

CONFLICT HANDLING PROFILES AND PERFORMANCE IN DYADIC ALLIANCES

By

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To the Faculty of Washington State University:

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Abstract

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In this exploratory study of the alliance partner conflict process, a relational view is used to propose a five phases for describing and assessing partner conflict handling orientations and their relationship to alliance performance: a predispositional phase where a number of contextual factors (relational history, stakes and incentives, partner power, organizational pressure for success, environmental munificence) drive the establishment of initial conflict handling orientations (collaborative, competitive, compromising, accommodative, avoidant); an initial interaction phase where partners first attempt collaboration; an adjustment phase where partner orientations and performance assessments begin to affect initial contextual factors; a performance phase where altered partner orientations affect performance assessments; and a repeated interaction phase where unfavorable partner conflict orientation pairings reduce collaborativeness but do not necessarily dissolve the alliance. This study investigates four of these phases (predispositional, initial interaction, performance and repeated interaction).

After reviewing relevant conflict literature in the sociology, marketing, organizational behavior and strategic alliance fields, a pre-post experimental design is developed to assess the phases using a sample of junior and senior business students (N=198). Subjects are initially surveyed to assess their individual conflict handling orientations and then pre-experimentally

surveyed to confirm their adherence to a specific conflict handling orientation (either collaborative or competitive) that they are randomly primed to assume. Subjects then play an experimental game with an anonymous alliance partner (who was actually the experimenter) where they propose payment levels for the manufacture of a series of alliance products. The experimenter-partner either accepts or rejects these payments based on a consistent handling conflict orientation. At the end of the game, subjects complete a post-experimental survey measuring their final conflict handling orientations.

Results provide partial support for each of the four hypothesized phases in alliance partner conflict handling. In particular, an alliance partner's initial collaborative predisposition and the continuing 'stickiness' of the alliance relationship in the face of uncooperative and/or assertive partners are evidenced in this work and should assist alliance managers and their parent organizations in strategically assessing the initial complementarity and the ultimate success of the alliance relationship. Finally, study limitations and suggestions for future research are discussed.

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Dedication

For my wife, Natalie, and my children, Louis, Madelyn and George, whose love, courage and support made this work possible.

CHAPTER ONE

INTRODUCTION

Over the past two decades, strategic alliances have become one of the most popular organizational forms. Recent research suggests that various forms of alliances are expected to account for 16-25% of median company value and more than 40% of the market value for one-quarter of all companies (Contractor and Lorange, 2002). Today, leading corporations such as General Electric and IBM have as many as 1,000 alliances (Child, Faulkner and Tallman, 2005). As these firms continue to focus their activities in areas for which they have a core competency (Prahalad and Hamel, 1990), the use of alliances allows them to obtain complementary competencies for activities that are no longer conducted in-house as well as achieve fundamental strategic objectives such as powerful market positions, significant knowledge acquisition and major cost reductions (Nordin, 2006; Child et al., 2005).

Despite their current popularity, strategic alliance undertakings are fraught with risk. For example, Porter (1987), studying a sample of large U. S. corporations from 1950-1986, found alliance failure rates over 50%, much higher than the rates of internal venturing or corporate buyouts over the same time period. Likewise, Killing (1988) discovered that more than 50% of all alliances with shared management completely disappear or are reorganized within five years of their creation. An even more nightmarish statistic for firm managers concerns alliances that 'drift'-those relationships that linger (sometimes for years) but produce little or no revenue, drain the organization of capital, damage employee morale and consume precious senior management time and energy (Eaves, Weiss and Visoni, 2003). A recent study by the consulting firm

Accenture found that, while 30% of alliances fail outright and another 20% are successful, fully 49% drift into “a suspended state of underperformance” (Eaves et al., 2003: 1).

Among the reasons for alliance failures and underperformance are operational issues (such as poor product specifications or quality problems), strategic problems (such as the risk of losing core competencies to a partner), performance problems, bad legal terms and conditions (Elmuti and Kathawala, 2001; Kelly, Schaan and Joncas, 2002; Eaves et al., 2003) and, most importantly, relationship problems. Current research has found that alliance relationship problems are responsible for approximately half of the reasoning behind all failed and ‘broken’ alliances. In a study of manufacturing, service and R & D-based organizations, Kelly et al., (2002) found that while performance problems, strategic problems and operational issues account for 5%, 11% and 29% of alliance partner issues, respectively, relationship/people problems account for fully 55% of the total. These results are echoed by Eaves et al.’s (2003) 120-company study, finding that bad legal terms/conditions and poor strategy/planning accounted for 11% and 37% of partnership failures, respectively, and “poor or damaged” relationships between firms accounted for 52% of such failures. Examples of these ‘soft’ issues for alliances are insufficient communication, conflicts, partner mistrust, cultural differences and organizational politics (Lorange and Roos, 1991; Mohr and Spekman, 1994; Elmuti and Kathawala, 2001; Kelly et al., 2002). Of these issues, conflict has been identified as one of the most prevalent reasons for alliance failures, as it can result in cultural misunderstandings and distrust which, in turn, can lead to reduced cooperation and poor performance (Killing, 1983; Anderson and Narus, 1990; Kauser and Shaw, 2004).

Conflict is inherent in alliances because of the risks of partner opportunism, goal divergence and cross-cultural differences (Kale, Singh and Perlmutter, 2000). In addition,

alliance partners can be motivated by both autonomy and cooperation, which results in the coexistence of both cooperative and conflictual motives in the alliance (Aldrich, 1977). These factors may manifest in the form of differing organizational cultures, management styles and operational methods and procedures that are serious enough to jeopardize the alliance (Jain, 1989). It is therefore crucial for conflict to be resolved so as to prevent alliance stagnation and failure (Robson, Skarmeas and Spyropoulou, 2006).

Given the ubiquity and the potential consequences of interfirm conflict, understanding where such conflict could surface and how it can be resolved is important to the success of the venture (Borys and Jemison, 1989; Mohr and Spekman, 1994). Although firms in alliance relationships are motivated to engage in joint problem solving because they are, by definition, attempting to manage environments that are more uncertain than each alone can control (Cummings, 1984), the impact of conflict resolution efforts on the relationship can be either productive or destructive (Assael, 1969; Deutsch, 1969). This depends on whether firms can reach integrative outcomes that satisfy more fully the needs and concerns of all parties (Thomas, 1976).

The general tendency in most alliance literature has been to focus on the use of formal governance mechanisms associated with transaction cost economics (TCE) in order to manage conflicts (Williamson, 1985). More recently, however, organizational mechanisms such as relational capital in combination with TCE approaches are seen as being more effective in managing conflict (Doz, 1996; Dyer and Singh, 1998; Kale et al., 2000). The relational view (Dyer and Singh, 1998) acknowledges that governing mechanisms alone are not enough to reduce alliance conflict. Integrative conflict management/resolution techniques, where alliance partners solve problems jointly with mutual concern for “win-win” outcomes for all parties

(Bazerman and Neal, 1984), are also crucial to the development of trust and commitment in the alliance. Mohr and Spekman (1994) found that more successful alliances exhibited a higher use of constructive resolution techniques such as joint problem solving and persuading while disdaining other, more destructive techniques. These less effective techniques included coercing or dominating your partner (attempting to force your alliance partner to agree to your firm's desires), smoothing over or ignoring alliance problems, and/or using third party arbitration to solve conflicts as opposed to "internal resolution" between alliance partners.

This view of conflict resolution stems directly from organizational behavior literature, specifically the work of Blake and his colleagues (Blake and Mouton, 1964; Blake, Shepard and Mouton, 1964; Hall, 1969) and Thomas (1976). Thomas (1976) developed a model that codifies a party's responses to perceived conflicts of interest based upon the party's concern for their own outcomes and success versus their concern for the opposite party's outcomes (see Figure 1). The five conflict handling orientations in this model relate to Mohr and Spekman's ideas of problem-solving (collaboration), coercion (competition) and smoothing over/ignoring problems (avoidance). Additional orientations that complete the model are compromise (partial satisfaction of parties' concerns) and accommodation (unilateral satisfaction of the other party's concerns).

In the alliance literature, this model has been used to discuss initial negotiations of the alliance agreement, cross-cultural assessments of conflict handling and interorganizational learning strategies and outcomes (Child et al., 2005; Wang, Lin, Chan and Shi, 2005; Larsson, Bengtsson, Henriksson and Sparks, 1998). In addition, there has been a small amount of work in the literature linking conflict handling styles to behavioral attributes and performance (Lin and Germain, 1998; Parry, Song and Spekman, 2008). However, nowhere has the literature provided

a model describing how 1) alliance partner characteristics/attributes relate to conflict handling orientations, 2) the conflict handling orientations of alliance partners combine to predict various levels of performance and 3) these subsequent performance levels in turn affect the individual partner attributes, resulting in changes to partner conflict handling orientations and subsequent changes in the combined conflict handling orientation of the alliance. Such research would be a useful addition to the existing relational literature concerning conflict resolution in alliances because it would further investigate and expand on the conflict resolution process, an important subject (as discussed above) in this area. It would also assist alliance managers in determining the drivers behind their firms' conflict handling tendencies, assessing how the combined alliance tendencies affect performance and using this information to improve alliance conflict resolution strategies.

This paper, therefore, intends to partially fill this gap by developing and testing an exploratory model of the relationship between conflict handling orientations and performance in alliances. The study begins by revisiting some common motivations for interfirm cooperation and discussing the inherent potential for interfirm conflict within each of these rationales, focusing particularly on TCE and relational aspects of conflict. As much of the business-related conflict literature has a conceptual basis in sociology works and an empirical basis in marketing research, these two literatures are discussed before the actual alliance conflict literature is reviewed to draw out common theoretical links. The Thomas (1976)/Blake and colleagues model is then presented and discussed from an organizational standpoint. Finally, these literatures are integrated to derive a set of hypotheses describing alliance partner attributes that contribute to the five conflict handling orientations. A second set of hypotheses is derived from the above literature and the literature on alliance performance to express the dynamism of

conflict handling orientations and the effects on performance of several combinations of conflict handling modes.

The relationship of alliance partner attributes to the five conflict handling orientations is confirmed via the development of a survey that measures the conflict handling orientations of a sample of student subjects after being exposed to a scenario requiring them to role play the manager of an alliance that follows two of the five orientations. The survey itself is adapted to alliance relationships from the works of Thomas and other scholars that identify preferred conflict resolution styles for individuals. Next, the relationship between alliance performance and combined alliance conflict handling orientations is investigated via the use of student-experimenter dyads that have been exposed to the scenarios described above and then required to interact in a repeated experimental economic game that results in some level of performance regarding specific alliance activities. The above-described survey is again administered to students at the end of the game to assess the effect of dyadic performance on an individual 'partner's' conflict handling orientation, with the hypotheses being that these orientations have changed in response to performance observation and to the partner's assessment of his/her relationship with the other partner.

Finally the implications and limitations of this analysis will be discussed and a future research program will be presented to address some of the open issues. The discussion begins below with a literature review of some of the rationales for interfirm cooperation, particularly focusing on the TCE and the relational viewpoints.

CHAPTER TWO

LITERATURE REVIEW

Theoretical assessment of conflict potential in alliance motives

While there is no generally accepted theory of interfirm cooperation, there are a number of both economic and managerial perspectives that can provide valuable insights regarding the rationale for alliances and the inherent potential for conflict within these alliances. From an economic standpoint, interfirm cooperation has been discussed using market power, transaction value, real options, increasing returns, and agency theories as well as the resource based view of the firm and transaction cost economics. From a managerial perspective, the motives for alliances have been addressed using strategic management, social network, and game theories as well as resource-dependency and relational approaches. This discussion will cover each of these theories/views in turn, focusing particular attention on ideas relating to TCE and relational views.

Market power theory. Market power theory is concerned with that ways that a firm can improve its competitive success by securing stronger market positions. This concept has its roots in the industrial organization ideas of Bain (1959), Mason (1939), Porter (1980, 1985) and Hymer (1976) in that it ties the viability and success of firms in an industry to their position relative to other firms in that industry and the generic strategies that they might pursue. From this standpoint, a cooperative strategy might be pursued by firms in order to modify their industry position and enhance their market power.

There are a number of ways that market power theory has been actualized in alliances. Hymer (1976) discussed the use of offensive coalitions (created to strengthen firm positions by

diminishing competitor market shares or increasing their manufacturing costs) and defensive coalitions (created to construct entry barriers and stabilize the industry) to gain competitive advantages in an industry. Lorange and Roos (1992) used Porter's (1985) 'value chain' concept to distinguish between cooperative strategies by the type of resources (primary versus support activity-related) brought together to generate economies of scope, rationalize capacity, transfer knowledge or share risk. Finally, Child et al., (2005) state that firms form 'complementary' alliances, where partners contribute their value chain strengths, to allow the combined organization a greater competitive advantage.

While market power theory does not deal directly with the notion of conflict in alliances, it does set up a dynamic tension between cooperation and competition. Via the collaborations described above, individual firm managers may realize that all-out competition is not the only option; however, maintaining such collaborations are often an "uneasy balance of partner calculation" (Child et al., 2005: 18) in the face of the need to continuously maintain a competitive advantage in a dynamic industry environment.

Resource-based theory. The notion that a firm is a unique collection of resources (physical, human and organizational) goes back at least to the writings of Penrose (1959). However, Barney (1991) is credited with the idea that only those firm resources that are valuable (i.e. they provide economic quasi-rents in the marketplace-Peteraf, 1993), rare (i.e. not freely available in the marketplace), inimitable (i.e. socially complex and causally ambiguous-Lippman and Rumelt, 1982; Rumelt, 1984) and non-substitutable (i.e. without valuable alternatives) are capable of providing sustainable competitive advantages to the firm. Firms develop capabilities or competencies that allow these resources to be used in the marketplace. These capabilities are evolutionary in the sense that random variation in the environment leads to the selection of

certain capabilities based on performance and the retention of successful capabilities over unsuccessful ones (Nelson and Winter, 1982). In addition, many times complementary assets such as access to distribution channels are necessary realize the economic value of a firm capability in the marketplace (Madhok and Tallman, 1998).

The evolutionary and complementary aspects of firm resources provide a rationale for alliances under the resource based view. As a firm's internal and external environments change and evolve, it is necessary for the firm to continually search both internally and externally for additional resources to update their competencies. While external resources are available via outsourcing and/or firm acquisition, such methods may not bring unique skills to the firm at a below market price and hence may not generate abnormal (above market) returns. Alliances, however, give the firm the opportunity to quickly access partner knowledge and assets without having to buy these resources at a single market price. In addition, a properly structured alliance relationship in a dynamic external environment can encourage cooperative development of customized assets with even larger profit potential (Child et al., 2005).

Similar to market power theory, the resource based view does not directly address conflict related issues in alliances. However, the potential for a conflict dynamic is again set up in the need to tap into a partner's unique knowledge or capability base to achieve market advantages. The ultimate success of the collaborative venture depends upon each partner's understanding of this dynamic.

Increasing returns theory. With the rise of knowledge based industries, economists have discovered that the rule of diminishing returns to factor inputs is being distorted (Child et al., 2005). Increasingly, firms in these industries that can achieve a first mover advantage by obtaining a large share of the market and locking in consumer purchases early on may ultimately

come to dominate the market without decreasing returns setting in, perhaps until the entire market is cornered (Arthur, 1989). One example of this phenomenon is Microsoft, which is very unlikely to be dislodged from dominance of the software market due to its enormous installed capacity, low variable production costs, and a huge number of consumers trained in its use. In response to this phenomenon, firms are likely to form alliances so that they may achieve the critical mass necessary to become a first mover and a major player in a market. While this trend has no direct bearing on alliance partner conflict, it may affect relationship characteristics due to the necessity of the parties to act quickly to achieve first mover advantage.

Real options theory. A number of authors have characterized strategic alliances (particularly joint ventures) as options on the opportunity to invest in new markets, technologies or possible acquisitions of the partner company. In particular, Kogut (1991) and Folta (1998) discuss the notion that a firm may take an equity stake in a joint venture to investigate the potential of a new market or technology without fully investing in the opportunity via acquisition. If the venture is successful, it can be purchased from the partner. If the venture fails, it can be sold or dissolved at a much lower cost than a full acquisition. This allows the partners to handle the uncertainty involved with the venture in a systematic way. While this idea has not been tested for contractual arrangements or nonequity partnerships, options logic can still be applied to uncertainties regarding the partner's markets and technology as well as the partner relationship itself. Interestingly, Kogut (1991) found that positive market signals regarding the value of a joint venture predicted rapid exercise, or acquisition, of one partner's rights by the other. However, negative market signals did not lead to immediate dissolution of the venture. So long as the cost of the option does not increase significantly, it tends to be maintained in the hope of future improvement (Child et al., 2005). This finding may explain the reasoning behind

the ‘drifting’ alliances mentioned on page 1 above as well as the tendency of some alliance partners to ‘smooth over’ or ignore conflict situations (Mohr and Spekman, 1994).

Transaction cost economics. TCE logic for firms goes back at least to the writings of Coase (1937) who stated that firms will expand until the costs of organizing an extra transaction within the firm is equal to the costs of carrying out the transaction on an open market exchange or the costs of carrying out the transaction in another firm. Transaction costs are those incurred to arrange, manage and monitor transactions across markets (for example, costs of negotiation, contracting, logistical, and monitoring of accounts receivable). The basic TCE decision in organizing transactions is whether to use market exchanges or internal firm hierarchical structures and relationships (Child et al., 2005). Williamson’s (1975, 1985) seminal works on TCE identified six factors to consider in the decision between internal and external governance of transactions: 1) opportunism, or the tendency of parties to an exchange to pursue ‘self-interest seeking with guile,’ 2) bounded rationality (Simon, 1947), or recognizing that there are temporal and informational limits to the exercise of human rationality, 3) small numbers bargaining, meaning that there are a limited number of parties to contract with, 4) the uncertainty or complexity of market conditions, 5) information asymmetry or ‘impactedness,’ where one party has more accurate information about the transaction than the other, and 6) asset specificity, or the extent to which a durable asset is specific to a particular transaction and cannot be redeployed to other uses. Williamson posited that one-time transactions of short duration involving widely available, nonspecific assets can be pursued in the market and protected via contract law, while recurring transactions with uncertain outcomes, relatively long completion times, and transaction-specific investments are most effectively handled within organizational hierarchies using the employment contract as the legal basis for structuring authority and command.

Between these two extremes there can exist many types of intermediate forms with occasional to recurrent transaction frequency and mixed specificity. Williamson (1985) states that occasional transactions with mixed specificity should be governed by market transactions supported by third party arbitration and/or litigation. In contrast, recurrent, mixed specificity transactions should be pursued with relational contracts that stress relationship-building between the parties and with bilateral governance relationships that require the parties to make mutual investments of specific assets. Such assets generate mutual dependence and can serve as 'hostages' against partner opportunism (Child et al., 2005). Relational contracts are a form of hybrid governance that admits the possibility of various alliance structures. While these structures can range from loosely configured arrangements, such as industry standards groups, to more formally structured combinations, such as equity joint ventures, all of them rely to some degree on the bilateral dependency of partners resulting from the mutual commitment of equity and/or assets, agreements to share the control/monitoring of activities and agreements regarding the division of costs and profits. These features allow hybrid structures to avoid the high uncertainty caused by market failure and the high overhead costs of hierarchical organizational control of transactions (Kogut, 1988a; Williamson, 1993). However, they also contain the seeds of their own destruction in that bilateral dependency inherently lends itself to uneasy and unsettled positions regarding alliance control and stability (Buckley and Casson, 1988; Kogut, 1988b).

TCE adds a new level of detail to the study of alliances by regarding hybrid relationships as sets of transactions rather than simply overall forms of cooperation. It shows that partner motives, the nature of partner investments in the alliance and the specific character of alliance transactions play a critical role in how alliances are formed and governed. With regard to conflict, TCE introduces the concept of opportunism and points out some of the factors (bounded

rationality, small numbers, transaction/market complexity/uncertainty, information asymmetry, asset specificity) that can increase the risks of opportunism. However, TCE stops short of dealing with relational aspects of a transaction and instead stresses static ideas of efficiency and cost-minimization as the main rationales for cooperation. In other words, TCE does not address the notion that the perception of opportunism among partners can be reduced by a previous history of cooperation between them (Parkhe, 1993) and that growing trust and bonding between partner firms can possibly reduce the boundedness of rationality through a growing willingness to share information. As discussed later, these relational aspects of transactions have important consequences for partner conflict handling orientations.

Agency theory. While agency theory does not provide an economic rationale for interfirm cooperation, it does provide a framework for understanding how alliance partners might cooperate or conflict. Originally focused on the ability of owners of a corporation (principals) to ensure that corporate managers (agents) are fulfilling their objectives (Berle and Means, 1932), agency theory was later extended to relationships between employers and employees, lawyers and clients, and buyers and suppliers.

Agency theory mainly concerns itself with various control and incentive mechanisms that limit an agent's opportunistic behavior (Jensen and Meckling, 1976; Arrow, 1985; Barney and Ouchi, 1986; Eisenhardt, 1989; Child et al., 2005). While TCE considers individual transactions the key unit of analysis in a business relationship, agency theory considers the principal-agent contract to be the key analytical unit. Beyond this, the two theories are somewhat similar in that they both consider human behavior to be self-interested and boundedly rational, they see information asymmetry as a potential problem in a relationship (i.e. between principals and agents) and they use efficiency as a criterion of effectiveness. In the end, however, TCE focuses

on the most efficient and/or cost-minimizing form of transaction governance (defining the boundaries of the organization) while agency theory focuses on the most efficient type of contract to govern a principal-agent relationship with a specific eye toward the handling of differing risk preferences among the parties (Eisenhardt, 1989).

Agency theory has implications for interfirm cooperation if alliance partners are viewed as agents for each other (Child et al., 2005). From this standpoint, partners may have diverging goals for the alliance that make the relationship riskier for one partner than the other. For example, one partner may have only learning goals for an alliance while the other may have specific financial or market share goals. If these goals are not achieved simultaneously, one partner may have the incentive to leave the alliance early or at least reduce their commitment to the relationship. Worse yet, one partner may engage in purposeful opportunistic behavior at the expense of the other partner in order to achieve their own goals, either by engaging in moral hazard type behaviors (shirking their contractual responsibilities), adverse selection (misrepresenting their capabilities and/or resources to their partner) or holdup (threatening to leave a relationship in which the partner has invested specific assets). To control these behaviors, partners need to institute agency mechanisms such as monitoring of partner activities, bonding via specific alliance investments, and incentivizing via specific bases for sharing returns of the venture.

