

The View from Above and Below: The Effects of Power and Interdependence Asymmetries on Conflict Dynamics and Outcomes in Organizations

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Abstract

Deutsch's theory of conflict resolution is a vital model for understanding the fundamental dynamics of conflict and its constructive resolution. However, the original formulation of the theory assumed equal power and equal degrees of interdependence between the parties in conflict. Although subsequent research has investigated the effects of relative power and interdependence differences on negotiations and conflict, they have yet to be integrated into one model that can account for interactions between the dimensions. This article presents research investigating propositions from a new, integrated model of power, interdependence, and conflict, which extends Deutsch's theory into situations of asymmetrical power and interdependence. First, two exploratory studies are described that set the foundation for our model. Then, an experiment is presented that induced differences in relative power and interdependence through different versions of a work conflict scenario. The findings supported our model. Different combinations of relative power (high, equal, or low), types of interdependence (cooperative, competitive, or mixed), and degrees of interdependence (high or low) led to significantly different conflict orientations—which affected perceptions, experiences, and responses to conflict. Implications for future research are discussed.

Amidst the vast literature on social conflict, there are a few basic theoretical models that have helped advance the understanding and practice of constructive conflict resolution. Among these, one of the most important and influential is Deutsch's theory of conflict resolution (1973, 2006a). Based on his earlier work on cooperation and competition in groups, it specified the basic conditions and processes involved in constructive versus destructive conflict. However, the original formulation of the theory assumed equal power and equal degrees of interdependence of the parties in conflict (Johnson & Johnson, 2005). Thus, the outcomes observed in the original empirical studies supporting the theory occurred only under conditions of relatively equal power and high goal interdependence. These assumptions constrain both the theoretical scope and practical implications of the theory.

Although there have been important advances in research on power asymmetries and conflict (Boulding, 1989; Rouhana & Fiske, 1995; Rubin & Brown, 1975; Tjosvold, 1981, 1985a,b, 1989, 1991; Tjosvold, Coleman, & Sun, 2003; Zartman & Rubin, 2002) and on asymmetries of interdependence and conflict (see Blalock, 1989; Emerson, 1962; Kim & Fragale, 2005; Kim, Pinkley, & Fragale, 2005), they have yet to be integrated with Deutsch's research on cooperation and competition in a manner that can account for important interactions between these dimensions. Consequently, the findings from much of the research on conflict, power, and interdependence have been replete with contradictions and have resulted in a good deal of conceptual confusion (Fiske & Berdahl, 2007; Kim et al., 2005; Zartman & Rubin, 2002).

This article presents research investigating an integrated model of power and interdependence in two-party conflicts (Coleman, Bui-Wrzosinska, Nowak, & Vallacher, working paper). The model builds on the early works of Lewin (1936, 1946, 1948, 1951), Deutsch (1982, 1985), Kelly and Thibaut (Kelly, 1979, 1984, 1991; Kelly & Thibaut, 1978; Thibaut & Kelly, 1959), and McClelland (1975) on social relations, as well as on more contemporary research on power and conflict (Alexander, Brewer, & Hermann, 1999; Kim et al., 2005; Magee & Galinsky, 2008; Rouhana & Fiske, 1995; Zartman & Rubin, 2002). However, the current model combines three basic dimensions of social relations: *relative power*, *type of interdependence*, and *degree of interdependence*, and articulates how differences in these dimensions work in concert to affect disputants' *conflict orientations*; cognitive, emotional, behavioral syndromes that affect perceptions and experiences of and responses to conflict. Thus, the model predicts how asymmetries in power and type and degree of interdependence combine to affect conflict processes and outcomes.

The article is organized into five sections: (a) a summary of the main principles and limitations of Deutsch's theory of conflict resolution and of subsequent research on relative power and interdependence in conflict; (b) an overview of the integrated model of power and interdependence, including the current hypotheses under investigation; (c) a description of two exploratory studies; one which explored extant survey data to identify trends in behavioral differences when participants negotiate with superiors versus peers versus subordinates, and a second that employed focus group methodology to elicit additional differences in emotional, valuational, and behavioral intentions of participants when they experience the same work conflict across relations that differ in terms

of relative power and interdependence; (d) a presentation of the methods and results of an experimental study testing the predictions of our model; and (e) a discussion of the implications of the findings for future research.

Deutsch's Theory of Conflict Resolution

Deutsch's theory of conflict resolution (1973, 2006a) was one of the most important advances for the study of conflict of the last century (Jones, 1998). Since its inception, it has been validated by a large canon of empirical studies (see Coleman & Lim, 2001; Deutsch, 1973; Johnson & Johnson, 1989, 2005) and has led to a wide array of practical methodologies and trainings for the constructive resolution of conflict (see Coleman & Deutsch, 2001; Coleman & Lim, 2001; Deutsch, Coleman, & Marcus, 2006; Johnson & Johnson, 1979, 1995, 2003; Johnson & Johnson, 2005; Lewicki, Saunders, Barry, & Minton, 2004; Tjosvold, 1991; Tjosvold & Johnson, 1983). As a result, the ideas put forth in Deutsch's theory are today being employed in training administrators and negotiators in schools, labor unions, industry, government, and community organizations around the globe. For instance, the theory has been central to the training of United Nations' and UN Missions' staff for over two decades and was employed to facilitate successful negotiations in Poland between the Communist government and Solidarity in the late 1980s (Deutsch, 2002; Reykowski, 2008).

Deutsch's research on conflict was based on his earlier studies of cooperative and competitive processes in groups (Deutsch, 1949a,b), which described group processes and outcomes as largely determined by two basic variables: type of goal interdependence and type of action. People's goal interdependence could be cooperative (where their goals are seen as positively linked) or competitive (where their goals are seen as negatively linked). Their actions could be effective (where they helped to achieve their goals) or bungling (where they obstructed their goal achievement). When combined, these two variables were theorized to affect three social-psychological processes in groups: substitutability (the degree to which actions of one person substitute for the intentions of another), cathexis (a predisposition to respond favorably or unfavorably to an object), and inducibility (an openness to influence and to be influenced by others). A considerable body of research demonstrated that the perception of cooperative goals between people and between groups, when compared to competitive goals (and when behaviors are mostly effective), lead to more friendliness, helpfulness, respect, better communication, better coordination, a sense of similarity in values and beliefs, a willingness to enhance the other's power, and the framing of conflicting interests as mutual problems to be solved together (Deutsch, 1949a, 2006a; Johnson & Johnson, 1989, 2005).

The finding regarding differences in approaches to conflicting interests was of central importance to Deutsch's theoretical work on conflict resolution (Deutsch, 2006a). It suggested that constructive processes of conflict resolution were similar to cooperative problem-solving processes, where the conflict is seen as a mutual problem and that destructive processes of conflict resolution were similar to competitive processes, where the conflict is framed as a win-lose struggle. This basic idea cascaded into a variety of propositions (elaborated in Deutsch, 1973), which provide a general intellectual

framework for understanding conflict and the conditions that foster its constructive versus destructive manifestation.

Both a strength and a limitation of Deutsch's theoretical work on cooperation and conflict resolution was the well-specified, bare-bones nature of his basic model (Johnson & Johnson, 2005). For theoretical purposes, Deutsch initially worked with pure situations of cooperative or competitive interdependence with regard to a single-goal, even though most conflicts are of a more complex, mixed-motive nature.¹ His model also assumed that the parties had no previous history and thus were motivated primarily with reference to the current goal. Finally, his model assumed equal power and equal degrees of goal interdependence between the parties.

Subsequent research on conflict and negotiations has followed different strands. Research on conflict negotiations across *power differences* has systematically investigated the role of high relative power and low relative power on conflict processes and outcomes (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Gurr, 2000; Kim et al., 2005; Magee & Galinsky, 2008; Rouhana & Fiske, 1995; Rubin & Brown, 1975; Tjosvold, 1981, 1991; Tjosvold & Wisse, 2009; Zartman & Rubin, 2002). These studies have documented the myriad ways high and low power differences affect perceptions and behaviors in negotiations and conflict. A second research track has explored how different aspects of *interdependence* in relations affect people's social orientations and thus their values and behaviors when in conflict (see De Druue, Beersma, Steinel, & Van Kleef, 2007; Van Lange, De Cremer, Van Dijk, & Van Vugt, 2007 for summaries). This research has focused primarily on the effects of pro-self versus pro-social orientations on conflict processes and outcomes. A third strand has focused mainly on how differences in the degrees of *dependence* and *independence* of parties affect power dynamics in negotiations and conflict (see Emerson, 1962; Kim et al., 2005). Each of these approaches to the study of conflict adhere to the basic Lewinian framework of $B = f(P,E)$, emphasizing how conflict behavior (B) is determined by the interactive effects of individual differences (P) with particular situational conditions (E). However, all of these approaches privilege a particular dimension of social relations (relative power, type of interdependence, or degree of interdependence), and none of them provide a fully integrated account of conflict dynamics in relationships where all three dimensions are relevant.

