be minimal because teams have other well-functioning processes to enhance the uniqueness of information or to have team members collaborate and work collectively for team goals. A good practice of sharing information and knowledge within the team or high team trust seems to substitute
the role of task conflict in team's creative process. Conversely, if teams were low in those team conditions that can help teams with their creative processes, it seems like having more task conflict is beneficial, making the positive role of task conflict prominent. Taken together, the pattern of interactions found in this research suggest that the two team conditions that have been examined here, team's information sharing climate and team trust, play a supplementary rather than complementary role in assisting the teams to realize the benefits of task conflict. However, it is premature to draw any conclusion regarding this phenomenon as little evidence that can show the role of task conflict in relation to other team processes exists. There is also a risk to over-generalize distinctive contributions of various team processes to team creativity. Thus, further study is necessary in the future to examine the interactions between other team processes including task conflict.

Finally, it was expected that the two moderators would each have a distinctive role in enhancing the processes through which the creative potentials of task conflict are realized for team creativity, and, thus, teams would benefit most from task conflict when teams are high in both conditions. However, the three-way interaction between task conflict, information sharing climate, and team trust was not supported in this study. Unlike my prediction, it may be possible that team's information sharing climate and team trust play a similar role; rather than distinctive roles they may fill complementary roles in the process in which teams harvest the creative potentials for team creativity. The similar patterns of interactions of information sharing climate and team trust with task conflict lend some
support for this possibility, as does the analysis that showed the two interaction terms became insignificant when considered simultaneously.\footnote{Model 6 in Table 6 shows that both interaction terms (Task Conflict x Information Sharing Climate and Task Conflict x Team Trust) are not statistically significant.}

**Individual Conflict Asymmetry and Individual Creativity**

Although the possibility that individuals in the same team may have different perceptions of team-level phenomena, including team conflict, has been increasingly acknowledged, little research has been done to examine the effect of an individual's asymmetric conflict perception on individual-level performance outcomes, especially on an individual’s creative performance. This research has examined whether individuals who perceive higher task conflict than other members of the team would achieve greater creativity in addition to examining the link between task conflict and team creativity at an aggregated team level.

The results from the individual-level analysis indicate that high perceivers of task conflict, regardless of the mean level of task conflict of the team they belong to, tend to be the more creative ones in the team. This individual-level analysis provides additional evidence to support the positive effect of task conflict on teams and individuals. Although the effect of perceptions of relationship conflict was not the focus of this research, it is an interesting finding that individuals’ perception of task conflict is positively related with individual creativity, while perception of relationship conflict is negatively related with individual creativity, providing quite contrasting stories as to the effect of conflict perception on creative performance at an individual level.
In addition to the examination of the direct effect of an individual’s asymmetric conflict perception on individual creativity, I also examined whether the individual-level relationship is affected by the two team-level contingencies that supposedly play an important role for team-level creative processes. Team's information sharing climate and team trust can be facilitative contexts that influence the creative behaviors of individuals. The results supported the moderating role of information sharing climate, but not the role of team trust. Individuals showed greater creativity when they belonged to a team characterized by high information sharing activities, no matter how much conflict they perceived within the team, than individuals who belonged to a team with low information sharing climate.

However, contrary to the prediction, the relationship between conflict perception and individual creativity was stronger for individuals who belong to a team with low information sharing climate. This unexpected pattern is somewhat consistent with the earlier argument that team context becomes less influential as conflict escalates. In the context of an individual-level analysis, it is suggested that the positive effect of being in a team with high information sharing climate decreases as individuals perceive greater task conflict within the team. This finding provides evidence for the positive moderating role of team context in an individual’s creative process with regard to conflict perception, but, at the same time, highlights a need to identify functional team-level contexts that could assist individuals in taking advantage of high perceptions of task conflict and making creative contributions.

The finding that team trust did not significantly influence the extent to which individuals generate creative ideas in response to their conflict perceptions, while team information did, suggests that the process through which conflict perceptions lead to one’s creative performance is mostly an information-based process. For example, it was argued
that individuals who perceive higher levels of task conflict than other members of the team are likely to make extra efforts to understand the conflict and engage in deliberation, as a result achieving greater individual creativity. Consistent with the prediction, it appears that team's high levels of information sharing climate facilitate the creative process by providing the individuals with additional informational inputs for their deliberation and in-depth thinking. On the other hand, the role of team trust was focused on providing psychological support for individuals to freely express their concerns and suggest new ideas upon perceiving team conflict. However, it seems that the support from team members or a potentially reduced threat for talking about a change in the team are not so effective in directing individuals’ perceptions of conflict toward additional creative efforts and creative outputs. However, in this study, the creative process that was presumed for the link between conflict perception and individual creativity was not directly tested; therefore, future research that examines the actual process by incorporating the findings here will be useful.