When considering the economic aspects of interfirm conflict, agency theory provides an interesting complement to TCE. While TCE details the organizational factors (bounded rationality, small numbers, transaction complexity/uncertainty, information asymmetry, asset specificity) that can lead to partner opportunism, agency theory discusses specific opportunistic partner behaviors (such as moral hazard and adverse selection) that may be pursued as well as

ways to curb those behaviors (i.e. monitoring, bonding and incentivizing). Hence, agency mechanisms can help to reduce suspicion and increase trust among partners, moving relationship control out of the economic realm and into a more relational arena. As explained later, this transition is important to understanding the conflict-handling orientations of alliance partners.

Strategic management theory. Strategic management theory is concerned with formulating, implementing and evaluating an integrated and coordinated set of commitments and actions designed to exploit firm core competencies and gain competitive advantage (Hitt, Ireland and Hoskisson, 2007). It is a broad-based area that incorporates many of the ideas discussed earlier (TCE, agency theory, resource based view) along with some additional concepts explaining the existence, organization and operation of firms (competitive dynamics, game theory, resource-dependency approaches, network/structural approaches). We will discuss some of these concepts separately later.

While the earliest works in strategy alluded to the possibility of interfirm cooperation through discussions firm structural growth and change (Chandler, 1962), the relationship between product markets and firm competences and resources (Ansoff, 1965; Learned, Christensen, Andrews and Guth, 1965) and the notion of an uncertain environment (Selznick, 1957), it was Thompson (1967) that introduced the notion of cooperative and competitive strategies and coalition formation. These ideas form the roots of network and strategic alliance strategies (Hoskisson, Hitt, Wan and Yiu, 1999). Since that time, the field of strategic alliances has branched out to discuss theories of cooperation and strategic bases for cooperative ventures, particularly in international business (Contractor and Lorange, 1988; Buckley and Casson, 1988), partner asymmetries (Harrigan, 1988), competitiveness via relationship networks (Cunningham

and Calligan, 1991), inter-partner learning processes (Hamel, 1991; Doz, 1996), and the relationship between repeated ties and alliance trust (Gulati, 1995).

The strategic motives for firms to create alliances revolve around both firm specific characteristics and multiple environmental factors. Todeva and Knoke (2005: 128) listed these motives as general classification schemes derived from the theoretical literature as follows:

- market seeking;
- acquiring means of distribution;
- gaining access to new technology and converging technology;
- learning/internalization of tacit, collective and embedded skills;
- obtaining economies of scale;
- achieving vertical integration, recreating and extending supply links in order to adjust to environmental changes;
- diversifying into new businesses;
- restructuring, improving performance;
- cost sharing, pooling of resources;
- developing products, technologies, resources;
- risk reduction and risk diversification;
- developing technical standards;
- achieving competitive advantage;
- cooperation of competitive rivals, thus preempting competitors;
- complementarity of goods and services to markets;
- co-specialization;
- overcoming legal and/or regulatory barriers, and;

-legitimation, bandwagon effects, following industry trends.

Following on from the theoretical discussion of interfirm cooperation above, strategic management theory adds still another level of detail to the study of alliances. Unlike TCE and agency approaches that deal with the universalistic ideas of ‘transactions,’ ‘contracts’ and ‘principal-agent relationships,’ strategic management theory explores more specific and contingency-related motives for alliance formation. Because of this, partner selection and compatibility become critical issues in strategic management theory as it applies to both cooperative strategy and alliance conflict. In fact, issues of partner selection, complementarity and synergy are among the most studied aspects of alliance formation (Todeva and Knoke, 2005). Geringer (1991), in a study of prior research on partner selection, categorized selection criteria as either ‘task-related’ or ‘partner-related.’ Task-related criteria concern variables which are related to the viability of a venture’s operation and include access to finance, managerial and employee competencies, facilities, technology, marketing/distribution systems, and the partner’s ability to negotiate a favorable regulatory or public policy environment. Partner-related criteria, on the other hand, concern variables relating to a partner’s overall culture (both national and corporate), structure and size, favorability of past associations with the partner, and compatibility and trust between their top management teams. The importance of task-related selection criteria depends upon partner perceptions of the criticality of the criteria for firm performance, the partner’s strength in providing access to the criteria, and the future competitive aspects of the feature. For example, if a partner considers technology leadership critical to firm and venture performance but cannot develop such leadership on its own, it will give high priority to finding alliance partners that have the ability to secure such leadership (Child et al., 2005). Partner-related criteria, in contrast, can be conceived in terms of securing a cultural ‘fit’ between partners

that allows them to work together effectively and develop mutual confidence and trust (Bleeke and Ernst, 1993; Faulkner, 1995). Faulkner (1995) states that this process involves awareness and flexibility to learn from each other's cultural differences and capitalize on the strength of integrated management systems. These 'soft-side' issues involve the development of relationship capital in the alliance (Cullen, Johnson and Sakano, 2000).

Contrasting TCE views that consider interfirm cooperation from the standpoint of one partner and look at only situational contingencies in the determination of alliance success, strategic management theory stresses the matching of partners and the importance of the exercise of strategic choice by the actors who are deciding the venture's policies (Child, 1997). This focus has important implications in the consideration of cross-cultural reasons for interfirm conflict. While still using TCE and agency ideas its basis, strategic management theory focuses conflict discussions on the relationship between individual actors (i.e. alliance partners). As such, strategic management theory sets the stage for considering more social, give-and-take forms of alliance conflict resolution from game theoretic, resource-dependency and relational perspectives. As stated earlier, these relational aspects have important implications for each partner's conflict handling orientation.

Game theory. Game theory attempts to predict outcomes from social situations involving two or more actors whose interests are interconnected or interdependent (Zagare, 1984). These 'games' require the players to adopt certain strategies that have a direct bearing on the game's outcome. Originally developed almost two hundred years ago as a tool for understanding economic behavior, game theoretic ideas are now used in such diverse fields as biology, sociology, political science and philosophy. In the management field, game theory has been used to characterize decision making in areas such as pricing (Ghemawat and McGahan, 1998),

alliance structure and function (Parkhe, 1993), firm competition (Netessine and Shumsky, 2005), capacity expansion (Porter, 1980; Zajac and Bazerman, 1991), industry forms (such as duopolies and oligopolies-Chintagunta and Rao, 1996), and social networks (Annen, 2003). Similar to agency theory, game theory does not provide motives for alliance creation. It does, however, provide valuable insight into how partners might cooperate and conflict once involved in an alliance.

Common to all game theoretic approaches is a focus on person-to-person or organization-to-organization relationships and competition. A game is a well-defined mathematical object that consists of a set of players, a set of strategies available to those players, and a specification of payoffs to each player for each combination of strategies (Fudenberg and Tirole, 1991). Games can also specify player interests (conflicting, coinciding, or both), the level of information to which they have access (perfect vs. imperfect, complete vs. incomplete), the number of times the game is played and the level and types of player communication allowed (i.e. making promises, commitments or threats-Rapoport, 1961). The general goal of such games is to discover or develop a set of strategies that allows the game's 'rational actors' to maximize their own utility functions such that some form of equilibrium is reached. It is commonly accepted that game theory provides a set of tools and components that enable the theorist to construct logically consistent models of rational human action, thus removing from these models behavioral explanations in which people act against their own objectives, neglect opportunities, or ignore the strategic behavior of other parties (Postrel, 1991).

Game theory improves the understanding of alliance relationships because it includes some of the TCE and agency ideas regarding rational actors and self interested behavior while at the same time expressing and codifying what Ouchi (1980: 130) called the "fundamental

problem of cooperation.” while cooperation may maximize joint interest, it may not necessarily maximize self-interest. The most well-known conceptualization of this problem is the ‘prisoner’s dilemma’ game using contrasting structured payoffs: if both players cooperate, they receive only the second highest payoff in the game, but the highest joint total; if one player cooperates and the other defects from the cooperation, the latter will gain at the expense of the former, receiving the highest individual payoff; if neither player cooperates, both will lose, but not to the extent of the loss incurred by the non-defecting party when the other defects (Child et al., 2005). When this game is played once with no prior knowledge of the other partner or his/her actions, self-interest and rationality point to both partners avoiding the ‘sucker’ payoff of zero for trying to cooperate and instead defecting and receiving the highest amount. However, if this game is repeated (iterated) or if player and/or transaction information is included, many different results and game forms, both cooperative and uncooperative, may obtain. For example, Parkhe (1993) states that shifts in preferences through either deliberate strategies or exogenous events can fundamentally alter the character of the relationship and transform the prisoner’s dilemma game into other types of games. If the partners come to value cooperation over defection because of reputation effects, evolving cooperative history of the partners and/or the commitment of alliance specific investments, the game is transformed into a less conflictual game called a ‘stag hunt.’ Conversely, if alliance partners place less value on mutual cooperation due to changing strategic goals, finding a more attractive partner, eroding competitive advantage of the alliance, the game shifts to a more conflictual ‘deadlock’ where defection is a preferred course of action and conflict becomes inevitable (Oye, 1986). Hence, while game theory assumes self-interested players, rationality may negate the assumption that competitive behavior necessarily follows. The repeated form of the prisoner’s dilemma game is

the most applicable with regard to interfirm cooperation because most alliance relationships involve repeated interactions over time among the partners.

Axelrod (1984) completed what is arguably the most well-known set of studies regarding iterated prisoner's dilemma games, inviting a number of academics to propose strategies for playing a sequence of these games in a round-robin tournament. The winning strategy of 'tit-for-tat' (i.e. cooperating on the first encounter and thereafter mirroring your partner's previous round actions) emphasized two aspects: 1) forgiveness, conceived as a willingness to both initiate and reciprocate cooperation, and 2) punishment, conceived as penalizing the defector in a non-vindictive manner when appropriate. Both forgiveness and punishment become optimal strategies under the 'shadow of the future,' where the prospect of future interactions cause players to adjust their current strategies. The prospect of future meetings also moves the game from a zero-sum situation (where one partner's gain is the other's loss) to a nonzero-sum status where profitable cooperation is possible.

From the standpoint of interfirm cooperation, the iterated game both provides insight and falls short in explaining the alliance relationship. The initial cooperative stance in a 'tit-for-tat' strategy is a realistic model for actual alliances, as most partners are at least initially willing to cooperate in order to achieve nonzero-sum benefits such as economies of scale or improved results originally conceived in the agreement that could not be obtained alone. In addition, most alliance partners are likely concerned about their reputation as a trustworthy partner in the business community and would therefore see a strategy of defection as suboptimal in the long run. While these cooperative aspects of actual alliances coincide well with game theoretic approaches using forgiveness, the use of punishment is much more problematic. This is because in real-world alliances an initial defection often leads to a precipitous drop in trust and the break-

up of the collaboration (Child et al., 2005). Instead of the give-and-take relationship developed from a tit-for-tat strategy in game theory, real alliances are much more likely to rely upon the partner's prior collaborative experience and the provision of mutual hostages and/or unilateral commitments of nonrecoverable investments to enhance cooperation in the relationship (Gulati, Khanna and Nohria, 1994; Parkhe, 1993). In addition, game theory has difficulty including other real-world aspects of alliances such as personalities, social ties and communication among the players as well as uncertainty about what the other player did at earlier points in the game and the social institutions in which the players are embedded.

For all of its shortcomings in explaining alliance relationships, game theory provides useful insights into the nature and consequences of alliance conflict. Game theory utilizes some of the basic ideas of TCE, agency theory and strategic management theory to create detailed explanations of longitudinal processes whereby partners will cooperate, conflict or both cooperate and conflict to generate various economic outcomes. Although these explanations require simplifying assumptions (explained above) that distance game theoretic processes from reality, the theory is unique in its attempt to do this and its essential insights are not diminished. Importantly, the iterated forms of game theory illustrate how past partner interactions and performance affect future interactions and performance, giving a more dynamic quality to the nature of alliance conflict. This study will also focus on the dynamism of alliance conflict via the measurement of each partner's conflict handling orientations over an iterated game-type experiment.

Social network theory. Social network theory builds on the open systems perspective of organization theory by suggesting that the most important facet of an organization's environment is its social network of external contacts (Gulati, 1998). A social network can be defined as a set

of persons and/or organizations linked by a set of social relationships of a specified type (such as friendship, overlapping membership, etc.-Laumann, Galaskiewicz and Marsden, 1978).

Economic actions of organizations are therefore influenced by the social context in which they are embedded and the position of actors in such social networks (Granovetter, 1985).

Embeddedness refers to the idea that interactions within a group of actors have a history, and this history routinizes and stabilizes the linkages among the actors. The structure of relations between actors constrains the set of actions available to individual actors and changes the dispositions of actors toward the actions that they might take (Marsden, 1981). Embeddedness therefore provides additional information to reduce uncertainty, the pursuit of which is one of the main drivers of organizational action (Granovetter, 1985). Finally, the social network perspective asserts that the actions of individuals and organizations can be explained to a large degree by their position within the social network that is itself being maintained by the actions of those same individuals and organizations (Nohria and Eccles, 1992).

Although strategic alliances are essentially dyadic forms of organization, social network theory maintains that many of their key precursors, processes and outcomes are defined and shaped by the social networks within which they are embedded (Gulati, 1998). Hence, the existence of prior ties may influence the choice of alliance partners as well as how the alliance is created and operated. If potential partners have a successful history of interaction, strong social bonds governing their attitudes and behavior might already be in place. These bonds act to reduce uncertainty and risk between the partners while increasing the level of trust to an extent that may allow for looser and more flexible contracting practices (Gulati, 1995). In this sense, membership in social networks provides valuable information for potential partners that can reduce coordination costs and threats of opportunism (for example, the appropriation of

proprietary assets such as technology-Child et al, 2005). Offsetting these benefits is the risk of path dependence (Penrose, 1959). In other words, a firm might become so locked into its social network membership that it may refuse or overlook partnership opportunities outside the network. This historical effect is further shaped and complicated by the alliance decisions of other firms within the network. Despite these risks, research has generally found a positive relationship between alliances with embedded ties and performance. This is attributed to the notion that partnering firms are more likely to have greater confidence and trust, allowing for greater information exchange and more flexible contracting mentioned above. In addition, network membership creates a natural deterrent for bad behavior that will damage partner reputations (Gulati, 1998). As a result of these benefits, researchers have found that alliances between firms with a prior history of ties were less likely to terminate (Kogut, 1989) and that the duration of exchange relationships were conditioned by 'dyadic attachments' that limit organizational perceptions of the likelihood of partner opportunism and increase the willingness of partners to make nonrecoverable investments that enhance alliance performance (Levinthal and Fichman, 1988; Seabright, Levinthal and Fichman, 1992; Gulati, 1998). In addition, Gulati and Lawrence (1997) found that more embedded tie supplier relationships in the automotive industry performed better than alternative sourcing arrangements and were particularly effective in situations of high uncertainty.

While not specifically discussed in the literature, social network theory emphasizes a relational approach between partners that has the potential for reducing alliance conflicts related to opportunism, goal divergence and cross-cultural differences via increased trust, information and reputational concerns. Similar to iterated forms of game theory, social network theory also stresses the importance of the historical relationship between the partners for future alliance

activities. Unlike game theory's limited economic viewpoint, however, social network theory offers a richer and more complex relationship that builds on both history and position in the social network. Due to prior relationships and reputational concerns, conflicts can be seen as not strictly 'win-win' or 'win-lose.' As members of a social network, partners may settle for a 'partial win' or 'no decision' in the interest of maintaining their alliance relationship and/or their position within the social network of relationships (Child et al. 2005). This study will also attempt to express some of these 'hybrid-type' positions using conflict orientations.

Resource-dependence perspective. As its name implies, the resource-dependence perspective shares some of the logic of the resource-based view of the firm in its focus on the competitive importance of firms to possess value-creating resources and human competencies (Hamel and Prahalad, 1994; Child et al., 2005). In contrast to the resource-based view's stress on the identification of valuable resources and the building of firm capabilities for sustainable competitive advantage, however, the resource-dependence perspective considers how the scarcity of resources prompts organizations to pursue interorganizational relationships and attempt to exert power, influence and control over firms that possess the needed resources (Pfeffer and Salancik, 1978). Although this perspective tends to emphasize the conflictual and coercive side of interorganizational relationships, it also supports the notion that firms have reason to collaborate if they lack critical competencies that they cannot develop readily or sufficiently rapidly on their own (Child et al., 2005). It is this dependency that defines the perspective's unique contribution to the understanding of alliance relationships.

The resource-dependence view extends Emerson's (1962) idea that dependency in a social relation is the reverse of power. Pfeffer and Salancik's (1978) seminal book on resource-dependence built upon this concept by arguing that parties external to an organization can exert

power over it to the extent that they can control resources that are vital to its operation. This sets up a dynamic between resource provision and relationship control that can readily be seen in strategic alliance relationships. Potential alliance partners anticipate that the resource benefits of forming a cooperative interorganizational relationship will outweigh the disadvantages of management costs and decision-making constraints. Pfeffer and Salancik consider this relationship expressed best in equity joint ventures where parent firms' equity contributions give them rights to exert influence over the venture. This influence is usually expressed in the form of scarce managerial expertise and other resources (French and Raven, 1959; Child et al., 1997). Joint venture partners seek some level of control to protect the use and integrity of its investments when collaborating with their partner (Hamel, 1991).

The provision of scarce resources to a firm, however, does not deterministically confer a calculable level of power over that firm to the resource provider. Pfeffer and Salancik (1978) discuss a number of ways for firms to manage environmental demands and social control. Among these are balancing and keeping confidential the demands of one group versus another (Cyert and March, 1963), controlling access to communication channels, controlling the formation and definition of demand satisfaction, denying the ability to comply with demands and attempting to maintain secrecy as to the ability to satisfy demands, and developing alternative sources of supply or resources to diminish the criticality of the focal relationship. Other authors suggest that resource dependence in JV control may be mediated by the bargaining power of prospective partners (Fagre and Wells, 1982). While this power is certainly partly attributable to the assets and capabilities that they command, other general and social factors also come into play. For example, Hamel (1991) and Inkpen and Beamish (1997) discuss the possibility that learning asymmetries may shift the balance of power between collaborating organizations. It is

also possible that firms with resource power may not be focusing on the alliance in favor of other unrelated activities. These characteristics of social actors in the alliance relationship leads a level of ‘negotiated indeterminacy’ (Child et al., 2005: 43) in the extent to which resource command leads to alliance control; partners would consider the strategic importance of securing control over certain alliance activities versus the costs involved and the alternative control mechanisms available.

The resource-dependence theory lends a political perspective to the consideration of conflict in alliances. While it incorporates resource-based notions of scarce resources, game theoretic concerns regarding interaction and favorable outcome, and social network ideas regarding relationship history and network position, it also introduces strategic choice-type analyses of intra- and inter-organizational political dynamics whereby social actors attempt to motivate and influence each other via the use of power (Child, 1997). As Pfeffer and Salancik (1978: 259) state, “Power is overlooked too frequently by attending to issues of effectiveness and efficiency. Effectiveness and organizational performance can be evaluated only by asking whose interests are being served.” As noted above, consideration of how and where political power and influence is used in alliance relationships can help to predict both where alliance conflicts might occur and their possible outcomes. The view also illustrates the basic social dilemma of alliances, as firms, striving for certainty and stability in their own structures, must actually give up some autonomy and cooperate to gain control over needed resources.

Relational view. The relational view has as its basis the idea that firms will establish and continue stable, obligatory business relationships with each other based on trust between individual members of partnering firms. While Williamson (1979) utilized the term ‘relational contracting’ to describe organizational agreements based on transaction-specific assets and

recurrent contractual relationships, the idea can be traced back at least to Charles Babbage's (1832) discussion of continuing business relations between British and German manufacturers even when their countries were at war. In addition, Macaulay (1963) and Macneil (1978) also discuss how the trust developed among individual members of contracting firms can change the nature of the relationship to focus on the overall relation as opposed to simply the contractual terms. In economic sociology, this idea is termed 'relational exchange theory' and discusses how personal relationships based on trust arise and exist between firms (Dore, 1983). A common example of the value of relational contracting is the dichotomy between the healthy supplier relationships forged over time by Toyota versus the strictly cost-based and less trustworthy relations of GM in the 1990's (Dyer 1996; Dyer and Singh, 1998).

From a strategic alliance standpoint, Dyer and Singh (1998) described the determinants of interorganizational competitive advantage as alliance subprocesses that allow for unique relational rents generated by relation-specific assets, knowledge-sharing routines, complementary resources/capabilities and effective governance. Some of these subprocesses are a high volume of interfirm transactions, incentives to encourage partner transparency and discourage 'free riding,' the ability to employ self-enforcement rather than third party (i.e. courts) enforcement and the ability to employ informal (such as trust and reputation) rather than formal enforcement mechanisms. Once established, relational rents are preserved via causal ambiguities and time compression diseconomies related to the scarcity of available partners, the interconnectedness and indivisibility that develops among the alliance partner's asset stocks, and the institutional environment that fosters goodwill and cooperation (Dore, 1983; Hill, 1995).

The relational view highlights the importance of interpersonal relationships and trust in alliance or exchange situations (Ring and Van de Ven, 1992; Gulati, 1995; Zaheer, McEvily and

Perrone, 1998). Kale, Singh and Perlmutter (2000) use this view to develop the notion of relational capital, which is “the level of mutual trust, respect and friendship that arises out of close interaction at the individual level between alliance partners” (2000: 218). These scholars believe that the development of relational capital facilitates learning and reduces the likelihood that alliance partners will engage in opportunistic behavior to steal core or proprietary information or know-how from each other. Hence, relational contracting as a theoretical perspective directly contrasts with agency theory and transaction cost economics approaches (Borsch, 1994; Todeva and Knoke, 2005), as successful relational strategies require basic trust, mutual understanding, unrestricted learning and interorganizational knowledge-sharing. Partners must continually elaborate their mutual objectives, capabilities, resources and tasks in order to find a ‘domain consensus’ (Doz, Olk and Ring, 2000) based on the assumption that unanticipated future conditions cannot be explicitly written into formal contracts.

The relational view combines a number of theoretical motivations for interorganizational cooperation. In the discussion of relational rents, transaction cost economics contributes the concepts of asset specificity and governance, the resource-based view lends ideas relating to competitive advantage and complementarity, and the strategic management theory provides concepts regarding partner selection and compatibility. When considering relational capital, social network theory adds insight regarding relationship history and partner social position and the resource-dependence perspective contributes political motivations of exchange partners in the development of partner trust. Hence, each of these theories provides part of an overall rationale for pursuing alliance relationships.

