

**Examining the Relationship among
Context, Cognition, and Conflict Management
In the Workplace**

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ABSTRACT

Conflict is a component of interpersonal interactions, neither inevitable nor innately bad, but often commonplace (Deutsch & Coleman, 2000; Schellenberg, 1996). Conflict interactions that occur in the workplace can impact individuals, relationships, and the organization as a whole. This experimental study was framed from a contingency perspective to examine the extent to which specific contextual variables of a workplace conflict would influence participant responses in that interaction. During the study, 389 individuals responded to an online questionnaire containing a description of a hypothetical workplace conflict interaction with one level of three manipulated context variables (i.e., conflict type, verb abstraction level, and sex of parties). The context variables were hypothesized to influence participants' responses that included attitudes toward the interaction, subjective norms, appraisals of personal control and external control, and attributions of the locus of causality. This cognitive set of variables was hypothesized to explain respondents' behavioral intentions in that conflict. The four conflict behavioral intentions used in this study were control, nonconfrontation, compromise, and integrate. Analyses of the data included multivariate analysis of variance (MANOVA), canonical correlation analysis, and hierarchical multiple regression. The results of MANOVA were that context had modest effects on cognition and behavioral intention, examined in separate analyses. The conflict type, using a task versus relationship categorization, appeared to be the most salient of the context variables having effects on many of the cognitive measures in this study. Two other contextual variables, sex of conflict initiator and abstraction level of the verbs used to describe the conflict scenario had statistically significant results, but much lesser effects. The sex of the respondent played a minimal role in a statistically significant 3-way interaction with abstraction-level and sex of initiator. The cognitive variables together explained 29% of the variance in the set of conflict behavioral intentions using canonical correlation analysis. When the data were analyzed with hierarchical multiple regression, the context and cognitive variables explained statistically significant proportions of the variance in each behavioral intention that ranged from 7% (of control), 15% (of nonconfrontation), 19% (of compromise), to 20% (of integrate). Different patterns of context and cognitive variables influenced each of the conflict behavioral intentions. These findings present a challenge to hold two ideas together, the context and the individual, in future research and current practice. The results of this study lend support to a contingency perspective that aspects of the context, when salient to a party in the conflict, will have effects on participant responses in that interaction.

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Finish
Grateful, Resourceful
Encouraging, Laughing, Growing
Journey, Process, Friendship, Love
Supporting, Guiding, Learning
Thankful, Hopeful
Start

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CHAPTER 1

INTRODUCTION

What explains a person's behavior? This experimental study is framed from an interaction perspective that considers behavior to be the combined product of the person and the environment (Lewin, 1951), such that the individual's responses are contingent or influenced by the immediate context of that interaction (Jameson, 1999). Understanding the person's contribution to behavior has been extensively studied using variables, such as sex and attitudes. The environment or context can be conceived very broadly, such as one's society or narrowed to a situation or interaction. This study applied well-supported theories, primarily from the field of social psychology, to explore the relationships between the individual, the context, and behavior in a workplace conflict situation.

The Individual & Behavior

Research that explores the relationship between the individual and behavior has been the focus of diverse fields, including psychology, education, marketing, and economics. Often the questions asked include what personal characteristics can be used to predict a person's actions or to understand behavior? The Theory of Planned Behavior (Ajzen & Fishbein, 1980; Ajzen & Madden, 1986) has been applied in an impressive body of research, which largely focuses on predicting a specified behavior from a set of individual characteristics, that includes attitudes, subjective norms, and perceived behavioral control. Attribution Theory (Heider, 1958; Weiner, 1986) is a set of theories that relates how individuals make sense of outcomes and situations and the subsequent actions related to this process. The following sections briefly describe these two complex theories that are the foundation of this study.

The Theory of Planned Behavior

An individual's actions are generally under volitional control and serve a purpose. Ajzen and Fishbein (1980) proposed that the immediate and major determinant of behavior is intention, or what they termed behavioral intention. The model, known as the Theory of Planned Behavior (TPB) has three individual variables that are antecedent to intention: attitudes, subjective norms, and perceived behavioral control. Attitude toward a behavior is a positive or negative evaluation of performing a specified behavior. Subjective norm is the perceived social pressure that the individual feels that is either for or against performing a specific behavior. Perceived behavioral control (PBC) serves as an additional antecedent to intention (Ajzen & Madden, 1986) to reflect the extent that a person feels that s/he has control over and the ease or difficulty in performing a specific behavior. The PBC variable largely considers the extent to which an individual believes or infers that s/he has personal control to perform or not perform a behavior. This model has been used extensively in research to explain and predict a range of behaviors, including dishonest behaviors, such as cheating and lying, exceeding speed limits, and a range of health topics such as exercising, dieting, and using condoms.

Attribution Theory & Locus of Causality

People come to know about each others' states (e.g., emotions and intentions) and more enduring dispositions (e.g., traits and beliefs) through processes referred to as social cognition (Fiske & Taylor, 1991b; Gilbert, 1998) and described by Attribution Theory. Fritz Heider (1958), credited as the founder of attribution theory, suggested that people use naïve processes to

understand the causes of events in order to make decisions and take actions to adapt and respond to events. The processes that people use to know themselves and others may be conscious, unconscious, perceptual, cognitive, and behavioral. While there may be different attributions and inferences made by an individual during an interaction, researchers have hypothesized that attributions of the locus of causality play a significant role (Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Weiner, 2000, 2001). Participants in an interpersonal interaction likely make attributions of causality such that they infer the cause of the event or outcome is oneself, the other person or the situation (Allred, 2000; Jones & Davis, 1965; Weiner, 1986). Attributions made during an interpersonal interaction have been shown to be influenced by participant characteristics, such as sex (Fiedler, Semin, & Finkenauer, 1993) and group membership (Maass, Salvi, Arcuri, & Semin, 2000; Rubini & Semin, 1994). Research designed to look at language revealed that words used during an interaction, specifically verbs, conveyed information that both implied and lead to different attributions of causality (Fiedler & Semin, 1988; Semin & Fiedler, 1988; Semin & Marsman, 1994). Research focused on intrapersonal attributions of causality (within oneself) has supported a relationship between different attributions (e.g., to oneself or situation) and subsequent behaviors and outcomes, such as achievement and depression (Abramson & Martin, 1981; Weiner, 2000).

In summary, the Theory of Planned Behavior and Attribution Theory have each been applied in research to explore the relationship between individual characteristics and behavior. Researchers have found that attitudes alone are not always the best predictor of behavior and have included additional individual variables, such as subjective norms and perceived behavioral control. Locus of causality, an individual's inference of the cause of the event, is thought to play an important role in interpersonal interactions (Weiner, 2000), and may explain behavior, in addition to the other individual variables.

The Context & Behavior

As mentioned in the introduction, a person's behavior can be framed to be an emergent function of the individual and the environment or context (Lewin, 1951). Whereas the field of psychology focuses more on the individual and behavior, social psychology is built upon the notion that the individual develops and interacts within social systems (Turner, 1991). Examples of research within this perspective includes: the development and manifestations of stereotyping (Allport, 1954; Fiske, 1998; Maass et al., 2000), alcohol use in the Greek system at colleges (Borsari, Murphy, & Barnett, 2007), and violence within families (Gelles & Straus, 1979). A contingency perspective adopted in conflict management research (Jameson, 1999; Olson-Buchanan et al., 1998) considers how the context influences the individual and behavior. Individuals act and interact within a context. While the individual brings a lot to the situation, whether that is exercising alone or interacting with others, the context has the potential to affect what behaviors are intended.

There is an enormous body of literature, theoretical and empirical, dealing with conflict and conflict management. This proposal is grounded in a body of research specifically addressing interpersonal conflict in the workplace. The following sections contain descriptions of a specific situation (conflict) in a given context (the workplace) and two views on conflict management behaviors: style versus contingency.

Conflict in the Workplace

Conflict is currently recognized to be a component of interpersonal interactions, not necessarily inevitable or innately bad, but often commonplace and is an emergent function of people interacting within the workplace (Deutsch & Coleman, 2000; Schellenberg, 1996).

The majority of people who work spend a good proportion of their weekday hours interacting with others at their workplace. The average number of hours worked each week has held fairly constant for a wide range of industries over the last ten year (Bureau of Labor Statistics, 2007). This fact alone seems to make workplace organizations a viable context in which to study conflict. Concomitantly, over the last decade there has been increased attention to conflict management in the workplace by organizations, both public and private. Evidence of this is seen in organizations' activities focused at the system and individual level. At the system level, more organizations are implementing alternative dispute resolution (ADR) processes and procedures. Cost saving has been an impetus for companies and the Federal Government (General Accounting Office, 1997) to incorporate arbitration and mediation processes as alternatives to formal legal options. Peer and/or management review has been utilized to address interpersonal conflict situations at earlier stages of escalation. Additionally, there has been a growth in the number companies and agencies creating organizational ombudsmen positions. An organizational or internal ombudsman provides a neutral, independent, and confidential mechanism for employees to deal with conflicts that occur with peers and/or managers.

At the individual level, more organizations have included conflict management skills as a requirement for recruitment, selection and performance appraisal for employees, especially management and executive positions (Office of Personnel Management, 2007). A quick internet review of the training programs being offered by the Office of Personnel Management (OPM, 2007) reveals that "conflict management skills" is listed as a competency goal in the majority of the leadership courses offered to executives. In the private sector, consultants and internal human resource departments are providing training that includes skills building in conflict management strategies (Deutsch & Coleman, 2000; Whetten & Cameron, 2002). The trend in organizations implementing both system-wide processes and individual-focused programs to facilitate management of interpersonal conflict in the workplace coincides with a growing body of research showing conflict, if not managed, can lead to poor organizational (De Dreu & Beersma, 2005; De Dreu & Weingart, 2003; Deutsch, 1949) and individual outcomes (Ayoko, Hartel, & Callan, 2002; Euwema, Van de Vliert, & Bakker, 2003; Friedman, Tidd, C., & Tsai, 2000).

Conflict Management Behaviors in the Workplace

This study used the workplace as one feature of the context of a conflict situation. A hypothetical scenario is described below to highlight the ideas and questions guiding this and other research in conflict management.

John and Mary are peers at ABC organization. Mary believes that John took all of the credit for their joint work on a task force when he presented the results to the management committee. From his words and actions Mary has concluded that John deliberately meant to mislead the committee about his contributions. Mary decides not to directly confront John but to talk to her friends about how angry and frustrated she is about this situation.

Does Mary always respond to conflict by avoiding confrontation or does she use different behaviors based upon the situation? If the conflict involved a female coworker or the disagreement was about a more technical issue, would Mary's behavior be the same? A style perspective to conflict management is based upon the premise that a person uses the same behaviors across different contexts and conflict situations (Wilson & Waltman, 1988), while a contingency approach to conflict management suggests that the individual will use behaviors and actions that incorporates situational and contextual factors (Jameson, 1999).

Style Perspective. Research conducted in workplace settings has largely framed the individual to have a conflict style that "may reflect a predisposition, habit or stable internal preference" (Wilson & Waltman, 1988) that is consistent over time and across situations. From this perspective, studies were designed to examine the relationship between individual differences in attributes such as sex (Bullis, Cox, & Herrod, 1982; Gayle, Preiss, & Allen, 1994; LaFrance, Brownell, & Hahn, 1997; Papa & Natalie, 1989), personality (Moberg, 1998; Percival, Smitheram, & Kelly, 1992), moral development (Rahim, Buntzman, & White, 1999), and cultural background (Chua & Gudykunst, 1987; Tinsley, 2001) to explain or predict their conflict style. Intuitively, many of these individual differences may be related to how a person may approach and behave in a conflict situation. However, if behavior is a function of the individual and the environment, the participants and issues involved in a conflict will often vary and may also contribute to the interaction. Additionally, research linking traits, such as sex to conflict management behavioral styles (Chusmir & Mills, 1989; Hottes & Kahn, 1974; Portello & Long, 1994) has had mixed results raising the possibility that sex is not consistently linked to conflict style or that conflict behavior, as a trait, is not the optimal framework.

Contingency Perspective. In contrast to a style framework, a contingency perspective suggests that an individual incorporates salient external variables into her/his cognitive processing during an interaction and this may affect the individual's conflict management behaviors. Researchers in conflict management behaviors in the workplace have hypothesized and identified some relevant situational variables. The behaviors used by an individual during a disagreement with a peer who is the same sex may be different if it is with a member of the opposite sex (Gayle et al., 1994; LaFrance et al., 1997; Tinsley, 2001). There may also be different "types" of conflicts. One categorization identified in qualitative research, task versus relationship (Jehn, 1995) has been related to differences in outcome variables, such as team satisfaction (Jehn, 1995), performance, (De Dreu & Weingart, 2003) and innovation (Lovelace, Shapiro, & Weingart, 2001). Conflicts in the workplace often take the form of verbal or written exchanges. The words used by a participant become part of the context in which the conflict interaction is occurring. When aspects of the context are relevant to the participant such as sex or specific words used, a different pattern of conflict management behaviors may be used to manage the interaction (Olson-Buchanan et al., 1998).

In summary, a contingency perspective advocates that an individual has a tool kit of behaviors that s/he uses during a conflict interaction. These may be related to personal characteristics such as sex or age. However, there seems to be a growing interest by researchers to question what aspects of the context or situation may relate to or influence the individual's conflict management behaviors.

Statement of the Problem

By its very nature, conflict is a phenomenon that everyone has experienced (Lederach, 1995, p. 40).

A person's behavior is believed to be a function of the self and salient aspects of the situation (Lewin, 1951). The research that has used the Theory of Planned Behavior has generally performed very well in predicting intention and behavior from three individual variables: attitudes, subjective norms, perceived behavioral control (Armitage & Conner, 2001; Hagger, Chatzisarantis, & Biddle, 2002; Sheppard, Hartwick, & Warshaw, 1988). The behaviors that have been studied with the TPB have generally been intrapersonal (e.g., weight-loss or exercise) as compared to interpersonal. Additionally, in the previous research, the TPB has been used to study a single target behavior, such as smoking cessation. This practice has been questioned by some researchers because the individual generally has more than one behavioral option available in any given situation (Kashima & Lewis, 2000; Sheppard et al., 1988). Attribution researchers suggest that attributions of causality play an important role in interpersonal interactions, but empirical research is limited. Finally, while there is an acknowledgement that conflict management behaviors are emergent within a situation, this is not reflected in the empirical research. The preponderance of the research conducted in workplace settings still frames conflict management behavior as a stable style.

To develop a richer understanding of behavior, it is essential that research include both individual and situational variables. The Theory of Planned Behavior (TPB), representing individual variables, was extended and expanded in three ways. First, the model was applied in a new behavioral domain, a workplace conflict interaction. Second, research using the TPB has typically included a single behavior and intention in the design. During a conflict interaction, an individual has a range of behaviors that can be chosen; therefore, three conflict management behavioral intentions were included in this research: nonconfrontation, solution-orientation, and control (Putnam & Wilson, 1982). Third, items to measure attributions of the locus of causality were included as a cognitive variable because it was hypothesized to explain additional variance in conflict behavioral intentions. Finally, in this study, four context variables (i.e., conflict type, abstraction-level of the words used, and sex of parties) were included to represent salient aspects of the situation. These were drawn from a range of research in conflict and attribution, but not specifically included together in an experimental design.

Research Questions

Does the context of a given workplace conflict situation influence a person's response? Specifically, do people respond differently in a conflict interaction depending upon each of the following:

- a. the type of conflict (task or relationship),
- b. the language used (low or high abstraction-level),
- c. the sex of the conflict initiator, and
- d. the sex of the respondent?

Conflict and conflict management is an important area of research. Organizations are devoting resources to implement systems, processes, and training to improve the management and outcome of workplace conflicts. This trend will likely continue as organizations and employees are required to work effectively within a changing environment. Additionally, results from research showing conflicts can lead to poor organizational and personal outcomes is adding further impetus to understanding conflict situations and conflict management in the workplace. This research bridged perspectives by using established models and variables and applied them in a different way. An experimental study was used to select and control specific

context variables to examine the extent to which these influenced cognitive processing and intended behavioral responses during a workplace conflict interaction.

The relevant literature pertaining to this research is described in chapter 2 of this document. Descriptions of the methods used are in chapter 3 and of the results are in chapter 4. Chapter 5 concludes with a summary of the findings, conclusions, and implications for current practice and future research.

CHAPTER 2

LITERATURE REVIEW

Overview

A conflict situation can occur as people interact within a context (e.g., the workplace) and when one or both participants perceive or experience differences and/or oppositions about interests, goals, beliefs, or values that matter (De Dreu & Beersma, 2005; Wall Jr. & Callister, 1995). Individuals use perceptual and interpretative processes to attach meaning to the actions that occur during a conflict situation (Lederach, 1995; Watzlawick, Weakland, & Fisch, 1974). The situation and the meaning attached to the events influence subsequent responses by the conflicting parties. This experimental study examined the extent to which specific aspects of a workplace conflict situation influenced participant inferences and subsequent intended actions in that situation.

This chapter will present a review of relevant literature that forms the conceptual support for this study. Conflict and conflict management has been the subject of a large body of research from diverse fields (Deutsch & Coleman, 2000; Schellenberg, 1996). After a brief general description of conflict, a triadic framework of conflict suggested by Mitchell (1981) consisting of behaviors, a psychological domain, and a situation will be used as a structure for the remainder of this literature review. Workplace conflict management behaviors are often measured in research studies and are thought to represent either a style (Rahim, Antonioni, & Psenicka, 2001) or a set of strategies (Chen, 2004). This latter perspective was adopted for this study and a focus on language and verbal utterances will be described. Representing aspects of the psychological dimension: conflict parties' perceptions, interpretations, attitudes, norms, and perceived control will be considered from a social psychological perspective using models of social cognition (Trope, 1986), attribution (Weiner, 1986), and the Theory of Planned Behavior (Ajzen, 1985; Ajzen & Fishbein, 1980). Finally, the conflict situation will focus on literature and research on conflicts occurring in workplace settings. Specific aspects of conflict situations that have been implicated in previous research, such as type of conflict, will be described.

Conflict Process and Structure

Conflicts can be studied by considering two aspects: process and structure (c.f., Kriesberg, 1982; Lederach, 1995; Mitchell, 1981). The process of a conflict can be viewed from a macro-level, using long time frames to explore its spiraling nature or at a micro-level, at the tit-for-tat interactive pattern of behaviors apparent in a conflict situation.

Conflict Process

Conflict involves strategic and planned interactions, in which participants in the conflict make choices between alternative behaviors (Putnam & Wilson, 1982). Behavioral intentions are formed based upon consideration of an individual's goals, inferences about the other parties' goals, and evaluation of likely success (Ajzen, 1985; Mitchell, 1981; Putnam & Wilson, 1982). Conflicts tend to follow a dynamic cyclical pattern in which the consequences of one conflict cycle interact with the bases (i.e., the perceived causes) of a subsequent conflict (Kriesberg, 1998). The bases of a conflict are generally recognized as an incompatible goal between parties. The bases of any conflict are difficult to predict with certainty. Kriesberg included internal participant factors such as human nature and social interactions and system

context factors such as culture, institutions, scarce resources, power relationships, and stability as potential bases of conflict. Mitchell (1981) suggests that conflicts occur in three stages: incipient, latent, and manifest. An incipient conflict exists when parties have incompatible goals but may not recognize it yet. During the latent stage, parties recognize their incompatible goals but have not yet committed to any action. Escalation results in a manifest conflict with overt behaviors to achieve each party's goals. Escalation is a dynamic process that leads to moves and counter-moves by both parties. Within a conflict interaction, parties tend to use tit-for-tat behaviors whereby one party tends to match the behavior of the other (Au & Komorita, 2002; Deutsch & Coleman, 2000). This pattern of interaction has been demonstrated in research both in laboratory settings using simulations (Cole, 1972; van Lange & Visser, 1999) and in field studies (Tjosvold & De Dreu, 1997).

Conflict Structure

Conflict has been described as having a triadic structure that involves a situation, a psychological dimension, and a set of behaviors (Mitchell, 1981). The conflict situation involves two or more parties (e.g., individuals, groups, nations) with incompatible goals that are interdependent with regards to the situation. Incompatible goals can be broadly defined to include: a difference in a desired outcome or the parties' interest, or the means used to achieve an outcome, differences in values, beliefs, and ideology, and differences in the causes attributed to a situation. Incompatible goals provide the situation for a conflict, but the presence of underlying psychological components consisting of emotions, attitudes, prejudices, and/or misperceptions (Mitchell, 1981) fosters escalation of a conflict situation. Conflict behaviors consist of overt or covert actions undertaken by one party to frustrate the other. Additionally, subsequent behaviors by participants to respond to or punish the other are common in escalating and/or continuing conflicts. Interdependent parties, as described by Deutsch (1971) have goals that are linked together positively (i.e., both win or both lose) or correlated negatively (i.e., on wins and the other loses). Individuals or groups that are totally independent would tend not to have much conflict.

Behaviors

The research in conflict management behaviors is largely guided by two different underlying perspectives. One premise is that the individual has a "conflict style" and uses a stable pattern of behaviors consistently over all conflict situations (Brewer, Mitchell, & Weber, 2002; Friedman et al., 2000; Hall, 1969; Munduate, Ganaza, Peiro, & Euwema, 1999; Wilson & Waltman, 1988). This perspective was developed out of an individual differences perspective in psychology and is reflected in a substantial proportion of the research in workplace conflict management. An alternative perspective advocates that a person uses conflict management strategies, that represent behavioral choices that people make rather than a stable style (Putnam & Wilson, 1982). The strategy selected by the individual is contingent upon and is influenced by salient stimuli in the individual's environment. It is not the individual alone acting in a vacuum, but the actions are guided by personal characteristics within the constraints and influences of the environment or context. Researchers using this perspective consider there is no consistent single best way to manage conflict and that the individual uses behaviors related to the situational requirements (Canary & Spitzberg, 1989; De Dreu, Evers, Beersma, Kluwer, & Nauta, 2001; Keating, Pruitt, Eberle, & Mikolic, 1994; Musser, 1982).

This research assumed the latter perspective, that of contingency, exploring the contextual influences on responses during a conflict situation. The next two sections describe communication as a conflict behavior and the measurement of conflict behaviors.