In other words, scholars have yet to reconceptualize Deutsch's original theory of cooperation and conflict resolution under conditions of asymmetries of power and interdependence. This raises a host of questions with regard to the original findings of this research. For example, how do significant differences in power between parties affect their perceptions of interdependence? Do cooperative and competitive interdependence mean the same thing when you are in low power as they do when you are in equal or high power? Do they mean the same when in relations of low versus high

¹Deutsch's later propositions suggested that the weight of the mix of cooperative and competitive goals would determine the prevailing processes and outcomes (see Deutsch, 1973, pp. 100–101). However, the relative proportions of these weights have not been well specified (see Gottman, Swanson & Swanson, 2002 for advances in this area).

degrees of goal interdependence? Are conflicting interests under cooperative interdependence still framed as mutual problems to be solved together when in low versus high power? How do differing degrees of interdependence affect this? And how are disputant's emotions, aspirations, and behavioral response options in conflict affected by power and interdependence differences?

Deutsch's original approach to the study of social conflict was parsimonious and tremendously valuable. By focusing on pure, equal conditions of cooperation and competition, he was able to specify an essential parameter for determining destructive versus constructive conflict. However, the time has come to extend the model systematically to address the vast majority of relationships—those that differ in terms of power and interdependence—and to do so in a more fully integrated fashion.

A Three-Dimensional Model of Power, Interdependence, and Conflict

The current model (Coleman, Bui-Wrzosinska, Nowak, & Vallacher, working paper) builds on classic social-psychological research (Deutsch, 1982, 1985; Kelly & Thibaut, 1978; Thibaut & Kelly, 1959; Triandis, 1972; Wish, Deutsch, & Kaplan, 1976), aimed at identifying the fundamental dimensions of social relations. These models differed to some degree on their characterization of the basic dimensions, but they all shared three dimensions: (a) *type and mix of goal interdependence*, (b) *relative distribution of power*, and (c) *total degree of goal interdependence*.² Thus, the current model incorporates these three dimensions and integrates them into one model of social conflict (see Figure 1). They are each described below:

(1) *Type and mix of goal interdependence* constitutes the x-axis of the model, with *pure positive* forms of goal interdependence (where all goals between parties in the conflict

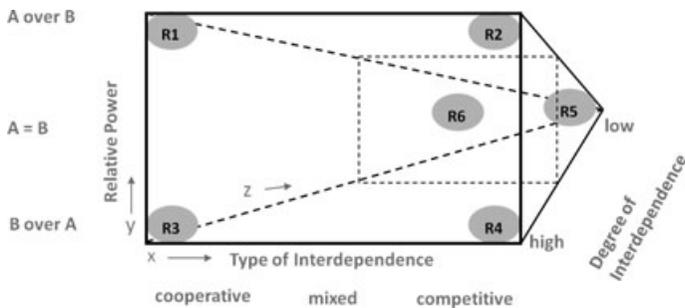


Figure 1. The conflict state space for Person A across three basic dimensions (cooperation-competition, relative power, and relative degree of independence) and depicting 6 distinct regions (R1–R6).

²Other basic dimensions of social relations that could prove relevant to future research include task/social, formal/informal, enduring/temporary, voluntary/involuntary, public/private, licit/illicit, and the number of people involved (Deutsch, 1985).

are positively linked) at the extreme left of the *x*-axis, *pure negative* interdependence (where all goals are negatively linked) at the extreme right of the *x*-axis, and *mixed-motive types* (combinations of both positively and negatively linked goals) along the middle of the *x*-axis. Thus, conflicts of a purely cooperative nature (such as between two dotting parents of a new infant) are located on the far left of the dimension and those of a more competitive nature (conflicts over other scarce resources) on the far right. Along this dimension, we have various forms of mixed-motive interdependence, from those weighted more positively (on the left side of the continuum) to those weighted more negatively (on the right side of the continuum), and with relatively balanced forms of positive and negative interdependence located in the middle. The specific type of goal interdependence in social relationships can be influenced by a wide variety of factors including the parties' history of relations with each other, task structures, reward systems, degrees of similarity between the parties, levels of communication, openness, and each party's relations with other relevant parties.

(2) *Relative distribution of power* is defined as *the relative degree of influence each party has over the other party's goals*. This constitutes the *y*-axis of the model, with pure types of *unequal A over B* influence at the top of the *y*-axis, pure types of *unequal B over A* influence at the bottom of the axis, and various types of relatively *equal* forms of goal influence along the middle of the *y*-axis. The relative degree of influence on goals in relationships can be affected by a variety of factors, including formal authority, charisma, social status, wealth, location in social networks, expertise, access to information, physical strength, endurance, allies, degree of dependence, and so on. The top of the *y*-axis represents situations where A has relatively high power and therefore unilateral capacities to affect the goals of B (e.g. guard-prisoner relations), and the bottom of the axis represents situations where A is in relatively low power and B has unilateral capacities over A (e.g. prisoner-guard relations). Again, along this continuum, we have various forms of bi-directional goal influence between A and B, with relatively equal forms of influence between A and B at the center of the dimension.

(3) *Degree of total goal interdependence* constitutes the *z*-axis of the model, with *high degrees* of goal interdependence between the parties in conflict located at the front of the *z*-axis (strong goal linkages and/or high proportions of linked goals), *low degrees* of interdependence located at the rear of the *z*-axis (weak or few goal linkages), and *moderate degrees* of goal interdependence located along the middle of the *z*-axis. This represents differing degrees of general importance or unimportance of the relationship. Relationships will vary in terms of the number of interdependent goals between the parties, the importance or strength of these goals, the asymmetry of goal interdependence between parties (affecting the relative distribution of power), and the degree to which the links between goals are temporary or stable.³

Figure 1 presents a graphic characterization of a basic *state space* for a conflict situation for party A. A state space is an abstract representation of all possible values of the

³Figure 1 narrows to a fixed-point at low degrees of interdependence, as conflicts tend to become less relevant or important when parties' goals are weakly linked, and therefore parties' responses tend to become more homogenous.

relational dimensions specified. Building on previous models of social relations (Deutsch, 1982, 1985; Kelly, 1997; Kelly & Thibaut, 1978; Rouhana & Fiske, 1995; Thibaut & Kelly, 1959), we propose that three basic dimensions of social relations (type and mix of interdependence, degree of total interdependence, and relative distribution of power) constitute a *basic three-dimensional state space* for parties in conflict. Differences found on the three dimensions may be because of situational conditions (such as differences in the relative strength or status between disputants) or to individual differences in chronic orientations (e.g., differences in chronic competitive orientations could affect how situations are perceived). Differences on these three dimensions work in concert to situate parties psychologically in different regions of the conflict state space.

We propose that different regions in the 3D state space will afford distinct *conflict orientations* (see Figure 2), as the three parameters work together to exert influence on each party's thoughts, feelings, and actions. Conflict orientations are a more or less consistent complex of cognitive, motivational, moral, and action orientations *to a given situation* that serve to guide one's behaviors and responses (Deutsch, 1982; Kelly, 1997; McClelland, 1975; Van Lange, Otten, DeBruin, & Joireman, 1997). The specific nature of what will be considered an "appropriate" orientation for a given conflict situation will be determined by a combination of cultural, social, developmental, and other individual differences. However, research by McClelland (1975) and Salacuse (1999, 2002) suggest that, despite the fact that people and groups could potentially evidence an infinite number of different orientations in situations of unequal power and conflict, people from a wide variety of cultures actually employ a relatively small subset of orientations and strategies to such situations, including orientations of *support* (obtaining assistance and support from others, often through a dependence relationship), *autonomy* (establishing one's autonomy and independence from others), *dominance* (assertively acting on, influencing, and dominating others), *benevolence* (functioning as a leader of a team, organization, group, or coalition), and *appeasement* (tolerating and placating a dominating high-power other). These general orientations map logically onto the different regions of our conflict state space (see Figure 2).

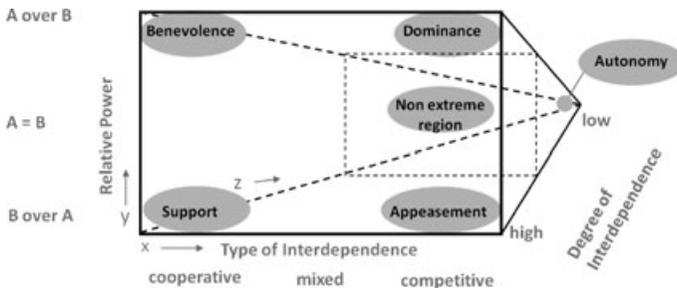


Figure 2. Psychological orientations for the basic conflict state space.