As with the rationale for alliances, the relational view combines the above-mentioned approaches when considering the potential for alliance conflict. In the development of trusting

and self-enforcing agreements, differences in the strategic choice positions of partners and the relative ease of engaging in opportunistic and or/power-seeking behaviors can easily lead to conflicts. Similar to the resource-dependence perspective, managing the balance between interdependence and control remains a central issue, and alternative strategic alliance governance forms are considered particularly important mechanisms for resolving conflicts and preserving partner relationships (Harrigan, 1988; Haugland, 1999; Todeva and Knoke 2005). In addition, integrative conflict resolution techniques can assist partners in viewing alliance decision processes as fair and just, which in turn enhances attitudes of trust and commitment (Kim and Mauborgne, 1998) and builds relational capital (Kale et al., 2000). These aspects of the relational view clearly indicate its reliance on conflict management and resolution for a successful alliance.

Summary and conclusions. A number of themes emerge from the foregoing discussion of the potential for conflict within the various theoretical perspectives of alliance motives. These themes can be characterized in four areas: alliance conflict causes, conflict-evoking behaviors, conflict reduction or elimination ideas, and conflict outcomes.

In the area of alliance conflict causes, two dynamic balances seem important for sparking conflict. First, the balance of competitiveness versus cooperativeness that can be found in market power theory, strategic management theory and game theory sets up a dynamic where conflict is likely to occur among alliance partners as they struggle with the need to satisfy individual interests versus common interests. Second, this theme is made more specific in the resource based view and resource-dependency theory as the need to obtain scarce, valuable resources and competencies versus the discretion available to control one's own organization. Conflict resolution is necessary in each of these dynamics so that the partnership may obtain

abnormal returns from its complementary resources and capabilities, thereby gaining a sustainable competitive advantage. These balances must be achieved in partner exchange frameworks that can potentially result in conflict-causing opportunism relating to partner bounded rationality, small numbers bargaining, transaction and market complexity/uncertainty, information asymmetry and asset specificity.

Possible conflict-evoking behaviors are enumerated in agency theory and the resource-dependence perspective. Agency theory contributes the concepts of moral hazard, adverse selection and holdup as ways that opportunism may be pursued in alliance relationships. The resource-dependence perspective offers various strategies for alliance partners to exert power and influence over each other. Tactical uses of power are wide ranging but largely encompass gaining powerful positions via the control of information and the use of alternative arrangements to satisfy needs.

The alliance motive literature also contains structural, partner-related and process-related ideas for controlling and/or reducing alliance conflict. It is important to note, however, that these ‘solutions’ to conflict could just as easily be categorized as causes of conflict, depending upon the how each individual solution is used. For example, agency theory as applied to alliances proposes that bonding via partner specific investments, monitoring of partner activities and incentivizing partners via a specific basis for distribution of partnership profits can be used to reduce partner opportunism. Likewise, strategic management theory, the resource-based view and increasing returns theory all stress the importance of careful partner selection and the need for complementarity of partners. Finally, game theory, the resource-dependence perspective and the relational view all consider prior ties, communication and close interaction critical to conflict avoidance and reduction. In each of these areas, managerial choice and discretion governs

whether these techniques will reduce or increase alliance conflict. A poorly selected, over-monitored and under-incentivized partner may actually become suspicious of the relationship and reduce communication and interaction. This will serve to increase the potential for conflict and lower the level of trust. Hence, an improperly used solution to conflict can become a cause of new conflict.

Conflict outcomes that can be gleaned from the alliance motive literature are at the same time encouraging and ominous. Relational-type alliances can increase trust and reduce risk, resulting in overall transaction cost reductions as more informal and self-enforcing agreements replace more formal, monitored contracts. However, the resource-dependence perspective speaks of the ‘negotiated indeterminacy’ (Child et al., 2005) of alliance relationships which holds a large potential for conflict. In addition, real options theory reminds us of the temporary yet sticky nature of alliance relationships, thus making very real the possibility of Hamel’s (1991) ‘learning races’ and Eaves, Weiss and Visoni’s (2003) ‘drifting alliances.’

In conclusion, the potential for alliance conflict is certainly present in the various theories regarding alliance formation. The foregoing assessment evidences that alliance conflict is inextricably woven into the ‘fabric’ of alliance formation, structure, process and outcome. The next section of this study will investigate how the general themes summarized above are expressed in the literature on interorganizational conflict and specific literature on alliance conflict.

Interorganizational conflict literature

The literature on conflict between business alliance partners is situated in a broader literature in sociology, marketing and organizational behavior (OB) covering intra- and interorganizational conflict. Alliance conflict, however, is relatively under-studied. Unlike the

trust literature, where scores of papers have been devoted to discussions of the preeminence of alliance trust, alliance conflict is usually included as one independent variable (generally concerning conflict reduction) and is dealt with in a somewhat cursory fashion. Certainly, very little is said about a partner's predisposition toward conflict or about the conflict process itself. This paper will attempt to fill this gap by first addressing alliance conflict processes and then developing a theoretical view of partner conflict predispositions. Prior to pursuing this goal, however, the theoretical roots of alliance conflict in the sociological and marketing literatures will be reviewed and then discussed in terms of the alliance conflict literature itself. This work will then be specifically related to the OB literature on conflict resolution processes. Throughout this discussion, the effect of conflict on organizational and alliance performance will also be summarized.

Sociological roots of alliance conflict literature. Much of the recent literature on conflict management in alliances has as its basis a handful of studies from interorganizational relations and OB. This relative dearth of alliance conflict literature is partly attributed to the dominant models of human behavior and social thought in the 20th century that were predicated on the development and maintenance of stable and harmonious relationships between societal units (Mayo, 1945; Barnard, 1948; March and Simon, 1958; DiStefano, 1984). Even some who acknowledged the positive aspects of conflict in the organizational field believed that all activities regarding conflict should be directed toward its ultimate resolution, moving interorganizational decision-making from 'conflict-cooperation' conditions to that of 'pure cooperation.' (Tuite et al., 1972). However, a number of other authors contend that a certain amount of conflict between organizations is natural and even desirable. Zeitz (1980: 83) argued that "the resolution of conflict is rarely complete" and Litwak and Hylton (1962: 397) go as far

as saying that “elimination of conflict is a deviant instance and likely to lead to the disruption of interorganizational relations.” These studies increased the relevance of interorganizational conflict for social researchers and sparked additional work.

Within the alliance conflict literature, at least two studies are often referenced and should be considered seminal. The first is Pondy’s (1967) discussion of organizational conflict concepts and models. Pondy summarizes prior conflict research into three general conceptual models: a bargaining model dealing with competition for scarce resources among interest groups, a bureaucratic model that deals with institutional attempts to control organizational behavior, and a systems model that analyzes problems of coordination among parties to a functional relationship. Common to each of these models are three ‘implicit orientations.’ First, each relationship identified by the models is composed of an interlocking sequence of conflict episodes which form stable patterns that define the conflict relationship between the parties. Second, conflict can have its roots within either the individual or the organization, and it can be considered either functional or dysfunctional in each context. Therefore, the desirability of conflict resolution should be approached with caution. Finally, conflict is intimately tied up with organizational stability and is a key factor in feedback loops of organizational behavior. The notion of conflict episodes and each of these models and implicit orientations will be discussed here as they have specific impacts on future alliance conflict literature.

Pondy’s conflict episodes involve latent conflict (underlying sources of conflict), perceived conflict (the extent to which parties perceive conflict to exist), felt conflict (the extent to which perceived conflict becomes personalized, affecting the party’s way of viewing the relationship), manifest conflict (the extent to which one party to a relationship knowingly blocks

another party's achievement of goals) and conflict aftermath (the effect of the conflict episode on the relationship).

Pondy condensed prior research on latent conflict into three basic types: competition for scarce resources (demand for resources among participants exceeds resources available to the organization), drives for autonomy (one party seeks to exercise control over some activity that another party regards as its own province or to insulate themselves from control by the other party) and divergence of subunit goals (two parties who need to cooperation on a joint activity fail to agree on concerted action). Any combination of these sources may be operating at once in a conflict episode.

Regarding perceived conflict, Pondy states that parties may perceive conflicts for which no latent conflicts exist or may not perceive latent conflicts at all. The former idea is handled under the 'semantic' model of conflict, where partners misunderstand each other's true positions on an issue and simply need to improve communication to resolve the conflict. The latter case may be due to the blocking out of awareness of mild conflicts or the inability of the organization to devote time and resources to a particular conflict. Cyert and March (1963) call this the 'quasi-resolution' of conflict.

While Pondy discusses more individual factors for felt conflict (i.e. felt tension between organizational demands and individual growth and the total involvement of the individual in the relationship), he does state that extra-organizational pressures may also cause the parties to recognize a latent conflict as a felt conflict.

Manifest conflict is any type of conflictful behavior. Pondy mentions the use of aggressive and defensive coalitions to frustrate or sabotage opponent plans as well as the use of apathy or rigid adherence to the rules by lower-level participants to resist mistreatment of upper

level parties in a relationship. Behavior can only be classified as conflictual if some or all of the participants to a relationship perceive it as such. The interface between perceived conflict and manifest conflict as well as felt conflict and manifest conflict are the areas where conflict resolution techniques are applied. Such techniques attempt to prevent conflicts that have been perceived and/or felt from erupting into non-cooperative behavior. Thus, collective bargaining agreements may limit interest group conflict, due process or appeal systems may reduce superior-subordinate conflict, and transfer pricing mechanisms and the reduction of interdependencies can limit lateral conflicts. These devices may not be useful if one or both parties do not value the relationship or if conflict is strategic in pursuit of subunit goals.

Finally, Pondy states that each conflict episode is part of a sequence of conflict episodes that constitute the relationship between organizational participants. If the conflict is resolved to the satisfaction of all parties, a foundation may be laid for improved cooperation and participants may seek to resolve other latent conflicts to achieve a more ordered relationship. Alternatively, if the conflict is suppressed or not resolved, latent conditions may be negatively affected, resulting in more serious conflicts that could potentially dissolve the relationship. In addition, the environment has an effect on the aftermath of conflict. A 'more benevolent' environment could provide more resources, thereby reducing latent conflicts. By the same token, a harsher environment could turn latent conflicts into manifest conflicts.

Pondy (1967) views conflict as either functional or dysfunctional depending on whether it contributes to or hinders the productivity (output, innovativeness, quality level compared to competitors), stability (cohesiveness and solvency) and/or adaptability (ability to learn, improve performance and adapt to changing internal and environmental pressures) of the organization. Pondy uses Barnard's (1938) inducements and contributions theory of organizational cooperation

to explain the functionality of organizational conflict. In this view, if organizational inducements to remain in a relationship exceed individual contributions to the relationship, stability is achieved. In addition, because the costs of leaving the relationship may be high, there is a tendency for organizational members who are experiencing disequilibria in the inducements-contributions balance to remain in the organization and attempt to resolve this state. Hence, disequilibria in this balance, if not extreme, could be considered 'stable.' Perceived conflict would be considered a cost of participation in the relationship and participants would be motivated to reduce conflict by resolving it within the current context of the relationship, withdrawing from the relationship altogether, or securing appropriate, increased inducements to compensate for the level of conflict within the relationship. This statement concurs with March and Simon (1958) who state that perceived conflict generates a motivation, as well as conscious efforts, to reduce such conflict by organizational members. In fact, if inducements to remain in the organizational relationship are appropriate, the perception of conflict will actually generate *increased* pressures for members to interact in order to resolve such conflicts. This interaction improves the stability of the relationship. Pondy cites Coser (1956) for evidence of this notion. Coser believed that organizational conflict is inevitable but that minor conflicts internal to a group cause the group to form multiple coalitions and associations that provide a 'web of affiliations' that allows for the orderly exchange of dissenting viewpoints. The resolution of frequent, minor conflicts of interest in this way gradually adjusts the overall system and forestalls the accumulation of latent conflicts that might eventually disrupt the overall organization. It also assists parties to conflicts in understanding each other's power bases, reducing the likelihood that one party may start a major conflict with another party based on

miscalculated chances of success. Thus, an appropriate inducements-contributions balance supports successful conflict resolution and organizational stability.

Pondy (1967) then applies the foregoing conflict processes to his bargaining, administrative and systems models of organization. In the bargaining model, conflict resolution centers on increasing the pool of resources available to the parties or reducing the demands of the parties. Pondy further states that conflicts under the bargaining model rarely become manifest due to the highly evolved market and internal administrative processes that assure an orderly allocation of resources. However, parties may strategically maneuver to secure the largest share of scarce resources while at the same time seeking to make the total amount of resources available as large as possible. Walter and McKersie (1965) term these complex relationships distributive (competitive) and integrative (cooperative) subprocesses. Integrative subprocesses are largely concerned with joint problem-solving, whereas distributive subprocesses relate to strategic bargaining. In interest group conflicts, negotiation is frequently done by representatives who face the dual pressures of securing a negotiated solution that is acceptable to their own parties and satisfying simultaneous demands for flexibility from their negotiating partners and for rigidity from their own parties. These negotiations are usually carried out under time deadlines which tend to increase the level of perceived conflict. Following his theory of conflict episodes, Pondy states that handling of previous conflicts tend to set precedents for future conflict resolution.

The bureaucratic model analyzes conflicts among parties to an authority (superior-subordinate type) relationship. In this case, superiors attempt to control the activities of subordinates and subordinates resist such control. Pondy again uses Barnard's (1938) reasoning by stating that the superior-subordinate relationship contains a 'zone of indifference' where the

subordinate has surrendered to the superior the authority to exercise discretion. Potential conflict is present when the superior and subordinate have differing expectations about the zone of indifference. Superior responses to such conflict usually amount to exerting power by setting additional rules and procedures to encompass their perception of the zone of indifference. Subordinates perceive these new rules to be threatening and causing conflict because they limit autonomy. While the imposition of such rules lead to relatively conflict-free behavior, they also enhance the rigidity of behaviors and could lead to future conflicts when organizational adaptability is required.

The systems model derives largely from March and Simon's (1958) view of organizational conflict and is appropriate for the analysis of conflicts among parties to a functional relationship (Pondy uses line vs. staff conflicts and departmental conflicts within organizations as examples). This model deals with lateral conflicts that arise in the coordination of work among dyads of people at the same hierarchical level. Each party to the relationship has a set of formal role specifications (such as job descriptions providing directions, requests, information, products, etc.), a set of unwritten relationship expectations (that have been legitimized by some hierarchical authority) and informal positions and roles that are exercised without formal legitimization by authorities. The potential for conflict exists if two functionally interdependent subunits have different preference orderings for similar sets of goals or have differentiated goals. Functional interdependence is defined here as common service or facility usage, task- or hierarchy-prescribed sequences of information or work flow, or rules of unanimity or consensus about a joint activity. Conflict is reduced by reducing goal differentiation via modified incentive, selection, training or assignment procedures and or reducing functional interdependence via reducing dependence on common resources (via

alternative/redundant channels of work and information flow), introducing buffers and reducing pressures for consensus. If parties to a conflict are flexible in their demands (which is characteristic of a problem-solving as opposed to a bargaining relationship), conflict may also only be perceived as only a temporary disturbance. While manifest conflict in this model is generally proscribed by strongly held norms or the withdrawing of all cooperation by the other party, the use of bargaining over perceived conflicts may lead to rationing and distorting information; rigid, formal and circumscribed relations; and suspicion, hostility and disassociation among subunits (Walton, Dutton and Fitch, 1964). This provides the potential for future conflict episodes over other relationship issues.

In summary, Pondy (1967) defines conflict broadly as a dynamic process that underlies a wide variety of organizational behaviors. Conflict is seen as an overall historic episode that includes antecedent conditions, states of awareness and affect, overt manifestations and aftermath consequences of feeling, precedent and structure. Pondy's conflict antecedents (resource competition, autonomy drives, diverging goals, misunderstood positions, extra-organizational pressures, aggressive or defensive behaviors, environmental factors, and resolution history) provide a basis for which much of the future research on the causes of alliance conflict can be understood and applied. Additionally, Pondy's definition and discussion of functional versus dysfunctional conflict in terms of organizational productivity, stability and adaptability essentially previews later seminal work by Assael (1969) and Deutsch (1969) discussing the constructive and destructive roles of conflict in interorganizational relations. Finally, Pondy's systems, administrative and bargaining models of conflict in organizations elaborated on the effects of partner interdependence, power asymmetries and other

characteristics of negotiating parties on the outcomes of conflict episodes in organizations. These themes are reiterated and extended in later research on interorganizational conflict.

The second study that can be considered seminal in the study of alliance conflict literature is Assael's (1969) discussion of the requirements and consequences of constructive and destructive conflict in the relationship between General Motors and its franchised automobile dealerships. Assael states that the potential for conflict is high in such systems of selective and exclusive distribution because of the high level of functional interdependence between manufacturers and dealers. Effective management of these systems requires minimizing the effects of interorganizational conflict on system performance and stability by being able to distinguish between constructive and destructive conflict. Assael (1969: 573) uses the writings of Coser (1956), Simmel (1949), Dubin (1957) and others to define constructive conflict as bringing about "a more equitable allocation of political power and economic resources by the formation of new countervailing forces and greater balance and stability within the system" and destructive conflict as occurring when a lack of recognition of mutual objectives results in more powerful economic actors driving less powerful, yet functionally essential, actors from the system. He then uses the General Motors example to develop five conditions for constructive conflict. First, interorganizational conflict, by leading management to review disputed areas, may lead to a general review of past company practices and actions, increasing the recognition of interdependence between the parties in conflict. Second, constructive conflict requires frequent and effective communication between organizations as formal communications may act as outlets for accumulated hostilities and provide a means for addressing grievances (Coser, 1956). Alternatively, insufficient communication could create misunderstandings and a denial of the legitimacy of organizational objectives. Third, constructive conflict requires a more equitable

allocation of system power and resources. If the most powerful member of the system denies the legitimacy of any reallocation of its resources, destructive conflict could result. Fourth, constructive conflict requires standardized procedures for conflict resolution. If such self-regulated routines can be developed, the system can establish a degree of stability, as the resolution of future conflicts is facilitated (Dubin, 1957). Finally, constructive conflict requires the creation of a countervailing power. Arbitrary use of power by the dominant party precludes constructive conflict because subordinated parties may eventually reject the legitimacy of dominant organization directives.

Similar to Pondy's discussion, Assael's (1969) model acknowledges the importance of past activities, open communications, resource allocation and power balance in the understanding of interorganizational conflict. To these dimensions, Assael adds the importance of standardizing the conflict resolution process to effectively handle conflicts (Pondy infers this dimension in his episodic model but does not actually state it). Once again, these themes are repeated in later literature.

A number of other authors round out the sociological roots of alliance conflict literature. Aldrich (1971) uses open systems theory (Katz and Kahn, 1978) to discuss a firm's chances of success in interorganizational conflict. He states that organizational members are resources that firms may use in competition with other firms whose goals are partly in conflict with their own. Organizations with more active member participation have higher chances of success in a conflict.

Schmidt and Kochan (1972) define a dynamic and operational process of conflict as an outcome of organizational relations. They follow Pondy's (1967) themes by using extent of resource-sharing, degree of interdependence and the amount of goal incompatibility as their

explanatory variables. Applying this framework to municipal union-city official relationships, they find that external interest group pressure, the desire for maintaining control over personal issues and the desire to keep out interference from elected officials are determinants of interorganizational conflict. These findings also confirm Pondy's (1967) notion that the drive for autonomy precipitates interorganizational conflict.

Molnar and Rogers (1979) postulate that conflict can be separated into structural (involving rules that govern a relationship) and operating (involving the interpretation of those rules) components. This is similar to Coser's (1956) dichotomization of conflict as being over 'matters of principle' and 'matters presupposing adherence to the same principle. They also included several contextual variables in their experiment such as clients served, services provided and the relative age or length of service. In this way the authors included domain-related aspects in their study specifying where and how conflict actually occurs.

Leach (1980) picks up on Pondy's (1967) idea of the limits to the amount of time and resources that organizations can devote to conflict management in his notion of 'organizational energy.' He states that the number of conflict situations that any one organization can handle is 'inevitably limited' by the number of 'capable actors' acting on organizational boundaries and personnel in support of these actors. Thus, the amount of organizational energy that can be expended in a conflict is always limited, but larger organizations have more of this energy than smaller ones.

Thomas, Walton and Dutton (1972) also deal with antecedent conditions that promote conflict. However, these authors' definition of conflict is heavily influenced by the psychological makeup of the individual actor. Their dependent variables for conflict are feelings of distrust, lack of consideration of the individual actor's needs by the overall organization and

the tendency of other departments to overstate needs in an attempt to influence the individual actor. The independent variables of their study (opposing expectations, jurisdictional ambiguity, physical communication obstacles, verbal difficulty and interpersonal difficulty), while following a number of Pondy's (1967) ideas regarding roles and communication, also add interpersonal factors in the consideration of conflict.

Finally, Deutsch (1969) also takes a social psychological approach in his discussion of productive and destructive conflicts. Similar to Pondy (1967) Deutsch believes that conflict arises from differences in information or beliefs, differences in interests, desires or values, scarcity of resources or interpersonal rivalries. Also, he believes that the psychological processes of perceiving and valuing turn objective conditions into experienced conflict (i.e. perceived conflict becomes manifest). Deutsche considers six factors as critical in determining whether a conflict is productive or destructive: use of a competitive (strategy of power and tactics of coercion, threat and deception) versus a cooperative (strategy of mutual problem-solving and tactics of persuasion, openness and sharing) orientation, prior cooperative versus competitive bonds (superordinate goals, mutually facilitating interests, common values, linkages to a common community, etc.), the nature of the conflict (small versus large, rigidity of issues, etc.), characteristics of the parties in conflict (personalities and positions), estimations of success, and the attitudes, strength and resources of interested third parties. Destructive conflict is characterized by a tendency to expand and escalate based on the need to win, misperceptions and biased perceptions of the other party's intent, and internal pressures for uniformity of opinion and commitment to a 'firm' course of action. Expansion occurs along the various dimensions of conflict: the size and number of issues, motives, participants, principles and precedents perceived to be at stake, the costs that participants are willing to bear regarding the conflict, the

number of moral conduct norms from which behavior toward the other party is exempted and the intensity of negative attitudes toward the other party. Productive conflict, on the other hand, prevents stagnation, stimulates interest and curiosity, allows for the airing of problems and creation of solutions via open and honest communication of relevant information, encourages the recognition of the legitimacy of each other's interests and leads to a trusting, friendly attitude which increases awareness of similarities and common interests while minimizing differences (Deutsch, 1969).