Communication & Conflict Behavior

During a workplace conflict interaction, the participants are actively creating the conflict both through their own actions and in their interpretation of the other's actions (Lederach, 1995). Their actions and interpretations reflect both current and past experiences with conflict and each other. Lederach suggested a communication framework to study conflict that includes expression, perception, and interpretation. A conflict interaction begins with some action, which may be verbal such as an accusation or non-verbal such as rolling of the eyes. The expressive scheme, the overt behaviors, represents the individual's ideas, intent, and goals. An expression by one participant of the conflict then enters the perception processes of the other participant. Our senses are utilized to perceive and focus our attention on salient aspects of the situation and interaction. Tone of voice or specific words may be given differential status during perception. After perception, the second participant attaches meaning to the action or interprets what is observed. Lederach's communication structure is consistent with Mitchell's framework for the study of conflict.

Communication is a prominent behavior used in workplace conflict situations. Communication has been conceptualized using various models. Two prominent models were proposed by Campbell (1958) and Katz and Kahn (1966). Campbell described a mechanistic model with encoding and decoding functions. The encoding and decoding paradigm suggested that communication is rife with the potential for error. Katz and Kahn (1966) described an interactive process within a larger social system. Speech accommodation theory, an outgrowth from this perspective, added a convergence and divergence process for communication (Giles, Coupland, & Coupland, 1991). The authors defined convergence as "a strategy whereby individuals adapt to each other's communicative behaviors" (p. 7), while divergent strategies accentuate the dissimilarities between individuals communicating. An interaction exhibiting convergence may show parties matching both the verbal (e.g., speech rate and tone) and nonverbal (e.g., facial expression) patterns. During the course of an interpersonal conflict interaction, the parties' perceptions, language use, responses and goals change as they interpret and negotiate meaning (Ayoko et al., 2002; Ohbuchi & Tedeschi, 1997). This study was framed from the position that communication and its meanings are formed and emergent within a social system as parties interact.

Conflict Management Behavior Measures

Self-assessment instruments to understand conflict management behaviors have been in use for almost fifty years (c.f., Hall, 1969; Lawrence & Lorsch, 1967; Rahim, 2002). Initially, the goal of measuring conflict management behaviors was consistent with the idea to resolve conflict. The perception of conflict moved to a more positive view, such that conflict in organizations could be useful if managed appropriately, measuring behaviors was used to identify stable styles that were productive (Blake & Mouton, 1964). Decades later, the use of instruments is still common; however, the purpose in research is to match behavior preferences to individual and contextual variables present in a conflict situation (Beersma & De Dreu, 2005; Putnam & Wilson, 1982; Rahim, 1983). Matching of behaviors and situations is thought to optimize successful short-term and long-term outcomes of conflict (Guerra, Martinez, Munduate, & Medina, 2005). The following section briefly describes the common measures that have been developed and used in conflict management research in workplace settings; highlight the conceptual similarities between several of the more commonly used measures; and finally focus on the instrument chosen for this research, the Organizational Communication Conflict Instrument (Putnam & Wilson, 1982).

In the late 1960's, Hall developed a measure, the Conflict Management Survey (CMS, 1969) that was based upon Blake and Mouton's (1964) work with managers and their managerial grid that identified two primary dimensions of concern for goals and for relationships or people. From these two dimensions, five categories of conflict management behavior were identified. The majority of the available instruments that measure conflict management styles or strategies use the categories developed from Blake and Mouton's work (1964) or combines them (Table 2.1). Additionally, although category names may be different the definitions are similar.

Table 2.1. Conflict Behavior Categories Used in Style & Strategy Instruments

Description+	Category Labels
Using competitive behaviors to win one's position; ignoring other parties' needs and positions.	Forcing (Blake & Mouton, 1964) Competing (Hall, 1969) Control (Putnam & Wilson, 1982) Dominating (Rahim, 1983a)
Facing a conflict directly, evaluating causes, finding solutions by exchanging information and integrating different points of view.	Confronting (Blake & Mouton, 1964) Problem-Solving (Van de Vliert, 1997) Collaborating (Hall, 1969) Integrating (Rahim, 1983)
Using behaviors to cover up, minimize or conceal differences by emphasizing parties' common interests, goals.	Smoothing (Blake & Mouton, 1964) Accommodating (Hall, 1969) Obliging (Rahim, 1983) Yielding (Van de Vliert, 1997)
Using behaviors that signal emotional, psychological or actual physical withdraw from the conflict. Refusing to engage in or discuss the conflict.	Avoiding (Blake & Mouton, 1964)
Using behaviors to find a middle ground in the conflict.	Compromising (Blake & Mouton, 1964)
Avoiding and smoothing communication strategies for dealing with a conflict.	Nonconfrontation (Putnam & Wilson, 1982)
Directly confronting, openly discussing, integrating alternatives, and accepting compromises.	Solution-orientation (Putnam & Wilson, 1982)

+ Adapted from Putnam & Wilson, 1982

Hall's (1969) CMS measures a person's conflict management style and implies stability of preferred behaviors over situations. The CMS consists of twelve conflict situations/statements that represent personal, interpersonal, small group, and intergroup contexts. The respondent chooses a number along a 10 point-continuum from "completely characteristic" to "completely uncharacteristic" on each of five "inclined to handle" statements that represent the conflict behavior categories along the dimensions articulated by Blake and Mouton (1964). Shockley-Zalabak (1988) reviewed the psychometric properties of the CMS and concluded that although the instrument has been used in several dissertations and research articles, the reliability and validity data did not support the continued use of it over other available measures. The MODE

or Management of Differences Instrument (Kilmann & Thomas, 1977; Thomas, 1976), was also based upon Blake and Mouton's work, has five categories for conflict behavior modes, and came into question for its poor psychometric properties (Womack, 1988). When taking the MODE, respondents pick from each of 30 pairs of statements which of the pair describes the way they usually intend to behave in a conflict situation. The framing of responses as "intend to behave" is an accurate representation of information when asking participants about hypothetical situations and when using non-observational methods (Jaccard & Blanton, 2005).

"Upon first examination, the Rahim Organizational Conflict Inventory-II (ROCI-II) appears to be just another instrument designed to measure the five conflict management styles introduced by Blake and Mouton (1964, 1970)" (Weider-Hatfield, 1988, p. 350). There are two important differences to be recognized about the ROCI-II and the earlier measures. First, compared to the earlier measures, the CMS and the MODE which had been criticized for inadequate psychometrics, Rahim (1983) developed a scale with 28, 5-point Likert items (strongly agree to strongly disagree) that demonstrated improved reliabilities (.50 - .89 range reported for all five subscales) and used confirmatory factor analyses to support the structure (Rahim & Magner, 1994, 1995; Weider-Hatfield, 1988). Second, Weider-Hatfield (1988), pointed out that Rahim recognized that conflict is context-bound and has included multi-layers of organizational conflict by developing separate forms to measure conflict with a boss, subordinate, or peer.

The ROCI-II along with the Dutch Test for Conflict Handling (De Dreu & van de Vliert, 1997) and the Organizational Communication Conflict Instrument (Putnam & Wilson, 1982) were developed for use in organizational settings and have demonstrated improved reliabilities over both the CMS and MODE. The Dutch Test for Conflict Handling (DUTCH) like the ROCI-II has five subscales of conflict behaviors: yielding/obliging, problem-solving/integrating, forcing/dominating, compromising, and avoiding. The DUTCH (De Dreu, Evers, Beersma, Kluwer, & Nauta, 2001) and the ROCI-II (Rahim & Magner, 1995) have demonstrated a five-factor fit matches the data better than a 3 or 4 factor structure. The Organizational Communication Conflict Instrument (OCCI), a 30-item communication-based measure of conflict strategies, has three subscales representing preferred communication strategies: nonconfrontation, solution-orientation, and control. The OCCI was designed to assess conflict strategies in specific hypothetical situations that are developed through interviews of participants about conflicts in their organization.

The items for the ROCI-II, DUTCH, and OCCI appear upon inspection to be very similar (Appendix E). Research with the DUTCH (De Dreu et al., 2001; De Dreu & Van Vianen, 2001; Tjosvold & De Dreu, 1997), demonstrated the reliabilities of the subscales to be lower than those reported for the ROCI-II (Rahim & Magner, 1995; Rahim & Psenicka, 1984; Weider-Hatfield, 1988). The reported reliabilities of the subscales of the OCCI are similar to the ROCI-II (Appendix E). The OCCI was chosen to be used in this study because of four reasons: first, it uses participant-generated conflict situations and measures preferred communication strategies which is consistent with a contingency perspective of conflict management; second, the three subscales as compared to five on the ROCI-II provide a parsimonious model for use in analyses; third, the reliabilities are adequate for research; and fourth, it is available to be used without any associated fees. A more detailed description of the research on the OCCI that includes development, reliability and validity testing is included in chapter 3.

Psychological Dimension

During a workplace conflict, parties bring a lot of their own "stuff" to the interaction. That stuff includes personality, values, goals, needs, and prior experiences with each other and with

conflict. It also includes a psychological dimension to filter and guide what they perceive and interpret about the current situation. The next sections describe two theories, Attribution Theory and the Theory of Planned Behavior that capture aspects of the psychological dimension and have been used in research to explore a range of behaviors.

Attribution Theory

Attribution theory is a collection of theories and research that shares some common concerns, such as, how a perceiver uses information to explain the causes of events (Fiske & Taylor, 1991a) and the processes used by the perceiver that lead from the observation of behavior to inferences of personal characteristics (Trope, Cohen, & Maoz, 1988). Attributional theories (Fiske & Taylor, 1991a) tend to focus on a specific domain, such as motivation (Weiner, 1986). Fritz Heider (1958) is considered by many to be the first attribution theorist. He suggested that people use naïve processes to understand the causes of events in order to make decisions and take actions to adapt and respond to those events. Several theorists extended and built upon Heider's original insights (Jones & Davis, 1965; Kelley, 1973; Weiner, 1986).

Perceiving Others – Social Cognition. People come to know about each others' states (e.g., emotions and intentions) and more enduring dispositions (e.g., traits and beliefs) through processes referred to as social cognition (Fiske & Taylor, 1991b; Gilbert, 1998). The processes that people use to know themselves and others may be conscious, unconscious, perceptual, cognitive, and behavioral. During an interaction, we seek to explain the origin (or cause) and attribute it to ourselves, others, or to the environment (Moskowitz, Skurnik, & Galinsky, 1999). Trope (1986) proposed a dual-process model that involves an identification stage followed by an inferential stage. Trope's model suggests that an individual classifies information (e.g., behavioral or situational) into attribution-relevant categories during an identification stage that is relatively effortless (Trope & Gaunt, 1999). Perception is affected by constraints on incoming information (Robnagel, 2000), prior expectations (prior cues), and our wants, goals and needs (Moskowitz et al., 1999). These exert their influence on both the categorizing and the inferential stages.

The inferential stage requires more effort (Trope & Gaunt, 1999) and follows processes of causal analysis (e.g., attribution models) resulting in attributions relating to personal dispositions or situational inferences. Trope asserted that differences in the inferential stage are actually the result of how individuals categorize the initial input. He proposed that, "any given set of cues, termed focal cues, affects dispositional attribution directly via its own identification and indirectly via its contextual effect(s) on the identification of other, nonfocal cues" (1986, p. 242). If a stimulus is strong, for example a behavioral stimulus of clenched fists in anger, then the observer will categorize the input to one category only. Once this data is put into a category, the observer is more likely to place other situational input into the same category. From the above example, clenched fists would likely stimulate categorization of the situation as provocative, supporting the behavioral cue. In the case of ambiguous cues, such as tears, Trope suggests that expectations based upon contextual cues play a significant role in inferential processing during categorization. Tears seen on another's face will be interpreted by an observer as joyful or sorrowful based upon context and prior experiences with the actor. In general, "the identification process is itself context driven and may involve inferential operations that go beyond the sensory input" (1986, p. 241). The context acts as an important frame for identifying, categorizing, and explaining the origin or cause of the behavior or interaction (Trope & Gaunt, 1999).

Trope's model brings to light that the simple act of identifying and categorizing external cues involves attribution processes that are based upon context and expectations. This is then likely fed into the individual's internal inferential processes illuminated by Weiner (1986), among many others (Jones & Davis, 1965; Kelley, 1973).

Understanding One's Self - Attribution Theory. Following an event (e.g. a test or a divorce) an individual will experience a general affective reaction. If the general affective reaction is negative or the event was important or unexpected, the person will ask, "Why did this happen?" This is the start of Weiner's model of causal analysis which has been well developed and researched. Weiner's model, follows a thinking-feeling-acting motivational sequence (Weiner, 2000). The inferential process involves several inputs including biases, rules, causal ascriptions, and causal dimensions that lead to psychological (emotions and motivations) and behavioral (actions) outcomes.

Two components of Weiner's model: causal ascriptions and causal dimensions are described. Causal ascriptions involve an assessment and categorization of the observed outcome or action as achievement-related (e.g., due to ability, effort, strategy, task, luck, etc.) or affiliation-related (e.g., due to physical characteristics, personality, etc) (Weiner, 2000). A second cognitive "dimension" involves the assessment in at least four different underlying properties of the causal ascription: locus or location of the cause, stability or the duration of the cause, globality of the cause over different situations, and controllability of the cause or event. Weiner suggested that the importance of these causal properties or dimensions is they directly relate to the "two main determinants of motivation – namely, expectancy and value" (2000, p. 5).

Weiner (2000) extended his model from the intrapersonal to the interpersonal domain. An involved observer (e.g., teacher, spouse, or friend) may initiate a causal search for an actor's behavior. Research using Weiner's model of attribution shows that the controllability dimension, whether something can be controlled or is beyond an individual's control, is especially important in observer attributions of others. If I attribute your action (negative or unexpected) as controllable, I will more likely feel anger towards you rather than sympathy (Allred, 2000). Anger gives rise to responses such as punishment and reprimand while sympathy may promote helping behavior without any retaliation or condemnation (Weiner, 2000). Wong's (1988) research revealed that individuals use three layers of attributional processes in explaining events: causal analysis, coping appraisal (e.g., resources to deal with or cope questions), and existential evaluation (e.g., value and purpose questions). However, individuals do not always use the latter two, but seem to consistently ask causal questions.

Current Research in Social Cognition and Attribution Theory. From these theoretical roots, social cognition and attribution theory continues to be used in research. Trope and others continue to explore the mechanisms and processes used in social cognition (Trope, 2004; Trope & Gaunt, 2000). A two-stage model of social cognition is implicit in research designs that explore the influence of salient contextual variables, such as power and gender, on inferences of causality (Smith & Trope, 2006; Todorov, Goren, & Trope, 2007). Weiner's model of attributional processing continues to be applied in a range of research studies that include: employees' reactions to organizational down sizing (Hareli & Tzafirir, 2006), road rage (Takaku, 2006), and understanding helping, avoiding, and/or retaliating behaviors (Aquino, Douglas, & Martinko, 2004; Greitemeyer & Weiner, 2003; Rudolph et al., 2004). Researchers continue to explore how people perceive and attach meaning to events, how this is influenced by individual and situational variables, and how this effects subsequent actions using models of social cognition and attribution.

Theory of Planned Behavior

Behavior and attitudes are consistently related in research (Armitage & Conner, 2001; Wallace, Paulson, Lord, & Bond, 2005). Consistently related is accurate, but the range of the relationship varies considerably. Research results have also revealed that attitude alone is not always predictive of the behavior being studied (c.f., Armitage & Conner, 2004; Eagly & Chaiken, 1993). In fact, a respondent will often express positive views towards a behavior but rarely engage in that behavior and vice-versa (Ajzen & Fishbein, 1980). In a recent meta-analysis, Wallace, Paulson, Lord, and Bond (2005) suggested that the modern research on the relationship between attitudes and behavior showed a moderate correlation (Pearson product-moment $\alpha = .40$).

Researchers wanting to understand behavior have sought to explore other variables, in addition to attitude, that are antecedents to behavior. Ajzen and Fishbein (1977) proposed that the immediate determinant of behavior is intention, or what they termed behavioral intention. Intention captures motivational factors, such as how much effort a person is willing to exert to perform a specific behavior (Ajzen, 1991). Ajzen and Fishbein (1980) make two basic assumptions, first people are rational and, second, their social actions are under volitional control. Rational implies that humans use information available to them and consider the implications of their actions. While some behavior may be more automatic and guided by unconscious motives, their premise is that social interactions are largely guided by reasoning and are under volitional control, such that the person can decide to perform or not to perform the behavior (Ajzen, 1991). The antecedents to intention are attitudes and subjective norms. Attitude toward a behavior is a positive or negative evaluation of performing the behavior, such as, I think that exercise is good for me and I am in favor of doing it. My family may be against my exercising, especially if I stop buying sweets when I start exercising. Subjective norm is my perception of the social pressure that I feel that is either for or against performing a specific behavior. My volitional control of some behaviors is very easy to understand, such as watching a television program or buying gasoline. My control of some behaviors, such using a condom, is more complicated. To address these more complicated behaviors that were not well explained with only attitudes and subjective norms, Ajzen and Madden (1986) added perceived behavioral control to the model. While actual control over a behavior is required for performance, perceived behavioral control or a person's perception of the ease or difficulty of performing a specific behavior (Ajzen, 1991) influences both intention and performance. While I feel control over and efficacy in my ability to exercise, whether or not the overall effect is that I intend to use my treadmill is based on the influence of all of the variables internal to the model.

The variables and relationships described above form a model called the Theory of Planned Behavior, initially conceived by Fishbein and Ajzen (1980) as the Theory of Reasoned Action and later modified with the inclusion of perceived behavioral control (Ajzen & Madden, 1986). This model has been used in a large body of research in various behavioral domains. Each of the components of the model and the research applications of the model are described.

Attitude. "I like to eat steak." That's an attitude, but it really isn't that simple. An attitude is generally considered to be a tendency or state of readiness (Allport, 1954) that is expressed as a positive or negative evaluation towards an attitude object. While my initial example highlights the evaluative definition and function, a more complex understanding of attitudes has developed. Attitude is a complex construct that has multiple inputs and affects numerous responses (Ostrom, 1968). Greenwald (1968) reviewed attitude definitions used in research and then synthesized them into a three component conception containing emotions, cognitions (beliefs and opinions), and habits (action tendencies). Greenwald suggested that everyday

behavior is a synthesis of the three elements and; therefore, should be studied together and not measured to tap the individual components. Maio and Olson (2000) agreed with a three component model and suggested that attitudes express beliefs, feelings, and past behaviors regarding the attitude object. From this perspective, a person's overall attitude towards something can be viewed as a multivariate equation where different components may be more relevant in forming a specific attitude. Maio and Olson (2000) suggested that a person's motivational goals exert their influence in determining which component is salient to the attitude. The interactive nature of the components (i.e., beliefs, feelings, and past experiences) and of a person's motivations makes attitudes towards an object a dynamic system.

If the interacting of components within an attitude system makes it dynamic, it needs to be noted the three components may be the tip of the iceberg. Some attitudes can be very powerful and stable and relate closely to behavior (Krosnick & Petty, 1995) while others seem to be almost non-attitudes (McGuire, 1989) that are flexible and only weakly associated with behavior. Researchers sought to address this observation in various ways, including studying the factors that are related to attitude strength, such as the extent to which an attitude is durable over an extended period of time and impacts other attitudes and actions (Krosnick & Petty, 1995). Other researchers added the concepts of ambivalence or multivalence of attitudes (Breckler & Wiggins, 1989). Ambivalence is simultaneously endorsing both favorable and unfavorable positions toward an object. Attitudes may be supported by bipolar or dual knowledge cognitive structures – one organized around a supportive or favorable attitude position and another around the opposing or unfavorable position. Situations that prime one or the other could make that the accepted position. Situations that prime both could make ambivalence the likely experience. Breckler (2004) suggested that multivalence, multiple evaluative positions, is a more accurate term for the phenomenon. While attitudes generally function in an evaluative role, the range of antecedents and affects they have on behavior is variable. From a research perspective, depending on the target behavior of interest, attitude alone may or may not explain the variance. The Theory of Planned Behavior (TPB) incorporates attitude as one piece to explain the complexity of behavior.

Subjective Norms. “Norms are taken-for-granted beliefs about how people should think and behave” (Hammer, Saksvik, Nytro, Torvatn, & Bayazit, 2004). Norms operate at all levels from a system perspective of overlapping concentric circles from the macro or societal level to the individual level (Bronfenbrenner, 1977). While all levels of norms are continuously active, what is salient to the individual is dependent upon the situation. When a social context highlights group membership, then group norms are activated and more likely to explain behavior (Kashima & Lewis, 2000). When the focus is on the individual, then subjective norms, or the individual's perception of what important others would think become activated.

How much a person responds to subjective norms seems to vary. A cultural phenomenon has been noted in research. Individuals from individualistic cultures, such as Australia and the United States, behave more consistently related to their attitudes while individuals from collective societies, such as Asia, behave more consistently related to their subjective norms (Kashima, Siegal, Tanaka, & Kashima, 1992). Beyond culture, research results have shown that individuals who identify strongly with a group tend to have their intentions influenced by the perceived norms of that group more than those who do not strongly identify with a group (Terry & Hogg, 2000; Terry, Hogg, & White, 2000). Consistent with all variables in the TPB, the subjective norms (SN) that would relate to a target behavior would be narrowly defined and would represent the extent to which people important to the respondent think that the person should or should not engage in a specified target behavior.

Perceived Behavioral Control. Intentions to perform a particular behavior will be an accurate prediction of the actual behavior when that behavior is under the person's volitional control (Ajzen & Fishbein, 1977). If the execution is dependent upon other people or contextual variables, then Ajzen and Madden (1986) suggested that the relationship between intent and behavior will be attenuated and added a proxy of actual control they called perceived behavioral control (PBC). Perceived behavioral control is the individual's perception that a particular behavior is controllable. Ajzen (2002b) compared and contrasted the PBC with other conceptions of control, including Rotter's (1966) locus of control and Bandura's self-efficacy (1977). He concluded that PBC is different from these two constructs because PBC is focused on a particular behavior of interest and the previous two constructs represent more global assessments of control. If the person believes a specified behavior is controllable, this will affect the relationship in two ways: first, the person will be more motivated to perform the behavior so this will relate to intention (indirect effect on behavior through intentions), and second, direct effect on the particular behavior of interest. Several studies support this dual role of PBC on intent and behavior (Ajzen, 1991; Madden, Ellen, & Ajzen, 1992) but other studies have not found this dual role (Terry & O'Leary, 1995).