Once situated psychologically in a region of the conflict state space for an extended period of time, it can become difficult to change one's orientation, even when it fails to satisfy one's goals, the intensity of the conflict dissipates, or social conditions change (see Coleman, Vallacher, Nowak, & Bui-Wrzosinska, 2007). When this occurs, the orientation is said to have become chronic. In the following studies, we will distinguish between *induced* or temporary conflict orientations, which are due primarily to situational conditions, and *chronic* conflict orientations, which refer to individual differences in preferred responses to conflict situations. In other words, induced orientations often affect one's state, while chronic orientations are assessments of one's traits.

Accordingly, we hypothesize that Region 1 (situations of high-power, cooperative, high-interdependence) will induce a *benevolence* orientation to conflict: a benign, cooperative orientation where people value enhancing mutual outcomes and engage in constructive behaviors such as pro-social modeling. This region is likely to afford fairly high aspirations in conflict. In contrast, we propose that Region 2 (high-power, competitive, high-interdependence) will induce a *dominance* orientation: a more exploitive, controlling orientation to conflict where people value winning at all costs and use tactics of force and control to achieve their high aspirations. Alternatively, Region 3 (low-power, cooperative, high-interdependence) will induce an orientation of *support* in conflict, where people value the support and benefits bestowed on them by those in higher power and where they engage in respectful followership. Although a relative low-power position, Region 3 should elicit less anxiety and higher aspirations than Region 4. We hypothesize that Region 4 (low-power, competitive, high-interdependence), will induce an orientation of *appeasement*, where people value avoiding harm, seek opportunities for escape, and engage in coercive tactics such as sabotage whenever possible. We expect Region 5 (equal-power, mixed-motive, *low* degrees of interdependence) to afford an orientation of *autonomy*, a preference for escaping the relationship in conflict and meeting needs through other means. In contrast to the above regions, Region 6 (equal-power, mixed-motive, and moderate-interdependence) should evidence no clear cognitive-behavioral syndromes, other than those dictated by particularly strong local situations (such as a strong work group culture) or chronic individual differences.

In summary, we propose that three basic dimensions of social relations interact to situate parties psychologically in different regions of the basic conflict state space and that different regions of the state space will afford distinct psychological orientations to conflict, which are syndromes that affect parties' aspirations, perceptions, values, and behavioral response options. This leads to the following sets of hypotheses:

Hypothesis 1: The five extreme regions (R1–R5) of the state-space for conflict will induce orientations (values and behaviors) that are consistent with that region.

Hypothesis 1a: Region 1 (*Benevolence*: high-power, cooperative, high-interdependence) will induce a more active cooperative orientation to conflict than other regions—where people value taking responsibility for the problem and engage in constructive leadership behaviors such as being a good role model.

Hypothesis 1b: Region 2 (*Domination*: high-power, competitive, high-interdependence) will induce a more exploitive, demanding orientation to conflict than other regions—where people value holding onto power and authority and display more confrontational tactics such as the use of threats.

Hypothesis 1c: Region 3 (*Support*: low-power, cooperative, high-interdependence) will induce more of an orientation to conflict of appreciative support than the other regions—where people value the benefits provided by the other party and engage in respectful followership behaviors.

Hypothesis 1d: Region 4 (*Appeasement*: low-power, competitive, high-interdependence) will induce an orientation of negative tolerance—where people overtly accept the situation but may also try to exit the situation when possible.

Hypothesis 1e: Region 5 (*Autonomy*: equal-power, mixed-motive, low-interdependence) will induce a more independent orientation than the other regions—where people value only their own goals, seek to find ways to meet them outside the current relationship, and evidence strong tendencies to avoid the other party or exit the situation.

We also propose that the different regions of the state space have central implications for the cognitive processing of conflict; they affect how conflicts are perceived. Recall that Deutsch's (1949b, 1973) key finding in his early research on interdependence was how cooperative and competitive goals affected the perceived mutuality and probabilities of goal attainment of people in conflict. Consistent with these findings, we could expect cooperative orientations *under equal-power conditions* to result in perceptions of conflict as a mutual problem to be solved jointly ("it's our problem") and competitive orientations under equal-power to result in perceptions of conflict as a win-lose struggle ("you are the problem"). However, *under unequal power conditions*, conflict may be viewed differently. Under cooperative conditions, those in high-power (Region 1 or R1) may feel obligated to solve the conflict unilaterally, albeit constructively ("it's my problem") and feel more likely to achieve their goals, and those in low-power (Region 3 or R3) may have lower aspirations, take less responsibility, and feel more entitled to a free ride ("it's your problem"). Under competitive conditions, those in high-power (Region 2 or R2) are likely to still view the problem as win-lose ("you are the problem"), with those in low-power (Region 4 or R4) either mirroring this view or accepting blame ("I am the problem"), depending on the degrees of stability and legitimacy of the system (Tajfel, 1981). However, under conditions of low degrees of interdependence (Region 5 or R5), party A may view the conflict with party B quite differently ("it's not my problem"), particularly when other alternatives are available for attaining desired outcomes. These differences in the initial framing of the problem can have substantial effects on parties' experiences of mutuality and probabilities of goal attainment, thus influencing their immediate responses to the conflict and the dynamics that unfold overtime (see Lewicki, Gray, & Elliott, 2003).

Hypothesis 2: Distinct conflict orientations will significantly affect people's: (a) estimates of goal attainment in conflict and (b) perceptions of mutuality of conflict.

Hypothesis 2a: In Region 1 (*Benevolence*: high-power, cooperative, high-interdependence), disputants will assess high probabilities of goal attainment (higher than participants in R3 and R4 but lower than participants in R2 and R5) and view the conflict as a mutual problem (higher than all other regions).

Hypothesis 2b: In Region 2 (*Domination*: high-power, competitive, high-interdependence), disputants will also assess high probabilities of goal attainment and (higher than participants in R1, R3 and R4 and similar to participants in R5) will have relatively low perceptions of mutuality (lower than in R1, R3, R5 but higher than in R4).

Hypothesis 2c: In Region 3 (*Support*: low-power, cooperative, high-interdependence), disputants will assess lower probabilities of goal attainment (lower than participants in all other regions except R4) and view the conflict as a mutual problem (higher than all regions except R1).

Hypothesis 2d: In Region 4 (*Appeasement*: low-power, competitive, high-interdependence), disputants will assess the lowest probabilities of goal attainment and will have the lowest perceptions of mutuality.

Hypothesis 2e: In Region 5 (*Autonomy*: equal-power, mixed-motive, low-interdependence), disputants perceive the highest (together with R2) probability of goal attainment and will see the problem somewhat as a mutual problem (lower than R1 and R3 but higher than R2 and R4).

Finally, following classic research by Mischel (1977), we propose that the more extreme regions of the state space (R1–R5) will tend to induce stronger normative influences on parties to a conflict, therefore constraining the influence of individual differences in chronic orientations on conflict behaviors in these regions more so than in more moderate regions (such as R6). Here, we define extreme regions as those situated in areas of the state space with the highest or lowest values on the three dimensions.

Hypothesis 3: Under extreme conditions of power asymmetries and goal interdependence (R1–R5), the situation will have a stronger influence on behaviors than chronic psychological orientations. Under more moderate social conditions of relatively equal-power and mixed-motive interdependence (R6), individual differences in psychological orientations will play a stronger role.

To summarize, we propose that differences between people in their relative power and the type and degree of interdependence of their goals, work in concert to significantly affect conflict dynamics at work. Different regions of the three-dimensional conflict state space will afford significantly different perceptions, aspirations, values, feelings, and behaviors in response to conflicts, which can have a substantial impact on the constructive versus destructive course conflicts take in organizations.

Exploratory Studies

Setting the Foundation for the Model

Two exploratory studies were conducted to investigate our conceptual model and to better specify content for scale development. The first study explored extant data from a large multi-rater feedback survey on work conflict behaviors to begin to identify differences in conflict behaviors by people when under different power conditions (low-equal-high-power conflicts). The second exploratory study employed focus group methodology to further explore differences in emotional, valuational, and behavioral intentions of participants when they experienced similar conflicts with superiors versus peers versus subordinates at work.

Exploratory Survey Study

As a first exploratory step in our research, we examined differences in actual conflict behaviors by people when under different conditions of relative power (low-high, equal-equal, high-low power conflicts). This was done by exploring differences in a convenience sample; a large extant database from a multi-rater feedback survey used to generate conflict profiles for graduate students in a negotiations course. We examined both self-report ratings, as well as ratings from three other-raters (actual work supervisors, peers, and employees), to identify patterns of behavioral differences when negotiating across different levels of power. Our sample consisted of 1543 participants and their paired other-raters (1543 supervisors, 1543 peers, and 1543 employees). Participants were assessed on both constructive and destructive conflict behaviors, including: *Positive Evading*, *Informing* (persuading vs. justifying), *Opening* (probing for needs/interests/feelings, effective listening, perspective taking), *Uniting* (establishing rapport, focusing on similarities & common ground, etc.), *Attacking* (coercion, use of threat, domination) and *Negative Evading* (defensive/avoidant).