In summary, the ideas and findings of the above authors form the bulk of the theoretical underpinnings of interorganizational conflict. Many of these concepts were tested and expanded in a business environment via the study of marketing channel conflicts. The next section of this paper will consider some of the channel conflict studies that have figured prominently in later discussions of alliance conflicts.

Marketing channel conflict literature. While a number of definitions of marketing channel conflict have been developed, a common theme running through all of them is that conflict is the perception of one channel member that another member is impeding the attainment of their goals (Stern and Gorman, 1969; Lusch, 1976; Stern and El-Ansary, 1977; Ross and Lusch, 1982; Gaski, 1984). Most research on channel conflict recognizes that such conflict can be either functional or dysfunctional (Anderson and Narus, 1990; Brown and Day, 1981; Lusch, 1976; Reve and Stern, 1979; Robbins, Speh and Mayer, 1982). However, the primary emphasis of the literature is that conflict is a disruptive, dysfunctional force within the channel (Hunt, 1995) that must be managed (Walters, 1974), reduced (Reve and Stern, 1979) or resolved (Dant and Schul, 1992). Rosenbloom (1973) proposed an inverted U-shape to channel conflict and performance, with low levels of conflict having little effect on channel efficiency, moderate

levels keeping the channel functional and high levels making the channel dysfunctional (Zhou, Zhuang and Yip, 2007). However, Duarte and Davies (2003) later empirically confirmed a linear model with performance declining as conflict increases.

The applicability of process models of organizational conflict (such as those of Pondy, 1967, Thomas, 1976 and March and Simon, 1958) has been generally supported in the channel literature (Reve and Stern, 1979). In particular, the work of Cadotte and Stern (1979) indicates that goal incompatibility, domain dissensus, perceptual incongruities between channel members and channel member interactions determine the potential for and the functionality of conflict for a particular channel dyad. Litterer (1966) suggested that incompatible goals cause dysfunctional conflict, while incompatible means to those goals may generate a search for compatible means, thus generating functional conflict. Etgar (1979) proposed a four-stage model of intrachannel conflict that is similar to Pondy's (1967) general model: an emergence of causes leads to a cognitive/affective stage of conflict, which may or may not lead to a manifest stage, but will advance to an outcome stage. Etgar saw attitudinal and structural sources for conflict. Attitudinal sources result from differences in the way channel members process information about the channel and the environment. These include disagreements about channel roles, expectations perceptions of reality and communications. Structural sources are associated with goal divergence, drives for autonomy (decision domain dissensus) and competition for scarce resources. Etgar's (1979) study concluded that both cognitive/affective and manifest conflicts are primarily caused by attitudinal sources (Zhou et al., 2007).

Along with functionality and processes, the marketing channel literature has also focused on the relationship between power in the channel and conflict. Using the bases of power developed by French and Raven (1959) and consistent with the theoretical arguments of Raven

and Kruglanski (1970), a number of authors have empirically found relationships between referent (identification with and admiration of a powerful other), expert (power attributed to needed expertise in a particular field or technology), reward (power attributed to the ability to control rewards in the relationship) and coercive (such as using threats, force and punishment) power and channel conflict. For example, a laboratory study by Stern, Schulz and Grabner (1973) found that conflict was at its lowest when referent and expert power are used and at its highest when reward and coercive power are used. Empirical findings by Lusch (1976), Wilkinson (1981) and Dwyer (1980) echo these earlier findings by suggesting that the use of non-coercive forms of power such as referent, expert and reward enhance the willingness to cooperate and reduce conflict (Vaaland and Hakansson, 2003). An influence policy based on coercive power has the opposite effect. Wilkinson and Kipnis (1978) investigated the nature of the conflict situation as it applies to coercive vs. non-coercive sources of power. They found that channel conflicts for reasons of member competition, delivery of poor good or services or poor contractual arrangements tend to invoke strong and coercive means of influence, particularly if the focal channel member is more powerful than the target member. In contrast, less coercive means of influence were used when one channel member was trying to convince another to initiate new actions such as buying its products (Reve and Stern, 1979).

A number of other authors took these results a step further by dividing power into exercised power (the use of which results in actual changes in channel member behaviors) and unexercised power (the potential to influence channel members to alter their behavior (Gaski, 1984; Gaski and Nevin, 1985; Ogbonna and Wilkinson, 1998) and then relating these forms to coercive and non-coercive methods of using power. These authors assert that a channel member's perception of another channel member's power bases and their ability to influence

decision-making may also play a key role in promoting conflict or satisfaction. Gaski (1984) asserted that coercive power that is held but unexercised by one party to a channel relationship creates an atmosphere of restraint, empathy and goodwill, thus reducing intrachannel conflict and enhancing satisfaction. On the other hand, if one party to the relationship perceives that the other party possesses non-coercive power sources that are not being exercised, this creates an atmosphere of non-recognition and apathy, which tends to negate satisfaction and enhance conflict. Pandey and Woolridge (2003) proposed that due to gaps in partner information or misinformation, channel partners may also perceive unexercised power sources that do not actually exist. They assert that these unexercised, 'perceived but non-existent' sources will influence the relationship in the same way as those that are unexercised but actually exist, i.e. coercive sources will reduce channel conflict and non-coercive sources will increase channel conflict. Finally, power research is also related to more current work by Zhou et al. (2007), which empirically utilized power-dependence theory (Emerson, 1962) to show that differences in channel member perceptions of dependency asymmetries lead to higher levels of channel conflict.

The notion of perceptual incongruities between channel partner understandings covers a wide range of topics beyond perceptions of power. Channel perceptions have been studied relating to domain (the division of responsibilities between the parties) dissent, decision-making, relationship history, and satisfaction. In particular, Rosenberg and Stern (1971) found significant levels of conflict for either domain dissent, perceptions of interdependent dyadic decision-making or both depending on whether the channel relationship was between manufacturers and distributors, distributors and dealers or manufacturers and dealers. Also, dissatisfaction with partner performance tends to increase levels of conflict in the dyad. Finally, the authors found

that a greater number of years of experience of distributor or dealer respondents with the manufacturer lead to higher levels of conflict with the manufacturer. While Rosenberg and Stern (1971) attributed this relationship to higher levels of knowledge of contractual rights and obligations and higher levels of organizational involvement and commitment among more experienced representatives, Walker (1972) contends that mutual learning over time reduces conflict because both sides have a better understanding of the other's priorities and accommodation levels. This reduction of conflict is also in line with the findings of Kemp and Ghauri (1999) who suggest that experience in the dyad tends to enhance the long-term development of trust and norms, thus reducing conflict (Vaaland and Hakansson, 2003).

The history of interactions between channel members has long been recognized as a factor in the functionality or dysfunctionality of the conflict aftermath in the dyad (Frazer and Hunt, 1989; Hunt 1995). Hunt (1995) discusses the process of conflict aftermath development as the formation of schema (i.e. cognitive structures containing all knowledge, affects, beliefs, history, perceptions, misperceptions and relationships-Fiske and Taylor, 1984; Fiske and Linville, 1980; Keaveney and Hunt, 1992) by individual channel member representatives. These schema combine to create an overall organizational ('superordinate') schema as organizational members share their own schema and the organization learns, remembers and acts on these shared beliefs (Cyert and March, 1963; Argyris and Schon, 1978; Sinkula, 1994). Continued interactions over time accumulate, either confirming or disconfirming the existing schema. Confirmed schema become increasingly resistant to change (Fiske and Taylor, 1984), requiring larger and larger discrepancies from existing schema to change the schema. Hence, the initial interactions between channel members lay the groundwork for more permanent schema; early

mistakes in conflict resolution are difficult to overcome, while initial positive interactions increase the probability of a long lasting and amiable relationship (Hunt, 1995).

To summarize, literature on marketing channel conflict provided empirical testing of a number of ideas initially developed in the sociological domain of interorganizational relations. Tests of conflict functionality vs. dysfunctionality, goal incompatibility, domain dissensus, power and perceptual incongruities relate directly back to the seminal works of Pondy (1967), Assael (1969), Deutsch (1969). Particularly interesting for this paper is the work on relational history (Hunt, 1995) and satisfaction perceptions (Rosenberg and Stern, 1971) that essentially rounds out and fills in Pondy's (1967) ideas relating to conflict aftermath and feedback loops. Also, the extensive work on power and conflict in channel relationships significantly expands on Pondy's somewhat limited discussion in that area. Each of these themes is revisited in the interorganizational conflict literature that specifically discusses alliances. This literature will be reviewed next.

Alliance conflict literature. As stated earlier, the literature on alliance conflict is somewhat limited in that it tends to repeat many of the themes that have been discussed in the sociology literature on interorganizational relations and the marketing literature on channel conflicts. Although conflicts have been identified as a key factor in the successful management of alliances (Friedman and Beguin, 1971; Ding, 1997; Anderson and Narus, 1990; Lane and Beamish, 1990; Lewis, 1990; Tilman, 1990; Geringer and Hebert, 1989; Kauser and Shaw, 2004; Kauser, 2007), the existing research in the alliance area has provided a limited perspective of the concept, with little empirical research available assessing conflict as a determinant of alliance relationship dynamics. However, it is necessary to review this literature to provide a basis for the later application of conflict handling orientations to alliances and for theory development.

The alliance literature on conflict strongly focuses on the sources, outcomes/performance effects and resolution/management of conflict. There is also a small amount of literature discussing the types and intensity of alliance conflict.

As to the sources of conflict, the alliance literature hearkens back to the work of Aldrich (1977) by referring to the drive for autonomy versus interdependence in the alliance relationship, which produces both cooperative and conflictual motives (Van de Ven and Walker, 1984), as a general cause of conflict. Madhok (1995) further specifies this relationship by stating that shared activities in alliances increase coordination costs and generate differences in relative contribution and comparative advantages, which increases the opportunity for conflict among the partners. This is echoed by Wahyuni, Ghauri and Karsten (2007), who find in a case study of chemical and airline industry alliances that unfulfilled expectations and unequal contributions among partners can provoke conflicts. Also, innovation in the early stages of alliances can increase uncertainty and ambiguity in the relationship, increasing the chance for opportunism and conflict. This is particularly true when a parent company transfers poorly protected knowledge to its joint venture (Hennart, 1991). Kausar (2007) further defines the bases of conflict as poor communication/language difficulties between partners, cultural misunderstandings, personality conflicts, conflicting goals and general distrust. In addition, differences in management styles and operational procedures are often mentioned as sources of conflict (Jain, 1989; Killing, 1983). Buchel (2000), in an in-depth case study of a telecommunications alliance between Ericsson and Hewlett-Packard, found that cooperative arrangements go through alternating processes of conflict emergence and conflict reduction (called 'conflict cycles') due to differing interpretations of operational issues and the establishment of group-based understandings (via meetings and other communication) of accepted and expected behavior with regard to those

issues. She attributes a greater likelihood of conflict in joint ventures to perceived differences in issue interpretation between ‘boundary’ groups (i.e. groups within the joint venture and groups within each partner), lower levels of information exchange between boundary groups, unclear roles of boundary groups, higher diversity of experience and beliefs between parental groups within the joint venture and higher levels of expectations of parental groups within the joint venture early in the relationship. Ring and Van de Ven (1994) also take a temporal view of conflict sources, proposing that individual partner agents form both formal (contractual) and informal (relational) role behaviors as an alliance evolves. These behaviors become more formalized and institutionalized over the life of the alliance. As agents are replaced, the relationship between formal and informal agreements tends to ‘drift’ and conflicts can erupt due to the excessive formalization and monitoring of the contractual terms (Van de Ven and Walker, 1984). In addition, as partners transfer proprietary resources over time, their identities and unique domains gradually shift from being complementary to being ‘undistinguished,’ increasing the likelihood of territorial disputes and conflicts (Van de Ven, 1976) over autonomy vs. common interests. In summary, much of the alliance literature attributes alliance conflicts to dichotomies in concerns for private vs. common interests, role and boundary ambiguity, asymmetric expectations for contributions, processes and goals, and poor partner communication/interaction for resolving these problems.

Little alliance literature exists regarding the types of conflict and their relationship to alliance performance. Most of the work simply utilizes Deutsch’s 1969 work stating that conflict can be either constructive or destructive (cf. Kale et al, 2000; Mohr and Spekman, 1994; Kauser, 2007) and describes those types in a discussion of conflict resolution (to be elaborated upon later). Some authors (see Wong, Tjosvold and Pengzhu, 2002; Parry, Song and Spekman, 2008)

discuss the organizational behavior work of Jehn (1995, 1997) that categorizes conflict as task-based (differences in opinions and viewpoints among group members regarding the content of tasks being performed), relationship-based (personal incompatibility among group members including tension, animosity or annoyance) or process-based (disagreements among group member about how task accomplishment and delegation should proceed). Jehn found that relationship conflict always negatively affects performance while low levels of process conflict can actually improve performance and that task conflict had a neutral or positive effect on non-routine tasks that have few set procedures, require problem-solving and have uncertain outcomes. This result was disputed by De Dreu and Weingart (2003) who found in a meta-analytic study of task versus relationship conflict that task conflict was negatively related to group performance. Parry et al., (2008) recently applied this work to task conflict within functional units of 196 joint ventures, finding that task conflict in the R & D area had a positive relationship with JV performance, while task conflict in the Marketing area had a negative relationship with performance. These authors attribute this difference to partner perceptions of the integrative potential (i.e. the potential for win-win solutions to the conflict) of the decisions made in these areas; R & D personnel are considered to be more creative and open to exploration of options to solve problems, while Marketing-type decisions encourage less open and more structured (i.e. 'fixed-pie) perceptions. The authors also state that these relationships are moderated by conflict management strategies, which will be discussed later.

Along with conflict types, there is also a small amount of discussion regarding conflict intensity in the alliance literature. Generally, the informal governance structure and the level of dynamism and instability that is common to many alliances can increase opportunism and hence the degree of conflict in alliances (Barringer and Harrison, 2000; Dussauge and Garette, 1999;

Ring and Van de Ven, 1994; Nordin, 2006). However, within these alliance relationships, trust and collaboration are seen as positive mediators between the level of opportunism and conflict (Gulati, 1995; Gadde and Hakansson, 2001). Trusting relationships in particular can reduce the scope, intensity and frequency of dysfunctional conflict (Zaheer, McEvily and Perrone, 1998). In addition, a lower level of complexity of interactions between parties can reduce the number of conflicts in the relationship (Ford et al., 1998). Arino (2001) reaffirms the importance of the work of Pondy (1967) and Aldrich (1977) by proposing that the degree of conflict in cooperative ventures depend upon the mix of private and common goals in the venture and the level of congruity between venture partners of the weights assigned to these goals. Finally, Wahyuni et al. (2007) relates conflict intensity to performance by stating that alliance partners are eager to solve conflicts concerning managerial or organizational differences as long as the economic benefits for solving those differences and continuing the partnership remain high.

Relative to work on the types and intensity of alliance conflict, a larger body of work discusses conflict resolution/management strategies and their outcomes. While many studies simply focus on the negative aspects of conflict in general, others evidence the negative relationship between alliance conflict and performance. Additionally, a number of studies relate specific conflict management techniques to better alliance performance.

Although there are limited exceptions (c.f. Doz and Hamel's 1998 study linking alliance conflict with enhanced learning), alliance conflict is seen as resulting in frustration, unpleasantness, misunderstandings, mistrust, reduced cooperation and finally deteriorating performance and dissatisfaction (Freidman and Beguin, 1971; Wright, 1979; Killing, 1983; Lewis, 1990). For example, Kauser (2007) uses Killing's (1983) work to discuss the detrimental role of conflict in task accomplishment, stating that frequent disagreements tend to result in

complex and time-consuming decision making or obstructive behaviors that simply block attempts at effective decision making. As a result, time and resources are devoted to conflict resolution rather than productive activities for the alliance, limiting the ability of the alliance to respond to and cope with environmental changes. The international joint venture literature sees conflict as inhibiting the development of norms regarding fair exchange and reciprocal trust that is necessary for a successful alliance relationship and also resulting in the withholding of valuable resources between partners (Buckley and Casson, 1988; Lane and Beamish, 1990). Conflict relating to cultural misunderstandings can minimize flows of information and learning (Fiol and Lyles, 1985; Parkhe, 1993; Salk, 1992; Lyles and Salk, 1996). This literature also references transaction cost theory, suggesting that conflict increases the social and economic costs of an alliance by eroding trust, reducing partner commitment, increasing opportunistic behavior, reducing the likelihood of partners contributing idiosyncratic assets to the venture and increasing the need for partners to monitor and safeguard assets (Beamish and Banks, 1987; Cullen, Johnson and Sakano, 1995).

Contrary to work in the sociology, marketing and OB areas stating that conflict can be a positive force by stimulating communication, creativity, development and a new balance of interorganizational power (Brown, 1983; Pascale, 1990; Pondy, 1967; Assael, 1969), much of the alliance conflict research focuses on minimizing or avoiding conflict as a success factor (Gomes-Casseres, 1998). Studies that attempt to explain the conflict reduction process usually state that frequent disagreements lead alliance partners to either a new round of negotiations where conflict is reduced or to termination of the alliance relationship (Ring and Van de Ven, 1994; Zaheer et al., 1998; Buchel, 2000). Considerable work has been done in the international arena that generally shows a negative relationship between conflict (many times due to cultural

misunderstandings) and IJV performance (Tilman, 1990; Ding, 1997; Lane and Beamish, 1990; Bruner and Spekman, 1998; Li, Lam and Qian, 2001; Kauser and Shaw, 2004). However, a recent analysis of 18 published conflict studies by Robson et al. (2006) found a positive relationship between conflict reduction and alliance performance in only half of the studies. The authors attribute this phenomenon to relatively weak conceptualizations and operationalizations of the conflict construct in post-1996 studies.

Much of the work on alliance conflict outcomes is framed by the type of resolution techniques used. Mohr and Spekman (1994) provide what might be considered a seminal work in this area as their discussion is used in a number of later studies of alliance conflicts. These authors use the works of Thomas (1976), Deutsch (1969), Anderson and Narus (1990) and Assael (1969) to assert that the manner in which alliance partners solve conflicts are critical to the success of the partnership. Specifically, they posit that the use of non-aggressive persuasion and joint problem solving can more fully satisfy the concerns of both partners in a conflict (i.e. produce an integrative solution) whereas attempts at domination, coercion or other confrontational methods are likely to strain the alliance relationship and be more destructive. The authors also disdain the use of outside arbitration to solve conflicts as this may be a sign of inherent problems in the alliance relationship. Finally, the authors state that attempts to smooth over or ignore a conflict does not address the conflict's root causes, is contrary to the basic goal of mutual gain that is present in alliances and is at odds with the norms and values (i.e. the ability to 'work out' relationship problems as they surface) used in successful strategic partnerships (Ruekert and Walker, 1987). Mohr and Spekman (1994) test these ideas on a sample of 102 computer dealer-supplier relationships, finding a significant positive relationship between the use of joint problem-solving and relationship satisfaction and a significant negative relationship

between the use of domination, harsh words, smoothing over or avoiding conflict and profitability satisfaction. Also somewhat in line with their hypotheses, the authors find a positive but non-significant relationship between the use of outside arbitration and profitability satisfaction. The authors conclude that the negative, destructive conflict management behaviors do not focus on long term solutions to problems and neglect the information sharing and communication aspects of successful problem-solving.

Mohr and Spekman's work is echoed in a number of later studies. For example, Kale et al. (2000: 223) state that "an integrative method of conflict resolution [using joint problem-solving] engenders feelings of procedural justice between the alliance partners" such that their assessment of decision-making processes as fair and just positively affects their attitudes of trust and commitment (Kim and Mauborgne, 1998) and develops positive psychological feelings about their partners. This in turn aids in the development of relational capital and the achievement of a higher level of learning among the partners via open communication and an easier exchange of knowledge. The authors also find that open communication also allows the partners to let each other know what types of knowledge will not be transferred to the alliance, thereby better protecting proprietary assets. In contrast to Kale et al. (2000), Lin and Germain's (1998) conflict resolution strategies more closely follow the Thomas (1976) model in an assessment of the context variables and performance outcomes of such strategies for IJV's. Using problem-solving, compromise (seeking the middle ground between partner positions), forcing and legalistic (following written contracts and informal binding agreements) conflict resolution strategies in the context of the partners' cultural similarity, relative power and the relationship's age, the authors find that cultural similarity positively relates to problem-solving strategies, relative power negatively relates to compromise strategies but positively relates to

forcing strategies and relationship age positively relates to problem-solving strategies but negatively relates to legalistic strategies. Furthermore, problem-solving approaches positively related to partner satisfaction with the venture, while legalistic approaches showed a significant negative relationship. The positive relationship between compromising and satisfaction and the negative relationship between forcing and satisfaction, while in the hypothesized direction, were non-significant (possibly due to the sample particulars i.e. a small size, the use of U.S.-Chinese ventures and the inclusion of only successful ventures in the sample).

Several more recent studies illustrate the importance of conflict types and national culture on conflict strategies used. Parry et al. (2008) as discussed earlier, found that R & D task conflicts had a higher integrating potential than marketing task conflicts and hence had a positive and significant effect on alliance performance. Using the Thomas (1976) model, the authors found in addition that a collaborating (similar to the problem-solving) strategy had a positive impact on the R & D task conflict-performance relationship and that an accommodating strategy had a negative impact on this relationship. Because the Marketing department task conflict had less integrating potential, a collaboration and a compromise strategy had a similar impact on the Marketing task conflict-performance relationship. Finally, a number of studies have discussed national cultural differences in the effectiveness of an integrative approach to conflict management. For example, Lin and Miller (2003) found that American JV partners favored collaborative conflict resolution strategies while their Chinese counterparts favored compromise strategies. These results were echoed in a study of Western versus East Asian managers by Wang et al. (2005). However, Wong et al. (2002) found that a strong commitment to quality in buyer-seller relationships can negate the cultural tendency for compromise or conflict avoidance by Asian entities.