Research with the Theory of Planned Behavior

From a very large empirical body of work, several authors have conducted reviews and meta-analyses of the Theory of Reasoned Action and the Theory of Planned Behavior. Each secondary analysis had different goals and will be described individually chronologically from earliest to latest. At the end of this section, the overall findings will be summarized as they pertained to the current study. First, meta-analysis as a research tool is briefly described.

Meta-analysis is a set of procedures to quantitatively review an existing large body of empirical research (Rosenthal, Hoyt, Ferrin, Miller, & Cohen, 2006). It provides a way to integrate the results and look for general rules that may systematically affect the results (Farley & Lehmann, 1986). Glass (1976) is largely credited with coining the term meta-analysis in an attempt to differentiate it from secondary analysis of empirical data. The overall goal of meta-analysis is to provide "an index of the strength of association between variables, referred to as the observed effect size for each study" (Rosenthal et al, 2006, p. 235). Rosenthal suggested that there are three general effect size estimates used in meta-analyses: Pearson r (for two continuous variables), Cohen's d (independent variable is dichotomous and the dependent variable is continuous such as in drug trials), odds ratio (both predictor and dependent variable are dichotomous). Additionally, when the goal of the meta-analysis is to provide a conclusion as to an association and strength of the hypothesized association between variables, an omnibus effect size can be calculated. This is achieved by averaging the effect sizes across studies to provide an aggregate. Hunter, Schmidt and Jackson (1982) advocated a rigorous step-by-step process that includes calculating effect sizes but also includes an assessment of the variance of the effect sizes because of sampling error and study differences in instrumentation (i.e., reliability and validity issues of the instruments used) may affect the overall effect size calculations. Additional analyses can be done to test for the presence of moderator variables that affect the strength or direction of the relationship between the TPB variables. One test is a homogeneity test of effect sizes, such that, if the test shows that you reject that the effect size data is homogeneous, you use subsequent analyses to examine meaningful moderator variables (Rosenthal et al, 2006).

This next section will provide a qualitative review of six meta-analyses done on the large body of empirical studies that applied the Theory of Planned Behavior (TPB) to high-light the results and possible issues that may affect the authors' conclusions.

Sheppard, Hartwick, and Warshaw (1988) conducted a meta-analysis of empirical research articles in various behavioral domains of the Theory of Reasoned Action (TRA), which contains all of the variables of the TPB except perceived behavioral control. They included 87 separate studies of the intention-behavior (I-B) relationship and 87 separate studies of the attitude + subjective norm – intention (A+SN-I) relationship. The TRA was designed to predict intention and behavior when the variables are narrowly defined, such that there is a specified single target behavior. This would increase the predictive ability between intention and behavior. Sheppard et al (1988) recognized that a large body of research had been conducted that went beyond the original parameters set by Ajzen; therefore, their goal was to evaluate how well the TRA performed in these studies. They looked at several relevant issues. First, intention has been operationalized in questionnaires as “I intend” or as estimation of behavior, such as “I will likely.” Sheppard et al found that the frequency-weighted average correlation between intention and behavior was stronger when intention was worded as estimation compared to intend, 0.57 and 0.49, respectively. Second, designs that had more than one target behavior revealed that the relationship between intention and behavior was stronger when the study design included a choice of behavior alternatives compared with a single behavior, 0.77 and 0.47, respectively. However, the relationship between attitude, subjective norm and intention is lower when estimation is used as intent and when multiple behavior alternatives are included in the design. Overall, the Theory of Reasoned Action variables (attitude and subjective norm) accounted for 64.6% of the variance in intent and intent accounted for 47.3% of the variance in behavior.

Sheppard, Hartwick and Warshaw (1988) did not report the amount of variance in intention explained by attitude and subjective norms. Godin and Kok (1996) reviewed the empirical research of 56 articles with 87 applications of the Theory of Planned Behavior in health-related behaviors. They looked at correlation coefficients, standardized regression coefficients, multiple R² and change in R² of behavior related to perceived behavioral control. Attitude (A), subjective norms (SN) and perceived behavioral control (PBC) explained 40.9% of the average variance of intention (I). Forty studies included both intention and behavior (B) in the design. The authors found that A, SN, and PBC together explained 41% of the average variance in intention and 34% of the variance in behavior.

Perceived behavioral control (PBC) has been an issue of interest in several empirical studies. Notani (1998) conducted a meta-analysis of 36 articles that led to 63 tests of the TPB with a focus on PBC in various behavioral domains using pairwise comparisons and path analysis. In developing a questionnaire for PBC, Ajzen advocated a specific process to come up with participants control beliefs about the target behavior. Notani questioned whether a more global belief measure used in many studies would have a statistically significant path to intent and to behavior. He found both, the focused PBC measure and the more global measure, to have a statistically significant path to intent and only the global measure of belief to have a statistically significant path to behavior. Another interesting finding involved student status. Notani found that students had a statistically significant path between PBC and intention but nonstudents had a statistically significant path between A and I.

Godin and Kok's (1996) findings of the variance explained is consistent with the results found by Armitage and Conner (2001) in a meta-analysis of 185 studies from different behavioral domains. Their analyses followed recommended procedures for meta-analyses including weight adjustment and comparisons of correlation coefficients (J. Cohen, 1977). Armitage and Conner found that the TPB variables explained 39% of the variance in intention. They included behavior in their design and found that the TPB variables explained 31% of the variance in self-report behaviors and 20% of observed behaviors. Similar to Sheppard and colleagues (1988), Armitage and Conner were also interested in the issue of the

operationalization of intent as either “intend” or “likely.” They tested two relevant questions about intent: first is there a difference in the variance in intention explained by A, SN, & PBC if intent of self-prediction is used? Second, is there a difference in the variance in behavior explained by intention and PBC if intent is operationalized as “intend” or “likely?” They found no statistical difference between the two, “intend” or “likely” and both explained around 30% of the variance in behavior and the TPB variables explained about 30% of the variance in intent, regardless of the wording used to measure intent.

As previously described, the Theory of Planned Behavior has been applied to a range of behavioral settings but specifically within the field of health looking at behaviors such as smoking cessation, condom use, weight loss, and exercise. The next two meta-analyses were focused on specific behavioral domains: this was possible due to the large volume of empirical studies available. Albarracin, Fishbein, Johnson, and Muellerleile (2001) conducted a meta-analysis that included path analysis to examine and evaluate the application of the TPB variables in predicting condom use. They found 42 research reports that yielded 96 data sets, with only 36% of the sets being independent. If a large number of values comes from a single study, than there may be distortion of the statistical significance tests (Hunter, et al, 1982). The results from the path analysis of the independent samples showed all paths were statistically significant. The authors concluded that intention is an antecedent to condom use and attitudes, subjective norms, and perceived behavioral control have direct influences on intention to use condoms. Attitudes seem to have the most influence on intention within this behavioral domain.

Hagger, Chatzisarantis and Biddle (2002) turned their attention to the empirical research on exercise. Their meta-analysis and path analysis included 72 studies of the Theory of Planned Behavior variables and added two additional variables: past behavior and self-efficacy. This latter addition of self-efficacy is consistent with the issues addressed by Notani (1998) and several other authors and was discussed in more detail earlier in this chapter in the Perceived Behavioral Control (PBC) section. Their analyses (Hagger et al, 2002) included average correlations that were corrected for sampling and measurement error. The original TRA did not include the PBC variable and Hagger et al (2002) found that the addition of it explained more of the variance in intention (44.50% compared to 37.34%) and more of the variance in behavior (27.41% compared to 26.04%) in the research on exercise. Their path analysis showed that all of the paths were statistically significant and the path coefficients were: attitude-intention (.20), subjective norms-intention (.09), and perceived behavioral control-intention (.28), such that perceived behavioral control contributed more to intention than attitude for exercise. Past behavior was a better predictor of current/future behavior than intention to exercise. Inclusion of past behavior and self-efficacy with the TPB variables increased the variance explained in both intention (60.18%) and behavior (46.71%). Ajzen has consistently noted in his writings that depending on the behavior of interest, external variables to the TPB may be important in predicting intention and behavior such as is seen from this meta-analysis.

The sheer number of empirical studies that have applied the Theory of Planned Behavior (TPB) different behavioral domains is quite impressive. I have reviewed six meta-analyses that have attempted to assess the effectiveness of the TPB in predicting intention and behavior. Overall, the findings show that the antecedent variables of attitude, subjective norm, and perceived behavioral control are correlated with intention and behavior, have statistically significant path coefficients to intention, and explained a considerable amount of the variance in intention and behavior. Other individual variables, such as culture and values, are thought to be external to the model and influence intention through effects on attitudes, subjective norms, and/or perceived behavioral control. The research applying the TPB has revealed its merit and value as a model for understanding and predicting behavior and for providing valuable insight into workplace conflict management behaviors.

Situation

A contingency perspective to conflict management advances that the individual will incorporate salient aspects of the situation into the responses. From this perspective, a relevant question is: what is salient to the parties during a conflict situation? Using Bronfenbrenner's (1977) conception that humans develop within nested systems of influence with the individual in the center, surrounded by four levels or systems: micro, meso, exo, and macro. An individual's cognition and action, from both the interaction and contingency perspective, are influenced by these levels. The micro-level includes the immediate context within which a person is interacting that includes the place, time, participants, and actions. The workplace setting, including the team, department, and organization are at the meso-level. Exo-level influences include the larger social structures such as society, mass media and the macro-level influences even larger structures such as government. This research included micro-level influences related to a specific conflict situation within a workplace setting. The remaining sections of this chapter describe three micro-level context variables included in this research: conflict type, sex of the parties, and language used.

Conflict Type

The typology of task or relationship conflict types has been applied in research studies for over forty years (Simons & Peterson, 2000). Task-type conflicts involve disagreements around resources (e.g., time, money, and personnel), goals, processes (e.g., coordination, procedures, and decisions), ideas, and viewpoints (De Dreu & Weingart, 2003; Guetzkow & Gyr, 1954; Jameson, 1999; Jehn, 1995; Lovelace et al., 2001; Simons & Peterson, 2000). Relationship-type conflicts involve disagreements focused primarily on personality, interpersonal incompatibility, perceptions, interpretations, and values (Amason, 1996; Deutsch, 1973; Jameson, 1999; Jehn, 1995). Questions related to type of conflict consider whether the type of conflict will relate to participant perceptions, actions, and outcomes. Research results, both qualitative and quantitative, revealed participants perceive a difference between task-type versus relationship-type conflicts (Friedman et al., 2000; Jehn, 1997; Jehn & Mannix, 2001; Tidd, McIntyre, & Friedman, 2004). Additionally, several authors reported results that show participants handle conflict differently related to type (Lovelace et al., 2001).

Sex of the Parties

The extent to which there is a relationship between various personal characteristics and conflict management has generated considerable research. Examples of these include: sex (Brewer et al., 2002; Bullis et al., 1982; Gayle et al., 1994; Papa & Natalie, 1989), personality (Moberg, 1998; Percival et al., 1992), moral development (Rahim et al., 1999), and cultural background (Chua & Gudykunst, 1987; Tinsley, 2001). Some research has indeed suggested relationships between personal characteristics and conflict management, while others have found mixed results.

The influence that sex plays on conflict interactions was included in this study, because of possible affects that extend beyond a relationship to conflict management behaviors. Sex is considered to be a salient category in the literature and research in attributions (McLean, Stongman, & Neha, 2007; Tay, Ang, & Dyne, 2006), social cognition (Brewer, 1988; Fiske, Lin, & Neuberg, 1999; McCrae & Bodenhausen, 2000; Rothbart & Taylor, 1992) and stereotyping (Schneider, 2004). Research by Mannetti and DeGrada (1991) using the Linguistic Category Model (LCM) in an experiment showed a main effect for respondents' sex but not for sex manipulated in the sentences. For the category descriptive action verb (DAV), men attributed

the cause to the sentence subject at a statistically higher mean proportion than women. Fiedler et al (1993) examined the relationship between sex and language used to describe ten gender-role issues, such as prevention of pregnancy and driving cars, in a small student sample. Their results suggested that female respondents used more negative and abstract terms about men. This trend was not seen in male participants. Research using the Theory of Planned Behavior (TPB) to explain a range of behaviors, including to predict driver's compliance with speed limits (Elliott, Armitage, & Baughan, 2003), adolescent eating and activity behaviors (Baker, Little, & Brownell, 2003), and exercise (Brickell, Chatzisarantis, & Pretty, 2006) reported statistically significant effects for respondents' sex.

The literature that I have cited represents a slice of the research that has been done on these topics and theories. Many other articles exist that did not include sex as a variable in the design. However, because sex has been implicated to be relevant in many of the theories I used and within the workplace conflict management literature, its potential role in participant responses was valuable to explore.

Language & Linguistic Category Model (LCM)

During a conflict interaction, the behaviors that manifest between adults are often in the form of verbal utterances. A lot of information, in addition to the actual meaning, is conveyed in the words. The research that I have tapped into is from the field of semantics. Semantics involves theory and research designed to understand the meaning of the parts and the whole of a language that is both culturally and time bound (Frawley, 2003). My frame is a social psychological perspective in that "language will be viewed as a behavior that is both influenced by other people, as well as a means for influencing the behavior of others" (Holtgraves, 2002, p. 2).

Research on what is commonly called the "implicit causality" of verbs has been studied for over thirty years (Rudolph & Forsterling, 1997). Experimental designs are typical for the research on implicit causality using a questionnaire with items worded in the sentence structure, "subject predicate¹ object." The hypothesis (stated or unstated) was whether respondents make different attributions towards the subject versus the object related to the predicate. The results showed a pattern that action verbs (e.g., hit or tells) lead to attributions of causality to the subject while state verbs (e.g., like or trust) lead to attributions of causality to the object of the sentence (Brown & Fish, 1983). Further, adjectives that stemmed from either action verbs or state verbs showed the same pattern of attributions of causality.

The Linguistic Category Model (LCM) and Research. Semin and Fiedler (1988) provide a further development to the verb causality pattern. The authors' propose that terms used as predicates (i.e., verbs and adjectives) can be categorized into a three-level model along a single dimension of concreteness to abstractness. The LCM has been applied in a range of empirical studies. Two areas will be included in this section: the research supporting the LCM categories with its attribution relevance and applications of the LCM.

¹ "The subject of a sentence is the person, object or idea being described. The predicate is the explanation of the action, condition, or effect of the subject" (Shertzer, 1986, p.6).

Table 2.2. Criteria & Categories for Verbs (Adapted from Semin & Fiedler, 1988)

Criteria	Category Name	Examples
Verb refers to a particular activity and to at least one physically invariant feature of the action; action has a clear beginning and end; usually do not have positive or negative connotations.	Descriptive Action Verbs (DAVs)	Call Talk Stare
Verb refers to a general class of behaviors; have a defined action with a beginning and end; have positive or negative connotations.	Interpretive Action/State Verbs (IASVs)	Help Cheat Imitate
Verb refers to mental or emotional states; no clear definition of beginning and end; do not readily take the progressive form; not freely used in imperatives (e.g., You will hate).	State Verbs (SVs)	Like Notice Envy

Semin and Fiedler's initial research with the LCM (Fiedler & Semin, 1988; Semin & Fiedler, 1988) developed the categories, examined how well a corpus of terms discriminated into the categories, and explored relationships between categories and attribution-related questions. Their results showed a majority of their participants agreed in categorizing the verbs (84.72%) and the categories discriminated, both theoretically and empirically, when related to five attribution-related variables (i.e., subject informativeness, enduringness, verifiability, disputability, and situation informativeness) (Fiedler & Semin, 1988; Semin & Fiedler, 1988). Mannetti and DeGrada (1991) found the same pattern of attributional responses reported by Semin and Fiedler with the LCM when comparing men and women. They concluded that state verbs (SVs) were less context-specific yielding attributions to the subject consistently while descriptive action verbs (DAVs) appeared to be more context-specific, resulting in attributions related to other variables in the sentences (i.e., sex) or to the respondents' biases. Their results also revealed an interaction between sex of respondents and verb category, as described earlier.

The research that has applied the LCM generally explores two different ideas: first, what contextual variables (e.g., relationship and group-membership) may relate to different patterns of language used and second, do different patterns demonstrated in the LCM relate to or influence behavior.

Douglas and Sutton (2006) explored the relationship between the language used (concrete-abstract dimension) to describe the actions depicted in cartoons and participants' inferences of actor's attitudes and goals. Participants inferred from a positive abstract description that the describer was more likely a friend (than enemy or unbiased observer) and was in favor of the protagonist. Additionally, for a negative abstract description, participants more likely inferred the describer was an enemy (than a friend or unbiased observer) and not biased in favor of the protagonist. Several researchers (cf., Maass & Arcuri, 1992; Maass, Salvi, Arcuri, & Semin, 1989; Maass & Schaller, 1991; Rubini & Semin, 1994) have examined the relationship between group-membership and language use. The results consistently have shown a pattern in the language used in intergroup contexts. Participants described positive ingroup (within one's own social group) and negative outgroup behaviors in more abstract language (i.e., using adjectives and state verbs). Additionally, they described negative ingroup

and positive outgroup behaviors in more concrete language (i.e., using action verbs). Several authors built upon this research and explored LCM patterns when participants were given instructions to prime the behaviors as “expected” or “unexpected” (Douglas & Sutton, 2003) or relationships being “close” or “distant” (Fiedler, Semin, & Koppetsch, 1991; Reitsman-Van Rooijen, Semin, & van Leeuwen, 2007; Semin, 2007). Their results were consistent with previous research with the LCM.

De Montes, Semin, and Valencia (2003) in an experimental design manipulated task-interdependence using a priming activity to create either a cooperative (win-win situation) or competitive (win-lose) context and asked participants to evaluate the actors in a cartoon depicting either positive or negative behaviors. Their results showed that negative behaviors were described more abstractly and positive behaviors described more concretely in the competitive condition. Their results for the cooperative condition were in the expected direction, but not statistically significant. A conflict interaction, whether it is between ingroup members or outgroup members, may reveal LCM patterns similar to the competitive situation.

Going a step further, the purpose of the research was to explore the relationship between different patterns of language used and subsequent behavior. Semin and DePoot studied to what extent does the question, the specific wording of it using the LCM, influence the answer (De Poot & Semin, 1995; Semin & De Poot, 1997). This work was built upon earlier research done by Semin and Marsman (1994) who found that the inferences were not along one dimension as initially proposed (Fiedler & Semin, 1988; Semin & Fiedler, 1988) but represented two independent ones: causality or who instigated the action and dispositional quality of the subject or object of the sentence. Inferences of disposition follow the same pattern as causality, but seemed to also be influenced by contextual information, such as the priming instructions given to the participants by the researchers. Semin and Marsman (1994) postulated that this may have implications in situations such as police interviews of victims. Semin and DePoot’s research showed a relationship that abstract predicates used in questions resulted in answers with more abstract predicates (e.g., state verbs). They coined the phenomenon, “Question-Answer Paradigm” (QAP) and replicated the previous research results. Their subsequent research also revealed that narratives written by participants were influenced by the predicates used in the questions. Additionally, third parties made attributional judgments that were mediated by the predicates used in narratives written in a prior experiment. The original narrative writers were unaware that they had incorporated different patterns of predicates that would lead to different attributions. Therefore, the authors suggested that participants incorporate and respond to concrete and abstract language implicitly.

Semin, Gil de Montes, Higgins, Estourget and Valencia (2005) explored the effects of a manipulation in a health-related message on participants’ intent to act. The authors reported that in participants that were promotion focused, determined by a scale, showed a stronger intention to engage in sports when the message included abstract verbs than if it included concrete verbs. The opposite pattern was seen for prevention-focused participants who showed a stronger intention to engage in sports when the message included concrete verbs compared to abstract verbs. They concluded that persuasive messages that are tailored to fit the recipients’ linguistic preferences may be more effective in influencing intention and behavior.

Summary

Conflict interactions that occur in the workplace provide a rich opportunity to explore to what extent specific aspects of the situation influence the participants. This study is grounded in literature and research that has shown that individuals interact within contexts and that meaning, perceptions, and behaviors are emerging properties. While the person may use a set of strategies during conflicts, the specific tools used will be contingent on the situation as it is unfolding. The contextual cues used in this study were the conflict type (i.e., task or relationship), abstraction-level of the language used by the parties, and sex of the parties in the conflict. From social psychology, behavior is the outcome of environment and the individual. In this research, it was hypothesized that the context would likely influence the cognitive processing that occurs during an interaction. Such that, how the conflict interaction unfolds is influenced by the contextual cues listed above, if salient to the parties, and the individual's social cognition processing, including analysis of the cause, attitudes about the specific conflict, perceived behavioral control over the situation, and subjective norms related to the specific conflict. These variables of cognitive processing are antecedent to conflict behavioral intentions.

CHAPTER 3

METHOD

This experimental study was framed from a contingency perspective such that individuals interact within contexts and that meaning, perceptions, and behaviors are emerging properties. While the person may use a set of strategies during conflicts, the specific responses both cognitive and behavioral, are contingent on the situation as it is unfolding. The main research question of this study was to what extent does context of a given workplace conflict situation influence a person's responses? Specifically, do people respond differently depending upon each, alone and in combination, to the following context variables:

- a. the type of conflict (task or relationship),
- b. the language abstraction (high or low),
- c. the sex of the conflict initiator, and
- d. the sex of the respondent?

This chapter provides a description of the study's research methods, including: the participants, the collection processes, the design, variables, measures, and delimitations that were used to examine the above research questions.

Description of the Participants

Participants were solicited through email contact. As per a sampling plan, potential participants were invited from the following organizations: Virginia Tech Northern Virginia Graduate Center, Academy of Human Resource Development, American Society of Training and Development, and the American Society of Healthcare Pharmacists. Additionally, using a snowball approach, participants forwarded the initial invitation to their colleagues. Anecdotally, recruitment of female participants occurred at a much faster rate than males.