As expected, significant differences were found in the types of behaviors employed across the three power positions. Specifically, *attacking* behaviors were highest under equal-power conditions, followed by attacking when in high-power and the least attacking when in low-power ($F = 382.65, p < .001$). Highest scores for *negative evading* were found when in low-power, followed by equal-power and were lowest when in relative high-power ($F = 20.65, p < .001$). Scores on *positive evading* were found to be the highest when in high-power, followed by low-power and finally when in equal-power ($F = 30.05, p < .001$). Scores on *informing* were highest when in equal-power, followed by high-power and then low-power ($F = 34.68, p < .001$). Scores on *opening* were highest for those in low-power, followed by high-power and then equal-power ($F = 84, p < .001$). Scores on *uniting* were highest when in high-power, followed by low-power and then equal-power ($F = 42.54, p < .001$).

The findings from this pilot indicate clearly that people employ dramatically different types of behaviors when negotiating from different positions of power. Although not altogether surprising, these findings show two interesting trends. First, the data indicate

that equal-power conflicts have the tendency to be more problematic than those within asymmetrical power relations; with the most attacking, negative evading, and least opening and uniting behaviors employed when in conflict with peers. This is consistent with some empirical findings (Chacon, Robinson, & Torvik, 2006; Deutsch & Krause, 1962; Zartman & Rubin, 2002), but contradicts others (De Dreu, 1995; Komorita & Barnes, 1969; Lawler, Ford, & Belgen, 1988; Rubin & Brown, 1975; see also Curle, 1971). In addition, the profile of high-power conflict participants was more nuanced than expected, with both moderate destructive behaviors and a variety of constructive behaviors in evidence. This finding stands in contradiction to the age-old assumption that power corrupts and leads to domination in conflict (see Handgraaf, Van Dijk, Vermunt, Wilke, & De Dreu, 2008; Wade-Benzoni, Hernandez, Medvec, & Messic, 2008). Although preliminary, these results underscore the need to understand how other basic dimensions of interpersonal relations may interact with power asymmetries to affect conflict behaviors.

Exploratory Focus Groups

To better specify the different behaviors, emotions, and values (syndromes) associated with each of the six work-conflict situations under investigation, this study employed a qualitative focus group methodology. Sixteen people participated in two focus groups. They included 6 men (37.5%) and 10 women (62.5%), ranging from 25 to 51 years old ($M = 33$, $SD = 10$), from varying ethnic and professional backgrounds. Each group received an overview of our objectives, a consent form, and then was led through a series of six different conflict scenarios (see Appendix A). The six situations were distinguished along the three parameters of our model: relative power (high, equal, and low relative power), type of goal interdependence (cooperative, mixed-motive, and competitive interdependence), and total degree of goal interdependence (high and low). The different levels of these three parameters could theoretically characterize 18 different conflict situations ($3 \times 3 \times 2$); however, only the six most distinct situations were chosen to be explored in this study.⁴ These six situations (regions of the state space) were (a) high-power, cooperative, high-interdependence (R1); (b) high-power, competitive, high-interdependence (R2); (c) low-power, cooperative, high-interdependence (R3); (d) low-power, competitive, high-interdependence (R4); (e) equal-power, mixed-motive, low-interdependence (R5); and (f) equal-power, mixed-motive, moderate-interdependence (R6). The six conflict scenarios were explored sequentially in the focus groups, which were facilitated to produce in-depth discussions of the participants' understanding and experiences of such conflicts, specifically the behaviors, emotions, and values associated with each different situation (Krueger, 1998; Seal, Bogart, & Ehrhardt, 1998). Discussions of all scenarios were guided using both general-opening questions ("How

⁴Of course, other situations within the state space could be investigated (e.g., equal-power competitive, equal-power cooperative, etc.). However, these six situations represent the most extreme regions of the 3-D field and therefore characterize some of the most distinct orientations relevant to the dimensions of the model, but have yet to be studied comparatively and systematically in conflict research.

Table 1
Profiles of the Six Regions Identified Through the Focus Groups, Composed of Behaviors, Emotions, and Values

Region	Behaviors	Emotions	Values
R1: Benevolence High-power Cooperative High-interdependence	Talk with your supervisee, take responsibility, listen, explore rumors, protect image	Less suspicious, somewhat angry, betrayed, concerned, disappointed, more comfortable, suspicious of system.	Trust, respect for authority, responsibility.
R2: Domination High-power Competitive High-interdependence	Confront supervisee immediately, fire, negotiate up, confront rumors, employ social network, send signals, protect image	Angry, disrespected, responsible, evaluated, concerned for self, suspicious.	Respect, recognition from above, reputation, clarity.
R3: Support Low-power Cooperative High interdependence	Do nothing, work harder, seek clarification of roles, consult with peers, exit situation if necessary	Less angry, worried, surprised, somewhat concerned, suspicious, confused, accepting, worried about supervisor	Predictability and control, relationship with supervisor, career (less concern with fairness, trust)
R4: Appeasement Low-power Competitive High-interdependence	Polite conversation, withdraw help, do nothing, vent to peers, barter, sabotage, blackmail, inform, ultimatums, exit	Anger, fear, upset, confused, helpless, worried	Job, relationship with supervisor, predictability and control, justice
R5: Autonomy Equal-power Mixed-motive Low-interdependence	Move on, get through, get away, involve superior, talk, explore, forgive, clarify	Empathetic, less angry, less intense, more comfortable	Predictability, acknowledgement, career, teamwork
R6: Mixed Equal-Power Mixed-Motive High-interdependence	Talk directly, hostile confrontation, reason with others, employ social network, collect information, strategize, manage image up, involve supervisors, vent to peers, document, wait/avoid	Anger, fear, anxiety, betrayal, confusion, suspicion	Justice, fairness, respect, acknowledgement, career rewards, reputation, security, trust, honesty, clarity

would you respond here?”), followed by a series of more specific probes (“What exactly are you feeling in this situation?”).

Following the focus groups, researchers gathered and compiled all notes from both discussions. The participants’ responses were then content coded for associations with specific themes in behaviors (such as inquiring, protecting waiting, sabotaging); affect (such as anger, concern, disappointment); and values (such as justice, trust, responsibility, respect) within each region. All six regions’ complement of themes—behavioral, affective, and valuational—was then catalogued, and comparisons were made to ascertain which combination of themes from each category distinguished that region from the other regions. These distinguishing combinations were used to create unique profiles for each of the regions, as seen in Table 1.

The data from the focus groups provided better specification of the syndromes associated with each region (see Table 1). Although presented with essentially the same conflict (in terms of issues and events), the participants described markedly different experiences—emotions, values, and behavioral intentions—across the six scenarios. When presented with a Region 1 scenario (high-power, cooperative, high-interdependence), participants described a more active, cooperative orientation to conflict than most other regions—where participants said they valued taking responsibility for the problem, listening to the other, and expressed genuine concern for their supervisee. In contrast, Region 2 (high-power, competitive, high-interdependence) seemed to induce a more angry, threatening, and confrontational approach to the supervisee, with heightened concerns for respect and recognition. Region 3 (low-power, cooperative, high-interdependence) afforded more of an orientation of appreciative support than the other regions, where people would seek clarification of roles and responsibilities, work harder, and feel concern for the boss. This was in opposition to Region 4 (low-power, competitive, high-interdependence) situations, which induced more fear and anger and a need to both tolerate the situation and to look for possibilities to sabotage the supervisor if the situation presented itself. Region 5 (equal-power, mixed-motive, low-interdependence), in contrast to the others, afforded a less intense experience of the conflict, where people preferred to simply move on or exit the conflict. Finally, Region 6 (equal-power, mixed-motive, moderate-interdependence) offered by far the broadest range of behaviors, feelings and values, but evidenced no coherent syndrome.

The findings from the focus groups helped us to begin to better distinguish the specific behaviors, values, and emotions generally associated with each of the work-conflict regions. The identification of these differences helped us to generate the scales we developed and employed in the experiment described in the next section.

Experimental Study

This experiment directly tested the hypothesized effects of the different regions of the conflict state space (R1–R5) on behavioral and valuational rules (Hypotheses 1a–e), conflict and goal perceptions (Hypothesis 2a–e), as well as the effects of chronic orientations (Hypothesis 3).

Method

Design and Sample

This experimental study was administered using an online questionnaire. It was generated from a 3 (high–equal–low power) \times 3 (cooperative–mixed motive–competitive interdependence) \times 2 (high–low degree of goal-interdependence) design. For theoretical purposes, the same six conditions explored in the focus groups were experimentally tested in this study: (a) high-power, cooperative, high-interdependence (R1); (b) high-power, competitive, high-interdependence (R2); (c) low-power, cooperative, high-interdependence (R3); (d) low-power, competitive, high-interdependence (R4); (e) equal-power, mixed-motive, low-interdependence (R5); and (f) equal-power, mixed-motive, high-interdependence (R6).