In summary, the alliance conflict literature repeats many of the sociological and marketing themes regarding the sources, types, outcomes and resolution management of alliance conflict. The dominant theme of conflict as being a negative force that should be reduced generally concurs with the sociological work of Mayo (1945), Barnard (1948) and March and Simon (1958) and the marketing work of Reve and Stern (1971). The conflict sources discussed (private vs. common interests, role/boundary ambiguity, asymmetric contributions and expectations, divergent processes and goals, poor communication) reflect the bargaining, bureaucratic and systems models of Pondy (1967) as well as the sociology works of Assael (1969), Schmidt and Kochan (1972) and Thomas et al. (1972) and the marketing works of Lusch (1976), Gaski (1984) and Rosenberg and Stern (1971). The types and intensity of conflict relate directly to the work of Coser (1956), Assael (1969), Deutsch (1969), Molnar and Rodgers (1979) as well as the organizational behavior works of Jehn (1995, 1997).

Finally, the research on conflict outcomes and management is driven again by Pondy's (1967) ideas of conflict processes, Walter and McKersie's (1965) work on competitive vs. integrative solutions and Leach's (1980) discussion of organizational energy available for conflict. Process model work is also generally supported in the marketing literature by Cadotte and Stern (1979) and Etgar (1979). The negative relationship between conflict and performance in the alliance literature essentially confirms the marketing-related work of Rosenbloom (1973) and Duarte and Davies (2003). Lastly, the emphasis of trusting collaborations built over time relate back to Pondy's (1967) conflict aftermath discussion and the marketing work on relational history of interaction by Hunt (1995) and Kemp and Ghauri (1999).

Unique to the alliance conflict literature is the strategic and economic focus regarding the alliance relationship. In particular, TCE and the relational view are used portray alliance

relationships as shared activities that increase coordination costs as well as costs for monitoring and protecting assets and knowledge from partner opportunism. Also, while the alliance conflict resolution literature borrows much of its characterization of conflict resolution from organizational behavior (particularly the work of Blake and Mouton, 1964 and Thomas, 1976), there are only a few studies in the JV and IJV areas (Lin and Germain, 1998; Parry et al., 2008; Wong et al., 2002) that attempt to specify how some conflict sources relate to certain conflict resolution techniques and certain performance outcomes. As these conflict resolution techniques are critical to the development of theory regarding conflict orientation/handling behaviors, the next section will briefly discuss the organizational behavior roots of this theory and then proceed to a more specific exploration of the Thomas (1976) model.

OB literature on conflict resolution. The Thomas (1976) model has two seminal roots. The first is the writings of Mary Parker Follett (1924, 1941) that discuss ways that interpersonal conflict may be handled in organizations. Her discussion of domination (which is interpreted under more current theories as ‘forcing’ or ‘competition’), compromise, integration and avoidance/suppression set the stage for Blake and Mouton’s classifying scheme of five conflict handling modes (forcing, withdrawing, smoothing, compromising and problem-solving) of managers based on a concern for production or a concern for people. Ruble and Thomas (1976) reinterpreted this scheme to be two intentions of a party in conflict (i.e. motivational orientations of an individual during a conflict-Rahim, 2002): assertiveness, or the attempt to satisfy one’s own concerns, and cooperativeness, or the attempt to satisfy the other party’s concerns. Within this dual concern model, Ruble and Thomas (1976) pinpointed five conflict handling styles in two dimensional space: avoidant (exhibiting low assertiveness and low cooperativeness), accommodative (low assertiveness, high cooperativeness), sharing or compromise (moderate

assertiveness, moderate cooperativeness), competitive (high assertiveness, low cooperativeness) and collaborative (high assertiveness, high cooperativeness). Although the original Blake and Mouton (1964) model, as well as the earlier Follett works could be considered normative, Lewicki, Weiss and Lewin (1992) state that this descriptive version of the model has withstood sustained empirical examination in the OB arena (Rahim and Bonoma, 1979; Cosier and Ruble, 1981; Pruitt and Rubin, 1986; Van de Vliert and Kabanoff, 1990). In addition to this process oriented model, Thomas (1976) also discussed a structural model in an effort to identify some of the more permanent determinants of conflict behavior. While the five orientation model has been slightly modified by a number of later authors (c.f. Rahim and Bonoma, 1979; Pruitt, 1983), the basic model has remained generally intact in the discussion of alliance conflict handling techniques (as evidenced by the alliance literature discussion above). However, the framework within which Thomas (1976) introduced this model has been largely forgotten. To better frame the conflict orientation model and to provide additional support for later theory-building, the full Thomas (1976) work will now be discussed.

Thomas (1976) discusses two models that researchers use to understand conflict. The first is a process model that tries to identify the sequence of events in a conflict episode and the effect of each event upon succeeding events. The Pondy (1967) model of conflict discussed in the sociological literature above provides an excellent basis for this process model. The second model is a structural model that attempts to provide context for the process, i.e. the conditions of the situation and the partners which shape the conflict behavior in the relationship. Thomas brings together the work of a number of authors in developing this model. Thomas states that while these two models represent two somewhat different literatures, they both fit together into one comprehensive view of conflict structure and process; “The structural variables constrain

and shape the process dynamics, while knowledge of the process dynamics helps one predict the effects of structural variables” (Thomas, 1976: 894).

To situate his discussion, Thomas (1976) defines dyadic conflict for his purposes as a process (which includes perceptions, emotions, behaviors and outcomes) which begins when one social unit (defined as individuals, groups or organizations) perceives that another social unit has frustrated, or is about to frustrate, some concern (which can be construed as a conflict ‘source’).

Thomas’ process model depicts five main events: the party’s experiencing of frustration in the satisfaction of a concern (i.e. realization of a goal), conceptualization of the conflict, engaging in coping behaviors vis-à-vis the other party, the other party’s reaction to the behavior and finally an outcome. The outcome is usually based on a number of cycles of behavior-reaction-conceptualization events (which Thomas calls ‘interaction’) where conceptualizations may change based on the other party’s reactions, resulting in altered behaviors. In looking at each of these events specifically, the frustration event results from the many sources of conflict (such as autonomy drives, competition for scarce resources, etc.) that have been discussed earlier. Regarding conceptualization, Thomas (1976) states that how a party conceptualizes a conflict depends upon the party’s definition of the conflict (i.e. in terms of the party’s own concerns versus the other party’s concerns, the extent of the party’s understanding of the conflict’s underlying issues, the perceived importance of the issue), the party’s awareness of the alternatives available to handle the conflict and the degree to which these alternatives to satisfy party needs (i.e. scenarios that are pure win-lose, zero-sum scenario, unresolvable or indeterminate). Regarding the party’s conflict behavior, Thomas considers three components: orientation (these are the conflict handling orientations shown in Figure 1 and described above, using the two dimensional space of cooperativeness-uncooperativeness on the x-axis and

assertiveness-unassertiveness on the y-axis), strategic objectives (integrative, which is the total amount of satisfaction available to both parties, versus distributive, which is the proportion of that satisfaction going to each party) and tactics (i.e. distributive/competitive, involving the use of power; integrative/collaborative, involving identifying underlying concerns and jointly satisfying solution alternatives; avoidant, involving withdrawal and isolation, accommodative, involving tolerating or not confronting issues, and compromise, involving finding a middle position and ‘splitting the difference’-see Blake et al., 1964 for more on the latter three tactics). Thomas further defines the cooperativeness orientation dimension as extent of one party’s identification with the other (from positive identification to indifference to hostility) and the assertiveness orientation dimension as each party’s stakes (the amount of energy each party wishes to outlay in satisfying their own concerns) in the conflict. These preferred orientations interact with the party’s notions of feasibility regarding the degree of distribution (based on relationship power and commitment assessments) and the degree of integration (based on the type and degree of conflict of interest that is present) to result in some type of strategic objective. These objectives are then played out in the specific tactics used.

Regarding the interaction event, Thomas (1976) discusses the idea that a party’s orientation, strategic objectives and tactics may change based on the other party’s behavior. For example, a change in the stakes or in identification with the other party may change a party’s orientation, a change in a party’s perception of power and the degree of conflict of interest may change strategic objectives and/or a change in a party’s level of trust and respect for the other party may serve to change tactics. These changes serve to either escalate or de-escalate the conflict. Thomas mentions a number of dynamics as factors which cause such changes, including: revaluation (Follett’s idea stating that conflict and communication with another party

causes the focal party to change its definition of the issue and its preferred alternatives-Follett, 1941), self-fulfilling prophecies (i.e. competitive responses in one party beget competitive responses in another party, collaborative responses beget collaborative responses, etc.), various biases such as egocentrism (negative perceptions of another's motives due to the lack of knowledge of those motives), selective perception (selectively perceiving another's actions as supporting one's perceptions of the other's motives) and cognitive simplification (i.e. considering a conflict as simply win-lose under higher levels of stress, threat or ego involvement), communication breakdowns and the subsequent loss of various power bases (i.e. information, expert, referent, reward, legitimate-see Raven and Kruglanski, 1970) as hostility increases, goal substitution or displacement (i.e. an increasing need to 'win' a conflict as, for example, competition over scarce resources continues), the 'proliferation' (Deutsch, 1969) of competition between parties over new or revived old issues, perceptions of basic incompatibility as competitiveness spreads and the need to 'vent' negative feelings in communication with each other (Walton, 1969). At the same time (as also stated in the 'Introduction' section), Thomas notes that prior research (Donnelly, 1971; Walton and McKersie, 1965; Bales, 1950) has shown that parties to a conflict are not simply 'pawns' of external forces, simply reacting to other's actions without thinking. Parties may attempt to use distributive, integrative or 'attitudinal structuring' tactics in anticipation of both the long-run and short-run consequences of their behavior.

Regarding the final event in the process model, the outcome consists of the short-run and long-run consequences that occur when interaction regarding the conflict ceases. Similar to Pondy's (1967) 'conflict aftermath,' these consequences can be objective results or the party's perceptions of satisfaction with the relationship. As such, they set the stage for future relations

between the parties. For example, Follett (1941: 35) notes that integrative solutions to issues represent true resolution because both parties are fully satisfied and no further issue remains. However, solutions arrived at due to neglect, compromise, accommodation or domination will cause their underlying conflicts to arise again in some other form because when “we give up part of our desire, and because we shall not be content to rest here, sometime we shall try to get the whole of our desire.” In support of this notion, Thomas (1971) found that relationship satisfaction among interdepartmental managers varied positively with collaborative and accommodative behavior and negatively with competitive or avoidant behavior. Lawrence and Lorsch (1967) also found a positive relationship between organizational performance and inter-unit collaboration. Earlier work by Blau (1955) however, clarified this relationship by showing that competitiveness was negatively related to individual performance where cooperative work group norms were in force.

The second conflict model that Thomas (1976) develops is a structural model that concerns itself with the central behavioral tendencies within a given dyadic relationship. Thus, the model concerns itself with the aggregate mix of behaviors (i.e. collaboration, competition, compromise, accommodation, avoidance) used by a dyad which shape conflict episodes. Rather than identifying events within conflict episodes, the structural model views each party's behavioral changes as resulting from changes in the underlying configuration of pressures and constraints that affect each party. These pressures and constraints consist of behavioral predispositions of the parties that stem from their motives and abilities, pressures from their surrounding social environments, conflict incentives regarding interests and relationship stakes and decision rules, negotiating procedures and third party involvement procedures that form the framework within which the parties interact.

In terms of behavioral predispositions, Thomas states that while parties are not assumed to have inflexible, invariable traits, they do have some behavioral tendencies. Thomas references Berkowitz (1962) and Blake and Mouton (1964) in stating that individuals can be thought of as having a hierarchy of responses for dealing with conflict situations that proceed from a 'dominant style' response (that a party uses habitually and feels most comfortable with) to a lesser used 'back-up style that is used if the dominant style is ineffective. For example, a supervisor may tend to be collaborative in approaching subordinate issues, but may use a more competitive stance if he/she perceives that a subordinate is taking advantage of him/her, and may finally withdraw if neither stance seems to work. Also, a response hierarchy can be shaped by motives and abilities as well as the situation itself. For example, problem solving is easier for creative people (Follett, 1941) and individuals with a high need to exercise power and dominance may use a competitive stance more frequently (Stagner, 1962; Raven and Kruglanski, 1970). In the case of situational effects on behavioral predispositions, Terhune (1970) completed a comprehensive review of personality studies involving experimental games and found that personality differences are most likely to show up in behavior under non-threatening circumstances. However, when there is high conflict of interest and anticipated threat or actual competition from opponents, noncoercive responses (such as collaboration and accommodation) may be ineffective thus leaving the party with no choice but to use coercive competitive tactics or to withdraw.

Social pressure from outside the dyad consists of constituent pressure from groups which the party represents and 'ambient social pressure' from wider cultural norms, formal authorities and/or public opinion. Constituent pressure causes a party, as a member of a larger group, to not be free to negotiate according to its own preferences or judgments, depending upon the value of

group membership to the party. Although these expectations may be altered via intra-organizational bargaining between the representatives and the constituents (Walton and McKersie, 1965), Thomas states that the conflict literature suggests that social pressure from constituent groups is usually toward more assertive and competitive behavior. This is supported by findings that group discussion of an issue produces shifts in individual preferences toward riskier behavioral strategies (i.e. the 'risky-shift' concept-see Wallach and Kogan, 1965) and that competition and hostility toward other groups strengthens the leadership hierarchy, cohesion and unity of purpose within the focal group (Coser, 1956; Blake and Mouton, 1961). Ambient social pressure, on the other hand, reflects the norms and values of some larger system of which the dyad is part, such as cultural values, organizational/work group norms, governmental entities and public interest. Generally, the existence of these groups and their ability to apply sanctions against the conflicting parties gives strength to their standards of behavior. While the common objective of most ambient social pressure seems to be preventing disruption of the larger system, organizational climates vary in the extent to which they encourage or discourage constructive conflict. In many cases this is unfortunate, as underlying conflicts that are not resolved could be driven underground to take less overt but more destructive forms or can accumulate only to make the eventual confrontation more destructive.

The mix of conflict behavior used by a party is also influenced by the incentive structure of the relationship, which Thomas defines as the stakes involved in the relationship and the degree of conflict of interest between the concerns of the parties. The stakes are defined as the importance to the focal party of concerns which depend upon the behavior of the other party. These concerns may involve satisfaction of interpersonal needs, functional dependence, distribution of resources or work coordination. Parties will generally be more assertive, more

sensitive to the other party's behavior and invest the most energy in situations where the stakes are highest. The conflict of interest is defined as the general degree of compatibility versus incompatibility between the concerns of the parties. Thomas categorizes interest conflicts as those concerning competitive issues (allocation of scarce resources or the use of scarce resources to meet differentiated concerns, which causes competitive or avoidant behavior), common problems (such as the achievement of superordinate goals, which causes collaborative or accommodative behavior) and mixed issues (such as deciding on a course of action to follow, which causes either cooperative or uncooperative behavior based on the party's identification, trust, common interests in other areas, and the results of cooperative and uncooperative behavior in other areas). Thomas concludes this particular discussion by enumerating the predicted joint effects of relationship stakes and conflict of interest on a party's conflict handling behavior, stating that higher stakes are expected to result in more assertive behavior while common interests result in more cooperative behavior. Thus, when parties have a great deal at stake, high conflict of interest is expected to produce competition; when little is at stake, high conflict of interest produces avoidance. Likewise, when common interests are high, a party will be more collaborative with much at stake and more accommodative with little at stake. At an intermediate level of stakes and commonality of interest, a compromise handling stance would be preferred.

The final set of influences on party behaviors are the rules and procedures relevant to their joint decision-making. This consists of rules which dictate substantive decisions on issues, negotiation procedures which constrain the actions of the parties and procedures for third party involvement. As alliance partners rarely involve third party mediators or arbitrators in their interactions, we will not review Thomas' discussion of this area. With regard to decision rules,

Thomas (1976) mostly refers to the work of Thibaut and Kelly (1959) stating that rules tend to be created to handle sensitive issues between the parties. While both parties need to give up some of their personal power and freedom in accepting a rule, an effective rule allows becomes institutionalized by the parties and is automatically accepted, thus saving time, energy and the potential hostility of conflict episodes. Parties can appeal to this rule as an impersonal source of legitimate power, which is less likely to generate hostility than coercing the other party to follow a self-conceived and applied rule. On the downside, however, such highly accepted rules can take on the quality of moral obligation and discourage problem solving; they can encourage win-lose type thinking and polarization in the resolution of disputes. Also, in situations of higher threat to a party, decision rules may proliferate as each party seeks to control the other and protect itself. This increases competitive orientations and may actually result in an avoidant orientation as parties withdraw from relationships that are governed by too many formal rules for fear of violating them.

In the area of negotiation procedures, Thomas acknowledges that two parties normally have procedures that govern their frequency of interaction, sequencing of issues, length of meetings, formality of presentations, number and composition of people present at meetings, etc. These procedures may be both formal and informal. Thomas uses the example of labor management relations to discuss how infrequent negotiations discourage collaboration by allowing hostile stereotypes to develop (Newcomb, 1947); formal presentations encourage competition by hardening positions; consideration of several issues in meetings encourages 'horse-trading' instead of problem-solving (Fisher, 1964); and using one set of representatives to negotiate issues discourages problem-solving if those representatives are less knowledgeable of the issues at hand (Lawrence and Lorsch, 1967). On the other hand, Thomas gives other

evidence of using small teams to ‘fact-find’ on issues before they are considered by the larger group. This procedure prevented premature commitment to poor alternatives and fostered an exploratory, problem-solving approach. In addition, early collaboration on fact-finding fostered mutual trust and identification among the parties (see Blake et al. 1964).

Thomas (1976) study concludes with observations regarding the state of conflict literature. Specifically, Thomas notes that the literature seems to set up the collaborative stance as the panacea for resolution of all conflicts. Thomas states that this is not the case, and that the functionality of a specific conflict handling behavior varies over issues and situations. For example, an avoidant posture may be efficient in cases where the party has low stakes in the conflict. Also, a competitive stance may result in more favorable outcomes when dealing with competitive others or in situations with high conflict of interest. Thomas also points out that there is little research on intra-dyad conflict management activities and the fact that although conceptualization of a conflict is a key leverage point in conflict management, there is relatively little research in this area. Finally, Thomas notes that much of the research in areas such as game theory deals with only cooperative versus non-cooperative behavior, ignoring both the various conflict-handling stances and the variety of structural variables that shape these stances. Thomas states that his structural model is an attempt to explain this complexity but that the model needs to be tested and further expanded to understand how the variables interact to influence behavior and how behavior feeds back to influence the structural variables. With this additional work, the structural model could eventually become a systems model of conflict with strong predictive power and with implications for system change strategies. It is important to note that this study is an exploratory attempt to test a modified version of this model.

To conclude, the process and structural models described in Thomas (1976) utilize many of the research findings in the sociological and OB areas to build an effective model of conflict. This work has been substantiated by later research in marketing and alliance literatures, particularly in the area of conflict handling behaviors. The next section of this paper will summarize and integrate these literatures and build critical assumptions for a theoretical model relating conflict handling behaviors to dyadic alliance performance.

Literature review summary, definitions and model assumptions

The literature in the sociology, marketing, OB and strategic alliance areas identify six broad themes that are critical to the development of the conflict handling behaviors of alliance partners. Five of these themes revolve around the more general concept of initial conditions. Initial conditions provide a framework within which relational history/experience, partner stakes/incentives, partner possession/use of relative power, organizational pressures for alliance success, and external environmental munificence play major roles. Each of these concepts will be reviewed in turn as they apply to alliance conflict. Also, conflict handling orientations in the context of alliance conflict will be defined and a number of other assumptions for this research will also be considered.

Doz (1996) is probably the most commonly cited study in alliance literature that discusses the importance of the initial conditions in the alliance on later alliance evolution and performance. Doz used a grounded theory approach to complete a longitudinal study of six projects in three separate alliances to determine whether and how learning takes place between alliance partners. His study found that initial conditions were comprised of a definition of the task to be performed, a set of action routines derived from the organizational contexts of each partner, a design for the interaction between the partners and expectations about the performance

of the alliance and partner behaviors and motives towards and within the alliance. These initial conditions either facilitated or hampered partner learning about the alliance environment, how to work together to accomplish the task at hand, and the partner's respective skills and goals. This learning in turn caused the partners to reassess alliance performance (defined as efficiency, equity and adaptability of the alliance) and revise the initial conditions to either improve the alliance or prepare for termination of the alliance. Importantly, Doz (1996) also found that small early events, whether positive or negative, had significant consequences for either establishing (or not) "a self-reinforcing cycle of heightened efficiency expectations, greater institutional and personal trust and commitment, joint sense-making and learning and greater flexibility and adaptability" (1996: 77).

This research is confirmed in the marketing literature where Hunt's (1995) discussion of the formation of organizational schema states that the initial interactions between channel members lay the groundwork for more permanent schema. Hence, early mistakes in conflict resolution are difficult to overcome, while initial positive interactions increase the probability of a long lasting and amiable relationship.

In the alliance area, Child et al. (2005) states that real-world alliances rely heavily on partner prior collaborative experience and the use of mutual hostages to foster positive initial conditions, and that an initial defection often leads to a precipitous drop in trust and the break-up of the collaboration.

Finally, Thomas (1976) in the OB area asserted that, while individuals, groups or organizations do not have inflexible behavioral traits that do not change with situational changes, these parties can be assumed to have tendencies in their behavior. These behavioral predispositions can be assumed to help form initial conflict handling orientations. In addition,

OB studies reviewed earlier in this paper found that early collaboration on fact-finding fostered mutual trust and identification among the parties (Thomas, 1976; Blake et al. 1964).

Hence, the concept of initial conditions is critical in the assessment of future conflict handling orientations for alliance partners. Collaborative initial conditions appear to form a positive perceptual framework in which later conflict interactions are assessed, while competitive or harsh tactics form a negative context.

In addition, these experiences appear to be given disproportionate perceptual weight toward ultimate alliance success in comparison to their actual significance, particularly in the case of negative contexts. Another important aspect of initial conditions, therefore, is their ‘negative stickiness’ throughout the life of the alliance, the fact that negative experiences seem to be best remembered and perpetuated in the relationship. This aspect of initial conditions bears further discussion in the development of hypotheses as it does not explain the existence of the ‘drifting’ alliances mentioned by Eaves et al. (2003).