Participant Demographics

Participants from all organizations and personal contacts were volunteers. Of the 350 participants who indicated their sex, 53% were female and 47% were males. Table 3.1 provides the number of males and females for the eight manipulated cells. As sex was a variable in the design, every effort was made to recruit equal numbers of male and female participants for random assignment to the eight treatment conditions. The average age of all respondents was 39 years (SD 18.5). Over 97% (339 out of 347) of respondents reported they were currently working or have been employed outside of the home. Based upon the organizations and associations from which I solicited my participants, it is not a surprise that participants were primarily college graduates (99%) with 77% having attained advanced educational degrees beyond the level of a Bachelor's degree. Over a third (38%) of the participants reported to be currently enrolled in higher-education classes at a college or university. Appendix F includes a breakdown of these demographics for each cell in the design.

Table 3.1. Distribution of Sex in Conflict Cells

	Conflict Cell								Totals
	1	2	3	4	5	6	7	8	
Female	22	23	23	25	22	21	20	28	184 52.57%
Male	21	23	23	20	19	19	19	22	166 47.43%

Procedures

Prior to data collection, approval was obtained from the Virginia Tech Institutional Review Board (IRB). This research was submitted to the IRB under “Exempt Review” and approved after encryption was added to the online survey.

Participants received an email invitation to the study and, if interested, responded by email and indicated their sex. Interested participants were stratified by gender and then randomly assigned to one of eight different conflict conditions using a random numbers table. A second email was sent that contained a link to the survey located online at Survey Monkey. Later assignment of participants was more deliberate to recruit equal numbers of men and women in each cell of the design. The goal was to assign equal numbers of males and females to each of the two-levels of the three manipulated variables (i.e., conflict type, sex of initiator, and abstraction-level of the description).

Three hundred eighty nine (389) participants completed an online questionnaire that contained the hypothetical workplace conflict interaction. Each conflict vignette had an identical introduction. The remainder of the vignette contained the three manipulated context variables: type of conflict (task or relationship, verb abstraction-level (low or high), and sex of conflict initiator. The respondents read a single vignette and responded to questions related to that interaction.

Design

A true experimental design was used to explore the research questions. Stimulus (a.k.a. treatment) manipulations were accomplished via variation of the vignettes representing a workplace conflict interaction. A questionnaire was used to collect the data. The sections below describe the use of questionnaires and vignettes in research, and the development of the vignettes for this study. Later sections describe the experimental design used and the four context variables: the three that were manipulated (i.e., stimulus manipulations) were conflict type (task or relationship), abstraction-level of the language used in the vignette, and sex of the conflict initiator. The fourth context variable was the sex of the respondent.

Questionnaires in Conflict Research. The use of questionnaires in social science research is not uncommon and includes studies focused on conflict management (Beersma & De Dreu, 2005; Carnevale & De Dreu, 2004; Deutsch & Coleman, 2000; Duffy, Ganster, & Pagon, 2002; Nauta & Kluwer, 2004). Nauta and Kluwer (2004) pointed out that questionnaires are a good alternative to studying real-life conflict situations for several reasons that include:

time and cost savings of questionnaire administration compared to observing real conflicts and the ability of questionnaires to assess attitudes and other self-report data.

Vignettes in Research. Vignettes or scenarios are short stories about hypothetical and specific characters and situations (Finch, 1987) that are grounded in previous experience and research (Taylor, 2006). Conflict has been shown to be a sensitive topic leading to problems accruing participants and concerns about the truthfulness of responses (Nauta & Kluwer, 2004). Using a story of a conflict situation may make the topic less threatening and minimize hind-sight bias that occurs when people are asked to recall a past conflict. The use of vignettes to study conflict is an established format (Drory & Ritov, 1997; Hegtvedt, 1988; Johnson & Ford, 1996; Lewicki & Sheppard, 1985) and allows the researcher to control the stimulus (e.g., the variables manipulated in the vignette) over a sample of respondents (Alexander & Becker, 1978).

Conflict Vignette Development. There were three qualities in a conflict vignette that were integral to this study: first, the situation in the vignette needed to be realistic (Alexander & Becker, 1978); second, aspects of the situation (i.e., sex, type of conflict and language used) needed to be controlled, and third, the responsibility for the cause of the conflict was open to interpretation because respondents were asked to attribute causes to the situation. A review of previously published articles revealed several conflict vignettes; however, none possessed all three of the qualities needed. Instead, five conflict situations were developed based upon the types and issues identified from previous research including those that contained vignettes and scenarios. Seventy-six graduate students responded to a request to read the five conflict vignettes and categorize them into one of three conflict types: task-related, relationship-related, or mixed. Two conflict situations produced the most agreement. Vignette 1 was considered to be about a task by 76% of the respondents and Vignette 2 was considered to be about a relationship by 71%. Few respondents (7% and 5%, respectively) categorized Vignettes 1 and 2 into the opposite type as intended by the researcher. Therefore, these two vignettes were chosen for inclusion in the study.

The second step, the language used in the vignette was manipulated based upon the Linguistic Category Model (LCM) (Fiedler & Semin, 1988; Semin & Fiedler, 1988). The LCM is described in more detail in the Stimulus Manipulations section. Similar to previous research with the LCM, an abstraction level was calculated for each vignette (Semin & Fiedler, 1989). The four vignettes, including their abstraction-level score are shown in Appendix A.

Experimental Design and Variables Manipulated

Eight vignettes were designed and used in the experiment. Each conflict vignette contained one level of the manipulations for the contextual variables: type of conflict (task or relationship), abstraction-level of the language (low or high) and sex of initiator. The former two are described in detail below. The sex of the conflict initiator or protagonist was accomplished by interchanging male and female names in the narratives. The final manipulation involved the sex of the respondent, which was accomplished by sending the eight different versions to an equal number of male and female respondents. Figure 3.1 shows the four variables and the complete 2 (Conflict Types) x 2 (Language Abstraction Level) x 2 (Sex of Conflict Initiator) x 2 (Sex of Respondent) design. The four context variables and levels of manipulations are described.

		Conflict Type								
		Abstraction Level	Task-Type				Relationship-Type			
			Low		High		Low		High	
Sex of Initiator		M	F	M	F	M	F	M	F	
Respondent Sex	M									
	F									

Figure 3.1. Design of Experiment with Vignette-Based Manipulations

Conflict Type. The categorization of task versus relationship was used to differentiate the type of conflict (De Dreu & Weingart, 2003; Jehn, 1995). The results from studies that used this specific categorization have shown relationships between type of conflict, behaviors, and outcomes to individuals and organizations (De Dreu & Weingart, 2003; Tidd et al., 2004) as described in chapter 2. The process used to identify and develop the vignettes used in the study was described earlier in this chapter.

Language Abstraction Level: Linguistic Category Model (LCM). Words used in communication carry many layers of meaning. One layer conveys information about the causality of the action. A simple sentence in the structure “subject predicate object” has been shown to lead respondents to make different attributions towards the subject versus the object related to the predicate along with inferences that include informativeness and durability. “The subject of a sentence is the person, object, or idea being described in the sentence. The predicate is the explanation of the action, condition, or effect of the subject” (Shertzer, 1986, p. 6). This study incorporated the LCM proposed by Semin and Fiedler (1988) that differentiates between four levels of abstraction to which behavioral actions can be categorized: descriptive action verbs (DAV), interpretive action/state verbs (IASV), state verbs (SV), and adjectives (ADJ) (Table 2.2). Semin & Fiedler (1992) reported a two-dimensional structure accounting for 46.6 % of the variance with the factors being the abstractness-concreteness dimension and an inductive-inference dimension. Semin and Marsman (1994) also found that inferences of disposition and causality represented two cognitive dimensions in their research with the LCM. The description of the scales used to capture these relevant inferential constructs is described under the Measures section.

The words used in the conflict management scenarios were primarily drawn from the corpus of verbs and adjectives used in previous research with the LCM (cf. DePoot & Semin, 1995; Fiedler & Semin, 1988; Rudolph, 1997; Semin, 1994; Semin & Fiedler, 1992; Semin & Marsman, 1994). Additionally, the abstraction-level of each scenario was calculated by the methods used in previous research (cf. DePoot & Semin, 1995). All predicates (verbs and adjectives) were assigned values from 1 to 4 for DAV, IAV, SV, and ADJ, respectively. The sum of all verbs was divided by the total number of verbs used. The “High” abstraction level has a larger average, closer to 4 and the “Low” abstraction level having an average closer to 1. The vignettes with predicates coded are included in Appendix A.

Sex of Initiator. The sex of the conflict initiator in the vignette was the third variable manipulated. As described in Chapter 2, sex has been included in research on perceptions, attributions, attitudes, and conflict behaviors with, at times, mixed results and; therefore, was still relevant for this study.

Respondent Sex. This was manipulated through the separate random assignment of volunteer male and female participants to the eight vignette scenarios.

Measures

Participants were asked to read and imagine they were a character in one of eight vignettes manipulated, as described above. They responded to questions measuring cognitive and behavioral intention variables shown in Table 3.2. The table includes the number of items for each measure, its scale reliability, and the instrument or reference. All the measures used had demonstrated adequate reliabilities in previous research and in the current study, as described in chapter 4. A copy of the items used in the questionnaire for this study is included in Appendix B.

Table 3.2. Summary of Measures

Variable	# of items	Reliability	Instrument
Cognitive Measures			
Attitudes	4	.79 - .89	Based on Ajzen, 2002
Subjective Norms	6	.71 - .88	
Perceived Behavioral Control			
Personal Control	3	.82	Causal Dimensions Scale II (CDSII)
External Control	3	.79	
Locus of Causality	3	.67 - .90	
Behavioral Measures			
Conflict Behavioral Intention			Organizational Conflict Communications Inventory (OCCI)
Nonconfrontation	12	.83 - .93	
Solution-orientation	11	.79 - .88	
Control	7	.70 - .84	
Manipulation Checks			
Type of Conflict	1		Lord & Burnkrant, 1993
Intrinsic Involvement	3	.86*	

* Reliability based on 4-item scale; 3 items will be used in this study

Cognitive Measures

Five cognitive measures were used in the study. Items for attitude toward the scenario interaction and subjective norms about the conflict were based on Ajzen and Fishbein (Ajzen, 2002a; Ajzen & Fishbein, 1980). Three subscales were taken from the Causal Dimensions Scale II to measure two aspects of perceived behavioral control, as well as locus of causality.

Attitudes. Four items measured attitudes towards the scenario interaction. The items were drawn from previous research using the Theory of Planned Behavior (TPB) to measure

attitudes toward a range of behaviors and situations (e.g., Ajzen & Fishbein, 1980; Beck & Ajzen, 1991; Elliott et al., 2003; Hagger & Chatzisarantis, 2005). Items capture both cognitive and emotional properties present in attitudes and serve an evaluation function. The research using the TPB that has included confirmatory factor analyses have generally demonstrated that attitude items (usually 3 – 6 items) load onto a single dimension (Elliott et al., 2003; Terry & O'Leary, 1995). In their research on regular exercise, Rhodes and Courneya (2004) reported that items used to measure attitudes represent two dimensions, affective and instrumental. Other authors have reported similar findings (Bagozzi, Lee, & VanLoo, 2001; Trafimow & Sheeran, 1998). Using confirmatory factor analysis and structural equations modeling (SEM) in two large samples (N=523 and N=596), Hagger and Chatzisarantis (2005) found that a first-order model of attitudes has a two-dimensional structure. Their subsequent analyses with SEM revealed both models for the structure of attitudes fit the data equally well. The authors concluded that attitudes can be interpreted to represent a higher-order, single dimensional construct for most research purposes which minimizes the potential for multicollinearity due to the high correlations between some of the first-order variables. The four items used in this study were designed to capture both the instrumental and affective, but served as a global measure of attitudes toward the conflict situation and were expected to be reliable (see Table 3.2) as evident in previous research (cf., Baker et al., 2003; Beck & Ajzen, 1991; Elliott et al., 2003; Schifter & Ajzen, 1985; White, Terry, & Hogg, 1994). Principal component factor analysis was used to evaluate the underlying structure of these items and the results are described in chapter 4.

Subjective Norms (SNs). Six items were used to measure subjective norms about the conflict vignette that were drawn from prior research and consistent with the guidelines suggested by Ajzen (2002a). The introduction for the items was modified slightly to fit the scenarios. For example, the respondent was asked to assess the amount of control s/he perceives to have if in the conflict situation presented in the scenario. The specific wording of each item was not altered from prior research and guidelines.

The subjective norms (SNs) generally has explained the smallest proportion of the variance in intention as compared with attitudes and perceived behavioral control in prior research. This has led researchers to refine the measures and consider a possible two-dimensional structure. The items typically used in research capture the descriptive norms (behaviors that important others do or do not). The addition of items to measure injunctive norms (actions that are approved by important others) explains additional variance in behavioral intention (Sheeran, Norman, & Orbell, 1999; White et al., 1994). Hagger and Chatzisarantis (2005) used eight items to measure SNs used confirmatory factor analysis to show a two-dimensional, first-order model fit their data. Their subsequent analyses with SEM revealed both models: the single and two-dimensional structure for SNs better fit their data. Having a parsimonious model with fewer constructs may be more advisable depending on the research questions. The items that were included in this study were designed to capture both the descriptive and injunctive norms and serve as a single global measure of subjective norms related to the vignette conflict situation and were expected to demonstrate adequate reliabilities (see Table 3.1) similar to previous research (cf., Baker et al., 2003; Beck & Ajzen, 1991; Elliott et al., 2003; Schifter & Ajzen, 1985; White et al., 1994).

Perceived Behavioral Control. Two subscales of the Causal Dimensions Scale II, personal control and external control, were used to measure perceived behavioral control (McAuley, Duncan, & Russell, 1992). The original scale had four dimensions: personal control, external control, stability and locus of causality. The stability dimension was not relevant to this research due to the use of a hypothetical vignette representing a single conflict interaction. The original Causal Dimensions Scale had a single dimension representing controllability which

showed low reliabilities in research studies. A revision split the construct into two dimensions, representing personal and external control with each demonstrating improved psychometric properties. Confirmatory factor analysis supported a two-dimensional structure, with items loading at or above .689 on each of the constructs (McAuley et al., 1992). Due to concerns of high correlations between the subscales for locus of causality, external control and personal control, McAuley et al (1992) examined whether a model that included the subscales as a single dimension better fit their data. They concluded that the three scales represented three distinct constructs and should be measured as such. Validity studies have not been reported on the revised CDSII with the separate subscales for personal and external control.

Attributions of Locus of Causality. One open and three closed items from the Causal Dimensions Scale II (CDSII, McAuley, Duncan & Russell, 1992) were used to assess the perceived behavioral control (i.e., personal control and external control) and locus of causality. The first was an open response that asked participants what they thought was the main reason or cause of the situation described in the vignette. The purpose of the open-ended was as a prompt for the other items. Three additional items assessed the locus of causality dimension. McAuley, Duncan & Russell (1992) conducted four studies (total sample = 380) to test the structure and reliabilities of the modified CDSII scale. Confirmatory factor analysis results showed all three items represented a single locus of causality dimension with loadings in the range of .554 - .747 and adequate but not impressive reliabilities. Henry and Campbell (1995) reported the results of validity studies, examining convergent, discriminant and predictive validity of the CDS and the Attributional Style Questionnaire (ASQ, Peterson et al., 1982). The results were generally in the expected direction and the authors suggested that deviations from their hypothesized relationships may be explained by conceptual differences in the two measures.

Behavioral Measures

Behavior was not measured in this study. The Organizational Conflict Communication Inventory (Putnam & Wilson, 1982) was used to measure conflict behavioral intentions.

Conflict Behavioral Intention. Measures of conflict behaviors tend to be administered in written format asking respondents about their typical or likely behaviors during a conflict. These measures of behaviors or modes, especially when asked in reference to a specific conflict situation, can best be understood to be intentions (Thomas, 1988) or behavioral intent (Ajzen & Fishbein, 1980). Although created in 1982, the Organizational Conflict Communication Inventory (OCCI) continues to be used in conflict management research (Ayers, 1999; King Jr. & Miles, 1990; Putnam & Roloff, 1992; Sauders, 2002).

The Organizational Conflict Communication Inventory (Putnam & Wilson, 1982) has been used in conflict management research and consists of three subscales: nonconfrontation, solution orientation and control. Putnam and Wilson (1982) conducted three studies to examine the reliability, structure, and construct and predictive validities of the instrument. After refinement of the initial scale, factor analysis demonstrated three dimensions accounting for 58 % of the common variance with thirty items loading at or above .42 on one dimension. A range of reliabilities reported in research for the three subscales is shown in Table 3.2. Putnam and Wilson (1982) compared the OCCI and two other conflict management scales, the Aphorism Scale by Lawrence and Lorsch (1967) and the MODE instrument by Kilmann and Thomas (1977). They administered the measures to 93 graduate students to examine construct validity. The correlations were in the expected direction, albeit only moderately high, but generally supported construct validity. Additional validity studies have incorporated situational predictors of conflict management behavior, such as organizational position, department affiliation, and

conflict issue (Wilson & Waltman, 1988). Putnam and Wilson (1982) used the OCCI in three studies exploring a model of organizational conflict. They reported that several findings were consistent across the studies. Wilson and Waltman (1988) reviewed several studies using the OCCI and concluded that the measure demonstrated predictive validity across different situations. Limitations of the OCCI, similar to other measures of conflict behaviors, are concerns of social desirability bias. Overall, the instrument demonstrates adequate reliability and validity and provided a good measure of conflict management behavioral intentions for this experiment.

Manipulation & Covariant Checks

Eight vignettes represented the experimental manipulations in this study. The sex of the initiator was an easy and readily recognizable manipulation by the use of appropriate names. It was not realistic to expect that the respondents would be overtly aware of the level of abstraction of language used, as this is a subtle cue. However, their reaction to the type of conflict needed to be evaluated in order to be certain that they were, in fact, reacting to the defined manipulation and not a different, perceived one. Therefore, a manipulation check was added to ensure that this treatment manipulation was being properly perceived. Additionally, it had been suggested that relevance of the vignette may be related to participant responses.

Type of Conflict. A single categorical item, asked the respondent to classify the scenario described in the questionnaire as either: primarily about the task or primarily about the relationship/personal issues.

Intrinsic Involvement with the Vignette. Three items from Lord and Burnkrant's (1993) Intrinsic Involvement Scale was used to assess whether response differences were related to the perceived relevance of the different vignettes (Johnson & Ford, 1996). The scale was developed to measure involvement in advertisements, but conceptually is relevant to research with vignettes. Similar to scales measuring attitudes, the items developed by Lord and Burnkrant were four semantic differential items with a seven-point scale. Three of the four items from the original scale will be included, "Important --- Unimportant," "Irrelevant --- Relevant," and "Means a lot to me --- Means nothing to me." The one item not included is: "Not needed --- Needed." This item was not applicable to vignettes. No validity studies were located in the literature for this scale.

Demographic Items

In addition to sex of respondents, which was used as an independent variable in the design, four other demographic questions were included: age, highest educational degree earned, current employment status (full-time, part-time, etc.), and primary language. Prior research has shown that each of the demographic items may relate to the constructs being measured. The language manipulation in the scenarios is based on a model that has been used in research in several languages including, English, Italian, German, and Dutch, but not in Arabic, Chinese, and Japanese.

Analyses

The data from the online questionnaire was exported from Survey Monkey into eight Excel spreadsheets. Three variables were added to each one in order to indicate the experimental condition for that set of responses. Data for the fourth independent variable, sex of respondent, was in the demographic section of the questionnaire. The data sets were then combined and imported into JMP (Version 7) and SPSS (Version 12.0) for analysis. Data were

checked for completeness. The remainder of this chapter includes a description of the analyses used in this study with the results of these analyses described in chapter 4.

Preliminary Analyses

Initial statistical analyses included frequencies and percentages for the demographic information. Reliability estimates for scales and subscales were calculated and compared to previously published reliabilities and then scale means were computed. Means and standard deviations were determined for each scale. Correlations between the scale scores were examined. The extent of response differences related to primary language was considered. Factor analysis was done for the Organizational Conflict Communication Inventory (OCCI) solution orientation subscale to examine whether a single or two-factor solution best fit the data (see results, Table 4.3). The solution orientation subscale includes behaviors representing integrating and compromising strategies. Research results on conflict management behaviors have shown that these may represent very different behaviors. The mean scores for the behavioral intentions were used as the dependent variable in the hierarchical multiple regressions, described later.

Inter-item correlations were examined on the four items to measure attitudes and the three items to measure Intrinsic Involvement. While the latter was being used as to examine a possible covariate, close inspection of the items chosen reveals that they may be conceptually related to attitudes and tapping similar constructs. This possibility was examined and further analyses were conducted.

Analyses were conducted with the manipulation check for type of conflict. A two-way analysis of variance (ANOVA) was used to compare the responses of participants who perceived the type of conflict (i.e., task versus relationship-related) different from that intended in the vignette design. Any interactions were considered first and any statistically significant ones were examined and described.

Two open-ended items were included in the questionnaire. The first open-ended item: "What was the main reason or cause of this situation with Name?" Responses were content analyzed and then coded based upon Orvis, Kelley, and Butler (1976) and Doherty (1981), to one of seven categories: none/blank, self, other, the relationship, situation / external environment, luck / chance / fate, or other. The second open-ended item is: "Do you have any comments about conflict and/or conflict management in your workplace?" Responses were also content analyzed and coded into categories that emerged from the data.

Main Analyses

A 2x2x2x2 multivariate analysis of variance (MANOVA) was used. All interactions were considered first and any statistically significant ones were examined and described (Table 3.3). Tests of the four main effects were used to directly answer the research questions. Two separate MANOVA's were done: the context effects on the cognitive variables and the context effects on the conflict behavioral intentions.

Table 3.3. MANOVA & Tested Effects

Main Effects	Interactions		
	2-Way	3-Way	4-Way
Type of Conflict (C)	C x A	C x A x I	C x A x I x R
Language Abstraction(A)	C x I	C x A x R	
Sex of Initiator (I)	C x R	C x I x R	
Sex of Respondent (R)	A x I	A x I x R	
	A x R		
	I x R		

In order to better understand the extent to which the experimental variables explained conflict behavioral intention, hierarchical multiple regression analyses was used. Four hierarchical multiple regressions were used to examine the proportion of variance in behavioral intention (Control, Nonconfrontation, Integrate, and Compromise) explained by the set of experimental, independent variables (Conflict Type, Verb Abstraction-Level, Sex of Conflict Initiator, and Sex of Respondent, all coded 0/1). Beyond what's explained by the set of experimental variables, what proportion of the variance in behavioral intention was uniquely explained by the set of cognitive variables (Attitudes, Subjective Norms, Personal Control, External Control, and Attributions of Locus of Causality)? The steps for the four regressions that were planned for the dependent variables are included in Table 3.4.