**General Implications and Remaining Questions**

Existing research has documented both the positive and negative effects of task conflict on teams, yet the question of whether task conflict is constructive or detrimental to team functioning and team outcomes has remained unanswered. In this research, two analyses add empirical evidence to support the positive effects of task conflict on individuals and teams. Task conflict in teams was positively associated with team creativity and high perceivers of task conflict achieved greater individual creativity. This research is the first that has clearly demonstrated the benefits of task conflict for creative outcomes both at an individual- and team-level analysis.
The evidence for the positive effect of task conflict on team and individual creativity provided by this research suggests that the discussion on the effect of task conflict on team outcomes should be further specified by the types of team outcomes. For example, creativity may be the outcome that can be most affected by team's task conflict and can be enhanced by the lively dialogue and exchange of information that help the teams to take benefits from the informational diversity and resources. In other words, the effect of task conflict may be best assessed with creativity because creativity primarily hinges on diverse ideas, viewpoints, thoughts, and information. Task conflict may not have a meaningful effect on other types of team outcomes. Specifically, as evidenced by previous findings in conflict research, individual and team performance may not be the type of outcome that is most likely to be enhanced by team's task conflict as performance often measures overall effectiveness or completeness of the process by which certain tasks are carried out. Therefore, it will be useful if future research differentiate team outcomes in the development of hypotheses and examination of the effect of task conflict. Future conflict research should have a better focus and document useful findings for the effect of task conflict. Also, more research should be done to further investigate specific mechanisms of how high levels of team task conflict contribute to team creativity or how high perceivers of task conflict achieve greater individual creative performance.

This research was designed to extend the contingency perspective that the effect of task conflict is affected by contexts, and provided evidence for the contingent dimensions of task conflict. Specifically, the results of the team-level analysis provide one way to understand the conflicting findings of previous conflict research. That is, previous research’s failure to detect a significant relationship between task conflict and team creativity may have
resulted from the lack of consideration of important team contexts such as information sharing climate. As shown in this research, the relationship pattern between task conflict and team creativity varied depending on the levels of information sharing climate and team trust. More specifically, the relationship between task conflict and team creativity was significantly positive when the teams were low in either information sharing climate or team trust, but the relationship was not significantly positive when the teams were high in information sharing climate or team trust.

However, as noted earlier, the enhancing moderating effects of both information sharing climate and team trust decreased as task conflict increased within the team. Although the contingency perspective generally enhances and refines our understanding of how and under which conditions task conflict affects team outcomes, the choice of moderators in this study was supposed to respond to calls for research to explore functional contexts that can enhance the benefits of task conflict on teams and individuals and to extend work where such functional roles of contexts were proposed only in a theoretical form. As it seems the moderating effects of both information sharing climate and team trust reduce as task conflict increases in the team, there still remains need to continue discovering facilitative contexts that would raise the productivity of the processes by which high task conflict is connected to team creativity.

In this research, information sharing climate and team trust were expected to play distinctive roles in the process through which teams effectively use the informational resources, drawing on differences among team members for team creativity as one focuses on distributing and sharing information within the team and the other is about a team's social and emotional functioning. The three-way interaction was based on the potential synergic
effect between the two. However, research has suggested that the indirect effect of information sharing climate is to create a positive group climate by promoting an open communication and enhancing team members' personal understanding of each other. This research cannot determine which aspect of information sharing climate influenced the extent to which task conflict affected team creativity, and, thus, future research would benefit from further specifying the role of information sharing climate in realizing the creative potentials of task conflict for the team.

**Practical Implications**

Practical implications of the moderated positive relationship observed in this research are as follows. First, there is need for managers to understand that task conflict can be beneficial to a team’s creative performance by overcoming the negativity implied by the word conflict. Task conflict represents informational resources that draw on the differences in ideas, perspectives, and knowledge that team members have, and it can enhance team creativity by facilitating a deep and deliberate processing of task-relevant information. If a team task has creative elements, team leaders or managers may not need to be concerned about conflicts occurring over task issues unless they transform into an emotion-loaded argument.

If managers are interested in enlarging the benefits of task conflict on team creativity, they may need to pay attention to other team processes and functions that can further boost the productivity of the team’s informational process, such as information sharing climate and team trust. Findings from this research suggest the beneficial effects of task conflict on team creativity were greater in teams that were high either in information
sharing climate or team trust. It seems to be a manager’s responsibility to make sure teams participate in information and knowledge exchange and sharing or maintain high trust in the team when experiencing task-related conflict, both for individuals and teams. However, managers should also be mindful about intensive task conflict as those boundary conditions that supposedly enhance the benefits of task conflict are not so effective for extensive task conflict and as there may be unwanted negative consequences associated with high conflict.