Based on the interorganizational conflict literature reviewed, the next five themes play a major role in forming the context of the initial conflict handling stances of alliance partners. The first of these contextual factors is the relational history/experience of the partners. This history involves not only prior contact with the target alliance partner but also the experience of the focal partner with other alliances. The importance of relational history is mentioned time and again in the interorganizational conflict literature. In the sociological area, Pondy’s (1967) ‘conflict aftermath’ concept states that past experience with conflict resolution among partners sets the stage for future stances toward conflict resolution (also discussed on the OB area in Thomas, 1976). As stated earlier, this follows Coser’s (1956) notion that the resolution of frequent, minor conflicts of interest among organizational groups gradually adjusts the overall system and

forestalls the accumulation of latent conflicts that might eventually disrupt the overall organization. Assael (1969) and Deutsch (1969) also confirm the importance of prior cooperative versus competitive bonds (based on superordinate goals, mutually facilitating interests, common values, linkages to a common community, etc.) as important to constructive conflict resolution.

The marketing literature also discussed discordant findings regarding partner experience and the level of conflict (as discussed earlier; see Rosenberg and Stern, 1971; Walker, 1972; Kemp and Ghauri, 1999) as well as the effect of accumulating interaction experience on conflict (Fiske and Taylor, 1984; Hunt, 1995). These discussions confirm Follett's (1941) notion that non-integrative solutions will accumulate and cause their underlying conflicts to reappear in both short and long run aspects of the alliance relationship. In addition, strategic management theory, social network theory, game theory and the relational view also discuss the importance of relational history in alliance success.

In strategic management theory, the contingency approach to partner selection and compatibility stresses the effects of the favorability of past associations (Geringer, 1991), while social network theory states that the historical experience of alliance partners in social networks can constrain the set of available activities. Game theoretic research has also confirmed the importance of reputation and cooperative history in alliance cooperation (Axlerod, 1984; Parkhe, 1993). Also, the relational view stresses repeated ties (Gulati, 1995) and the development of trust over time to build relational capital (Dyer and Singh, 1998).

Finally, while relational history is not specifically discussed in the alliance conflict literature, the evolving nature of alliance conflict resolution discussed in Buchel (2000) and Ring

and Van de Ven (1994) underscores the importance of relational history and experience in conflict orientations.

The second contextual factor of initial conditions for conflict handling orientations is the partner's stakes/incentives for conflict resolution. This context revolves around the importance of cooperating with the target partner to maximize the rewards of the alliance relationship for the focal partner. While these terms are not exactly equal, it is assumed for this discussion that for the focal partner, the perceived incentives (reward expectations) for conflict resolution have a direct, positive relationship with a perceived stakes (perceived risks undertaken to obtain expected rewards) in resolving the conflict. Like relational history, discussions of partner stakes and incentives are prevalent in all areas of interorganizational and interorganizational conflict literature. The contribution of value chain strengths in alliances (i.e. market power theory), the development of customized assets and the act of allowing partners access to unique knowledge and capabilities (RBV theory) raises the stakes for alliance partners in achieving success through cooperation. At the same time, the incentive for opportunism under TCE is increased by these actions and resulting agency approaches to bond and incentivize partners are commonly exercised as strategic choices of alliance partners. The control of stakes in the alliance also relate to partners risking social network positions and accepting dependency to minimize resource scarcity.

Specific to the sociology and alliance conflict literature, partner stakes in conflict resolution relate to the amount of time and resources spent resolving conflicts versus engaging in productive alliance activities, i.e. the inducements to engage in conflict resolution versus the contributions of time and resources necessary to resolve conflicts (Pondy, 1967; Leach, 1980;

Deutsch, 1969; Kauser, 2007). Hence, partners are eager to assertively solve conflicts if they perceive a positive economic benefit (Wayhuni et al. 2007; Thomas, 1976) for doing so.

The third contextual factor explaining initial conflict handling orientations is the focal partner's possession and use of power in conflict resolution. The use of power is certainly implied in strategic management, TCE and agency theories as alliance partners may use their superior positions in terms of information or asset control to engage in various opportunistic activities (i.e. moral hazard, adverse selection, holdup) or take action to control opportunistic activities (via governance structures, monitoring, bonding and/or incentivizing). Social network and resource dependence theories also discuss power via control over valuable network positions (for example, network centrality), scarce resources, and alternative resources/positions that may reduce the stakes in the alliance for the focal partner.

In the sociology literature, Pondy's (1967) bureaucratic model of conflict resolution discusses the use of power in the creation of rules to align expectations between superiors and subordinates. Deutsch (1969) and Assael (1969) also discuss the dysfunctional use of power via inequitable allocation and coercive action among partners.

In the alliance literature, the concepts of learning races (Hamel, 1991; Kale et al., 2000) and IJV instability (Inkpen and Beamish, 1997) are tied up in ideas of power attributable to the early acquisition of valuable partner knowledge. Many of these power concepts are investigated in the marketing literature, where Stern et al. (1973) found reduced conflict via the use of referent and expert power and increased conflict when reward or coercive power was used. In addition, Zhou et al. (2007) found that power-generating dependency asymmetries increased marketing channel conflict.

The marketing literature also tested exercised and unexercised power, finding that withholding the use of coercive power reduced alliance conflict and withholding the use of expert or referent power enhanced conflict. This was true whether power was actual or merely perceived (Gaski, 1984; Pandey and Woolridge, 2003).

Finally, Thomas' (1976) treatment of power in the OB area concerned the tactical use of the five conflict handling stances based on the power base work by French and Raven (1959) and Raven and Kruglanski (1970). In this work, information power (whether actual or misrepresented) and expert power are used to influence the target partner to agree to focal partner goals, referent power is used to influence the other party based on focal partner reputation, legitimate power is used in cases of clear superior-subordinate type relationships, coercive power is used when the focal partner is in a position to punish the target partner, and reward power is used when the focal partner is in a position to reward the target partner to get cooperation on current or future issues. These uses of power are dependent upon the levels of assertiveness and cooperativeness that the focal partner wishes to pursue for relationship satisfaction.

The fourth contextual factor affecting initial conflict handling orientations is the perceived amount of pressure for alliance success applied on the alliance partner representative(s) by the organization of which they are a part. This factor is explicated in the concept of embeddedness in social network theory (Granovetter, 1985) as alliance partner representatives are generally an integral part of their organizations and are constrained by organizational resources and directives. Despite the good intentions of partner representatives, their larger organizations may have differing views on the importance of the alliance (thus affecting stakes and the allocation of resources toward the alliance) and the conflict orientation

toward the alliance. Organizations may also apply pressure by altering the ‘rules of engagement’ with alliance partners (Molnar and Rogers, 1979) such as definitions of success, equity and profitability splits, jurisdictional control and amounts of communication. This additional formalization can diminish the effectiveness of alliance representatives and send the alliances into a ‘drifting’ state of underperformance (Ring and Van de Ven, 1994).

Thomas (1976) states that although these expectations may be altered via intra-organizational bargaining between the representatives and the constituents (Walton and McKersie, 1965), the conflict literature suggests that social pressure from constituent groups is usually toward more assertive and competitive behavior. Also, the ‘risky shift’ phenomenon described on page 67 (Wallach and Kogan, 1965), causing competition and hostility toward other groups, actually strengthens the leadership hierarchy, cohesion and unity of purpose within the larger organization (Coser, 1956; Blake and Mouton, 1961), thus further supporting the organization’s actions. Hence, organizational pressure plays an important role in defining the initial conflict handling stance of alliance partners.

The alliance partner representative’s assessment of the level of munificence in the larger industry, economic, cultural and political environments external to the alliance partners and the alliance itself comprises the fifth and final contextual factor affecting alliance conflict handling stances. This idea has been approached only generally by some of the main theories supporting the existence of alliances. For example, market power theory discusses the use of alliances to achieve competitive advantage in markets (Hymer, 1976), RBV and resource dependency theories relate the use of alliances to obtaining scarce and unique resources and capabilities, and strategic management theory acknowledges the importance of industry and environmental analysis for all business organizations (see Porter, 1980, 1985, 1990). Furthermore, game

theoretic approaches to alliance activities acknowledge that shifting preferences through exogenous events can fundamentally alter the character of the alliance relationship and transform the character of various games (Parkhe, 1993).

In the alliance literature, Doz (1996) acknowledges that initial conditions of an alliance can either help or hinder the partners' understanding of the environment of the alliance. The alliance conflict literature also discusses cultural misunderstandings as a source of conflict and acknowledges differing approaches to conflict handling based on Eastern versus Western cultures (Wang et al., 2005; Wong et al., 2002; Lin and Miller, 2003).

Finally, the sociology and OB literature discuss environmental munificence more specifically in terms of alliance conflict. Pondy (1967) briefly states that extra-organizational pressures may also cause the parties to alter their perceptions of a conflict (i.e. recognize a latent conflict as a felt conflict).

Thomas (1976), however, provides a specific discussion of environmental factors as 'ambient social pressure' that reflects the norms and values of some larger system of which the dyad is part (i.e. cultural values, organizational/work group norms, governmental entities and public interest). Thomas states that the objective of most ambient social pressure seems to be preventing disruption of the larger system, many times discouraging the use of constructive conflict in favor of little or no conflict at all. Unfortunately, this can cause underlying conflicts to accumulate, eventually surfacing in more destructive forms. In sum, environmental munificence with regard to conflict handling orientations should be conceptualized as those factors (economic conditions, laws, public perceptions, cultural characteristics, etc.) that would support one or several of the five conflict handling orientations by affecting levels of assertiveness and/or levels of cooperation.

In consideration of the alliance literature on conflict and the above contextual factors, the definitions of each of the conflict handling orientations as they apply to this research will be defined. In a dyadic model of alliance conflict, a “competitive” stance represents a desire to win all confrontations at the other party’s expense. In the case of alliances, the conflict resolution technique of coercion or domination is best understood as the “competitive” posture, where one party’s desire to satisfy or maximize their own outcomes or goals dominates the desire to satisfy the other party’s outcomes.

The “avoidant” orientation reflects indifference to the concerns of either party. This may occur when an interaction is relatively unimportant to either party’s goals, even if those goals are incompatible. The smoothing over or ignoring technique can be considered “avoidant” behavior, where neither party’s interests are being addressed.

The “compromise” orientation describes a moderate but incomplete satisfaction of the parties. Each party gives up something and keeps something. This can be seen as “splitting the difference,” and union-management negotiations tend to reflect this orientation. The arbitration response mentioned above can be seen as a “compromise” activity because arbitrators tend not to have full information about each parties interests, needs and concerns in a negotiation. In addition, efforts to maintain a relationship between the parties will not be sought by a third party arbitrator since deterioration in the alliance relationship probably led to the use of an arbitrator in the first place.

Integrative conflict resolution would be considered the “collaborative” outcome in the model. This orientation represents a desire on the part of both alliance partners to fully satisfy each others’ concerns. Both parties are intent upon reaching a mutually beneficial agreement, and neither party is interested in opportunism. In this case, goal attainment is very important to

both parties and goals, while not necessarily similar, are compatible. In collaborative alliances, both partners share information in order to understand the underlying needs and concerns of the other party. This enhanced communication allows each party to increase learning, better protect proprietary assets, enhance perceptions of procedural justice between alliance partners and increase attitudes of trust and commitment (Kale et al., 2000; Kim and Mauborgne, 1998).

The final orientation is “accommodation.” This is the opposite of domination, and focuses on appeasement – satisfying the other’s concerns before one’s own. In this case, a party may wish to be generous for the sake of the relationship and the desire for agreement. While not specifically mentioned in the literature, accommodation does play a role in alliance relationships, particularly in cases of unequal power.

In addition to the contextual factors and definitions described above, three other assumptions must be considered in developing a model relating initial conflict handling orientations to alliance performance. First, partner perceptions will define the initial conflict handling stance as well as alterations of the initial stance via performance assessments. Hence, this study takes a realistic ontological view and presumes that, while conflict handling orientations are based on objective factors such as actual performance and behaviors, it is the partner’s subjective assessment of these factors that drives their conflict handling behaviors (Thomas, 1976). In this sense, reality with regard to performance and the five contextual factors that affect initial and subsequent conflict handling orientations is socially constructed (Berger and Luckmann, 1966). Furthermore, the performance outcomes resulting from the interaction of the parties will alter their predispositions and hence their contextual factors, driving changes in their conflict handling stances (Newcomb, Turner and Converse, 1965; Dubin, 1957; Thibaut, 1968).

Second, while individual personalities of alliance representatives most certainly affect conflict handling stances, this study is concerned with organizational personalities and their effect on conflict handling stances. Although alliances partner representatives will interact on an interpersonal level, and this interaction will have an effect on conflict handling orientations of their organizations, this study will attempt to measure conflict handling behaviors at the organizational level using techniques that define alliance managers in their roles as partner representatives. This follows the presumption of Thomas (1976) that underlying conflict behaviors covered in one area or at one level of organizational research will be relevant to conflict in other areas and the research of Staw (1991) essentially stating that organizations can take on individual behavioral characteristics that can be assessed by observing the actions of their members.

Third and finally, the five orientations are not mutually exclusive for each alliance partner, but each partner will exhibit a 'dominant' or preferred conflict handling orientation. Per Thomas' (1976) conceptualization, the five orientations exist on two orthogonal dimensions (passive-assertive and uncooperative-cooperative), which is more complex than the simpler cooperative-uncooperative differentiation that is used in most experimental game research. While a party's tendencies may carry some aspects of all conflict handling orientations, Thomas subscribes to the work of Blake and Mouton (1964) which states that a party will have a dominant style with which they are most comfortable, followed by a back-up style which they will use if the dominant style fails to work.

In the organizational realm, this may be compared to Prahalad and Bettis' (1986) notion of the 'dominant general management logic' that are stored in the mental representations of reality (called schemas) of the dominant coalition of managers in the organization (Norman,

1976; Kiesler and Sproul, 1982). These schemas could be thought of as both knowledge structures and knowledge processes by which top managers run a business. Both paradigmatic knowledge and knowledge based on past experiences are considered sources of dominant logic (Prahalad and Bettis, 1986). Likewise, alliance partners use their dominant conflict handling orientations in dealing with target partner cooperativeness and assertiveness. These orientations are stored in organizational schemas and adjusted based on partner observations and assessments of alliance outcomes such as financial performance.

Based on the preceding literature review, contextual factors, definitions and assumptions, the general relationship between an alliance's perceived contextual factors, conflict handling orientations and performance can be conceptualized as a cyclical relationship as follows: a partner's initial perceived contextual factors drive a certain type of conflict handling orientation which, when combined with the other partner's conflict handling orientation, results in a certain type/level of perceived alliance performance. The partner's individual assessment of this performance in turn affects its perceived contextual factors, thereby resulting in subsequent changes to future conflict handling orientations and future alliance performance (see Figure 2). The next section of this study will more specifically develop this model via hypotheses regarding the relationships between partner contextual factors and initial conflict handling orientations, combined dyadic alliance conflict handling orientations and alliance performance/partner satisfaction and finally alliance performance and changes to initial conflict handling orientations.

CHAPTER THREE

HYPOTHESES

Overview

The relationship between conflict handling orientations and alliance performance can be modeled in five distinct phases. While these phases will be fully discussed, not all of the phases will be hypothesized due to the experimental nature of the testing in this paper. The actual hypotheses and testing for this paper and the future research required to fully test this model will be discussed in this section and in the ‘Future Research’ section of this paper.

The first phase will be termed the ‘predispositional phase’ and will describe the relationships between the five contextual factors for initial conflict handling orientations described above (relational history/alliance experience, conflict resolution stakes/incentives, partner possession/use of power in conflict resolution, organizational pressure for alliance success and environmental munificence for conflict resolution) and the conflict handling orientations of individual partners. Due to time, financial and sample size constraints, only two of the five orientations were selected for study. The two orientations, collaborativeness and competitiveness, were selected based on the relatively large amount of alliance literature discussing these orientations and based on the expectation that these more assertive and cooperative orientations would generate measurable responses among subjects.

The second phase will be called the ‘initial interaction phase’ which describes the effects of the individual partners’ initial conflict handling orientations on the combined alliance conflict handling orientations. In this study, an experimental assessment of this phase will involve

holding constant one side of the combined alliance orientation and measuring the other side's (i.e. the subjects') initial responses via their performance decisions.

The third phase is called the 'performance phase' and will predict the effect of the combined alliance conflict handling stance on individual partner performance and partner satisfaction with the dyadic alliance. This phase will again be tested in this study based on the initial and final performance decisions and assessments of one side of the alliance while experimentally controlling the other side.

The fourth phase will be called the 'adjustment phase,' describing the effects of performance on the five contextual factors. The changes in the contextual factors will result in changes to initial conflict handling orientations in the predispositional phase. Although this phase will be discussed, contextual factors are given and are essentially exogenous to this study's model. Hence, the relationship between performance and conflict handling orientations will be hypothesized based on inferred contextual factor changes. Another reason for not modeling contextual factor changes is the additional layers of complexity that this assessment would add (i.e., contextual factors would need to be measured and modeled separately) to the model. This additional analysis is beyond the scope of this paper, which intends to focus on the relationship between conflict handling orientations and performance.

While the relationships hypothesized in the predispositional, performance, and adjustment phases of the model will remain constant, repeated interaction of the partners over time will alter the combined conflict handling stances of the alliance. Hence, the final phase will be called the 'repeated interaction phase' and will attempt to predict the effect on the alliance of repeated individual partner interaction and performance assessment. For this study, conflict

handling orientations of one partner will attempt to be predicted based on a consistent (fixed) orientation of the other partner (as expressed via performance decisions).

Each of these phases attempt to model the relationships based on the passive-assertive and cooperative-uncooperative dimensions of the Thomas (1976) model as well as the results of other prior research on conflict resolution and alliance performance.

Predispositional phase hypotheses

In the predispositional phase, the five contextual factors concerning the organization and its environment will drive the establishment of initial conflict handling orientations for each alliance partner. While these factors can certainly interact with each other in the establishment of conflict handling orientations, this inaugural study will focus on the direct effects of an overall combination of factors on the orientations.

As discussed in the literature review summary above, relational history and alliance experience have significant and direct impacts on how the partners handle conflicts. In the predispositional phase of an alliance, partners who have had positive past experiences with a particular partner or with alliances in general will be more favorably disposed toward the focal alliance. Since alliances initially have an innate presumption of joint cooperation for gain, each partner will attempt to positively identify with the other, thus raising the initial level of cooperation among the parties (Thomas, 1976). In addition, parties with positive relational histories in alliances will also see their own satisfaction closely tied to the notion of joint gain in the initial stages of the alliance. This will serve to increase their levels of assertiveness in attempting to satisfy their own needs in the relationship. Assuming at the beginning of the alliance that partners have positive regard for the degree of integration possible in the relationship and are honestly intent on making the alliance work, a positive relational history will

tend to drive both a more cooperative and a more assertive initial conflict handling stance (i.e. collaboration). Alternatively, a less favorable or negative history of alliance experiences will cause the partner to assume a less cooperative and more assertive position (i.e. competitive) that may be more hostile to the target partner and more self-interested.

With regard to stakes and incentives in the alliance, partners have a strong incentive to profitably resolve conflict at the outset of an alliance relationship since alliances are generally created to take advantage of some tangible benefit of establishing a relationship (such is new products, markets or knowledge). Hence, partners will be quite cooperative in the predispositional phase of the alliance because they believe that they have common interests. In addition, if partners see a positive and important economic benefit of allying, they will at least initially attempt to assertively capture that benefit either for the combined relationship (collaborativeness) or for themselves (competitiveness). Whether or not the partner takes an initial stance of competitiveness with high stakes hinges on negative perceptions of other contextual factors. In other words, a partner perceiving high stakes and incentives for success in the alliances will tend to become competitive if they also perceive a poor relational history, aggressive use of coercive power by their partner, and/or low environmental munificence toward the alliance. This will drive that partner to reduce cooperation and assertively pursue their own goals.

The positive benefits that are initially perceived possible via an alliance are considered differently through the lens of a bargaining position that is relatively more powerful than the other party. The literature review summary above discusses the ability to act opportunistically vis-à-vis the other alliance partner via the application of such power as an available alternative for the more powerful partner. As Thomas (1976) discusses, partners may be predisposed for a

high need to exercise power or dominance over a partner. (Stagner, 1962; Raven and Kruglanski, 1970). However, we again assume here that alliance partners create alliances in order to pursue benefits which they could not pursue alone (Cummings, 1984) and will at least initially attempt to use their powerful positions for the benefit of the alliance. Therefore, we utilize the empirical evidence of Stern et al. (1973) and Pandey and Woolridge (2003) in the marketing area in proposing that the use of referent and expert power will result in reduced conflict and that the use of reward or coercive power will result in increased conflict. As the use of expert and referent power in the alliance shows high levels of cooperativeness (in positively identifying with the other party via a willingness to share information with them) and assertiveness (by expending energy via the use of power to obtain valued alliance resources or outcomes), these types of power are related to a collaborative stance. On the other hand, withholding the use of these types of power bases may imply both uncooperativeness and assertiveness in achieving individual alliance objectives. Likewise, the use of reward or coercive power can be initially construed as a quite assertive method for the expression of an uncooperative posture.

With regard to a partner's perceived level of organizational pressure for alliance success, Thomas (1976) states that such pressure is usually toward more assertive and competitive behaviors which tends to strengthen organizational cohesion and unity of purpose. As stated earlier, organizations generally enter alliances with a willingness to work with the other partner in anticipation of alliance benefits that could not be achieved individually. However, this level of cooperativeness and other party identification cannot overcome the stronger relationships and embeddedness (Granovetter, 1985) that occurs within organizations, particularly if the organization is assertively applying pressure on one of its members (i.e. the alliance manager or representative). The lack of early identification with the other party by the larger organization

combined with an initial assertive stance to foster the organization's own interests will result in a more competitive orientation toward alliance conflict. Conversely, positive relational history favorable initial power use and common stakes and incentives would tend to allow the representative to pursue the more cooperative and hence collaborative initial position presumed by an alliance relationship.

Concerning the final contextual factor affecting initial conflict handling orientations, perceived environmental munificence for conflict resolution, Cyert and March (1963) identify organizational slack (i.e. an overabundance of organizational resources) as an important factor in reducing inter-unit conflict (Thomas, 1976). From the standpoint of an alliance, one can compare this phenomenon to the availability of resources from the partner organizations in support of the alliance. Alliance slack in this case would result from partners providing an abundance of resources to the alliance because the external environment (industry, economy, culture, etc.) was highly favorable toward alliance formation and operation, resulting in a greater chance of alliance success. Along with high stakes and high organizational pressure to succeed, a munificent environment toward alliances would cause partners to be both more cooperative and more assertive in recognition of the utility of alliances in obtaining alliance benefits. In contrast, a less friendly environment for alliance formation and operation would cause partners to be more assertive and less cooperative in pursuing their own interests in the alliance.