Two hundred and twenty-eight participants⁵ completed the questionnaire in this study, including 58 men (25%) and 170 women (75%). Participant ages ranged from 18 to 77 ($M = 32$, $SD = 12$) and their ethnic backgrounds were European-American (69%), Asian-American (16%), Latin-American (8%), African-American (7%), and other (4%), with 4% of the respondents reporting multiple ethnic backgrounds. The distribution of their experience working in organizations was 7% with no experience, 13% with 0–1 year, 26% with 1–3 years, 13% with 3–5 years, and 40% with more than 5 years. The distribution of their educational backgrounds was 33% with high school diplomas or GEDs, 43% with associate's degrees, 14% with bachelor's degrees, 4% with master's degrees, and 5% with doctorates.

Procedure

The participants were recruited through graduate courses and advertisements at a large northeastern university in the United States, as well as through online advertisements in 28 large U.S. cities. Participants were randomly assigned to one of the six conditions and were invited to complete a survey on “motivation and behavior in an organizational context,” which took 15–20 minutes to complete. A lottery system was utilized such that 1 in every 50 participants won a \$250 cash prize. All participants accessed the online questionnaire through their own personal computers.

Independent Variables

Each participant was randomly assigned to one of six conflict situations in which they were asked to imagine themselves (see Appendix A). The conditions represented the five extreme regions (R1–R5) and the one more neutral region (R6) of the state space presented previously and therefore varied on the dimensions of relative power, type and mix of interdependence, and relative degree of interdependence.

Manipulation Check

Three 7-point Likert scale items were employed to assess the manipulation effects of each scenario. Participant perceptions of relative power, type and mix of interdependence,

⁵The size of this sample was chosen based on expected moderate effect size and calculated based on considerations provided by Cohen (1988).

and relative degree of interdependence in the scenario were assessed and analyzed using contrast tests (see Rosenthal & Rosnow, 1985), which were employed to assess the effectiveness of each manipulation. The contrast test allows the testing of specific predictions within complex ANOVA analyses and as this approach is more focused than omnibus ANOVAs, which test general differences and thus often address unfocused questions, it was considered optimal for this and subsequent analyses. In each analysis, specific predictions are expressed by weights that are assigned to each group to reflect the expected pattern of results. To test the manipulation effects of the scenario, weights were assigned to each condition in which the item was expected to be high or low. For example, to test the perceptions of cooperation/competition in the scenarios, both the R1 and R3 means on these items were assigned the same positive weight as they were both intended to be perceived cooperatively. Conversely the scenarios written to depict R2 and R4 were intended to be perceived competitively and thus were assigned the same negative weight. Finally, R5 and R6 were expected to be perceived as more mixed-motive situations and were thus assigned neutral weights (note that the direction of the weights is more important than the values as long as the sum is zero).

The results show that each scenario was perceived in the intended way. As expected, participants who were assigned to R1 and R3 perceived their goals as being more cooperatively linked than those assigned to R5 and R6, who in turn perceived the situation as more cooperatively linked than participants in R2 and R4 ($t = 6.80, p < .001$). Similarly, significant differences in the hypothesized direction were also found for the relative power manipulation where participants in low-power conditions (R3 and R4) perceived themselves to possess less power than participants in the high-power conditions (R1 and R2, $t = 6.47, p < .001$). However, unexpectedly, participants in equal-power conditions (R5 and R6) indicated the highest perceptions of relative power (this finding will be discussed later). Finally participants in the condition of low-interdependence (R5) had significantly lower scores than the other conditions on the scale, which ranged from low interdependence to high interdependence ($t = 6.66, p < .001$).

Chronic Conflict Orientations

Participants' chronic conflict orientations were assessed through seven items on the online questionnaire (see Appendix B). Chronic orientations reflect participants' *generally preferred behaviors and values* in conflict situations at work. They were measured along the three basic dimensions using three 7-point Likert scale items:

- (1) Power: a general preference for having relatively greater influence than the other person in a work conflict (reliability of the 3-item scale: Cronbach's $\alpha = .70$).
- (2) Cooperative-competitive interdependence: a tendency to approach conflicts as a problem to be solved together with the other person versus as a problem to be solved by defeating the other person (reliability of the 3-item scale: Cronbach's $\alpha = .57$).
- (3) Degree of interdependence: tendency to prefer to remove oneself from interdependent conflict relations versus remaining engaged in them to resolve the conflict with the other party (reliability of the 3-item scale: Cronbach's $\alpha = .67$).



Figure 3. Mean and standard deviations for each behavior and value across all conditions.

Dependent Variables

A series of 7-point Likert items were developed based on the findings from the exploratory studies to assess participants’ responses to the scenario in the following areas: behavioral and valational intentions, perceptions of goal attainment, and perceptions of mutuality. The items for the behavioral and valational intentions can be seen in Figure 3. Goal attainment was measured as relative goal attainment in comparison with the other in the conflict (“I achieve my most important goal” minus “The other achieves his/her most important goal”). Mutuality was measured with one item “The problem is our mutual problem”.

Results

Descriptive Data

Behavioral and Valational Reactions across All Condition. Figure 3 shows the descriptive results for the behavior and value items from the study. Looking across all conditions, it can be seen that certain behaviors and values were much more likely to be chosen over others. These general tendencies will be addressed in the discussion section.

Hypothesis 1: Behavioral and Valational Reactions Characteristic for Each Condition. The influence of the different conditions on intended behavioral and valational reactions was analyzed using contrast tests similar to those used in the manipulation check. It was proposed that the different regions of the state space would induce distinct behavioral and valational responses are consistent with that region. As such, contrast weights were assigned to test the extent to which a certain behavior or value was more likely in the hypothesized region and less likely in all other regions. A positive weight (1.00) was assigned to the region in which the behavior or value was expected to be most likely, a negative weight (−1.00) to the region in which it was expected to be least likely, and a neutral weight (0.00) to the regions which were expected to fall somewhere in-between. For example, *constructive modeling* (the first behavior depicted in Table 3) was expected to be most likely in R1 (high-power,

Table 2
 Contrast Analyses Comparing Behavioral and Valuational Reactions in Each Conflict Scenario

	Experimental Condition (Independent Variable)										Contrast analysis	
	Region 1		Region 2		Region 3		Region 4		Region 5		t	p
	M	M	M	M	M	M	M	M				
Benevolent behaviors (R1)												
Try to model how to behave appropriately in such situations	5.95	5.38	5.28	4.94	5.06	5.06	4.94	4.11	3.97	2.45	0.02	0.02
Offer support for other party	5.00	4.52	4.47	4.11	3.97	3.97	4.11	4.11	3.97	2.45	0.02	0.02
Contrast weights	1.00	0.00	0.00	-1.00	0.00	0.00	-1.00	-1.00	0.00	2.49	0.01	0.01
Dominant behaviors (R2)												
Threaten the other	2.33	2.50	1.67	2.60	1.86	1.86	2.60	2.60	1.86	1.87	0.06	0.06
Confront the other in a rather hostile/unfriendly way	2.46	2.66	2.03	2.74	2.51	2.51	2.74	2.74	2.51	1.87	0.06	0.06
Contrast weights	0.00	1.00	-1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.36	0.02	0.02
Supportive behaviors (R3)												
Tolerate the situation	3.41	3.31	3.90	3.50	3.21	3.21	3.50	3.50	3.21	1.49	0.14	0.14
Ensuring the continued support of the other	4.64	4.14	4.26	4.26	3.31	3.31	4.26	4.26	3.31	0.30	0.76	0.76
Contrast weights	0.00	-1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.80	0.00	0.00
Appeasement behaviors (R4)												
Quit the project	1.33	1.86	1.59	2.56	1.89	1.89	2.56	2.56	1.89	2.30	0.02	0.02
Avoid my supervisor as much as possible	2.08	2.71	2.54	2.92	3.66	3.66	2.92	2.92	3.66	2.30	0.02	0.02
Contrast weights	-1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	2.01	0.05	0.05
Independent behaviors (R5)												
Do not really do anything, because the project is not important	1.51	1.88	1.34	2.00	2.14	2.14	2.00	2.00	2.14	2.01	0.05	0.05
Opportunities to exit the relationship	3.18	3.45	3.28	3.69	4.17	4.17	3.69	3.69	4.17	2.36	0.02	0.02
Contrast weights	-0.5	-0.5	-0.5	-0.5	2.00	2.00	-0.5	-0.5	2.00	2.36	0.02	0.02

Table 3

Comparison of the Variance Explained by Chronic Orientations for Each Behavioral And Valuational Reaction in Extreme Regions and NonExtreme Regions of the State Space

Behavioral and valuational reactions to the scenario		Explained variance: extreme regions (R1–R5)	Explained variance: nonextreme region (R6)
		r^2	r^2
Benevolent behaviors (R1)	Try to model how to behave appropriately in such situations	0.19	0.20
	Offer support for my boss	0.16	0.57
Dominant behaviors (R2)	Threaten the other	0.23	0.11
	Trying to hinder the others actions	0.28	0.33
Supportive behaviors (R3)	Tolerate the situation	0.11	0.49
	Ensuring the continued support of the other	0.14	0.44
Appeasment behaviors (R4)	Quit the project	0.16	0.16
	Avoid my supervisor as much as possible	0.33	0.41
Autonomous behaviors (R5)	Do not really do anything, because the project is not important	0.22	0.16
	Opportunities to exit the relationship	0.13	0.23

cooperative, high-interdependence) and thus this region was assigned a positive weight in our analysis. The same behavioral reaction was expected to be least likely in R4 (low-power, competitive, high-interdependence) as this region is theoretically most distinct from Region 1. The remaining regions (R2, R3, R5, and R6) were not expected to fall at either extreme and thus were assigned a neutral weight. The results of this analysis are presented in Table 2.