Table 3.4. Hierarchical Multiple Regression Plan

Dependent Variables	
Behavioral Intention	
Nonconfrontation	
Solution-orientation	
Control	
Step	Variables Included
1	Independent variables (coded 0/1) Type of Conflict Verb Abstraction-Level Sex of Conflict Initiator Sex of Respondent
2	Cognitive variables Attitudes Subjective Norms Personal Control External Control Locus of Causality

Delimitations of the Study

While this study makes an important contribution to the literature on conflict management in the workplace, three main delimitations are noted. First, a cross-sectional design was used for the experimental study, but conflict is a complex phenomenon with multiple sources, issues, and interactions that occurs over time (Bergman & Volkema, 1989; Wall Jr. & Callister, 1995) and not in a snap shot. Second, the study incorporated hypothetical vignettes, developed from research in conflict management. While the vast majority of participants (83%) viewed the vignette as relevant to them, the participants' actual conflict interactions were purposely not included. As part of an experimental design, four specific context variables were manipulated in the vignette; however, there are numerous variables that were not included. A handful of participants wrote in comments that the vignette was over-simplified compared to their experiences with conflict in the workplace. This simplification was necessary to control variables and not unintentionally embed variables in the vignettes. Finally, equal numbers of male and female participants were needed to complete the questionnaire in each experimental cell so that potential violations to MANOVA assumptions would not unduly influence the results. While the groups were roughly even, they were not exactly equal. The delimitations described are boundaries of the experimental design and this research study.

Lessons Learned from the Research Process

When using a complex research design, it is essential to do a pilot study from start to finish including exporting the online data into spreadsheet form and into the statistics package(s) to be used. I would have caught errors in my survey setup long before I had data from 389 participants to clean up. My personal beliefs about behavior, cognition, and context along with so many other individual variables (e.g., female, Italian-American, married) are not bracketed and external to this study but have been incorporated into the design, conduct, analyses, and interpretation of this study. The questions that I asked in this study are likely influenced by where I am in life. Finally, a dissertation is a process that doesn't go as expected. Making mistakes, learning from them if possible, keeping a sense of humor, and finding kindred spirits to make the bumps less jarring are the key lessons I learned from it all.

CHAPTER 4

RESEARCH FINDINGS

The purpose of this study was to examine the overarching question, to what extent does context influence behavior? An experimental design was used in this online study of 389 participants to examine the influence of three specific situational variables manipulated in a workplace conflict scenario and the sex of respondent on the participant's cognitive and intended behavioral responses in that conflict situation.

Specifically, do people respond differently depending upon each of the following:

- a. the type of conflict (task- or relationship-related),
- b. the language used (low or high abstraction-level),
- c. the sex of the conflict initiator, and
- d. the sex of the respondent?

These four questions, represented by the four independent variables in the design, were answered by examining the main effects along with potential two-way, three-way, and four-way interactions. In this chapter, I present the results of the preliminary analyses and the main analyses that answer the research questions.

Preliminary Analyses

Following completion of the data collection, preliminary analyses were conducted on the results to assess the measurement tools used to answer the research questions. These analyses included reliability estimates, factor analyses, and manipulation checks and were done using JMP Version 7 and SPSS Version 12, statistical software packages and are described.

Attitudes & Intrinsic Involvement

Inter-item correlations were examined on the four items to measure attitudes toward the interaction and the three items to measure Intrinsic Involvement. While the mean of the latter three items was to be used as a possible covariate, inspection of these items revealed that they may be conceptually related to attitudes and tapping similar constructs. As seen in Table 4.1, the high correlation of 0.83 between A-3 and IN-2 was evidence of a potential issue. The results of a principal components factor analysis with varimax rotation revealed that intrinsic involvement and attitudes loaded onto two factors, but not independent from each other. Item A-3 loaded together with the three intrinsic involvement items, while item A-1 cross-loaded on both dimensions (Table 4.1). Considering the items, it would appear that, Factor 1 represents an instrumental-evaluative component and Factor-2 captures an emotional-affective one. Attitudes are complex systems that have both affective and instrumental functions, consistent with the literature cited in chapter 2. Mean scores were calculated for the two factors, instrumental attitudes was the mean of responses to items IN-1, IN-2, IN-3, A-3 and affective attitudes was the mean of items A-2 and A-4. These mean scores were used in all subsequent analyses, while item A-1 was removed from further analyses.

Table 4.1. Attitude (A) and Intrinsic Involvement (IN) Item Correlations

	A-1	A-2	A-3	A-4	IN-1	IN-2	IN-3
A-1	1.00						
A-2	0.42	1.00					
A-3	0.42	0.03	1.00				
A-4	0.29	0.64	0.14	1.00			
IN-1	0.21	-0.07	0.47	-0.15	1.00		
IN-2	0.19	-0.15	0.55	-0.02	0.52	1.00	
IN-3	0.18	-0.09	0.47	-0.07	0.53	0.56	1.00

Bold = moderate-strong correlations b/w A-3 and IN-items

Table 4.2. Factor Analysis of Attitudes and Intrinsic Involvement Items

Item	Factor 1 Instrumental	Factor 2 Affective
IN-2 Irrelevant – Relevant to me	0.90	0.23
IN-3 Means nothing – Means a lot to me	0.90	0.19
IN-1 Unimportant – Important	0.89	0.25
A-3 Worthless – Valuable	0.86	0.36
A-2 Unpleasant – Pleasant	0.25	0.90
A-4 Unenjoyable – Enjoyable	0.19	0.90
A-1 Harmful – Beneficial	0.59	0.61

Organizational Conflict Communication Inventory (OCCI)

Factor analysis was used to examine the Solution Orientation (CS) subscale of the OCCI to determine whether the current data best fit a single or two factor structure. Factor analyses with a varimax rotation created two factors with clear loadings of all items on two different dimensions (Table 4.3) that captured 68% of the variance in the original items. Factor 1 captured an integrate dimension and Factor 2 captured a compromise dimension which is consistent with other published scales measuring conflict management behavior as described in chapter 2. The two created subscales (i.e., integrate and compromise) of the original Solution Orientation subscale along with the subscales for control and nonconfrontation were used as the four dependent behavioral intent variables in subsequent analyses.

Table 4.3. Solution Orientation Factor Analysis Results

	Item	Factor 1 Integrate	Factor 2 Compromise
CS-10	Integrate our arguments into a new solution for the issues raised in the dispute.	0.91	0.21
CS-11	Offer a creative solution in the discussion of our disagreement.	0.90	0.15
CS-8	Suggest we work together to create solutions to the disagreement.	0.89	0.17
CS-9	Try to use the other person's ideas to generate a solution to the problem.	0.88	0.25
CS-6	Blend our ideas to create new alternatives for resolving the disagreement.	0.87	0.28
CS-7	Suggest solutions which combine a variety of view points.	0.87	0.27
CS-1	Give in a little on my ideas when s/he also gives in.	0.05	0.71
CS-2	Will go 50-50 to reach a settlement.	0.20	0.83
CS-3	Give in if s/he will meet me halfway.	0.14	0.83
CS-4	Meet at a mid-point in our differences.	0.35	0.77
CS-5	Offer trade-offs to reach a solution.	0.39	0.69

Manipulation Check

Analyses were conducted with the manipulation check for conflict type and perceived conflict type (Appendix G). The majority of respondents perceived the conflict type to be the same as the manipulated. Almost 73% of respondents correctly identified the task-type conflict while almost 62% of respondents correctly identified the relationship-type conflict; however, Chi-Squared (63.74, $p < .01$) and Cramers' V (.427, $p < .01$) were both statistically significant. As an additional check, perceived conflict type was used in separate interaction analyses and resulted in a similar pattern of main effects and interactions as compared to conflict type. Therefore, all subsequent results reported in the main analyses section used the manipulated conflict type.

Coded Open Response Items

Two open-ended items were included in the questionnaire. The first open-ended item: "What was the main reason or cause of this situation with Mary/John?" This item was part of a previously published measure, Conflict Dimensions Scale II. Three hundred thirty six (336) responses were content analyzed and coded based upon Orvis, Kelley, and Butler (1976) and Doherty (1981), to one of six categories (Appendix H). The most often coded cause for the task conflicts was the "situation," while for relationship conflicts, it was the "other person."

The second open-ended item was: "Do you have any comments about conflict and/or conflict management in your workplace?" One hundred seventy three (173) participants responded to this item. Slightly more female participants (53%) than males (47%) wrote comments. Equivalent numbers of participants in both conflict type groups, task (85) and

relationship (87), wrote comments about their experiences with conflict and conflict management.

Responses were content analyzed and coded into categories that emerged from the data (Appendix I). During the analysis, it was apparent that several comments contained thematically different content and were coded into more than one category. Therefore, from the 173 participant responses there were 263 separate data. Eighty nine (89) responses were coded into a single category, 66 were coded into two categories, and 14 responses contained three separate ideas.

Overall, the responses fit into ten different categories. The cause or source of conflict was most often described at the level of the individual in comments such as, "I think most people avoid conflict because they do not have the skills to focus upon the issue and end up in a personal confrontation that generally goes no where." The focus on the individual was also observed in several comments about conflict management, such as, "I've found quite a few conflicts can be helped or avoided with proper planning and staying on track. Listening is important as is compromising when applicable." Several responses related to the importance of the topic to his/her workplace, while some thought the vignette was too vague or not representative of "real-life." Several respondents suggested additional variables related to conflict and conflict management, with personality, power, perspective, and culture being the most often cited.

Reliability Estimates and Inter-item Correlations

Reliability estimates for scales and subscales were calculated using JMP Version 7. The reliabilities met and in some cases exceeded those reported in previously published studies (Table 4.4). Scale means and standard deviations for each scale were calculated and correlations between scale scores were examined and found adequate for use in further analyses (Table 4.5).

Table 4.4. Summary of Measures Used

Variable	# of items	Published Reliability	Reliability in Study
Cognitive Measures			
Attitudes	4	.79 - .89	
Intrinsic Involvement	3	.86	
Attitude-Affective	2		.78
Attitude-Instrumental	4		.81
Subjective Norms	6	.71 - .88	.89
Perceived Behavioral Control			
Personal Control	3	.82	.93
External Control	3	.79	.89
Locus of Causality	3	.67 - .90	.81
Conflict Behavioral Intention			
Nonconfrontation	12	.83 - .93	.89
Solution-orientation	11	.79 - .88	
Factor 1 – Integrate	6	.77 - .86	.91
Factor 2 – Compromise	5	.70 - .84	.85
Control	7	.70 - .84	.77

Table 4.5. Intercorrelations of Behavioral Intentions and Cognitive Measures

Variable	1	2	3	4	5	6	7	8	9	10
Behavioral Intentions										
1. Control	(.77)									
2. Nonconfrontation	.18	(.89)								
3. Integrate	-.01	-.15	(.91)							
4. Compromise	.26	.24	.49	(.85)						
Cognitive Measures										
5. Subjective Norms	.02	-.25	.27	.07	(.89)					
6. Locus of Causality	-.05	.03	.05	.07	-.05	(.81)				
7. External Control	.06	.10	.03	.11*	-.05	.06	(.89)			
8. Personal Control	-.02	-.09	.10	.04	.07	.20	.11*	(.93)		
9. Affective Attitudes	.09	.03	.39	.27	.13*	.21	.07	.26	(.78)	
10. Instrumental Attitudes	.18	-.02	.17	.10*	.11*	.10	.08	.08	.50	(.91)

Bold= statistically significant at .001, * = statistically significant at .05, & Reliabilities on diagonal in parentheses

Behavioral Intentions. There were statistically significant correlations between pairs of the conflict behavioral intention variables. As anticipated, the highest correlation was between integrate and compromise variables (.49). These were created using principal component factor analysis from the original Solution Orientation scale of the Organizational Conflict Communication Inventory (OCCI), described below. All other correlations were weak. The integrate variable was negatively correlated with control and nonconfrontation, which conceptually makes sense.

Cognitive Measures. As expected, the highest correlation among the cognitive measures was between affective and instrumental attitudes and was moderate (.50). The correlations between the variables capturing the perceived behavioral control construct (i.e., external control and personal control) were low (.20), with personal control having an equivalent correlation with affective attitudes (.21). Subjective norms were negatively related to locus of causality and external control, interpreted as higher subjective norms for behavioral intentions is related to attributions that the cause is outside of the respondent and the interaction is more controllable by others.

Cognitive Measures and Behavioral Intentions. The relationship between the cognitive measures and behavioral intentions were all weak. Neither locus of causality nor personal control had a relationship with the cognitive variables, while external control had a minimal one at best. As expected, attitudes had statistically significant correlations with intentions, but the relationships varied considerably amongst the type of attitude (i.e., affective or instrumental) and the different behavioral intention. Subjective norms had a statistically significant correlation with two of the intentions, nonconfrontation (-.25) and integrate (.27), but in opposite directions.

Main Analyses: Relationships among the Variables

Three different analyses were done in the main analyses and included different subsets of the variables, as shown in Figure 4.1. First, multivariate analysis of variance was used to examine the main effects and interactions of the manipulated context variables on the cognitive variables (A) and then on behavioral intentions (B). The manipulated variables represented potential salient contextual/situation influences on subsequent behavior but should have effects on cognition and intentions. Second, canonical correlation analysis was used to initially examine the variance explained in the set of conflict behavioral intentions by the set of cognitive variables (C). Additionally, in order to consider all three sets of variables together, hierarchical multiple regression (D) was used with all of the manipulated context variables and measured cognitive variables to examine the proportion of variance explained in each of the conflict behavior intentions.

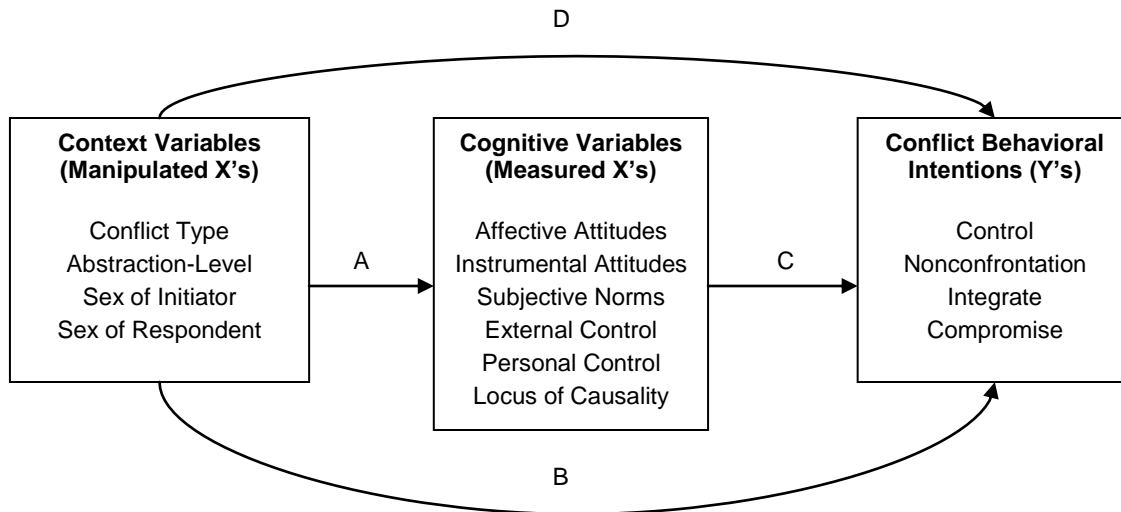


Figure 4.1. Variables and Relationships Examined

Context Effects on Cognitive Measures (A)

The null hypothesis that all of the cognitive means were equal over all groups for all variables for context in a 2x2x2x2 between-subjects MANOVA analysis was rejected (Appendix J). The results of the context effects on the cognitive variables: Wilk's lambda (.70) was statistically significant ($p = .03$). Using an alpha level of .001 to evaluate homogeneity assumptions for MANOVA, neither Box's M test of homogeneity of covariance nor Levene's test of homogeneity of variance were statistically significant, indicating that the assumptions were tenable.

Which aspects of the context and what effects were seen? Deciphering MANOVA results starts from the most complicated interactions (i.e., a possible 4-way interaction), all the way down to the main effects (i.e., effects of each independent variable). A 3-way interaction between abstraction-level, sex of initiator, sex of respondent was statistically significant ($F(6, 323) = 2.53, p = .02$). Conceptually, a three-way interaction is understood to be the interaction of two of the variables (i.e., abstraction-level and sex of initiator) changes across different levels

of the third variable (i.e., sex of respondents). Practically speaking, however, to understand what was going on, additional analyses were done. Using the independent variables involved in the 3-way interaction, three 2-way ANOVA's were run for each of the dependent cognitive variables. There was only one statistically significant interaction ($p = .04$): Abstraction Level x Sex of Initiator on Locus of Causality (Figure 4.2). When the conflict was described in low abstraction language with more concrete verbs (in contrast to high abstraction level) and the initiator in the vignette was a female, respondents attributed the cause of the conflict as less internal to themselves, which indicates a view that the cause is more external. However, there was no difference in the locus of causality when the initiator was a male.

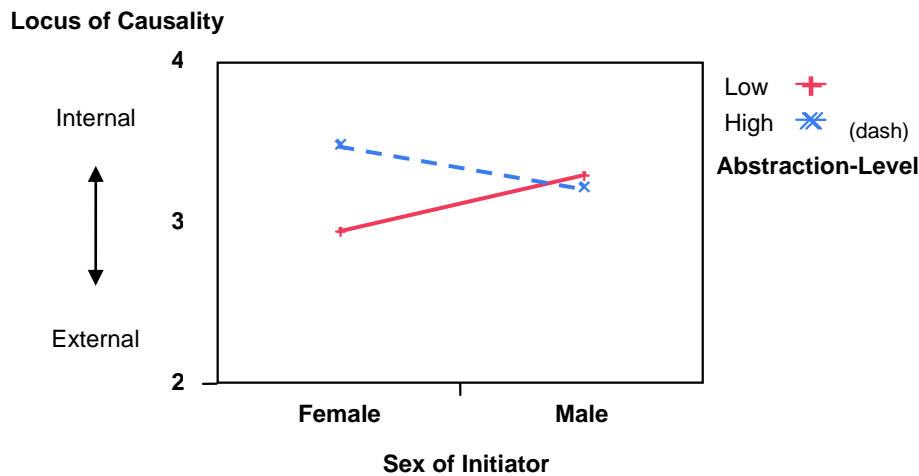


Figure 4.2. Interaction of Abstraction Level X Sex of Initiator on Locus of Causality

There were two statistically significant main effects on the set of cognitive measures of the MANOVAs. The main effects of the context on the cognitive variables were conflict type (Wilks' Lambda = .91, $p < .01$) and abstraction-level (Wilks' Lambda = .96, $p = .03$) accounted for the 9% and 4% of the variance in the cognitive variables, respectively. Subsequent univariate analyses of conflict type on the six cognitive variables (Table 4.6) revealed the effect was on two cognitive measures: external control ($F = 5.05$, $p = .025$) and instrumental attitudes ($F = 23.25$, $p = .000$). Abstraction-level's effect was on personal control ($F=5.63$, $p = .018$).

Table 4.6. Means of Context Main Effects on Cognitive Variables*

Context Variable	Cognitive Variable	Levels of Context Variable	
Conflict Type		Task	Relationship
	External Control	3.98	3.64
	Instrumental Attitudes	3.14	2.54
Abstraction-Level		Low	High
	Personal Control	5.17	5.53

* Only statistically significant results are shown

Respondents reported higher levels of personal control when the conflict interaction was described with high abstraction-level verbs compared to the low abstraction-level group. Language and specifically the abstraction-level verb model used in this study, the Linguistic Category Model (LCM), had subtle effects on cognition in previous research. The effect on personal control was small, yet statistically significant, consistent with the implicit function the model may have on cognition during a conflict interaction.

Context Effects on Conflict Behavioral Intentions (B)

The effects of context on the behavioral intentions were statistically significant, (Wilk's lambda = .71, $p < .01$); however, there were no statistically significant interactions. The main effects of the context were conflict type (Wilks' Lambda = .82, $p < .01$) and sex of initiator (Wilks' Lambda = .97, $p = .04$), accounting for 18% and 3%, respectively, of the variance in conflict behavioral intentions.

Univariate ANOVA's of the means (Table 4.7) of the main effects of context on behavioral intentions resulted in three statistically significant effects of conflict type on intentions: control ($F = 8.68$, $p = .003$), integrate ($F = 9.31$, $p = .003$), and compromise ($F = 88.99$, $p < .0001$). There was a statistically significant effect of sex of initiator on control ($F = 4.53$, $p = .034$) and on integrate intentions ($F = 3.63$, $p = .05$).

Participants responded more likely to have control, integrate, and compromise behavioral intentions when the conflict was primarily about the task as compared to relationship-type conflicts. Sex of conflicting parties revealed mixed results in previous research, but had a statistically significant effect on participants' control and integrate behavioral intentions. Respondents intended to use less control behaviors and more Integrate behaviors when the conflict initiator was a female compared to if the initiator was a male.

Table 4.7. Means of Context Main Effects on Conflict Behavioral Intentions*

Context Variable	Behavioral Intention	Levels of Context Variable	
Conflict Type		Task	Relationship
	Control	3.18	2.90
	Integrate	5.80	5.43
	Compromise	5.32	4.34
Sex of Initiator		Male	Female
	Control	3.16	2.94
	Integrate	5.48	5.75

* Only statistically significant results are shown

Relationship of Cognition and Conflict Behavioral Intentions (C)

In the empirical research described in chapter 2 using the Theory of Planned Behavior (TPB), the set of cognitive variables explains a statistically significant, as well as a practically meaningful, proportion of the variance in intention for a range of behaviors. Conflict interaction is a novel behavioral domain for the TPB model; therefore, canonical correlation analysis was

used to examine how well the set of cognitive variables captured the variance in the set of conflict behavioral intentions in this study (Tinsley, 2001). There was a statistically significant relationship ($R_c = .54$) between the cognitive set and the intention set with 29% of the variance in conflict intentions explained by the cognitive variables. The canonical correlation analysis provided additional results (Appendix K); however, hierarchical multiple regression was used to examine the contribution of the manipulated and measured variables on the variance explained in the separate behavioral intention subscales (i.e., control, nonconfrontation, integrate, and compromise).