In the consideration of the relationship of contextual factors to alliance conflict handling orientations, the concept of equifinality (Katz and Kahn, 1978) is important, as various combinations of strengths of contextual factors may result in the same level of conflict orientation. For example, an alliance partner with extremely high stakes in the alliance relationship but with only moderate levels of relational history, power, organizational pressure

and environmental munificence may produce a quite collaborative conflict handling stance. This level of collaborativeness may also be similar to the partner that has high stakes, a high need to use expert or referent power for the good of the relationship and low levels of relational history, organizational pressure and environmental munificence. This study will utilize only two of any number of combination scenarios available to prime initial alliance manager roles of collaborativeness and competitiveness. From the preceding discussion, therefore, we hypothesize:

Hypothesis 1: A collaborative conflict-handling orientation results from: a) positive perceived relational history, b) high perceived stakes/incentives, c) high perceived partner use of expert/referent power, d) low perceived partner use of reward/coercive power, e) high perceived organizational pressure to succeed, and f) high environmental munificence.

Hypothesis 2: A competitive conflict-handling orientation results from: a) negative perceived relational history, b) high perceived stakes/incentives, c) low perceived partner use of expert/referent power, d) high perceived partner use of reward/coercive power, e) high perceived organizational pressure to succeed, and f) low environmental munificence.

Initial Interaction phase hypotheses

As stated earlier, the initial interaction phase describes the effects of the individual partners' dominant conflict handling orientations on the combined alliance conflict handling orientations. The dimensions of the Thomas (1976) model as well as the initial presumption of cooperation in alliances can again be used to predict these combined initial conflict handling orientations. Absent the benefit of focal alliance experience and the assessment of assertiveness,

cooperativeness and resulting performance of their alliance partner (at least in terms of the current alliance project), the combined initial conflict handling orientation of the alliance will be based on the partner's predispositional contexts and simple logic regarding the alliance itself. First, if the combined conflict orientation consists of the same conflict handling stance from each partner (i.e. collaboration-collaboration, competition-competition), the combined initial conflict handling stance will by definition be the same as the partner orientations. Second, more assertive partners will have higher stakes in the alliance and will be driven to take action for positive results (either for themselves or for the combined relationship); hence, the initial assertive conflict handling orientations of these partners will dominate the more passive orientations (i.e. competitive and collaborative stances will dominate when combined with either compromise, accommodative or avoidant stances). Third, given the passive-assertive assumption just expressed, the initial assumption of cooperation in alliances will initially dominate more uncooperative stances (i.e. collaborative stances will initially dominate when combined with competitive stances). Therefore, it is hypothesized that:

Hypothesis 3: In the initial assessment of combined alliance partner conflict-handling orientations, a) combinations of the same orientations will result in that orientation, b) more assertive stances will dominate more passive stances, and c) given a) and b), more cooperative stances will dominate more uncooperative stances.

Because contextual factors are given (not measured) and are essentially exogenous to the model, this hypothesis will be driven and confirmed via the experimental game and the subsequent assessment of partner alliance performance. In addition, Hypothesis 3c) is expected to hold for this study, where a subject is matched with partner who exhibits a fixed orientation throughout the play of an experimental game (i.e. the experimenter). If a subject is actually

matched with another subject whose orientation is not fixed and the combination is assertive-cooperative and assertive-uncooperative (i.e. a competitive orientation combined with a collaborative orientation), theoretical dominance of one particular stance is indeterminate and depends upon the measured strength of the partner's competitive or cooperative stance. In other words, the combined initial conflict handling orientation of an alliance of competitive-dominant and collaborative-dominant partners will depend upon the strength contributed by the underlying contextual predisposition factors for each partner. This strength may be expressed in a single factor or a combination of factors that strongly predict the conflict-handling orientation. This assertion acknowledges the interaction between assertiveness and cooperativeness in alliance conflict, i.e. that an assertive partner may attempt to satisfy its own needs, depending upon identification with the other partner's alliance goals and interests. This combination is beyond the scope of this research and should be addressed in future studies.

Adjustment phase (not modeled)

The adjustment phase marks the first assessment point for alliance partners regarding the maintenance of their initial conflict handling orientations. In this phase, performance evaluations will begin to act on the contextual factors that established the initial conflict handling orientations. As discussed above, contextual factors are given and are essentially exogenous to this study's model. Hence, the relationship between performance and conflict handling orientations will be hypothesized based on inferred contextual factor changes, and this phase will be discussed here but will not be specifically modeled.

In terms of relational history and prior alliance experience, partners will attempt to fit their current performance assessment with their existing schema regarding alliance success. While it is obvious that a positive performance assessment will serve to enhance an already

positive schema regarding alliance history, even a negative schema will not cause the partners to view a positive performance assessment negatively. Although existing schema are resistant to change (Hunt, 1995), it is likely that, again due to the assumption of cooperation in alliances and due to the small amount of performance evidence available in the specific alliance, a positive performance assessment will have a (probably much smaller) positive effect on a negative relational history. Thus, an alliance partner's assessment of alliance performance will be positively related to that partner's perceived relational history/alliance experience such that positive assessments will improve the partner's relational history and negative assessments will detract from the partner's relational history.

As stated earlier, the stakes and incentives for resolving alliance conflicts revolves around the perceived economic benefit of the alliance relationship (Wahyuni et al., 2007) and the amount of time and resources devoted to the alliance (Kaiser, 2007). Hence, a positive performance assessment will confirm a partner's prior positive investment and assessment and a negative performance assessment, while again not completely changing the partners mind concerning the overall value of the relationship, will at least give the partner pause in considering future investments of time and resources. Therefore, an alliance partner's assessment of alliance performance will be positively related to that partner's perceived stakes or incentives for conflict resolution such that positive assessments will increase the partner's stakes/incentives and negative assessments will detract from the partner's stakes/incentives.

In the consideration of the use of alliance partner power in light of performance assessments, little research exists. However, Pondy's (1967) bureaucratic model of organization as it relates to conflict processes may provide some guidance. As stated earlier, Pondy uses Barnard's (1938) reasoning by stating that the superior-subordinate relationship contains a 'zone

of indifference' where the subordinate has surrendered to the superior the authority to exercise discretion. Potential conflict is present when the superior and subordinate have differing expectations about the zone of indifference. Superior responses to such conflict usually amount to exerting power by setting additional rules and procedures to encompass their perception of the zone of indifference. This theory can be applied to alliance partner relationships in the notion of asymmetries of power in the alliance. Hence, if one partner perceives itself to hold more power (be it information, referent, expert, reward or coercive) in the alliance relationship while at the same time differing in its performance expectations with the other partner, the more powerful partner may seek to exert its power (in any form) to set performance expectations upon a negative assessment of alliance performance. On the other hand, a positive performance assessment may cause the more powerful partner to believe that performance expectations of both parties lie within the zone of indifference and result in a lower exertion of power to set performance expectations. Therefore, an alliance partner's assessment of alliance performance will be negatively related to that partner's perceived possession and use of power in conflict resolution such that positive assessments will reduce the partner's need to use all forms of power in conflict resolution whereas negative assessments will increase the partner's need to use all forms of power in conflict resolution.

Assuming that the alliance representative and the organization in which the representative is embedded have similar performance assessments, a positive assessment should match the organization's definition of alliance success. Since high performing parts of an organization are usually left alone by its managers (see Katz, 1982), it is likely that perceived good performance will reduce organizational pressure for success and perceived poor performance will increase pressures for success. Hence, an alliance partner's assessment of alliance performance will be

negatively related to that partner's perceived level of organizational pressure for alliance success such that positive assessments will reduce the partner's organizational pressure for success and negative assessments will increase the partner's organizational pressure for success.

Finally, since economic and possibly relationship-related (i.e., partner satisfaction) performance assessments can be conceived as part of a partner's perception of the environment within which the alliance is operating (economic, social, cultural, etc.), such assessments should lead the partner to make specific conclusions about environmental munificence. As with relational history, these conclusions are probably matched against existing schemata that the partner carries concerning the favorability of the environment toward alliances in general and, over time, toward the focal alliance. Therefore, an alliance partner's assessment of alliance performance will be positively related to that partner's perceived level of environmental munificence such that positive assessments will increase the partner's perceived level of environmental munificence and negative assessments will reduce the partner's perceived level of environmental munificence.

Referring back to Hypotheses 1 and 2 in the predispositional phase, it can be seen that adjustment phase contextual effects for a collaborative conflict handling orientation essentially match predispositional phase contextual factors, i.e. both positive performance assessments and collaborative orientations result from positive relational histories, high perceived stakes, low use of power and positive environmental munificence. The only contextual factor that is different is organizational pressure, which is negatively related to positive performance assessments in the adjustment phase and positively related to collaborative orientations in the predispositional phase. In this case however, it is presumed that a less assertive organization will only have a minimal effect on the levels of collaboration generated from the other contextual factors. Hence,

the adjustment phase describes the process that causes positive relationships between performance evaluations and collaborative orientations. Extending this logic to the competitive orientation, the opposite conclusion is presumed, i.e. negative relational histories, high use of power, high organizational pressure and negative environmental munificence resulting from negative performance assessments also cause more competitive orientations. The only contextual factor that is different in this case is perceived stakes/incentives, which is positively related to performance assessments in the adjustment phase and positively related to competitive orientations in the predispositional phase. Again, however, it is presumed that a lower perceived stakes or incentives in the issue will only have a minimal effect on the levels of competition generated from the other contextual factors. Hence, the adjustment phase also describes the process that causes negative relationships between performance evaluations and competitive orientations. These inferred relationships will be directly hypothesized in the performance phase of the alliance relationship.

Performance phase hypotheses

The next set hypothesis uses the existing literature regarding the relationship between the various conflict handling orientations and alliance performance to hypothesize about partner alliance conflict handling orientations and alliance performance. As discussed in the section covering alliance conflict literature, a relatively small but continuous body of literature (Follett, 1924, 1941; Thomas, 1976; Deutsch, 1969; Assael, 1969; Anderson and Narus, 1990) generally support the notions that problem-solving (collaborative) orientations enhance organizational performance while coercive (competitive) and smoothing over or avoiding (avoidant) techniques detract from performance. Specific to alliances, Mohr and Spekman (1994) find the same effects on alliance performance and partner satisfaction in their empirical test of computer dealer-

supplier relationships. Also, Lin and Germain (1998) found a positive relationship among U.S. and Chinese IJV managers between problem-solving and compromising approaches and their assessments of IJV financial performances and their overall satisfaction, as well as a negative relationship between forcing (competition) approaches and overall satisfaction. These results are essentially supported by Parry et al. (2008) where collaborating and compromising strategies positively mediated the positive R & D task conflict-alliance performance relationship. Parry et al. (2008) also found that an accommodating strategy has a negative effect on this relationship, which they attributed to one-way information flows (from the obliging party to the party being obliged) that are common in an accommodating strategy versus a two-way flow of information (which can generate mutual understanding and flexibility and lead in turn to greater productivity) for compromising and collaborating strategies. Based on this research, the following is predicted:

Hypothesis 4: In the assessment of alliance performance, a) final collaborative stances positively relate to perceived alliance performance/satisfaction, b) final competitive stances negatively relate to perceived alliance performance/satisfaction, c) final compromise stances positively relate to perceived alliance performance/satisfaction, d) final accommodative stances negatively relate to perceived alliance performance/satisfaction, and e) final avoidant stances negatively relate to perceived alliance performance/satisfaction.

Repeated interaction phase hypotheses

The final phase of the alliance conflict handling orientation model attempts to predict dynamism in the original combined alliance conflict orientations based on theory regarding repeated interaction of the partners over time. While the initial interaction will result in conflict

handling responses as shown in the adjustment phase above, these stances will experience additional 'devolution' over time when confronted with a partner that continually uses accommodative, competitive or avoidant stances. A number of theories are appropriate here and should be reviewed. In real options theory, Kogut (1991) found that positive market signals regarding the value of a joint venture predicted rapid exercise, or acquisition, of one partner's rights by the other. However, negative market signals did not lead to immediate dissolution of the venture. So long as the cost of the option does not increase significantly, it tends to be maintained in the hope of future improvement (Child et al., 2005). As stated earlier, this finding may explain the reasoning behind the 'drifting' alliances mentioned in the 'Introduction' section of this paper as well as the tendency of some alliance partners to 'smooth over' or ignore conflict situations (Mohr and Spekman, 1994). This is confirmed in the alliance literature, where Lin and Germain (1998) discuss the fact that high exit barriers (due to equity sharing, organizational pressure and other stakes/incentives in the alliance relationship) provide powerful incentives to continue the alliance (Dwyer, Schurr and Oh, 1987). Hence, when such conflicts are not effectively resolved, the relationship may deteriorate but not necessarily dissolve.

In game theory, the initial cooperative stance in a 'tit-for-tat' strategy (discussed by Axelrod, 1984) is a realistic model for actual alliances, as most partners are at least initially willing to cooperate in order to achieve nonzero-sum benefits such as economies of scale or improved results originally conceived in the agreement that could not be obtained alone. In addition, most alliance partners are likely concerned about their reputation as a trustworthy partner in the business community and would therefore see a strategy of defection as suboptimal in the long run. Thus, Parkhe's (1993) discussion is appropriate in this case. While these cooperative aspects of actual alliances coincide well with game theoretic approaches using

forgiveness, the use of punishment is much more problematic. As Child et al. (2005) states, this is because in real-world alliances an initial defection often leads to a precipitous drop in trust and the break-up of the collaboration (Child et al., 2005). Hence, instead of the give-and-take relationship developed from a tit-for-tat strategy in game theory, real alliances are much more likely to rely upon the partner's prior collaborative experience and the provision of mutual hostages and/or unilateral commitments of nonrecoverable investments to enhance cooperation in the relationship (Gulati, Khanna and Nohria, 1994; Parkhe, 1993). Partners will favor an extreme response if they have only an initial cooperative result and no 'hostages.'

In the marketing literature, Kemp and Ghauri (1999) suggest that experience in the dyad tends to enhance the long-term development of trust and norms, thus reducing conflict (Vaaland and Hakansson, 2003) and Hunt (1995) states that continued interactions over time accumulate, either confirming or disconfirming the existing schema. Confirmed schema become increasingly resistant to change (Fiske and Taylor, 1984), requiring larger and larger discrepancies from existing schema to change the schema. Hence, the initial interactions between channel members lay the groundwork for more permanent schema; early mistakes in conflict resolution are difficult to overcome, while initial positive interactions increase the probability of a long lasting and amiable relationship (Hunt, 1995). Finally, Thomas (1976) found that early collaboration on fact-finding fostered mutual trust and identification among the parties (see Blake et al. 1964). This procedure prevented premature commitment to poor alternatives and fostered an exploratory, problem-solving approach. To summarize, while negative interactions in the alliance relationship do not necessarily cause alliance dissolution, they do result in a precipitous drop in cooperation. In other words, alliance interactions are variable but the relationship itself can be quite 'sticky.' These theoretical notions support the 'devolution' of the alliance

relationship upon confirmation (via performance assessment) of an initially negative conflict handling orientation of a partner. Hence, while the first encounter with an avoidant or competitive partner may not result in a change in the focal partner's conflict handling stance, later avoidant or competitive behavior that is evident via poor perceived performance will provide confirmation of an unwillingness to cooperate, resulting in the focal partner's adjustment of its own stance to reflect the resulting lack of trust and commitment to the partnership. Considering real options theory, it is proposed that the partner will become uncooperative but may still hold out hope for reconciliation in the short term, thus taking on a competitive response to protect its remaining interests in the alliance. However, seeing no performance improvement in the longer term, the partner will also become less assertive, taking on avoidant responses. It is at this point that the alliance relationship will be in danger of dissolution. In the current model, the hypothesis below considers only the short-term portion of the devolution.

Hypothesis 5: In the repeated assessment of combined alliance partner conflict-handling orientations, a) initial collaborative stances when combined with repeated accommodative, competitive or avoidant stances will devolve to competition, b) initial competitive stances when combined with repeated accommodative, competitive or avoidant stances remain competitive in the short-term.

To summarize the determination process for initial and continuing conflict handling stances, prior literature points to perceived alliance partner relational history, stakes and incentives, use of power, organizational pressure and environmental munificence as the general contextual factors that predict an alliance partner's initial conflict handling orientation (predispositional phase). This orientation, when combined with the other partner's conflict handling stance (initial interaction phase) results in a specific level of assessed performance

(performance phase), which in turn affects partner perceptions of the original contextual factors (adjustment phase). Finally, while the altered contextual factors will generate the conflict handling orientations noted in the predispositional phase, repeated partner interactions will be an additional variable devolving the combined stance (repeated interaction phase). At this point, the process will repeat itself with a cycle of performance-adjustment-repeated interaction. Table 1 summarizes these hypotheses and notes the relevant research in each phase.

It is important to note here that none of the predispositional hypotheses attempt to predict the contextual factors for a compromise conflict handling orientation. This is because the compromise stance does not have a definitive outcome but is instead referred to as an ‘intermediate outcome’ (Thomas, 1976) or as ‘splitting the difference’ between the parties (Blake et al., 1964) and occurs somewhere between domination (competition) and appeasement (accommodation) as well as avoidance and collaboration. This outcome must necessarily be measured in order to be specifically expressed. For example, a ‘moderate’ level of positive relational history, stakes and incentives, use of power, organizational pressure and environmental munificence may express a stance that is closer to competitiveness, closer to accommodative or close to compromise, depending on the measurement of each orientation. Hence, the expression of a compromise conflict handling orientation will be expressed in the analysis of the partner’s overall conflict handling results.

The next section of this study will discuss the experimental design and methodology for testing these relationships.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

Overview

The study design to examine this paper's model of alliance conflict handling orientations will consist of three parts. First, subjects will read scenarios that 1) ask them to assume the role of alliance manager for an alliance partner, 2) express the five contextual factors in terms of strategic alliances, and 3) are structured to evoke either collaborative or competitive conflict handling stances. Next subjects will complete a survey measuring their levels of each of the five conflict handling stances. This will be considered the initial conflict handling stance of the partner and will test Hypotheses 1 and 2.

Subjects will then play eight rounds of an experimental game with the experimenter who will take the role of the other alliance partner. The experimenter will consistently assume one of the five orientations as expressed through the play of the game. Hypothesis 3 will be expressed numerically in the subject-partner's second round payment level choice. In other words, for the subject in a collaborative stance: a) a matching with a collaborative experimenter-partner will result in a collaborative payment choice in round 2, b) a matching with accommodative, compromise or avoidant experimenter-partners will result in a collaborative payment choice in round 2 (because it is both more assertive and more cooperative than the other orientations, and c) a matching with a competitive experimenter-partner will result in a collaborative payment choice in round 2. For the subject in a competitive stance: a) a matching with a competitive experimenter-partner will result in a competitive payment choice in round 2, b) a matching with accommodative, compromise or avoidant experimenter-partners will result in a competitive

payment choice in round 2 (because it is more assertive than the other orientations, and c) a matching with a collaborative experimenter-partner will result in a collaborative payment choice in round 2.

Upon completion of the game and observation of the performance level, subjects will complete another survey assessing performance satisfaction and their conflict handling stance. The objective and subjective performance assessments combined with the additional conflict handling orientation survey will test hypotheses 4 and 5.

Scenario development, survey development and experimental game development will now be discussed in some detail.

Scenario development

An experimental methodology is used in this study due to the novelty of this research and to provide better control over the contextual factors that drive initial and subsequent conflict handling orientations in alliances. Although some researchers argue against the use of experimental research in strategic management, experimental decision-based perspectives have been found to be useful in a number of strategic process studies (Bower, 1970; Fredrickson, 1984; Mintzberg, 1978; Thomas and McDaniel, 1990) and are considered promising methods for enhancing the understanding of competitive strategic decision-making (Schwenk, 1995; Sutcliffe and Zaheer, 1998).

In addition, Shamdasani and Sheth (1995) state that experimental research can enhance the internal validity of findings already discovered regarding the relational determinants of alliance relationships by complementing survey and case research methodologies. However, this method has both advantages and disadvantages. While experimental role-playing and the use of scenarios can investigate sensitive behavioral and strategic issues and can compress time to

assess the impact of time-bound decisions, it might also create demand effects due to hypothesis guessing. Also, the internal validity of the results may be compromised if subjects are unable to realistically respond to simulated situations (Suprenant and Churchill, 1984). However, internal and statistical conclusion validity can be enhanced via the use of such methodologies as between-subjects designs and carefully disguised scenarios. Specific to this study, the use of business students as subjects will reduce the instance of hypothesis guessing that might be present with experienced alliance managers as well as distorted responses to scenarios due to preconceived notions regarding their prior experience that is unrelated to the scenarios.

As discussed in the literature review section, the contextual factors that drive conflict handling orientations have a very large number of antecedent variables, both specific and general. For example, Pondy (1967) lists resource competition, autonomy drives, diverging goals, misunderstood positions, extra-organizational pressures, aggressive or defensive behaviors, environmental factors, and resolution history as some of the sources of conflict. However, since this paper concerns alliance conflict, antecedents driving the general contextual factors for conflict handling stances will be taken from the various theories discussed in the alliance literature for use in scenario development. In driving a collaborative stance versus a competitive stance, the scenarios focus on the partner's history of alliance relationships, the stakes and incentives for alliance success, the possession and use of expert power to reduce information asymmetry among the partners, the possession and use of reward or coercive power relating to alliance holdup on investments, the pressure that the organization places upon the alliance manager to create a successful partnership, and the favorability of the economic and regulatory environment with regard to alliances. In this way, the two scenarios are developed using the appropriate contextual driving factors, with the general contexts translated into specific

alliance related sources of the collaborative and competitive conflict handling orientations (see Exhibit 1 for the two scenarios used in the final study). The survey described in the next section will confirm that the subjects adhere to the orientations driven by their scenarios.

Survey development

In determining the level of support for repeated interaction phase hypothesis 5 and performance phase hypothesis 4, it is necessary to develop measures of the extent of collaborativeness, competitiveness, compromise, accommodativeness and avoidance in each alliance partner and to relate these measures to associated levels of alliance performance. While it could be argued that these relationships hold for alliances with greater than two partners, this paper will deal with only *dyadic* alliance relationships in the interest of parsimony in the establishment of the basic relationship between the five conflict handling stances and performance. Since one side of the dyad will be controlled by the experimenter, individual subject measures from only one side of the dyad is calculated and compared to alliance performance for that subject.