The hypothesized effects of the extreme regions of the state space (R1–R5) on conflict values and behaviors received good support. The results show that participants in R1 were more likely to report benevolent behavioral intentions (such as modeling and support) than those in any other region. Participants in R2 were more likely to report threatening or confrontational intentions than in any other region except for R4. The R4 scenario elicited strong intentions of quitting and, along with R6, avoiding the conflict. In addition to this, participants in R6 were also most likely to consider the project unimportant and value opportunities to exit the relationship.

Hypotheses 2: Perceptions of Mutuality and Estimates of Goal Attainment. It was hypothesized that perceptions of mutuality and estimates of goal attainment would also differ by region of the state space. No significant differences were found in perceptions of mutuality across conditions. However, estimates of goal attainment were shown to differ significantly in a manner that partially supports Hypothesis 2. Estimates of goal

attainment were highest in R5 and lowest in R4 as expected ($t = 2.67, p < .01$), but interestingly participants in R1 reported higher estimates than those in R2.

Influence of Chronic Orientations in Moderate Conditions. Here, we hypothesized that under extreme conditions of asymmetrical power and goal interdependence (R1–R5), the situation would have a stronger influence on behaviors than chronic psychological orientations, while under conditions of relatively symmetrical power and mixed-motive interdependence (R6), individual differences in psychological orientations would play a stronger role. To compare the extent to which chronic orientations explained a greater amount of the variance in participants' responses in the nonextreme region (R6) than in the extreme regions (R1–R5), a series of regression analyses were conducted for each behavioral and valuational reaction for each group. The results of this comparison are presented in Table 3.

While no statistical conclusions can be drawn from this comparison, preliminary support for Hypothesis 3 can be found in the pattern of results. Specifically, it can be seen that chronic orientations explained more of the variance in behavioral and valuational reactions in nonextreme regions than in the extreme regions in seven out of ten instances. This is compared with only two of ten instances in which chronic orientations explained more of the variance in reactions in extreme regions compared to nonextreme regions of the state space.

Discussion and Conclusion

The studies described in this article present a new, integrated exploration into the dynamics of power, interdependence, and conflict in organizations. The development of the model outlined here was motivated by the current state of research in the area of power and interdependence asymmetries and conflict, which has been found to be piecemeal and contradictory (Fiske & Berdahl, 2007; Kim et al., 2005; Zartman & Rubin, 2002). Accordingly, a new framework was offered which builds on three basic parameters of social relations derived from seminal and current research. The model provides an integrative platform that allows us to weave together disparate strands of research from social interdependence theory (Deutsch, 1949a, 1973, 2006a,b; Johnson & Johnson, 2005; Tjosvold, 1991, 1997), power dependence theory (Emerson, 1962; Kim, 1997; Kim & Fragale, 2005; Mannix, 1993; Pinkley, et al., 1994), social orientation theory (Kelly & Thibaut, 1978; Thibaut & Kelly, 1959; see Van Lange et al., 2007) and power orientation theory (McClelland, 1975; Salacuse, 1999, 2002), and to begin to envision how they work in concert to establish orientations and responses to conflict in situations of asymmetrical power relations. Thus, the framework offers us a foundation for addressing many of the questions and contradictions which have emerged in empirical research on conflict over the last few decades.

For example, a variety of laboratory studies have found that conditions of equal-power between parties in conflict tend to result in more effective and constructive negotiations than when the parties are of unequal power (De Dreu, 1995; Komorita & Barnes, 1969; Lawler et al., 1988; Rubin & Brown, 1975; see also Curle, 1971). However,

a few laboratory studies and analyses of case studies of international negotiations found the opposite: equal-power relations did not lead to more effective negotiations than those with unequal power and, at times, led to worse outcomes (Chacon et al., 2006; Deutsch & Krause, 1962; Zartman & Rubin, 2002). In addition, some research suggests that situations where there exist significant imbalances of power between parties are more likely to discourage open expressions of conflict and conflict escalation than situations of relatively balanced power (Moul, 2003). However, research in the interpersonal realm has found this not to necessarily be so and has shown that the relationship between power symmetry and escalation is moderated by trust; when parties of equal-power are trusting of each other they will choose more cooperative strategies to resolve their differences (Davidson, McElwee, & Hannan, 2004).

Similar contradictions have been found in the research on the effects of asymmetrical high- and low-power on disputants. Several laboratory studies have found that under conditions of asymmetrical power, high-power parties tend to behave more coercively and exploitatively in conflicts, whereas low-power parties tend to behave more submissively, unless special conditions prevail (such as low-power party access to other sources of power; Rubin & Brown, 1975). Case study analyses of international conflicts offer strong support for the dominating tendencies of those in high power, but found that low-power parties, rather than acting submissively, tended to adopt effective counter-strategies such as acting ingratiatingly cooperative, knavishly evasive, or ideologically aggressive (Zartman & Rubin, 2002). Recent empirical studies have also found that under certain conditions, high-power can promote more other-oriented behavior, social responsibility, and stewardship (see Handgraaf et al., 2008; Wade-Benzoni et al., 2008).

Clearly, power differences in conflict will operate in dramatically different ways given other asymmetrical aspects of the relationships involved. When parties in an equal power conflict share a preponderance of competitive goals, we can expect to see more contentious interactions. However, the likelihood of escalation under these conditions may be determined primarily by the degree of interdependence of the parties. In fact, recent research has shown that close relationships, in contrast to more distant ones, evidence higher thresholds for escalation, but once crossed, show much more intense, catastrophic levels of escalation (Bui-Wrzosinska, 2005).

Similarly, when people stand in relatively high- or low-power in a conflict, this fact will most likely interact with both their sense of their goals (the cooperative-competitive mix), as well as the level of importance of the relationship. For instance, we might predict that high-power parties with primarily competitive goals will respond in a dominant fashion to a conflict, but that this would be moderated by whether they see the relationship as one that's crucial, irrelevant, or somewhere in-between. These are all empirical questions that remain to be addressed, and the model presented in this article offers a basic, integrative platform for addressing them.

At this stage, the empirical findings from this research should be considered preliminary as much work lies ahead to refine the theory and methods to provide the model with the necessary empirical support. For example, the positively skewed response tendencies found in the behavioral items across conditions speak to the limitations of the methods employed in the current studies. The scenarios employed in this study

(a teamwork-related organizational conflict), may have led to an assumption of high baseline of interdependence between the parties (even in R5—the low-interdependence region) and a strong sense of personal accountability, and thus accounted for the general tendencies for people to respond in either benign ways (modeling good responses and offering support) or in a manner that avoids the conflict across conditions (see Figure 3).

In addition, participants in the equal-power conditions (coworkers) reported that they had more relative power than those in the high-power (supervisor) conditions. Thus, either the operationalization of power differences as supervisors versus coworkers in the scenarios was insufficient to generate the predicted differences, or this speaks to the pronounced egalitarianism or low-power distance values typically found in the context of the study—organizations in the U.S. Scenarios representing more intense conflicts in less normatively constrained environments, or in a wider-variety of cultural settings, may provide a better assessment of the proposed effects and person-situation interactions. In fact, even though support was found in this study for the hypothesized value, behavioral, and perceptual differences afforded by the different regions (R1–R6), the use of more extreme scenarios or actual high–low and low–high power conflicts may in fact lead to better differentiation and distinctions between the values, behaviors, and perceptions afforded by the different regions. This will be the main object for future research on this model.