Context, Cognition, and Conflict Behavioral Intentions (D)

Finally, to evaluate all of the variables in the model, a two-step hierarchical multiple regression was used to examine the additional proportion of the variance in behavioral intentions (i.e., control, nonconfrontation, integrate, and compromise) explained by the measured cognitive variables (affective attitudes, instrumental attitudes, subjective norms, personal control, external control, and locus of causality) beyond that explained by the independent context variables (i.e., type of conflict, verb abstraction-level, sex of conflict initiator, and sex of respondent). Four regression equations were used, one for each of the dependents: control, nonconfrontation, compromise, and integration, as shown in Table 3.4.

Regression: Preliminary Steps. Correlation analyses were previously done on all the measured variables as a preliminary step to multiple regression (see Table 4.5). The two means created from the Solution Orientation subscale factors (i.e., integrate and compromise) had the highest correlation with each other (.50) and all other scale means had lower correlations with these subscale means than with the total score. Therefore, the total Solution Orientation score was used in subsequent analyses instead of the two subscale scores. In addition to the correlation analyses, four simultaneous multiple regression equations were generated to assess the collinearity of the measured regressors by examining the variance inflation factor (VIF). The VIF for all variables regressed in four different equations had values around 1, indicating that collinearity was not a problem. Assumptions for regression analysis include low collinearity between independent variables and normal distribution of the data. These were met.

Results of Hierarchical Multiple Regression. Four separate hierarchical regression equations were done for each conflict behavioral intention, entering the manipulated variables of the design (conflict type, abstraction-level, sex of initiator, and sex of respondent) as a block in the first step. All of the cognitive variables in the model, antecedent to intention, were entered as a block in step two. The variance explained in each of the equations was much lower than results from the canonical correlation analysis on the sets, but were all statistically significant (Appendix L). A visual representation (Figure 4.3) and description of the different patterns of the context and cognitive variables that emerged from the hierarchical regression equations for each of the separate conflict behavioral intentions follows.

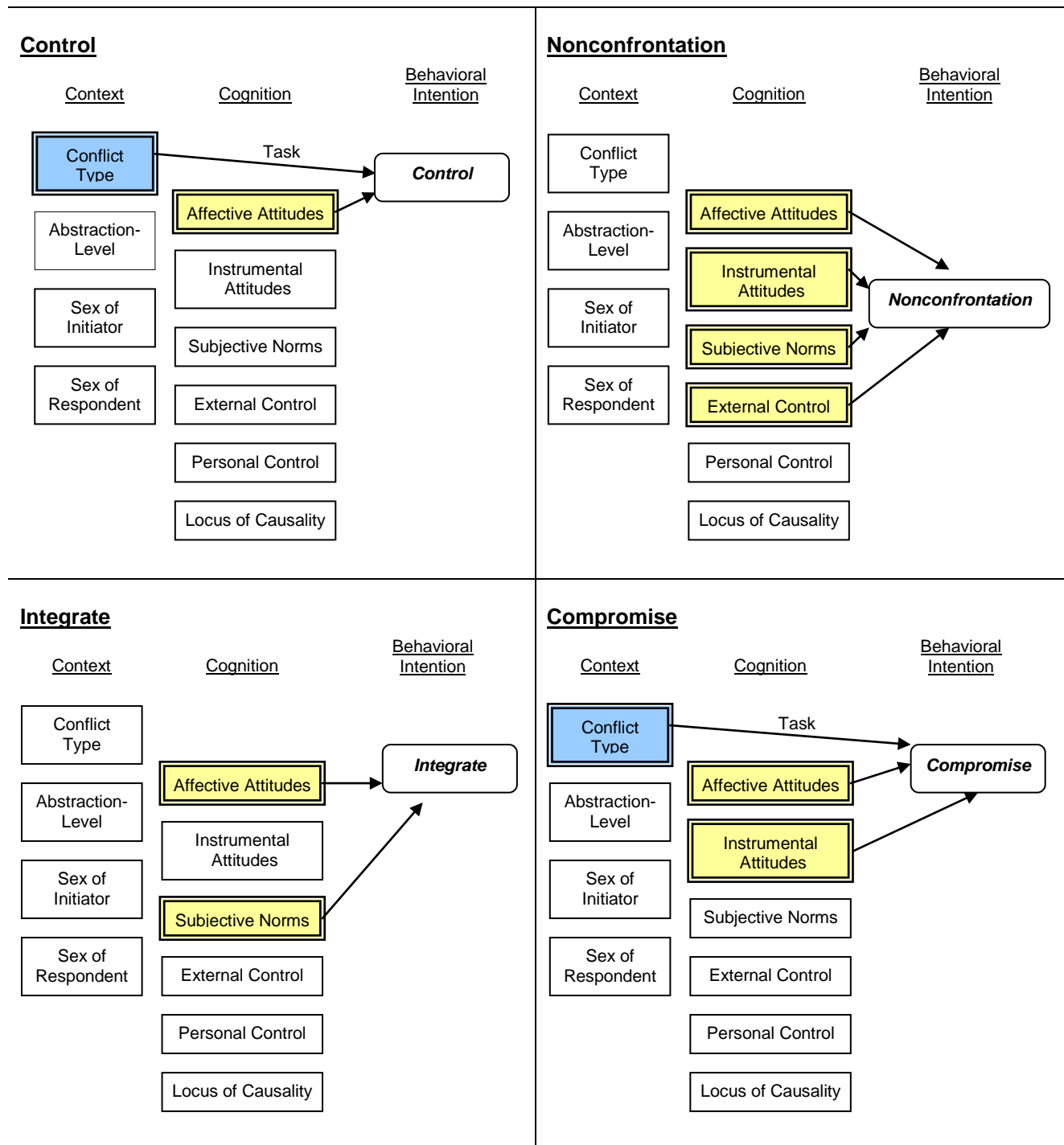


Figure 4.3: Context and Cognitive Variables on the Four Behavioral Intentions

Arrows – indicate statistically significant results of hierarchical multiple regression

Control Intentions. The proportion of the variance explained in control intentions by the context and cognitive measures together was a statistically significant 7%. As evidenced by the change statistics, the addition of the cognitive variables to the design contributed an approximately equal amount, about 3.5% of the variance explained. Two variables within the sets had statistically significant beta's: conflict type and affective attitudes. Respondents intended to use more controlling behaviors if they had less positive affective attitudes ($beta = -.182, p = .001$) about the interaction and if the interaction was a task-type conflict ($beta = -.155, p = .006$).

Nonconfrontation Intentions. The proportion of the variance in nonconfrontation intentions by the context and cognitive measures together explained 15% of the variance ($p < .01$) in nonconfrontation intentions. The cognitive variables do a better job explaining nonconfrontation intentions than the context variables, with R Square Change of 14% compared to less than 1%, respectively. Intentions to use nonconfrontation behaviors, such as avoiding or minimizing, were explained primarily by negative attitudes, both affective ($beta = -.216, p = .000$) and instrumental ($beta = -.145, p = .007$), subjective norms that others would *not approve* of using controlling behaviors ($beta = -.221, p = .000$) and higher levels of external control of the conflict interaction ($beta = .113, p = .030$).

Integrate Intentions. The context and cognitive variables explained 20% of the variance in intentions to use integrate behaviors. The design variables entered in the first step explained only 4% of the variance and was associated with two variables: conflict type ($beta = -.146, p < .01$) and sex of respondent ($beta = .017, p = .012$). Neither of these variables were statistically significant after the cognitive variables were entered. Overall, the cognitive variables (Step 2) did a much better job of explaining integrate intentions than the design as evidenced by an R Square Change of 16% ($p < .01$). Intentions to use integrate behaviors was associated with more positive affective attitudes ($beta = .319, p < .01$) and subjective norms with important people in their lives agreeing with and likely doing similar behaviors ($beta = .223, p < .01$).

Compromise Intentions. The context and cognitive variables together explained 19% of the variance in compromise intentions. The design variables accounted for 14% of the variance with task-type conflicts ($beta = -.337, p < .01$ in Step 2) associated with higher levels of compromise intentions. The cognitive variables explained an additional 5% of the variance above the context with positive affective attitudes ($beta = .143, p = .007$), and more negative instrumental attitudes ($beta = -.142, p = .006$) associated with intentions to use compromise behaviors.

Results of Respondent's Age and Behavioral Intentions. Respondent's age was collected during the study as a potential individual-level variable that roughly captures a developmental aspect (Keates, Schultz, & Selman, 1991). Using age as a ratio level measurement, there was no apparent relationship between age and conflict behavioral intentions with no statistically significant results. However, based upon the research of McCrae et al. (2000) who reported that personality is relatively stable during certain age spans and changes across different age spans, age of respondents was categorized into groups. Nonconfrontation scores were higher for the 22 to 29 year-old group (Mean = 3.21) than either the 30 to 49 (2.42) or the 50 and above group (2.44). This was a statistically significant difference and was not apparent in any other behavioral intention scores (i.e., integrate, compromise, or control).

Summary

The results of this experimental study showed that context had statistically significant, modest effects on cognition and intention during a workplace conflict interaction using two separate multiple analysis of variance (MANOVA's). Three manipulated context variables had statistically significant main effects on the measured variables. Conflict type had main effects on two cognitive variables (i.e., instrumental attitudes and external control) and three behavioral intentions (i.e., control, integrate, and compromise). The context variable the language abstraction-level had main effects on one cognitive variable, personal control. Sex of the conflict initiator in the vignette had main effects on two behavioral intentions (i.e., control and integrate). The sex of the respondents did not reveal any statistically significant results. Interactions between the manipulated context variables on all measured variables were evaluated and described.

The cognitive variables (i.e., affective attitudes, instrumental attitudes, subjective norms, personal control, external control and locus of causality) together explained 29% of the variance in the set of conflict behavioral intentions (i.e., control, nonconfrontation, integrate and compromise), as shown in the results of the canonical correlation analyses. When the manipulated context and measured cognitive variables were examined together on the individual behavioral intentions using hierarchical multiple regression, the variance explained ranged from 7% (of control) to 20% (of integrate). Different patterns of the context and cognitive variables emerged for each behavioral intention. These results including patterns that emerged, the findings, and interpretations are described in chapter 5.

CHAPTER 5

SUMMARY & CONCLUSIONS

Conflicts occur as individuals are interacting in the workplace. These conflicts, the process and outcomes, can have impacts on individuals, groups, and their organization (Behfar, Peterson, Mannix, & Trochim, 2008; Varela, Burke, & Landis, 2008). This experimental study considered the process of conflict, at the micro-level of an interaction, to examine the extent to which specific contextual variables of a workplace conflict influence participant responses in that interaction. During the study, 389 individuals responded to an online questionnaire containing a description of a hypothetical workplace conflict interaction with one level of the manipulated context variables (i.e., conflict type, abstraction-level, and sex of parties). The context variables were hypothesized to influence participants' responses that included attitudes toward the interaction, subjective norms, appraisals of personal control and external control, and attributions of the locus of causality. This cognitive set of variables was hypothesized to explain respondents' behavioral intentions in that conflict. The four conflict behavioral intentions used in this study were control, nonconfrontation, compromise, and integrate. Features in the context of a workplace conflict interaction had statistically significant effects on cognition and behavioral intentions in this study. Findings and interpretations of the results of the preliminary analyses and the main analyses of the context variables, their specific effects, and an examination of the relationships between the cognitive and behavioral intention variables are described. The chapter will conclude with the implications of this study on future research and current practice.

Findings and Applications from Preliminary Analyses

Often the preliminary analyses are just that, preliminary before you get to what you are really interested in. This section will be brief, but is needed because some of the steps in the preliminary analyses were integral to results in the main analyses. Principal component factor analysis was done twice in this study. First, the underlying structure of the items to measure attitudes and intrinsic involvement was evaluated. The results supported a two factor solution but they represented affective attitudes and instrumental attitudes. Differentiating them into this structure was consistent with theory in attitudes and enabled examination of the independent influences each had on behavioral intentions in the hierarchical multiple regression analyses. Principal component factor analysis was used again, to evaluate the underlying structure of the items of the Solution Orientation subscale that was used to measure conflict behavioral intentions in this study. The results showed that the data best represented a two-factor structure, as intentions to integrate and compromise. This was consistent with research in conflict management and other published measures. Discriminating the items into two subscales led to an interesting difference in the patterns of the context and cognitive variables that explain the variance in integrate and compromise intentions during a conflict interaction. It should be noted that all of the reliabilities for all of the scales used in this study both before and after principal component analysis, were more than adequate, but separating them into the underlying parts was advantageous for the subsequent main analyses.

Findings and Interpretations from Main Analyses

This experimental study of conflict management in the workplace used different sets of variables, context and cognitive, to examine the relationship between context, cognition and behavioral intentions during a workplace conflict interaction. The overall findings and

interpretations are described followed by a comparison between the results of this study and previous research.

The Context of a Conflict

The context in which a conflict occurs was hypothesized to have effects on participant's cognition and behavioral intention as shown in Figure 5.1. Four context variables included in the design of this study, based upon previous research were: conflict type, abstraction-level of the language, sex of initiator, and sex of the respondent. Statistically significant main effects from the multiple analysis of variance (MANOVA's) are depicted with italics and bolded.

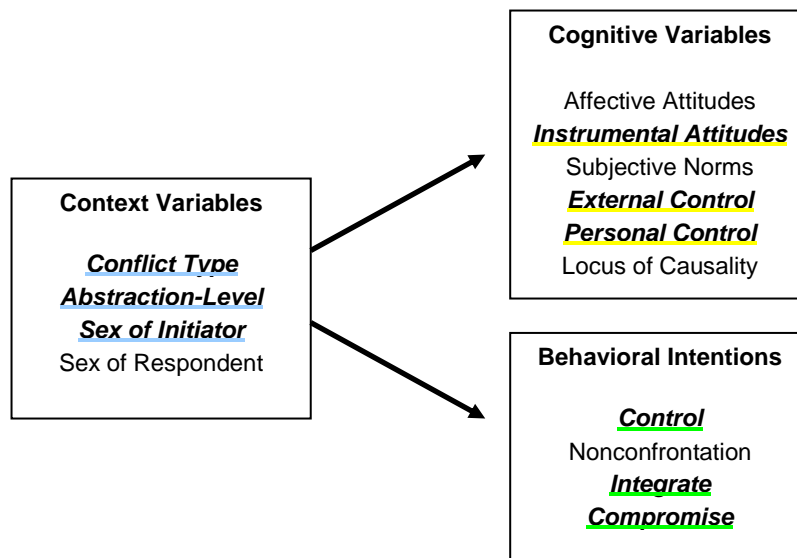


Figure 5.1. Context Effects on a Conflict Interaction

Conflict interactions have been characterized to fall into two categories: task or relationship (Amason, 1996; Barki & Hartwick, 2004; Jehn, 1995). The results of the current study using this classification indicated that participants' responses related to the conflict type. Conflict type had effects on five of the ten measured variables in the study. Two of the effects, instrumental attitudes and external control, were part of the antecedent variables to intention. Based upon prior research using the Theory of Planned Behavior, context and other underlying variables, such as demographics, should have effects on the antecedent cognitive variables. The other three were main effects on intentions: compromise, integrate, and control. This was not expected based upon previous research. This could mean that indeed, salient contextual variables have direct effects on intentions or that the context has effects on an antecedent cognitive variable not included in the design. The quantity of statistically significant effects and proportion of variance explained by conflict type in the current study support that conflict-type, using a task and relationship categorization, played a role during the conflict interaction.

The verbs used in the description of the conflict interaction in the vignette were manipulated using the Linguistic Category Model (LCM). Based upon prior research with the LCM on attributions, it was likely the effects of the manipulation would be on the cognitive

variables. The results of the MANOVA showed a statistically significant interaction between abstraction-level and sex of initiator on attributions of locus of causality. The subsequent hierarchical analysis using all of the context and cognitive variables revealed that locus of causality didn't have statistically significant effects on conflict behavioral intentions. Abstraction-level also had a statistically significant main effect on personal control, but personal control did not explain a statistically significant amount of the variance in behavioral intentions. The effects of the LCM are believed to be implicit and subtle, which is consistent with the results of this study.

The role that sex plays in conflict interactions has had mixed effects in previous research and in the current study. Sex of the participants had nominal if any real effects on responses. Sex of the respondent is typically collected in previous research. Sex of the conflict initiator did have statistically significant effects. In an interaction with verb abstraction-level, the cause of the interaction (i.e., locus of causality) was perceived to be more internal to a female initiator when the conflict was described more abstractly. This subtle interaction was not seen for male initiators. Sex of the initiator also had main effects on conflict behavioral intentions showing respondents intend to use less control behaviors and more integrate behaviors if a female was the initiator. All of these effects were statistically significant but modest. However, these results would have been overlooked if I had only included sex of respondents in the design as is typical in research. Sex of conflict initiator was a salient contextual variable in the conflict interactions in this study.

Cognition and Behavioral Intentions

Overall, the set of cognitive variables used in this experiment explained 29% of the variance in the set of behavioral intentions from the results of the canonical correlation analysis. This represents a large effect size, based upon calculations recommended by Cohen (1992).

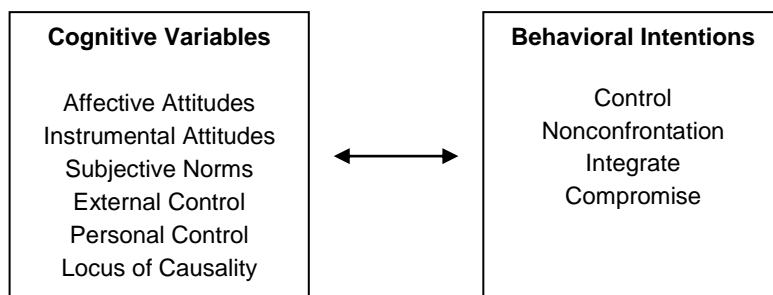


Figure 5.2. Relationship among Cognitive Variables & Behavioral Intentions

This set of cognitive variables, adapted from the Theory of Planned Behavior, had not previously been used together to study conflict management behaviors. This large effect size supports the use of the set of cognitive variables to explain conflict behavioral intention.

Context and Cognition on Behavioral Intentions

The proportion of the variance in each of the conflict behavioral intentions (i.e., control, nonconfrontation, integrate, and compromise) explained by the cognitive variables (i.e., affective attitudes, instrumental attitudes, subjective norms, external control, personal control, and locus of causality) ranged from 7% to 20%, as reported in the results of the hierarchical multiple regression analyses. Each behavioral intention had different patterns of contextual and cognitive variables that contributed to the variance explained (Figure 4.3). This observation is consistent with previous research with these cognitive variables. Depending upon the behavior that was studied in research, such as exercise or cheating on a test, different cognitive variables within the set contributed different amounts to the variance explained (Baker et al., 2003; Borsari et al., 2007).

In general, the variables included in this study did a poor job of explaining control intentions; however, task conflict type and lower affective attitudes were related to it. When I reviewed the items used to measure control, I noticed they tend to carry a negative emotional tone that the items to measure the other behavioral intentions do not possess. Control intentions and behaviors may be related to individual level variables not included in this study. Nonconfrontation intentions were explained primarily by the cognitive variables alone and not by the combined contextual and cognitive variables. There are two ways that I would interpret this. First, the variables in the cognitive set, in theory, are supposed to capture context and personal differences variables (Ajzen, 1985). Therefore, I could interpret that for nonconfrontation intention, context is effectively represented in the variance explained by the cognitive set. A second interpretation is that intention to avoid conflict is less susceptible to context, consistent with a style perspective of conflict management. An additional interesting finding was that the youngest age-group, the 22-29 year olds, used nonconfrontation intentions more than all other age groups, possibly indicating a developmental aspect to intentions.

Integrate and compromise intentions are explained by slightly different patterns of both context and cognitive variables. A surprising finding was that conflict type (i.e., task vs. relationship) contributed a meaningful amount to compromise intentions and not to integrate. Separating the solution-orientation scale of the Organizational Conflict Communication Inventory (OCCI) into the two-dimensions was critical to this finding. Intention to integrate was explained much more effectively by the set of cognitive variables, especially instrumental attitudes and subjective norms, with context taking a backseat.

Results Compared to Other Research in Conflict Management

The variance in conflict behavioral intentions that was explained by the context and cognitive variables was 7% of control, 14% of nonconfrontation, 19% of integrate, and 20% of compromise intentions in this study. New research adds to the body of existing literature and should, therefore, be compared to it. How do these findings compare to existing studies in workplace conflict management? The results of four studies that used similar methods as the current study but incorporated different variables are described.

Rahim, Magner, and Shapiro (2000) examined the influence of perceptions of justice, as the independent variable, on conflict management styles as the dependent variables, and reported their variables explained 4% (of obliging), 11% (of compromising), and 16% (of integrating) of the variance. Oetzel and Ting-Tommey (2003) tested the role face-concerns (maintaining a positive-self image) had in explaining the variance in conflict management and found that 8% of avoiding, 19% of dominating, 14% of integrating was explained by face-

concerns. Antonioni (1998) found that personality accounted for 18% of avoiding, 21% of dominating (i.e., control) and 19% of the variance in integrating conflict styles in managers. Schneer and Chanin (1987) found that manifest needs explained 19% of the variance in competing (i.e., control/dominating) but only 6% and 9% of variance in avoiding and compromising, respectively.

From the above brief description, it appears that other variables may do a better job at explaining the variance in control (i.e., competing or dominating) behaviors than the variables used in the current study. The variables in the current study did explain more variance in nonconfrontation strategies and about similar amounts of variance in intentions to use integrate and compromise strategies.

Results Compared to Other Research with the Theory of Planned Behavior

The variance explained in behavioral intentions as a set, using the variables from Theory of Planned Behavior (TPB), is comparable to those reported in published studies described in Chapter 2. When the behavioral intentions were analyzed independently, the variance explained was less than typically reported in published research. The relationships, both correlations and betas, between the cognitive variables and behavioral intentions, were lower than expected based upon previous research using the TPB model; although, there are studies that reported equivalent findings (Notani, 1998; Rhodes & Courneya, 2004).