The findings in this research also call for attention to individuals’ perceptions of conflict. Although this research offers first evidence for the positive link between individuals’ asymmetric perceptions of task conflict and individual creativity, the results indicate that team members who perceive greater task conflict are better at developing new and creative insights than those who perceive less conflict within the same team. Team leaders or managers should be aware of the positive function of conflict perception as an intellectual stimulus that fosters individual creativity. One thing they can do is to encourage team members to pay close attention to the opinions and views of other team members, since the perception of a difference can be a good starting point for an individual's additional reflection and deliberation of the information at hand and for generating more creative solutions.

Finally, in attempting to manage conditions for team and individual creativity, organizations and their managers must recognize the significant role of team's information sharing climate to multiply the benefits of task conflict on both team and individual creativity. Since being in a team that engages in extensive information sharing is particularly beneficial for individuals, managers may find it useful to create such a group environment when individuals need to excel on their individual creative tasks. If managers’ efforts to
manage workplace conflict in the past have been to keep an eye on the levels of conflict and to prevent potentially negative consequences of conflict, more attention should be paid to other team conditions and functions, such as information sharing climate, that may interact with team conflict to affect team outcomes. A keyword for effective conflict management should now shift from control to usage with a consideration of other team processes.

**Limitations and Future Research**

The theoretical and empirical approach employed in this study has some limitations. While there are several strong points about the sample used in this study, there are some limitations as well. First, the sample was biased in terms of gender and education as almost ninety percent of the respondents were male and had some college education and above. As there exists substantial evidence for the effect of gender composition of teams on various team processes as well as team outcomes (e.g., Harrison, Price, Gavin, & Florey, 2002; LePine, Hollenbeck, Ilgen, Colquitt, & Ellis, 2002; Randel, 2002), such homogeneity of the sample might have affected the relationships examined in the study.

For example, Randel (2002) argued that when men or women are unevenly represented within a group (either the proportion of one gender type in a group is very low or very high), it is more likely that the gender differences are perceived and the gender-based identity becomes more salient as a result. She further argued that such gender salience will be positively related to the levels of relationship conflict. Therefore, it is important to note the possibility that team members in this data might have experienced a difficulty in getting along with one another and maintaining a good personal relationship although it should not be a big concern as the levels of relationship conflict was controlled in all
analyses done in this study. Second, the sample represents several industry sectors but the industries fall under one broad industrial category—heavy manufacturing. As there may be industry-related characteristics that may affect the key variables of this study—conflict and creativity—future research would benefit from using cross-industry samples.

A second limitation relates to the data. This data is not entirely free from the potential effects of common source bias because evaluations of all variables came from the same rater (i.e., employees), although the ratings of team creativity came from the leader. Also, the data is cross-sectional, giving me little confidence for the causality between variables. Future research should consider a longitudinal research design to examine the relationship between task conflict and team creativity. A longitudinal setting will be particularly useful to examine the effect of task conflict as some research has suggested that time interacts with the level of team task conflict on team creativity (Farh et al., 2010).

A third possible limitation of this study has to do with the measures. As noted earlier, increasing attention has been paid to how conflict is measured in conflict research, and limitations of a perceptual measure of conflict have been recognized. The conflict measure used in this study is based on each individual's perception of team conflict, and a perception-based aggregated score of conflict may be criticized for its accuracy for a team-level conflict measure. An objective measure of conflict that gauges the actual volume of conflict needs to be employed in future research.

Fourth, due to the close link between task conflict and information sharing, an alternative model could be possible whereby team's information sharing climate mediates the relationship between team task conflict and team creativity. I ran this alternative model, but my data did not support the link between task conflict and the extent to which teams
engage in information sharing activities. However, future research would benefit from examining alternative models, particularly ones that reveal the mediating process by which task conflict is linked to team creativity, and will contribute to refine our understanding the effect of task conflict on team creativity.

Lastly, although the hypotheses were based on theory, I did not directly test the associated mechanism. For example, the processes that link task conflict and team creativity were assumed to be aligned with past research but not directly examined in this study. Future research that directly examines the mediating processes as well as interactions with important team-level contexts, preferably in a lab setting, would be most interesting and will provide a deeper understanding of the mechanism.