References

- Alexander, M. G., Brewer, M. B., & Hermann, R. K. (1999). Images and affect: A functional analysis of out-group stereotypes. *Journal of Personality and Social Psychology, 77*, 78–93.
- Blalock, H. M. (1989). *Power and conflict: Toward a general theory*. Newbury Park: Sage.
- Boulding, K. (1989). *The three faces of power*. Newbury Park, California: Sage Publications.
- Bui-Wrzosinska, L. (2005). The dynamics of conflict in a school setting. Unpublished Masters thesis, Warsaw School for Social Psychology.
- Chacon, M., Robinson, J. A., & Torvik, R. (2006). When is Democracy an equilibrium? Theory and Evidence from Colombia's "La Violencia". National Bureau of Economic Research website. Retrieved December 12, 2006 from <http://www.nber.org/papers/>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Coleman, P. T., & Deutsch, M. (2001). Introducing cooperation and conflict resolution into schools: A systems approach. In D. J. Christie, R. V. Wagner & D. D. Winter (Eds.), *Peace, conflict and violence: Peace psychology for the 21st century* (pp. 223–239). Upper Saddle River, NJ: Prentice Hall.
- Coleman, P. T., & Lim, Y. Y. J. (2001). A systematic approach to evaluating the effects of collaborative negotiation training on individuals and groups. *Negotiation Journal, 17*(4), 329–358.
- Coleman, P. T., Vallacher, R., Nowak, A., & Bui-Wrzosinska, L. (2007). Intractable conflict as an attractor: Presenting a dynamical model of conflict, escalation, and intractability. *American Behavioral Scientist, 50*(11), 1454–1475.
- Curle, A. (1971). *Making peace*. London: Tavistock Publications.
- Davidson, J. A., McElwee, G., & Hannan, G. (2004). Trust and power as determinants of conflict resolution strategy and outcome satisfaction. *Peace and Conflict: Journal of Peace Psychology, 10*, 275–292.

- De Dreu, C. K. W. (1995). Coercive power and concession making in bilateral negotiation. *Journal of Conflict Resolution*, 39, 646–670.
- De Dreu, C. K. W., Beersma, B., Steinel, W., & Van Kleef, G. A. (2007). The psychology of negotiation: Principles and basic processes. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 608–629). New York: Guilford.
- Deutsch, M. (1949a). A theory of cooperation and competition. *Human Relations*, 2, 129–151.
- Deutsch, M. (1949b). An experimental study of the effects of cooperation and competition upon group process. *Human Relations*, 2, 199–231.
- Deutsch, M. (1973). *The resolution of conflict: Constructive and destructive processes*. New Haven, CT: Yale University Press.
- Deutsch, M. (1982). Interdependence and psychological orientation. In V. Derlega & J. L. Grzelak (Eds.), *Cooperation and helping behavior: Theories and research*. Orlando, FL: Academic Press.
- Deutsch, M. (1985). *Distributive justice: A social-psychological perspective*. New Haven, CT: Yale University Press.
- Deutsch, M. (2002). Social psychology's contributions to the study of conflict resolution. *Negotiation Journal*, 18(4), 307–320.
- Deutsch, M. (2006a). Cooperation and competition. In M. Deutsch, P. T. Coleman & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice* (2nd ed., pp. 23–42). San Francisco: Jossey Bass.
- Deutsch, M. (2006b). A framework for thinking about oppression and its change. *Social Justice Research*, 19, 7–41.
- Deutsch, M., Coleman, P. T., & Marcus, E. M. (Eds.) (2006). *The handbook of conflict resolution: Theory and practice* (2nd ed.). San Francisco: Jossey-Bass.
- Deutsch, M., & Krause, R. (1962). Studies in interpersonal bargaining. *Journal of Conflict Resolution*, 6(1), 52–76.
- Emerson, R. M. (1962). Power-dependence relations. *American Sociological Review*, 27(1), 31–41.
- Fiske, S. T., & Berdahl, J. (2007). Social power. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology, second edition: Handbook of basic principles* (pp. 678–692). New York: Guilford.
- Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J., & Liljenquist, K. A. (2008). Social power reduces the strength of the situation: Implications for creativity, conformity, and dissonance. *Journal of Personality and Social Psychology*, 95, 1450–1466.
- Gottman, J., Swanson, C., & Swanson, K. A. (2002). General systems theory of marriages: Non-linear difference equation modeling of marital interaction. *Personality and Social Psychology Review*, 6, 326–340.
- Gurr, T. R. (2000). *People versus states*. Washington, D.C.: United States Institute of Peace Press.
- Handgraaf, M. J. J., Van Dijk, E., Vermunt, R. C., Wilke, H. A. M., & De Dreu, C. K. W. (2008). Less power or powerless? Egocentric empathy gaps and the irony of having little versus no power in social decision making *Journal of Personality and Social Psychology*, 95(5), 1005–1037.
- Johnson, D. W., & Johnson, R. T. (1979). Conflict in the classroom: Controversy and learning. *Review of Educational Research*, 49, 51–70.
- Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*. Edina, MN: Interaction Book Company.

- Johnson, D. W., & Johnson, R. (1995). *Creative controversy: Intellectual challenge in the classroom* (3rd ed.). Edina, MN: Interaction Book.
- Johnson, D. W., & Johnson, R. T. (2003). Training for cooperative group work. In M. West, D. Tjosvold & K. Smith (Eds.), *International handbook of organizational teamwork and cooperative working* (pp. 167–183). London: Wiley.
- Johnson, D. W., & Johnson, R. T. (2005). New developments in social interdependence theory. *Psychology Monographs*, *131*, 285–360.
- Jones, E. E. (1998). Major developments in five decades of social psychology. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1). New York: McGraw-Hill.
- Kelly, H. H. (1979). *Personal relationships*. Hillsdale, NJ: Erlbaum.
- Kelly, H. H. (1984). The theoretical description of interdependence by means of transitions lists. *Journal of Personality and Social Psychology*, *47*, 956–982.
- Kelly, H. H. (1991). Lewin, situations, and interdependence. *Journal of Social Issues*, *47*, 211–233.
- Kelly, H. H. (1997). The “stimulus field” for interpersonal phenomena: The source of language and thought about interpersonal events. *Personality and Social Psychology Review*, *1*, 140–169.
- Kelly, H. H., & Thibaut, J. W. (1978). *Interpersonal relations*. New York: Wiley.
- Kim, P. H. (1997). Strategic timing in group negotiations: The implications of forced entry and forced exit for negotiators with unequal power. *Organizational and Human Behavior Processes*, *71*, 263–286.
- Kim, P. H., & Fragale, A. R. (2005). Choosing the path to bargaining power: An empirical comparison of BATNAs and contributions in negotiations. *Journal of Applied Psychology*, *90*, 373–381.
- Kim, P. H., Pinkley, R. L., & Fragale, A. R. (2005). Power dynamics in negotiation. *Academy of Management Review*, *30*, 799–822.
- Komorita, S. S., & Barnes, M. (1969). Effects of pressures to reach agreements in bargaining. *Journal of Personality and Social Psychology*, *13*, 245–252.
- Krueger, R. A. (1998). *Analyzing & reporting focus group results*. Thousand Oaks, CA: Sage.
- Lawler, E. J., Ford, R. S., & Belgen, M. A. (1988). Coercive capability in conflict: A test of bilateral deterrence versus conflict spiral theory. *Social Psychology Quarterly*, *51*, 93–107.
- Lewicki, R., Gray, B., & Elliott, M. (Eds.) (2003). *Making sense of intractable environmental disputes*. Washington, D.C.: Island Press.
- Lewicki, R. J., Saunders, D. M., Barry, B., & Minton, J. W. (2004). *Essentials of negotiation* (3rd ed.). Irwin: McGraw-Hill.
- Lewin, K. (1936). *Principles of topological psychology*. New York: McGraw Hill.
- Lewin, K. (1946). Behavior and development as a function of the total situation. In L. Carmichael (Ed.), *Manual of child psychology*, (pp. 791–844). New York: Wiley.
- Lewin, K. (1948). *Resolving social conflicts*. New York: Harper.
- Lewin, K. (1951). Frontiers in group dynamics. In D. Cartwright (Ed.), *Field theory in social science: Selected theoretical papers* (pp. 188–237). New York: Harper and Row.
- Magee, J. C., & Galinsky, A. D. (2008). Social hierarchy: The self-reinforcing nature of power and status. *Academy of Management Annals*, *2*, 351–398.
- Mannix, E. A. (1993). The influence of power, distribution norms, and task meeting structure on resource allocation in small group negotiation. *International Journal of Conflict Management*, *4*, 5–23.
- McClelland, D. C. (1975). *Power: The inner experience*. New York: Irvington.