The design of this study was different compared to prior research using the TPB in four ways that may provide insight into the lower relationship results. First, a conflict interaction is very different than the typical behavioral domain included in studies using the TPB model. Prior research included behaviors such as dieting, weight loss, cheating on a test, and speeding. These behaviors were not the result of an interaction between individuals. Second, in this study, conflict behavioral intentions were measured as a simultaneous assessment of four different behavioral choices. In the bulk of the research with TPB variables, a single target behavior and behavioral intention is the endpoint. Critics of the TPB research suggest that it is more realistic to assume the individual is considering multiple behavioral options instead of a single one. Third, the attitude items used in this study measured attitude towards the interaction and not attitudes about doing or not doing behaviors, as is typical in research with the TPB model. Fourth, the measurement of the conflict behavioral intention items were worded “I would likely” as opposed to “I intend.” Sheppard, Hartwick and Warshaw (1988) conducted a meta-analysis where the results showed that the relationship between the TPB variables and intent was lower with the “likely” wording but higher with actual behavior. This may explain the lower than expected variance in intent and actual conflict behavior was not measured in this study.

Contributions and Implications of the Study

This study of conflict management in the workplace applied well-established theories in a novel way and makes two important contributions to the existing body of literature. First, features in the context of a conflict interaction had statistically significant effects on conflict behavioral intentions. While the design of this study was not a test of style versus strategy, the effects of conflict type, for example, suggests that both frameworks play a role in the process of conflicts. Second, the variables used to measure cognition and intention came from a large body of research built from the Theory of Planned Behavior. The statistically significant results found with these variables and their relationships with the context of a conflict points to the value of extending this model to study behaviors beyond solitary acts as is typical of the

research. Additional contributions and the implications of this study as they relate to future research and current practice are described.

Implications for Future Research

There exists a large body of research in conflict management, with the preponderance based upon a static view that relates conflict management style to other individual and organizational variables (Rahim et al., 2001; Thurstone, 2004). In contrast this study used a strategy view of conflict management using a contingency perspective to examine the extent to which specific contextual variables in a conflict interaction were salient to cognition and intended behavior. The context variables were identified through previous research from conflict management and attribution. The variables used to capture cognition and behavior were drawn from a large body of research using the Theory of Planned Behavior (TPB), but not previously applied in conflict management. The implications of this study on future research will be described by considering the design of the study, the variables and their measurement, additional variables that may be of value and potential analyses that could be used.

This study used an experimental design incorporating a vignette in order to control and manipulate specific variables. If I was going to duplicate the design of this study, using an experimental design with vignettes, there are three changes I would make. First, I would incorporate the use of interviews of critical incidents in a particular organization to develop important conflicts and management strategies from real-life (Tjosvold, Morishima, & Belsheim, 1999; Tjosvold & Sun, 2002). The online data collection procedures used in this study allowed for ease of administration, quick access to a large sample, and seamless downloading and analysis of the results. Online data collection can be combined with face-to-face interviews to get both depth of information and access to an entire organization.

The variables incorporated into this study conceptually supported a contingency perspective to behavior. The variables from the Theory of Planned Behavior (i.e., attitudes, subjective norms, and perceived behavioral control) explained the variance in conflict management behavioral intention and warrant inclusion into future research. Additional items should be added to capture affective attitudes, as only two measured this construct. The original items were separated into two dimensions, affective and instrumental, based upon the principal component analysis. The current study used items to measure attitudes towards the interaction. Items can be added to measure attitudes towards the responding behaviors intended, which is consistent with attitude items used in other research with the TPB, although this is a subtle difference. In order to keep this to a reasonable number of items, a two-dimensional framework measuring attitudes towards agreeable behaviors and assertive behaviors (DeChurch & Marks, 2001; Volkema & Bergmann, 1995) could be adopted instead of attitudes to the four behaviors (i.e., control, nonconfrontation, integrate and compromise). The addition of these attitude items may explain additional variance in behavioral intention. Finally, the cognitive variables of the TPB are hypothesized to capture the background contextual variables. The results of hierarchical multiple regression revealed that the context variable, conflict type, explained variance in both control and compromise intentions, that was not captured in the cognitive variables. This may be that context of an interaction influences a different cognitive variable, that should be included in future research, or has a direct influence on intention as was seen in this experiment.

The Organizational Conflict Communications Inventory (OCCI) demonstrated solid reliabilities but the data fit four behaviors instead of the reported three dimensions. The subscale for Solution Orientation represented compromise and integrate behaviors. While

there are other available scales to measure conflict management behaviors and styles, the OCCI's theoretical framing from a strategy perspective and availability free of charge, make its use appealing.

If I was going to conduct additional research on conflict management but not incorporate specific vignettes in a questionnaire, a qualitative interview approach focusing on the language used by the participants of conflicts when describing the interaction would enable patterns to be explored. The patterns of words, specifically the verbs based upon the Linguistic Category Model used in the current study, can be explored and linked to relationship variables, such as proximity/distance (Reitsman-Van Rooijen et al., 2007; Semin, 2007). Additionally, these conflict interactions can be combined with quantitative measures of personality, attitudes, subjective norms, and intended behaviors. .

Additional variables could be included in future research on conflict management, regardless of the design used for the study. Participants in this study commented that individual-level variables such as personality, culture, and ethnicity play a role in conflicts from their experiences. The variables used in this study explained the lowest percentage of the variance (7%) in control behaviors. Research results have shown that conflict behaviors may be related to culture (K. Au, Hui, & Leung, 2001; Tinsley, 2001) and be more evident in controlling and avoiding behaviors. The addition of items to measure cultural differences and social desirability could be valuable to explain control behaviors. An interesting finding of the current research was that respondents in the age group 22-29 year-olds used more nonconfrontation strategies than the other two groups (i.e., 30-49 and 50+). Whether this was related to age or some other variable, such as tenure or organizational position (e.g., management or front-line) is open for future research. The critical incident technique described earlier could capture important conflicts for the organization and help identify antecedent variables that are relevant to conflict and the organization. Comments from my respondents along with published research (Guerra et al., 2005; Tjosvold & Deemer, 1980) point to the importance of including organizational variables, such as culture and structure, in conflict and conflict management research.

Finally, the analyses used in this study were multiple analysis of variance (MANOVA) and hierarchical multiple regression. These analyses did not enable the whole model (i.e., context, cognition, and intention) to be tested, just the different parts. In order to test the whole model, simultaneously evaluating the effects of the context on cognition and behavioral intentions, structural equations modeling could be used in future research.

Implications for Current Practice

The focus of this study was on theory building, in that I used well-established variables and models but applied them in different ways in a new research domain. However, the results do have implications on current practice. Conflicts that occur in the workplace have effects on the participants, their workgroups and the organization (Behfar et al., 2008; De Dreu & Beersma, 2005). Therefore, organizations are using resources to focus on conflict management in the workplace, including at the interaction-level, offering conflict management skills training. Dealing with conflicts was viewed as important and relevant by the majority of participants in this study. Almost half the respondents in this study took the time to comment about their experiences with conflict in the workplace. From the general question, "Do you have any comments about conflict and/or conflict management in your workplace?" Comments often included multiple ideas but the two most often were: the most common source of conflicts is individuals and conflict management was also focused on how individuals manage or not

manage it. I can interpret this as either, confirming the study's focus on individuals at the level of an interaction or the study steered the comments to this aspect. Either is reasonable and plausible. The implications for practice of this study are described as they relate to implications for the individual and practitioners working with adults in organizations.

Conflict management behaviors were studied using a contingency perspective and not to weigh-in on the style versus the strategy debate. Within the scope of this framework, the results point out that during a conflict interaction, respondents' intended conflict management behaviors were differentially related to salient aspects of the context. For example, the sex of the conflict initiator and conflict type had statistically significant direct effects on specific conflict behavioral intentions. Through reflection activities, such as journaling, an individual can develop awareness for their salient contextual variables, her/his cognitive thoughts about an interaction, and links between intended responses during a specific conflict. Individuals can identify personal conflict interaction with both good and bad outcomes and look for patterns with attitudes, subjective norms, and perceptions of control, as supported by the results of this study.

Adult learning and human resource practitioners can use the items from this research as a diagnostic tool to help analyze the relationships between conflict interactions, salient variables, attitudes, subjective norms, behaviors, and outcomes. The conflict management literature has started to focus on framing of interactions by the participants (Olekalns, Christopher, Probst, Smith, & Carnevale, 2005; Shmueli, Elliott, & Kaufman, 2006). To reframe a situation involves understanding the complex interactions between the context, parties' perceptions, cognitive processing (e.g., attitudes), and behaviors and then actively attempting to change the interaction. Any piece can be the focus of a reframing effort. If a workplace conflict is currently perceived by participants to be about relationship-issues, reframing or refocusing on task-issues may be productive because it will likely be associated with more positive attitudes about the interaction along with intentions to compromise. Practitioners could facilitate group dialog around important workplace interactions may create an environment conducive to reframing by testing perceptions and developing more positive affective attitudes. Based upon the results of this study, positive affective attitudes may increase intentions to deal with conflict using integrate and compromise behaviors and decrease intentions to use control behaviors. Developing mentoring relationships where managers are modeling productive behaviors in different interactions may foster social norms that were revealed to be effective in influencing intentions to integrate and not avoid conflict in this study. Not every conflict situation requires integrate and compromise behaviors, but when it does, such as joint decision making and stakeholder buy-in, encouraging positive affective attitudes and norms can be beneficial. Adult learning and human resource practitioners can play an integral role in conflict management in order facilitate positive outcomes to individuals, their work groups, and the organization as a whole.

Conclusion

Workplace conflict is a concern for organizations because of the ubiquitous nature of conflict and potential impacts to the participants and the organization. While organization-wide efforts are important in conflict management, resources focused on the level of the interaction can have effects. The current study used an experimental design to examine the extent to which specific context variables present at the level of a workplace conflict interaction influenced participant responses in that situation. Framed from a contingency perspective, salient features of a workplace interaction were related to participant responses in the conflict. The conflict type, using a task versus relationship categorization, appeared to be the most salient of the context variables having direct effects on most of the cognitive measures in this study. Two other

contextual variables: sex of conflict initiator and abstraction-level of the language used to describe the conflict scenario had statistically significant results, but much lesser effects. The sex of the respondent had no direct and minimal effects in a three-way interaction on the measured cognitive variables. The cognitive variables together explained almost one third of the variance in the set of conflict behavioral intentions, which was both statistically significant and meaningful. When each behavioral intention (i.e., control nonconfrontation, integrate, and compromise) was analyzed separately using two-steps in hierarchical multiple regressions, the variance explained by the context and cognitive variables ranged from 7% to 20%. The different patterns of context and cognitive variables that influenced intended conflict behaviors were described and potential implications on future research in conflict management and current practice were suggested. The results of this study lend support to a contingency perspective: salient aspects of the context had effects on her/his responses in that interaction.

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APPENDIX A

Conflict Vignettes Used in Study

Introduction for all vignettes: You and Mary/John have worked together professionally as peers on several projects and teams/committees in your organization.	
Conflict: Task-Type	
Lower Abstraction-Level	Higher Abstraction-Level
<p>You and Mary/John were <u>asked</u> to <u>select</u> a person for an administrative position who will <u>report</u> to both of you.</p> <p>You and Mary/John have been talking about the applicants for quite awhile.</p> <p>Mary/John <u>has selected</u> an applicant but you <u>have</u> a different person in mind.</p> <p>You <u>find</u> a different person <u>has</u> the skills and personality for the job.</p> <p>Mary/John disagrees and <u>says</u>, "I <u>choose</u> this person.</p> <p>This applicant <u>has</u> the skills to <u>do</u> the job more than the one you <u>selected</u>.</p> <p>This is who we should <u>choose</u> for the position."</p> <p>You disagree with what s/he <u>said</u>.</p>	<p>You and Mary/John were <u>directed</u> to <u>hire</u> a person for an administrative position who you will <u>share</u>.</p> <p>You and Mary/John have been talking about the applicants for quite awhile.</p> <p>You <u>are unable</u> to <u>reach</u> an agreement on who <u>is best</u> for the position.</p> <p>You <u>like</u> one candidate and s/he <u>thinks</u> a different one <u>is better</u>.</p> <p>Mary/John disagrees and <u>asserts</u>, "I <u>like</u> this applicant.</p> <p>This applicant <u>is better</u> than the one you <u>prefer</u>.</p> <p>This is who we should <u>hire</u> for the position."</p> <p>You disagree with her/him.</p>
Conflict: Relationship-Type	
Lower Abstraction-Level	Higher Abstraction-Level
<p>You and Mary/John were asked to <u>write</u> a report and <u>give</u> recommendations about the results of a pilot program.</p> <p>After completing the report, Mary/John <u>asks</u> you to <u>speak</u> at the committee meeting.</p> <p>During the meeting, you <u>heard</u> the committee <u>agree</u> with the recommendations.</p> <p>Just after the meeting ends, Mary/John <u>says</u> with annoyance, "I <u>did</u> as much as you but you never <u>said</u> my name."</p> <p>You <u>don't agree</u> that you <u>did</u> this.</p>	<p>You and Mary/John were asked to <u>prepare</u> a report and <u>develop</u> recommendations about the results of a pilot program.</p> <p>After completing the report, Mary/John <u>prefers</u> that you <u>present</u> at the committee meeting.</p> <p>During the meeting you <u>feel</u> the committee <u>supported</u> the recommendations.</p> <p>Just after the meeting ends, Mary/John <u>is annoyed</u> and <u>asserts</u>, "I <u>contributed</u> as much as you but you never <u>acknowledged</u> me."</p> <p>You <u>think</u> s/he <u>is wrong</u>.</p>

APPENDIX B

Items of Questionnaire

Imagine you are in the situation described below.
One Vignette – see previous page
How likely will you initially respond to John/Mary in each of the following ways? Please respond on a scale from 1 = Not Likely to 5 = Extremely Likely
Behavioral Intention (Organizational Conflict Communications Inventory, OCCI) Items representing subscales will be mixed together.
Nonconfrontation
1 Shy away from the topic that is the source of the dispute. (CN9)
2 Steer clear of the disagreeable situation. (CN1)
3 Avoid her/him when I suspect s/he wants to discuss the disagreement. (CN2)
4 Keep quiet about my views in order to avoid the disagreement. (CN12)
5 Downplay the importance of the disagreement. (CN3)
6 Reduce the disagreement by making it seem insignificant. (CN4)
7 Withdraw when s/he confronts me about the controversial issue. (CN5)
8 Side-step the disagreement. (CN6)
9 Try to smooth over the disagreement by making it appear unimportant. (CN7)
10 Make our differences seem less serious. (CN8)
11 Hold my tongue rather than argue with him/her. (CN11)
12 Ease the conflict by claiming our differences are trivial. (CN10)
Control
13 Raise my voice when I'm trying to get him/her to accept my position. (CC2)
14 Assert my opinion forcefully. (CC3)
15 Dominate the argument until s/he understands my position. (CC4)
16 Argue insistently for my stance. (CC7)
17 Insist my position be accepted during the disagreement. (CC6)
18 Stand firm in expressing my viewpoints during this disagreement. (CC5)
19 Make my opinion known in this disagreement. (CC1)
Solution orientation
20 Give in a little on my ideas when s/he also gives in. (CS1)
21 Will go 50-50 to reach a settlement. (CS2)
22 Give in if s/he will meet me halfway. (CS3)
23 Meet at a mid-point in our differences. (CS4)
24 Offer trade-offs to reach a solution. (CS5)
25 Blend our ideas to create new alternatives for resolving the disagreement. (CS6)
26 Suggest solutions which combine a variety of view points. (CS7)

27	Integrate our arguments into a new solution for the issues raised in the dispute. (CS10)						
28	Offer a creative solution in the discussion of our disagreement. (CS11)						
29	Try to use the other person's ideas to generate a solution to the problem. (CS9)						
30	Suggest we work together to create solutions to the disagreement. (CS8)						
Attributions (Causal Dimensions Scale II)							
31	What do you think was the main reason or cause of this situation with John/Mary? (Write-in): (L1)						
Locus of Causality							
Think about the reason you have written above. Please respond to the questions that follow about your impressions or opinions about the cause by marking only one number for each answer.							
32	Reflects an aspect of the situation	1	2	3	4	5	Reflects an aspect of yourself (L2)
33	Outside of you	1	2	3	4	5	Inside of you (L3)
34	Something about others	1	2	3	4	5	Something about you (L4)
Type of Conflict (Manipulation Check)							
35	I think this interaction is mainly about (circle one):						
	A. Differences about the task, possibly the goals, how to do the work, or resources						
	B. Difference related to your relationship with each other or personality issues.						
Perceived Behavioral Control							
External Control							
This situation with John/Mary is...							
36	Over which others have no control	1	2	3	4	5	Over which others have control (EC1)
37	Not under the power of others	1	2	3	4	5	Under the power of others (EC2)
38	Other people cannot regulate	1	2	3	4	5	Other people can regulate (EC3)
Personal Control							
39	Not manageable by you	1	2	3	4	5	Manageable by you (P1)
40	You cannot regulate	1	2	3	4	5	You can regulate (P2)
41	Over which you have no power	1	2	3	4	5	Over which you have power (P3)
Attitudes Towards Vignette							
I think this situation with John/Mary is likely to be...							
42	Harmful	1	2	3	4	5	Beneficial (A1)
43	Pleasant	1	2	3	4	5	Unpleasant (A2)
44	Worthless	1	2	3	4	5	Valuable (A3)
45	Unenjoyable	1	2	3	4	5	Enjoyable (A4)
Intrinsic Involvement with Vignette (Manipulation Check)							
I think this situation with John/Mary is likely to be...							
46	Important	1	2	3	4	5	Unimportant (IN1)
47	Irrelevant to me	1	2	3	4	5	Relevant to me (IN2)
48	Means a lot to me	1	2	3	4	5	Means nothing to me (IN3)

Subjective Norms Related to Vignette (Theory of Planned Behavior)

Think about your likely actions to respond to the situation with John/Mary that you circled above and answer the following questions:

49	Most people important to me think I should or should not act in the way I likely would in this situation.	Should	1	2	3	4	5	Should Not (SN1)
50	It is expected of me that I will or will not act as I likely would in this situation.	Will	1	2	3	4	5	Will Not (SN2)
51	The people in my life whose opinions I value would approve or disapprove of how I would act in this situation.	Approve	1	2	3	4	5	Disapprove (SN3)
52	Most people important to me would act as I likely would in this situation	Agree	1	2	3	4	5	Disagree (SN4)
53	The people in my life whose opinions I value would not act as I likely would in this situation.	Agree	1	2	3	4	5	Disagree (SN5)
54	Many people like me would act as I would in this situation.	Agree	1	2	3	4	5	Disagree (SN6)
Information about you (options presented with pull-down menu in Survey Monkey)								
55	Sex	Male	Female					
56	What language do you normally speak at home?	English	Other? (fill-in) _____					
57	Do you work outside the home?	Yes	No, Not Currently				No, Never	
58	Which of the following labels best describes the level of expertise you have in your field?	Novice, new to field			Proficient			
		Advanced beginner			Expert			
		Competent			Not Applicable			
59	What is your age?							
60	Highest Degree Earned? (Circle)	High School or Equivalent			Master's Degree			
		Associate Degree			Professional Degree (MD, JD)			
		Bachelor's Degree			Doctorate			
61	Are you currently enrolled at a college or university?	Yes / No						
62	If you are currently enrolled, for what degree are you taking classes? (Circle)	High School or Equivalent			Master's Degree			
		Associate Degree			Professional Degree (MD, JD)			
		Bachelor's Degree			Doctorate			
		Other, specify _____						
63	Do you have any comments about conflict and/or conflict management in your workplace? Fill –in (to be content analyzed and described).							

APPENDIX C

Emails to Participants

Email Invitation 1

You have been selected to participate in an important research study about managing conflict in the workplace. The purpose of the study is to examine the relationship between aspects of a conflict interaction, such as gender of participants and language used, and responses to the situation.

Conflicts can emerge as people interact within dynamic settings, such as your workplace. A growing body of research is showing that conflict, if not managed, can lead to poor outcomes to both you and the organization. The results of this study will add new insights into how people perceive and manage workplace conflicts.

I know your time is valuable. But your participation is essential and will take no more than 15 minutes. If you choose to participate, you will be asked to read and react to a very short description of a workplace conflict situation. Your responses will be returned anonymously via a secure link.

Please reply to this email to indicate that you are willing to participate. Additionally, we would like to have an equal number of male and female participants, so please indicate your gender in the box below by highlighting the correct choice. Your response to this email will be kept totally confidential. We will respond with an email that contains a link to the online questionnaire.

I am:	MALE	FEMALE
-------	------	--------

Principal Investigators:

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Recruitment

Email Invitation 2

With Link to Questionnaire

Thank you for agreeing to participate in this important research study about managing conflict in the workplace. Below is a link to the online questionnaire, where you will read and react to a very short description of a workplace conflict situation. The questionnaire should take no more than 15 minutes to complete.

Thank you, in advance, for your assistance in this data collection. By clicking on the link you are consenting to participate. There are no expected risks or direct benefits to you for participating in the study.

If you have any questions, comments or concerns, feel free to contact us. Additionally if you would like a summary of the study when it is complete, please contact Barbara Nussbaum via email.

PLEASE CLICK ON THE URL TO BEGIN or copy and paste the URL into your browser.

URL:

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APPENDIX D

IRB Approval - Copy

Office of Research Compliance

Carmen T. Green, IRB Administrator
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Blacksburg, Virginia 24061
540/231-4358 Fax 540/231-0959
e-mail ctgreen@vt.edu
www.irb.vt.edu

DATE: April 21, 2008
FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

MEMORANDUM

TO: Gabriella M. Belli
Barbara Nussbaum

FROM: Carmen Green

SUBJECT:

IRB Exempt Approval: "Examining the Relationship Between Conflict Situations, Personal Characteristics, and Behavior in the Workplace" , IRB # 08-194

I have reviewed your request to the IRB for exemption for the above referenced project. The research falls within the exempt status. Approval is granted effective as of April 21, 2008.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in the research protocol. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.