**Conclusion**

Adopting a multilevel approach, I examined the moderating role of team's information sharing climate and team trust in the relationship between task conflict and team creativity at the team-level and the relationship between an individual’s asymmetric perception of conflict and individual creative performance at the individual-level. Scholars have increasingly recognized the importance of contexts in understanding the effect of conflict on individuals and teams. However, not much research has revealed functional team-level contexts that enhance the benefits of task conflict, especially in a multilevel design. I strongly believe that the line of inquiry set forth in this dissertation makes an important contribution to the study of team conflict and team creativity. More empirical examinations to test the contingency perspective of conflict and to identify critical
conditions that may amplify the benefits of task conflict will enhance and refine our understanding of the effects of team conflict.
REFERENCES


APPENDIX

SURVEY MEASURES

Task Conflict (Jehn & Mannix, 2001)

| 1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4=Neutral 5=Slightly Agree 6=Agree 7=Strongly Agree |
| 1. There is conflict of ideas in your work group. | 1 2 3 4 5 6 7 |
| 2. You have disagreements with your work group about the task of the project you are working on. | 1 2 3 4 5 6 7 |
| 3. People in your work group have conflicting opinions about the project you are working on. | 1 2 3 4 5 6 7 |

Relationship Conflict (Jehn & Mannix, 2001)

| 1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4=Neutral 5=Slightly Agree 6=Agree 7=Strongly Agree |
| 1. There is relationship tension in your work group. | 1 2 3 4 5 6 7 |
| 2. People often get angry while working in your group. | 1 2 3 4 5 6 7 |
| 3. There is emotional conflict in your work group. | 1 2 3 4 5 6 7 |
Task Routinization (Bacharach, Bamberger, & Conley, 1990)

<table>
<thead>
<tr>
<th>1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4=Neutral 5=Slightly Agree 6=Agree 7=Strongly Agree</th>
<th>1 2 3 4 5 6 7</th>
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</thead>
<tbody>
<tr>
<td>1. There is something different to do here almost every day (Reverse coded).</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2. The work we do in my team is very routinized and repetitive.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3. My team members face something new in their job almost every day (Reverse coded).</td>
<td>1 2 3 4 5 6 7</td>
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Information Sharing Climate (Srivastava, Bartol, & Locke, 2006)

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<tr>
<th>1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4=Neutral 5=Slightly Agree 6=Agree 7=Strongly Agree</th>
<th>1 2 3 4 5 6 7</th>
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<tr>
<td>1. People in our team share their special knowledge and expertise with one another.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>2. People in my team are willing to share knowledge about how to perform the task to other members.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>3. There is lots of exchange of information, knowledge, and sharing of skills among members in our team.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>4. Team members freely provide other members with hard-to-find knowledge or specialized skills.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>5. My team members help one another in developing relevant strategies.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>6. My team members share lots of information with one another.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>7. My team members offer lots of suggestions to each other.</td>
<td>1 2 3 4 5 6 7</td>
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### Team Trust (Robinson & Rousseau, 1994)

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<th>1=Strongly Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Neutral</th>
<th>5=Slightly Agree</th>
<th>6=Agree</th>
<th>7=Strongly Agree</th>
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<tr>
<td>1. I fully trust my team members.</td>
<td>1 2 3 4 5 6 7</td>
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<td>2. My team members are open and upfront with me.</td>
<td>1 2 3 4 5 6 7</td>
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<td>3. I believe members of my team have high integrity.</td>
<td>1 2 3 4 5 6 7</td>
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<td>4. In general, I believe the motives and intentions of my team members are good.</td>
<td>1 2 3 4 5 6 7</td>
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<td>5. My team members are always honest and truthful.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>6. I can expect members of my team to treat me in a consistent and predictable fashion.</td>
<td>1 2 3 4 5 6 7</td>
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### Team Creativity (Zhou & George, 2001)

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<tr>
<th>1=Strongly Disagree</th>
<th>2=Disagree</th>
<th>3=Slightly Disagree</th>
<th>4=Neutral</th>
<th>5=Slightly Agree</th>
<th>6=Agree</th>
<th>7=Strongly Agree</th>
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<tbody>
<tr>
<td>1. My team members suggest new ways to achieve goals or objectives.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>2. My team members come up with new and practical ideas to improve performance.</td>
<td>1 2 3 4 5 6 7</td>
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<td>3. My team members often have new and innovative ideas.</td>
<td>1 2 3 4 5 6 7</td>
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<td>4. My team members have a fresh approach to problems.</td>
<td>1 2 3 4 5 6 7</td>
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Individual Creativity (Janssen, 1999)

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<tr>
<th>Question</th>
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<th>7</th>
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</thead>
<tbody>
<tr>
<td>1. Creating new ideas for difficult issues</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>2. Searching out new working methods, techniques, or instruments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>3. Generating original solutions for problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. Mobilizing support for innovative ideas</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>5. Acquiring approval for innovative ideas</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>6. Making important organizational members enthusiastic for innovative ideas</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>7</td>
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<tr>
<td>7. Transforming innovative ideas into useful applications</td>
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<td>8. Introducing innovative ideas into the work environment in a systematic way</td>
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<td>9. Evaluating the utility of innovative ideas</td>
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