- Mischel, W. (1977). The interaction of person and situation. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 333–352). Hillsdale, NJ: Erlbaum.
- Moul, W. (2003). Power parity, preponderance, and war between great powers, 1816–1989. *Journal of Conflict Resolution*, *47*, 468–489.
- Pinkley, R. L., Neale, M. A., & Bennett, R. J. (1994). The impact of alternatives to settlement in dyadic negotiation. *Organizational Behavior and Human Decision Processes*, *57*, 97–116.
- Reykowski, J. (2008). Roundtable talks nearly 20 years after. Awards presentation delivered at the 2008 Morton Deutsch Awards for Social Justice, Teachers College, Columbia University, New York, NY.
- Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance*. Cambridge, UK: Cambridge University Press.
- Rouhana, N. N., & Fiske, S. T. (1995). Perception of power, threat and conflict intensity in asymmetric intergroup conflict: Arab and Jewish citizens of Israel. *The Journal of Conflict Resolution*, *39*, 49–81.
- Rubin, J. Z., & Brown, B. R. (1975). *The social psychology of bargaining and negotiation*. New York: Academic Press.
- Salacuse, J. W. (1999). How should the lamb negotiate with the lion? Power in international negotiations. In D. Kolb (Ed.), *Negotiation eclectics* (pp. 87–99). Cambridge, MA: Program on Negotiation at Harvard Law School.
- Salacuse, J. W. (2002). Lessons for practice. In I. W. Zartman & J. Z. Rubin (Eds.), *Power and negotiation* (pp. 255–270). Ann Arbor: University of Michigan Press.
- Seal, D. W., Bogart, L. M., & Ehrhardt, A. A. (1998). Small group dynamics: The utility of focus group discussions as a research method. *Group Dynamics: Theory, Research, and Practice*, *2*, 253–266.
- Tajfel, H. (1981). *Human groups and social categories*. Cambridge University Press: Cambridge.
- Thibaut, J. W., & Kelly, H. H. (1959). *The social psychology of groups*. New York: Wiley.
- Tjosvold, D. (1981). Unequal power relationships within a cooperative or competitive context. *Journal of Applied Social Psychology*, *11*, 137–150.
- Tjosvold, D. (1985a). Power and social context in superior-subordinate interaction. *Organizational Behavior and Human Decision Processes*, *35*, 281–293.
- Tjosvold, D. (1985b). Effects of attribution and social context on superiors' influence and interaction with low performing subordinates. *Personnel Psychology*, *38*, 361–376.
- Tjosvold, D. (1989). Interdependence and power between managers and employees: A study of the leadership relationship. *Journal of Management*, *15*, 49–64.
- Tjosvold, D. (1991). *The conflict positive organization*. Reading, MA: Addison-Wesley.
- Tjosvold, D. (1997). The leadership relationship in Hong Kong: Power, interdependence, and controversy. In K. Leung, U. Kim, S. Yamaguchi & Y. Kashima (Eds.), *Progress in Asian social psychology* (Vol. 1). New York: Wiley.
- Tjosvold, D., Coleman, P. T., & Sun, H. (2003). Effects of organizational values on leader's use of information power to affect performance in China. *Group Dynamics: Theory, Research, and Practice*, *7*, 152–167.
- Tjosvold, D., & Johnson, D. W. (Eds.) (1983). *Productive conflict management: Perspectives for organizations*. New York: Irvington Publishers.

- Tjosvold, D., & Wisse, B. (Eds.) (2009). *Power and interdependence in organizations*. Cambridge: Cambridge University Press.
- Triandis, H. C. (1972). *The analysis of subjective culture*. New York: Wiley: Interscience.
- Van Lange, P. A. M., De Cremer, D., Van Dijk, E., & Van Vugt, M. (2007). Self interest and beyond: Basic principles of social interaction. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 540–564). New York: Guilford.
- Van Lange, P. A. M., Otten, W., DeBruin, E. M. N., & Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology*, *73*, 733–746.
- Wade-Benzoni, K. A., Hernandez, M., Medvec, V. H., & Messic, D. M. (2008). In fairness to future generations: The role of egocentrism, uncertainty, power, and stewardship in judgments of intergenerational allocations. *Journal of Experimental Social Psychology*, *44*, 233–245.
- Wish, M., Deutsch, M., & Kaplan, S. J. (1976). Perceived dimensions of interpersonal relations. *Journal of Personality and Social Psychology*, *33*, 409–420.
- Zartman, I. W., & Rubin, J. Z. (Eds.) (2002). *Power and negotiation*. Ann Arbor: University of Michigan Press.

Appendix A

Scenario for Region 1 (high-power, cooperative, high-interdependence) begins:

Imagine you and your supervisee, a real team player, are working together on a common project. You will lead the coordination of the project, but to be successful, both of you must contribute. This task is important to you, as it will help determine your future career plans. The board of directors has offered great opportunities for you both if the team achieves its goals: the chance to present the team's work at a prestigious international conference. The board believes that you and your supervisee could do well at this event and presenting the work together will garner significant admiration and respect for you both. This is exactly the chance you have been waiting for!

Scenario for Region 2 (high power, competitive, high interdependence) begins:

Imagine you and your supervisee, a very competitive employee, are working together on a common project. Your supervisee is new to the organization and you are a 10-year veteran. You will lead the coordination of the project, but to be successful, both of you must contribute 100%. This task is important to you, as it will help determine your future career plans. The board of directors has offered a great opportunity for the person who performs best in the project: a large bonus and the chance to present the team's work at a prestigious international conference. The board believes that either you or your supervisee could do well at this event and whichever one of you performs best in the project will present the work and will garner significant admiration and respect for herself/himself. This is exactly the chance you have been waiting for!

Scenario for Region 3 (low power, cooperative, high interdependence) begins:

Imagine you and your boss, who is a highly collaborative manager, are working together on a common project. You are new to the organization and your boss is a 10-year veteran. Your boss will lead the coordination of the project, but to be successful, both of you must

contribute 100%. This task is important to you, as it will help determine your future career plans. The board of directors has offered great opportunities for you both if the team achieves its goals: a large bonus and the chance to present the team's work at a prestigious international conference. The board believes that you and your boss could do well at this event and presenting the work together will garner significant admiration and respect for you both. This is exactly the chance you have been waiting for!

Scenario for Region 4 (low power, competitive, high interdependence) begins:

Imagine you and your boss, a very competitive person, are working together on a common project. Your boss will lead the coordination of the project, but to be successful, both of you must contribute. This task is important to you, as it will help determine your future career plans. The board of directors has offered a great opportunity for the person who does best in the project: the chance to present the team's work at a prestigious international conference. The board believes that either you or your boss could do well at this event and whichever one of you does best in the project will present the work and will garner significant admiration and respect for her/himself. This is exactly the chance you have been waiting for!

Scenario for Region 5 (equal power, mixed-motive, low-interdependence) begins:

Imagine you and your coworker are working together on a common project. You will both co-lead the coordination of the project. This task is interesting, but you have many of these types of opportunities. The board of directors has offered a small bonus for you both if the team achieves its goals. There is also the chance for one of you to present the team's work at a conference. The board believes that either you or your coworker could do well at this event and whichever one of you does best in the project will present the work. However, if this does not work-out, there will be other chances like this soon.

Scenario for Region 6 (equal power, mixed-motive, high interdependence) begins:

Imagine you and a coworker are working together on a common project. You are both new to the company and will co-lead the coordination of the project, but to be successful, you both must contribute 100%. This task is important to you, as it will help determine your future career plans. The board of directors has offered a large bonus for you both if the team achieves its goals. There is also the chance for one of you to present the team's work at a prestigious international conference. The board believes that either you or your coworker could do well at this event and whichever one of you does best in the project will present the work and will garner significant admiration and respect for her/himself. This is exactly the chance you have been waiting for!

They then all continue with the following:

You and your supervisee (*boss or coworker*) meet to work on the project and share what each of you has done so far. You are a bit tired, because you worked all night to be prepared for the meeting. Your supervisee (*boss or coworker*) shows up with nothing done and, on top of that, she/he does not acknowledge what you have accomplished by yourself. A week later, the deadline for submitting the project is approaching and you plan to meet again, but your supervisee (*boss or coworker*) calls in sick and the meeting gets cancelled. She/he comes into work the next day, but she/he does not appear. You schedule another

meeting a few days later to make up for the one that was cancelled, but your supervisee (*boss or coworker*) does not show up again. She/he calls you and says she/he had a family emergency. You end up doing a significant amount of the work yourself and submitting it to the board of directors. Later, you begin to hear rumors that people heard your supervisee (*boss or coworker*) did a considerable portion of the project.

Appendix B

Items for the Subscales of Chronic Psychological Orientations.

Dimension	Item
Power	When I have conflict with people, I prefer to have power over them In conflict situations, I prefer not having much responsibility or authority When I am in conflict with other people, I normally try to increase my influence over the situation
Type of interdependence	When I am in conflict with people, I usually compete against them to win When I am in conflict with people, I prefer to work with them to solve it in a mutually satisfying way There is always a winner and a loser in a conflict
Degree of interdependence	When I have conflict with people, I prefer to withdraw from the situation When I have conflict with people, I try to avoid them as much as possible When I have conflict with people, I prefer to remain in the situation and work through the conflict with the other person

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