2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

cc: File

APPENDIX E

Item Comparison of Two Conflict Management Measures

Organizational Communication Conflict Instrument (OCCI) (Putnam & Wilson, 1982)		Rahim Organizational Conflict Inventory-II (ROCI-II) (Rahim, 1983)	
Subscale	Reliability	Subscale	Reliability
Nonconfrontation	.83 - .93	Avoiding	.72 - .82
		Obliging	.72 - .77
Solution-orientation	.79 - .88	Compromising	.74 - .82
Compromising ²	.80	Integrating	.77 - .86
Collaborate	.80	Dominating	.73 - .75
Control	.70 - .84		
Nonconfrontation		Avoiding	
I shy away from topics which are sources of disputes with my supervisor.		I try to stay away from disagreement with my supervisor.	
I steer clear of disagreeable situations.		I try to keep my disagreement with my supervisor to myself in order to avoid hard feelings.	
I avoid my supervisor when I suspect the he or she wants to discuss a disagreement.		I attempt to avoid being "put on the spot" and try to keep my conflict with my supervisor to myself.	
I keep quiet about my views in order to avoid disagreements.		I avoid an encounter with my supervisor.	
I downplay the importance of a disagreement.		I usually avoid open discussion of my differences with my supervisor.	
I reduce disagreements by making them seem insignificant		I try to avoid unpleasant exchanges with my supervisor.	
		Obliging	
I withdraw when my supervisor confronts me about a controversial issue.		I generally try to satisfy the needs of my supervisor.	
I side-step disagreements when they arise.		I usually accommodate the wishes of my supervisor.	
I try to smooth over disagreements by making them appear unimportant.		I usually allow concessions to my supervisor.	
I make our differences seem less serious.		I often go along with the suggestions of my supervisor.	
I hold my tongue rather than argue with my supervisor.		I try to satisfy the expectations of my supervisor.	
I ease conflict by claiming our differences are trivial.			

² King & Miles (1990). What we know and don't know about measuring conflict: An examination of the ROCI-II and the OCCI conflict instruments. *Management Communication Quarterly*, 4(2), 222-243. In a sample of 118 separated items for solution-orientation into compromising and collaborate. Items for Nonconfrontation do not split into avoid and obliging like ROCI-II.

Solution-orientation Compromise	Compromising
<p>I give in a little on my ideas when my supervisor also gives in.</p> <p>I will go 50-50 to reach a settlement with my supervisor.</p> <p>I give in if my supervisor will meet me halfway.</p> <p>I meet my supervisor at a mid-point in our differences.</p> <p>I offer trade-offs to reach solutions in a disagreement.</p>	<p>I use “give and take” so that a compromise can be made.</p> <p>I try to find a middle course to resolve an impasse.</p> <p>I negotiate with my supervisor so that a compromise can be reached.</p> <p>I usually propose a middle ground for breaking deadlocks.</p>
Collaborate	Integrating
<p>I blend my ideas with my supervisor to create new alternatives for resolving a disagreement.</p> <p>I suggest solutions which combine a variety of view points.</p> <p>I integrate arguments into a new solution from the issues raised in a dispute with my supervisor.</p> <p>I offer creative solutions in discussions of disagreements.</p> <p>I suggest we work together to create solutions to disagreements.</p> <p>I try to use my supervisor’s ideas to generate solutions to problems.</p>	<p>I try to investigate an issue with my supervisor to find a solution acceptable to us.</p> <p>I try to work with my supervisor for a proper understanding of a problem.</p> <p>I collaborate with my supervisor to come up with decisions acceptable to us.</p> <p>I try to bring all our concerns out in the open so that the issues can be resolved in the best possible way.</p> <p>I try to integrate my ideas with those of my supervisor to come up with a decision jointly.</p> <p>I try to work with my supervisor to find solutions to a problem which satisfy our expectations.</p> <p>I exchange accurate information with my supervisor to solve a problem together.</p>
Control	Dominating
<p>I make my opinion known in a disagreement with my supervisor.</p> <p>I raise my voice when I’m trying to get my supervisor to accept my position.</p> <p>I assert my opinion forcefully.</p> <p>I dominate arguments until my supervisor understands my position.</p> <p>I argue insistently for my stance.</p> <p>I insist my position be accepted during a disagreement with my supervisor.</p> <p>I stand firm in expressing my viewpoints during a disagreement with my supervisor.</p>	<p>I use my expertise to make a decision in my favor.</p> <p>I sometimes use my power to win a competitive situation.</p> <p>I am generally firm in pursuing my side of the issue.</p> <p>I use my influence to get my ideas accepted.</p> <p>I use my authority to make a decision in my favor.</p>

APPENDIX F

Demographics of Participants by Treatment Group

Demographic Item (N)		Conflict Cell							
		1 (43)	2 (46)	3 (46)	4 (45)	5 (41)	6 (40)	7 (39)	8 (50)
Sex	Male	21	23	23	20	19	19	19	22
	Female	22	23	23	25	22	21	20	28
Age*	Mean Years	39.5	40.1	37.9	40.0	37.2	37.3	42.0	39.1
Language	English	41	44	41	45	37	39	37	49
Employed	Yes	42	41	45	40	37	37	33	45
	Not Currently		2	1	3	2	2	5	
	Never		2		2	2	1	1	
Highest Degree	High School		1				1		
	Associate's			1					
	Bachelor's	6	8	7	13	9	11	9	13
	Master's	11	17	17	12	17	14	17	20
	Professional Advanced	11	12	10	11	6	8	5	10
	Doctorate	10	5	10	11	6	8	5	10
	Other	3	1	1		2		3	1
Enrolled Higher-Ed	Yes	12	11	13	18	18	16	22	22
	No	29	34	33	27	23	24	17	28

* No statistically significant differences between the cells.

APPENDIX G

Contingency Table for Conflict Type by Perceived Conflict Type

Count		Perceived Conflict Type (Measured)			Totals
		Task	Relationship	Mixed type	
Col %	Row %				
		131	40	9	
Conflict Type (Manipulated)	Task	71.58 72.78	27.59 22.22	40.91 5.00	180 51.43
	Relationship	52	105	13	
		28.42	72.41	59.09	170
		30.59	61.76	7.65	48.57
		183	145	22	
		52.29	41.43	6.29	350

Pearson Chi-Square = 63.735, $p < .001$

Cramer's V = .427 (.001)

APPENDIX H
Locus of Causality

Table 1. Causality Categories (adapted from Fincham & Bradbury, 1987)

Causality Category	Definition	Code
Blank / None	None given or "none" as answer	0
Self	Causality assigned to the respondent	1
Other Person	Causality assigned to person (John/Mary) in the scenario	2
Relationship	Causality assigned to the relationship or related to personality issues, communication, trust, history, expectations, or needs.	3
External / Situation	Causality assigned to the task, possibly related to goals, how to do the work, or resources	4
Fate	Causality assigned to fate, chance, luck or a higher power	5
Other	Causality assigned to something other than the categories listed	6

Table 2. Attributions of Locus of Causality

		Attributions of Locus of Causality						
Conflict		Self	Other Person	Relationship	Situation	Misc Other	Totals	
Task	1	1	7	14	18	2	42	
	2	1	12	8	20	3	44	
	3	0	6	11	27	1	45	
	4	1	10	12	21	0	44	
Relationship	5	6	24	5	2	1	38	
	6	5	25	6	1	2	39	
	7	10	19	6	0	3	38	
	8	13	22	7	2	2	46	
Totals		37	125	69	91	14	336	

APPENDIX I

Content Analysis of Comments

Category	Subcategory	Frequency+
Causes & Sources	<i>Total</i>	77
	Individual	35
	Task	12
	Relationship	9
	Organization	8
	Management	7
Conflict Management Strategies/Behaviors	<i>Total</i>	71
	Individual	56
	Management	5
	Organization	5
	Mixed	4
	Relationship	1
Philosophy	<i>Total</i>	27
	Conflict is Avoidable vs. Inevitable	11
	Conflict can be Resolved vs. Managed	9
	Conflict can be Good vs. Bad	7
Other Variables for Future Research*		26
Comments about Study/Survey		15
Outcomes	<i>Total</i>	14
	Self	7
	Organization	5
	Relationship	2
Conflict Management Training	<i>Total</i>	14
	Needed	10
	Given	4
Amount of Conflict		9
Emotions/Affective		4
Ease/Difficulty to manage conflict		3
Totals: Coded Data		263
Comments		173

+ 173 participants wrote a comment; however, "Frequency" reflects categories from content analysis with some comments containing more than one topic.

* 11 variables: power (5), personality (4), perspective (4), culture (4), position (2), org. climate (2), org. culture, proximity, race, age, relationship awareness theory - (count)

APPENDIX J

MANOVA Results

Context Effects on Cognitive Variables³

Test	Value	Approx. F	NumDF	DenDF	p Value
Wilks' Lambda	0.7040366	1.3043	90	1823	0.0317
Pillai's Trace	0.3348807	1.2926	90	1968	0.0362
Hottelling-Lawley	0.3682925	1.3149	90	1928	0.0276
Roy's Max Root	0.1585523	3.4670	15	328	<.0001

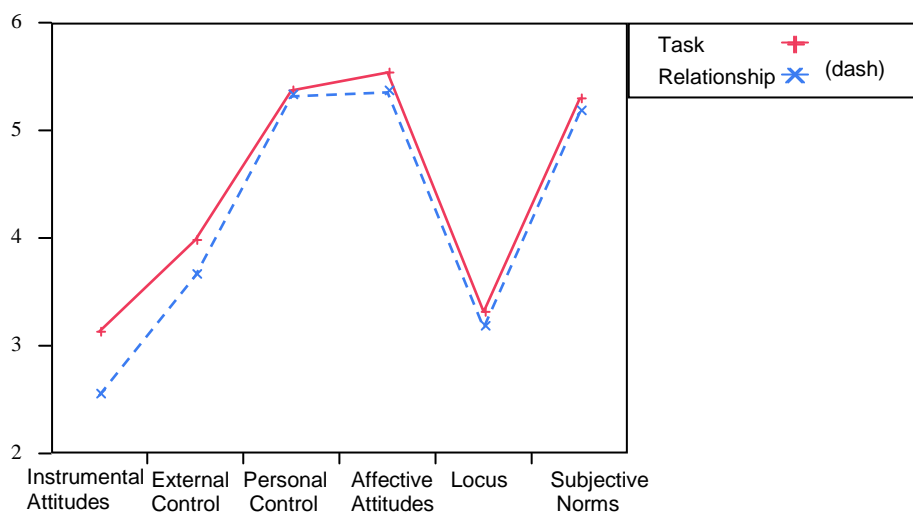
		Context Variable	Exact F ^a	p Value	Wilks' Lambda	Eta ²
Main Effects	CTYPE	Conflict Type	5.195	<.0001	.912	.088
	ABSTLVL	Abstraction Level	2.399	.028	.957	.043
	SEX-IN	Sex of Initiator	1.302	.256		
	SEX-R	Sex of Respondent	1.104	.360		
2-Way Interactions	CTYPE * ABSTLVL		1.221	.295		
	CTYPE * SEX-INT		.764	.599		
	CTYPE * SEX-R		.432	.857		
	ABSTLVL * SEX-INT		1.131	.344		
	ABSTLVL * SEX-R		.873	.515		
	SEX-INT * SEX-R		.342	.914		
3-Way Interactions	CTYPE * ABSTLVL * SEX-INT		.497	.810		
	CTYPE * ABSTLVL * SEX-R		1.031	.405		
	CTYPE * SEX-INT * SEX-R		.538	.787		
	ABSTLVL * SEX-IN * SEX-R		2.535	.021	.955	.045
4-Way Interaction	CTYPE * ABSTLVL * SEX-INT * SEX-R		.522	.792		

^a df = 6,323

³ Cognitive Variables: Affective Attitudes, External Control, Personal Control, Instrumental Attitudes, Locus of Causality, and Subjective Norms

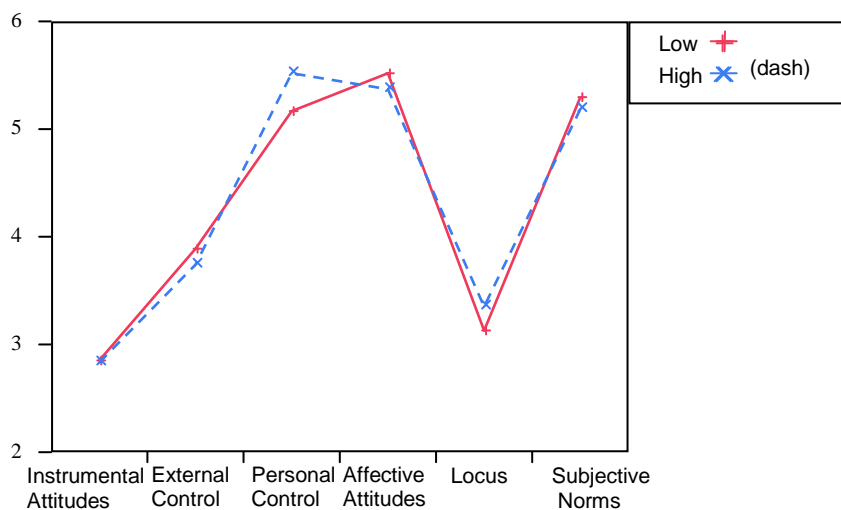
Graphs of Main Effects of Context on Cognitive Variables

Conflict Type



CTYPE	Instrumental Attitudes	External Control	Personal Control	Affective Attitudes	Locus	Subjective Norms
Task	3.14	3.98	5.38	5.53	3.31	5.31
Relationship	2.54	3.64	5.32	5.35	3.18	5.17

Abstraction Level



ABSTLVL	Instrumental Attitudes	External Control	Personal Control	Affective Attitudes	Locus	Subjective Norms
Low	2.85	3.88	5.17	5.52	3.14	5.30
High	2.83	3.74	5.53	5.36	3.35	5.18

Context Effects on Behavioral Intentions⁴

Test	Value	Approx. F	NumDF	DenDF	p Value
Wilks' Lambda	0.7060138	1.9515	60	1255.3	<.0001
Pillai's Trace	0.3220754	1.8915	60	1296	<.0001
Hotelling-Lawley	0.3778432	2.0120	60	1278	<.0001
Roy's Max Root	0.2445705	5.2827	15	324	<.0001

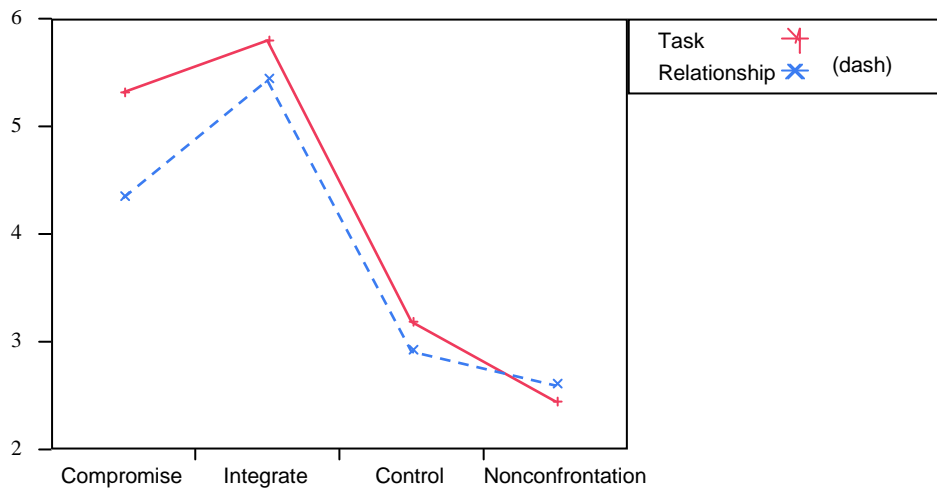
	Context Variable	Exact F ^a	p Value	Wilks' Lambda	Eta ²
Main Effects	CTYPE Conflict Type	17.832	<.0001	.818	.182
	ABSTLVL Abstraction Level	.153	.962		
	SEX-IN Sex of Initiator	2.545	.040	.969	.031
	SEX-R Sex of Respondent	.071	.991		
2-Way Interactions	CTYPE * ABSTLVL	2.245	.064		
	CTYPE * SEX-INT	.962	.429		
	CTYPE * SEX-R	.214	.930		
	ABSTLVL * SEX-INT	.983	.417		
	ABSTLVL * SEX-R	.844	.498		
	SEX-INT * SEX-R	.815	.516		
3-Way Interactions	CTYPE * ABSTLVL * SEX-INT	.938	.442		
	CTYPE * ABSTLVL * SEX-R	.500	.736		
	CTYPE * SEX-INT * SEX-R	.388	.817		
	ABSTLVL * SEX-IN * SEX-R	1.024	.395		
4-Way Interaction	CTYPE * ABSTLVL * SEX-INT * SEX-R	.753	.557		

^a df = 4,321

⁴ Behavioral Intentions: Control, Nonconfrontation, Integrate, and Compromise

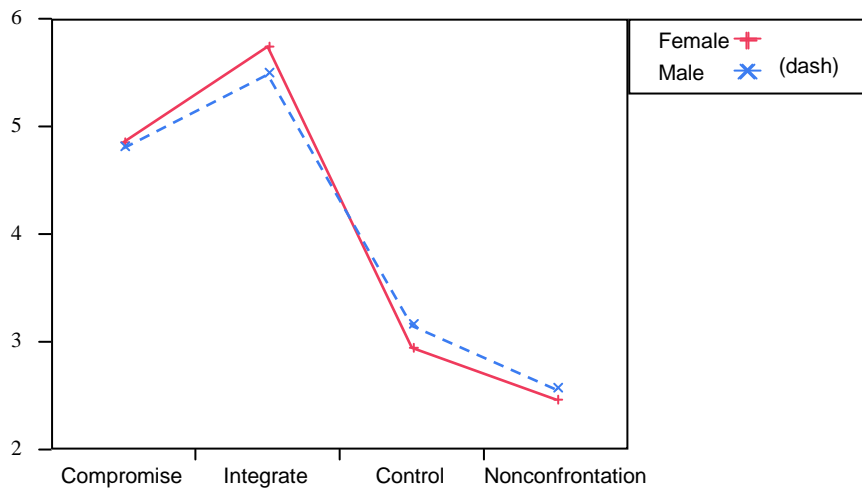
Graphs of Context Effects on Behavioral Intentions

Conflict Type



CTYPE	Compromise	Integrate	Control	Nonconfrontation
Task	5.32	5.80	3.18	2.44
Relationship	4.34	5.43	2.91	2.59

Sex of Initiator



SEX-INT	Compromise	Integrate	Control	Nonconfrontation
Female	4.85	5.75	2.94	2.46
Male	4.81	5.48	3.16	2.56

**Statistically Significant Results of
Univariate Analysis of Variance⁵**

Context Variable	Variable Set^a	Effect on Variable	F Ratio	p Value
CTYPE	Cognitive	External Control	4.916	.0273
		Instrumental Attitudes	22.283	<.0001
	Behavioral Intention	Control Intentions	8.686	.0034
		Integrate Intentions	11.51	.0025
		Compromise	63.31	0001
ABSTLVL	Cognitive	Personal Control	5.393	.0208
SEX-IN	Behavioral Intention	Control Intentions	4.54	.034
		Integrate Intentions	3.63	.057

^a Variable Set = Analyses run with all context variables with either cognitive or behavioral intentions, not both at same time.

⁵ Univariate analysis of variance (ANOVA) performed on statistically significant interactions to identify the specific variable effects. Only statistically significant results are reported.

APPENDIX K

Canonical Correlation Analysis Results

Correlations Between Set-1 and Set-2

	SN	L	EC	PC	AA	AE
Control	.034	-.077	.053	-.027	-.168	.054
Nonconfrontation	-.262	.017	.095	-.108	-.224	-.154
Integrate	.279	.065	.041	.102	.374	.093
Compromise	.085	.066	.115	.045	.206	-.044

Canonical Correlations

1	.540
2	.243
3	.134
4	.035

Test the Remaining Correlations are Zero

	Wilk's	Chi-SQ	DF	Sig
1	.654	114.113	24.000	.000
2	.923	26.680	15.000	.031
3	.981	6.476	8.000	.594
4	.999	.415	3.000	.937

Standardized Canonical Coefficients for Set-1

	1	2	3	4
Control	.091	-.685	-.751	-.004
Nonconfrontation	.562	.459	-.273	-.739
Integrate	-.673	-.039	-.236	-.968
Compromise	-.135	.649	-.343	.957

Standardized Canonical Coefficients for Set-2

	1	2	3	4
SN	-.545	-.354	-.437	.086
L	.046	.358	.039	-.456
EC	.063	.331	-.905	-.025
PC	-.055	-.188	.128	.811
AA	-.744	.504	.259	-.105
AE	-.240	-.555	.057	-.539

APPENDIX L

Hierarchical Multiple Regression Results

Behavioral Intention	Model	R ² Change (sig)	F Change	p value of Beta1	Beta2	p value
Control	1 Context	.033 (.022)	2.91			
	CTYPE			.005	-.155	.006
	ABLVL				-.020	.714
	SEXIN				-.081	.131
	SEXR				.003	.962
	2 Cognition	.037 (.043)	2.20			
	AE				.023	.683
	AA				-.182	.001
	PC				.005	.928
	EC				.051	.345
L				-.027	.632	
SN				.022	.685	
Nonconfrontation	1 Context	.008 (.613)	.670			
	CTYPE				.011	.836
	ABLVL				-.034	.516
	SEXIN				-.009	.858
	SEXR				.013	.794
	2 Cognition	.140 (.000)	9.05			
	AE				-.145	.007
	AA				-.216	.000
	PC				-.052	.339
	EC				.113	.030
L				.069	.196	
SN				-.221	.000	
Integrate	1 Context	.039 (.008)	3.48			
	CTYPE			.006	-.082	.110
	ABLVL				.043	.387
	SEXIN			.012	.089	.074
	SEXR				.003	.955
	2 Cognition	.161 (.000)	11.23			
	AE				.056	.276
	AA				.319	.000
	PC				.003	.959
	EC				.014	.774
L				-.007	.892	
SN				.223	.000	
Compromise	1 Context	.137 (.000)	13.5			
	CTYPE			.000	-.377	.000
	ABLVL				-.004	.933
	SEXIN				.011	.825
	SEXR				-.017	.726
	2 Cognition	.052 (.002)	3.55			
	AE				-.142	.006
	AA				.143	.007
	PC				-.001	.987
	EC				.075	.136
L				.039	.447	
SN				.048	.346	