The survey was developed by adopting the work of Thomas and Kilmann (1974, 1977, 1978), Rahim (2001), Lin and Germain (1998) and Parry et al. (2008) to dyadic alliances, with four questions each assessing a partner's collaboration, competition, compromise, accommodation, and avoidance positions. Partner satisfaction with the alliance is assessed via two questions relating to partner satisfaction with JV performance. This method coincides with similar methods for measuring parent satisfaction with IJV performance from the work of Geringer and Hebert (1991), Killing (1983), Schaan (1983), Beamish (1984) and Janger (1980). Three additional demographic questions (gender, age and ethnicity) will be asked and analyzed for interaction effects with the results. Also, four additional questions will be asked to assess the

extent of adherence to the scenario role and understanding of the play of the game. Finally, objective performance will be assessed using the numeric results of the experimental game between the subjects and the experimenter as described in the next section.

A seven point Likert-type response format (1=strongly disagree, 7=strongly agree) was used for all of the above scales to determine how much of each construct was present in each respondent. The Likert format was used in much of the prior conflict handling orientation literature and is generally recognized as useful in measuring opinions, beliefs and attitudes (DeVellis, 2003).

The survey was developed as described below. A quantitative psychometric analysis (including a confirmatory factor analysis) was completed to assess the internal consistency, internal structure, convergent validity and discriminant validity of the pilot survey. In addition, exploratory factor analysis (EFA) was used to reduce the number of questions in the conflict handling orientation scales and a manipulation check of the pre-experimental game versus post-experimental game conflict handling orientations was completed. The results of these analyses are also presented below.

Experimental game development

The experimental game allows subjects to quantitatively express their adherence to a particular conflict handling orientation as they interact with an alliance partner. The game is the venue for expressing each partner's initial conflict handling stance and its changes. Subjects will observe and subjectively assess these results over repeated rounds of the game via the use of the survey described above.

The game itself is actually an alliance-relevant variation of the ‘ultimatum game,’ where two alliance partners negotiate the cost split for the construction of a specific alliance product. The administration of this game is described below.

The ultimatum game as introduced in the experimental economics literature by Guth, Schmittberger and Schwarze (1982) highlights the conflict between selfish, strategic behavior and notions of fairness. The game generally duplicates a market with only one buyer and one seller of a single valuable service or goods transaction in a ‘final offer’ format and complete information regarding each other’s costs. For example, a seller may have a product cost of \$5 and know that a buyer can purchase the product outside the market for \$15. The relevant question is how to ‘split’ the \$10 surplus over cost with the buyer. In final offer format, the seller proposes a price that the buyer then may either accept or reject. If the price is rejected, the transaction is not completed, resulting in no surplus for either the buyer or the seller. If the price is accepted, the seller earns that price less the cost, while the buyer ‘earns’ the price that would have to be paid outside the market less the actual price paid (A classroom version of this game simply asks a student ‘proposer’ to split the \$10 sum of money between himself/herself and another student ‘responder’-see Holt, 2007).

Whereas a purely rational outcome of this game would see the buyer accepting a price of \$14.99 from the seller (i.e. the buyer would accept any price lower than what could be obtained outside the market and the seller, knowing this, would offer the highest possible price below \$15), the point of the game from an experimental economics standpoint is that it demonstrates departures from rationality in the tension between fairness considerations and pure self-interest (Holt, 2007). Some examples of these departures are the cross-cultural work of Ensminger (2004) which found more equitable surplus splits in cultures that used market interactions

(regardless of age, gender, education level and wealth), the laboratory work of Bornstein and Yavin (1998) and Pallais (2005) that reported lower offers made by groups of subjects as opposed to individuals and the work of Carpenter, Verhoogen and Burks (2005) finding that an increase of the stakes by a magnitude of 10 (i.e. from \$10 to \$100) did not significantly affect initial proposals with student subjects. In addition, despite the use of anonymity to limit considerations of reputation, reward and punishment among subjects, Sanfey, Rilling, Aronson, Nystrom and Cohen (2003) found physiological evidence of emotional responses interpreted as ‘disgust’ to unequal offers that were perceived as coming from actual people as opposed to those that were computer-generated. As the current experiment is being performed using business students who are representing a larger organization in a market economy, these factors should influence a ‘baseline’ response in the experiment.

The present study will vary this game in a number of ways to study the conflict handling stances of alliance partners when faced with a potential conflict-generating issue. First, rather than simply considering a price to offer in allocating a surplus or splitting up a sum of money received, the game will be characterized as an investment of capital to construct a product that is valuable to the alliance as a whole.

Second, partner responses will be primed based upon the conflict handling orientation that they have been asked to assume (i.e. either collaborative or competitive).

Third, while the ‘proposer’ of the game will be a student subject, the ‘responder’ will anonymously be the experimenter. This will be done to control one side of the partnership and investigate the changes in the other (subject) side.

Fourth, each party will be given an additional, ‘avoidant’ option of not playing the game.

Fifth, dollar ranges of responses will be labeled to provide general guidance to subjects that are at least initially attempting to follow their primed conflict handling orientation. Hence, a high proposal requiring the responder to pay \$8-\$10 of the total investment will be labeled as a ‘very high’ (i.e. competitive) amount required while a \$1-\$3 proposal will be labeled a ‘very low’ (i.e. accommodative) amount required. A collaborative option will also be specified (a \$4 proposal) that requires the proposer to pay more due to the fact that he/she possesses specific equipment that makes the construction of the asset easier than a 50-50 split (which would be a compromise option of \$5-7). This should allow the subject to sort the responses into broad categories of competitive, collaborative, compromise and accommodative along with the avoidant response of opting out of the game.

Finally, the game will be played for eight of rounds. Over the course of the rounds, the ‘responder’ (experimenter) will maintain a constant conflict handling orientation, while the subject’s orientation will be permitted to vary from their original primed orientation in response to the responder actions and the resulting game performance. For example, according to Hypothesis 5, an initial subject stance of collaboration will devolve to competition when faced with a consistently competitive partner. Hence, it would be expected that the subject who proposes a collaborative investment split of \$4 that is consistently rejected by the responder (who will only accept a split that is clearly in his favor) will eventually reduce this split, possibly to the point of opting out of the game altogether.

Developmental Study Methodology

A developmental study was completed to create the survey and to test the manipulation of the conflict handling orientations in response to the alliance manager scenario and the experimental game.

Subjects. 218 junior and senior level college students (63% male, 79% Caucasian, 16% Asian, 5% other, average age of 22 years) majoring in business were recruited from six sections of various management courses at a large, public university in the U.S. Pacific Northwest. The students were given extra credit to participate in the experiment. In addition, a random drawing for \$50 was done at the end of each experimental session for the top five earners in the economic game, and a random drawing for \$20 was done for the rest of the session participants. Again, the use of business students provided reasonable assurance that the subjects understand issues relating to alliances.

Procedure. Subjects signed up for experimental sessions that were held in the management department conference room. A maximum of about twenty subjects per session were allowed to assure that the time for each session was reasonable. The following materials were given to each subject: 1) a consent form for the study (see Appendix 1D), 2) a half-page description of the alliance manager role that the subjects were to assume (see Appendix 1E), 3) a one page description of the game (see Appendix 1G), 4) a 66 question survey measuring each subject's conflict handling orientation and partner satisfaction (to be described later-see Appendix 1F), 5) a sheet in which to record eight rounds of play of the ultimatum variation described above (see Appendix 1H), 6) a final survey consisting of 73 questions (see Appendix 1J-this is actually the initial survey with four additional questions concerning the play of the game and three demographic questions (gender, age, ethnicity)).

Once the subjects were seated in the experiment room, the experimenter read subjects a script that described the experiment (see Appendix 1C). Next, the subjects read the scenario describing their alliance manager role and completed the first survey. The subjects then completed eight rounds of the experimental game by selecting a payment amount (from \$1M to

\$10M or selecting ‘no play’ if they did not want to play the game for that round) for manufacturing a product in each round of the game. After the eighth round, the experimenter projected the cumulative earnings for each subject in the session onto a screen for all participants to review. Participants then completed the final survey. Finally, the drawings were held (\$50 for the top five earners in the game, \$20 for the remainder of the participants), the subjects were given a website to access for a game debriefing after the completion of the study, and the subjects were dismissed.

Deception. The only difference between the subject instruction script and the actual experiment is the fact that subjects are actually playing the game with the experimenter instead of an anonymous partner, and the experimenter is assuming a fixed conflict handling orientation (either collaborative, competitive, compromising, accommodative or avoidant) that is randomly paired with either a collaboratively primed or the competitively primed subject. An Excel spreadsheet (see Appendix 1I) is used to calculate the ‘accept’, ‘reject’ or ‘no play’ experimenter response as described in the Ultimatum Game variation description above. As stated earlier, this deception is done to control the conflict handling stances of one side of the alliance so that the other side may be studied. Thus, when the runner brings the game sheet to the experimenter’s office as described above, the experimenter actually recorded the subject results and then recorded the response of the fictitious alliance partner in a certain conflict handling mode. The sheets were then returned to the subjects by the runner as described in Appendix 1C and the rest of the game was played as described. Once all of the experimental results were collected, the experimenter published a debrief statement explaining the deception and the game results on a website which were given to the subjects at the end of each session.

Developmental Study Results and Analysis

Survey development results. Using prior literature as discussed above, 15 items were generated for the collaborative scale, 11 items for the competitive scale, 12 items for the compromise scale, and 13 items each for the accommodative and avoidant scales. A descriptive analysis of these items revealed that standard deviations ranged from .9 to 1.6 on the seven point scale, indicating adequate variation among item responses. Skewness was well below the accepted maximum of 3.0, with the highest item being 1.7. Kurtosis was also well below the accepted maximum of 10.0, with the highest item being 3.0. Finally, a review of frequency distributions of responses to each item showed adequate variation.

A reliability analysis consisting of a review of the item correlation matrix, the corrected item-total correlations and Cronbach's alpha measures was completed separately for the collaborative, competitive, compromise, accommodative, and avoidant scales. In assessing the results of these analyses, correlations between items should be higher than approximately 0.20, lower than approximately 0.90 and all positive. Items lower than 0.20 do not relate well to the construct and are considered items for deletion. Items above 0.90 exhibit multicollinearity with other items (both measuring exactly the same thing) and are again candidates for deletion. Corrected item-total correlations (correlation of the item to the total score when the item does not contribute to that score) should be above 0.50 and positive. Finally, alpha, which is the proportion of a scale's total variance that is attributable to a common source (presumably the latent construct), should be 0.80 or higher. The results of these analyses were favorable, as all five scales exhibited high internal consistency (alphas ranged from .93 to .84). However, a number of items exhibited low correlations and corrected item-total correlations (particularly in the competitive and avoidant scales) and were flagged for potential deletion.

To test the internal structure, an EFA was performed on each of the five scales with the goal of reducing the number of items to a minimum of four, in concurrence with psychometric research (Cook, Hepworth, Wall and Warr, 1981; Hinkin, 1995). The initial exploratory factor analysis (EFA) consisted of four separate tests: a review of scree plots, a review of eigenvalues, a review of the pattern matrix and a review of the factor correlation matrix. Principal component analysis was first used with varimax (orthogonal) rotation as an initial pass through. Maximum likelihood estimation with oblique (promax assuming correlated factors) rotation was then used and assessed. Finally, principal axis factoring was used to free the analysis of distributional assumptions (i.e. multivariate normality) and to reduce the likelihood of improper solutions. Oblique (promax) factor rotation was used because it is expected that any factors discovered would correlate. In addition, oblique rotation allows for a test of redundant factors (generally correlating above 0.85). The number of factors was not restricted in this analysis, i.e. the computer was allowed to calculate the number of factors. For the scales, principal axis factoring seemed to provide the most effective and stable assessment of the factors.

The general rules followed for retaining factors in this analysis were: 1) a scree plot elbow, 2) an eigenvalue above 1.0, 3) primary factor loadings of 0.60 or better, and 4) cross-loadings across factors of less than 0.30. Based on the initial reliability analysis, initial EFA, and prior theory and literature on consumer animosity as described above, four items were selected for each orientation and another reliability analysis and EFA using principal axis factoring with promax rotation were run on these items. In this second EFA, one additional analysis was run using maximum likelihood estimation to perform a goodness of fit test on the final scale. An important consideration in this selection was that the items did not overlap and tapped the construct as broadly as possible in terms of cognitive and emotional dimensions.

The goodness of fit test for the competitive scale was non-significant, indicating that there were no significant residuals left over beyond the variance accounted for by the single factor. However, the tests for the collaborative, compromise, avoidant and accommodative scales were all significant. This pointed to the need for tests for additional factors, and these tests were duly completed. The final result revealed only one factor, with the four item conflict handling orientation scales relating to this factor exhibiting high internal consistency and a valid internal structure.

To further establish the discriminant validity of the scales, an EFA was run (with principal axis factoring and promax rotation) using the four items for each of the five conflict handling orientation scales. The resulting pattern matrix again showed five distinct factors with each scale loading no lower than 0.60 on a single unique factor and very low (no higher than 0.17 for each scale) on the other factors. Factor correlations in each case were below 0.70.

Table 2 presents the results of the reliability tests and EFA. Based on these analyses, it can be asserted that the rating scales for each of the conflict handling orientations have high internal consistency (as evidenced by the reliability tests) and a valid internal structure (as evidenced by the factor analysis). In addition, further EFA testing of the scales showed adequate discriminant validity among the five constructs.

In keeping with recommendations by Hinkin (1995), a confirmatory factor analysis (CFA) utilizing MPlus software was also conducted to further examine the stability of the factor structure and to allow for more precision in evaluating the measurement model. Utilizing the theory discussed in the literature review and hypotheses in conjunction with the EFA results, a five factor model was theorized, with covariances among all five constructs. Errors for the variables within each construct were not allowed to covary in this model.

Maximum likelihood estimation was employed to estimate the measurement model. Results indicate a good-fitting model ($\chi^2(160)=227.76, p<.0003$; CFI=0.97; TLI=0.96; RMSEA=0.04; SRMR=0.05). The final model, including coefficients in standardized form (with significance levels noted) and correlations among exogenous variables, is presented in Figure 3. The selected survey items from the psychometric analysis were then used to assess the development of the collaborative and competitive scenarios and to check the experimental manipulations, as described below.

Scenario development results. Three tests were completed to determine whether subjects adequately assumed their assigned alliance manager scenario roles (either collaborative or competitive). First, a paired samples *t* test was used to compare initial survey results for the collaborative orientation (for collaboratively primed subjects) or the competitive orientation (for competitively primed subjects) versus each of the other orientations (collaborative, competitive, compromise, accommodative and avoidant as appropriate) within the collaborative and competitive roles (i.e. within-subjects). For the collaboratively primed subjects, this test was positive and significant ($p<.001$) for each of the four comparisons. For competitively primed subjects, the competitive orientation was positive and significant ($p<.001$) for all comparisons except competition-collaboration, which was nearly identical ($p<.919$). These results are presented in Table 3.

Second, an independent samples *t* test was used to compare each of the orientations between collaboratively and competitively primed subjects (i.e. between subjects). This test confirmed positive (i.e. higher values for collaboratively primed subjects) and significant *t* values for collaborative ($p<.006$) and compromise ($p<.01$) orientations as well as perceived performance expectations ($p<.002$). Due to their less assertive natures, the accommodative

orientation was positive but only marginally significant ($p < .08$) and the avoidant orientation was negative (i.e. higher values for competitively primed subjects) and marginally significant ($p < .12$). Means for the competitive orientation, while differing in the appropriate direction (i.e. higher for competitively primed subjects versus collaboratively primed subjects) were non-significant ($p < .563$). In addition, performance expectations were significantly higher ($p < .002$) for collaboratively primed versus competitively primed subjects (see Table 4).

The final scenario development test utilized the work of Rahim (2002) by organizing the five orientations into either integrative (representing a party's concern for self *and* others) or distributive (representing a party's concern for self *or* others) dimensions. This was completed for each subject by first standardizing the results of each orientation and then subtracting the avoidant orientation measure from the collaborative orientation measure for the integrative dimension and the accommodative orientation from the competitive orientation measure for the distributive orientation. A larger number for the integrative dimension indicates a subject's perception of the extent to which both party's concerns are satisfied. A larger number for the distributive dimension indicates a subject's perception of the extent to which its own concerns are satisfied and the other party's concerns are not satisfied.

Two dimensional charts using the problem-solving and bargaining numbers as coordinate points reveals distinct differences for collaboratively and competitively primed subjects (see Figures 4 and 5).

In sum, scenario development results are strong with regard to priming subjects for the collaborative alliance manager role. The competitively primed role, while exhibiting strength both within and between subjects for compromise, accommodative and avoidant orientations, was not conclusively differentiated from the collaborative role when comparing the collaborative

and competitive orientations. This weakness will be further addressed in the ‘Conclusion’ section and in the methodology for the final study.

Manipulation checks. Using the items derived from the psychometric study above, a number of manipulation checks were performed via a series of *t* tests to assure that the experiment was causing significant changes in conflict handling orientations and performance assessments among collaboratively and competitively primed respondents. In addition, payments in various rounds of the experimental game were assessed via Wilcoxon signed ranks tests to determine if significant variations were present among collaboratively and competitively primed subjects. Results of these tests are shown below.

First, within subjects pre-experiment versus post-experiment conflict handling orientations had a number of significant (measured as $p < .05$) and marginally significant (measured as $p < .10$) differences. For collaboratively primed subjects, partnering with consistently collaborative partners resulted in marginally higher measured levels of avoidance. Partnering with consistently competitive partners resulted in lower measured levels of collaboration and accommodation (marginal support). Partnering with consistently compromising partners resulted in higher levels of competitiveness. Partnering with consistently accommodating partners raised levels of competitiveness and marginally lowered levels of compromise. Finally, partnering with consistently avoidant partners significantly reduced collaborativeness. Performance satisfaction was significantly lower than performance expectations for all partners except the accommodative partner, which was non-significant (see Table 5).

Competitively primed subjects experienced a larger number of significant conflict orientation changes. Specifically, partnering with consistently collaborative partners did not

significantly change measured orientations or performance expectations versus performance satisfaction. However, partnering with consistently competitive partners resulted in significantly lower measured levels of competition and collaboration. Partnering with consistently compromising partners resulted in significantly lower measured levels of competition and collaboration as well as significantly higher levels of compromise, accommodativeness and avoidance. Partnering with consistently accommodating partners significantly increased levels of accommodation. Finally, partnering with consistently avoidant partners significantly reduced collaboration. Performance satisfaction was significantly lower than performance expectations for all partners except the accommodative partner, where satisfaction was significantly higher than expectations (see Table 6).

As described in the ‘Scenario development’ section above, significant and/or marginally significant positive differences were present in the pre-experimental collaborative, compromise and accommodative (marginal) orientations between collaboratively and competitively primed partners while marginally significant negative differences were present in the avoidant orientation. Pre-experimental performance expectation differences were also significantly positive (see Table 4).

Playing the experimental game tended to moderate these differences, presumably because subjects were exposed to partners who consistently responded to payment proposals in the same manner regardless of the primed orientation. In fact, both performance satisfaction and objective performance results showed no significant differences between collaboratively or competitively primed respondents for any partner orientation. While this provides preliminary evidence of changes to the initially primed orientations, a few orientation combination differences persisted in the post-test. Specifically, when paired with consistently compromising partners,

collaboratively primed subjects became significantly more competitive than competitively primed subjects. Also, when faced with consistently accommodative partners, collaboratively primed subjects' measured levels of compromise were marginally less than competitively primed subjects and measured levels of avoidance were significantly less than competitively primed subjects (see Table 7).

Finally, significant changes in subject decision-making occurred while playing the experimental game, as evidenced by changes in payment amounts throughout the eight rounds of the game for both collaboratively and competitively primed partner combinations. A Wilcoxon signed ranks test was used for this analysis because normally distributed payment decisions could not be assumed given the controlled (and sometimes extreme) responses of the subjects' experimenter-partner orientation. This analysis has also been used in prior experimental game research (see Ortmann, Fitzgerald and Boeing, 2000). The Wilcoxon test reveals the nature and significance of subject payment decision changes over the course of the game by comparing the payment decisions between rounds one, four and eight.

For both collaboratively and competitively primed subjects, the initial assumption of alliance collaboration is strong and there was no significant difference in the initial selection of a 'joint decision' (i.e. collaborative) payment amount of about 4.0 ($p < .43$). This result also coincides with experimental game literature (described above) stating that subjects that live in a market economy utilize higher considerations of equity in initial proposals (Ensminger, 2004). However, once exposed to consistently-oriented experimenter-partners, significant changes developed over the rounds for competitively and collaboratively primed subjects.

For collaboratively primed subjects, initial collaborative payment proposals did not significantly change over the course of the game when these subjects were paired with

consistently collaborative, competitive or avoidant partners. However, subjects made marginally ($p < .097$) more compromising (i.e. 'split-the-difference' type) proposals when paired with consistently compromising partners, and marginally more competitive proposals when paired with consistently accommodative partners (see Table 8).

For competitively primed subjects, initial collaborative payment proposals did not significantly change over the course of the game when these subjects were paired with consistently collaborative partners. However, changes were quite extreme for other orientation pairings. When faced with competitive, compromise or avoidant partners, competitively primed subjects significantly increased their payment proposals to more compromising levels and essentially maintained (in the case of avoidant and compromising partners) or increased these levels (in the case of competitive partners) by round eight. When faced with accommodative partners, competitively primed partners significantly reduced their payment proposals to competitive levels between rounds one and four and between rounds four and eight (see Table 9).

Preliminary hypothesis assessment. Using the psychometrically selected survey items and the preliminary experimental game results, an initial assessment of the hypotheses for this study can be made. These preliminary results should provide some direction with regard to the final study results and conclusions.

Hypotheses 1 and 2, which conceive the contextual factor relationships with collaborative and competitive conflict handling orientations, are partially supported via the scenario development results above. As previously stated, mean comparison results are strong with regard to priming subjects for the collaborative alliance manager role. The competitively primed role, while exhibiting strength both within and between subjects for compromise, accommodative and avoidant orientations, was not conclusively differentiated from the

collaborative role when comparing the collaborative and competitive orientations. Again, this may indicate a weakness in experimental administration of the scenarios. This will be further addressed in the 'Conclusion' section and in the methodology for the final study.

Hypothesis 3 asserts that in the initial assessment of combined alliance partner conflict-handling orientations, combinations of the same orientations will result in that orientation, more assertive stances will dominate more passive stances, and, given the former assertions, more cooperative stances will dominate more uncooperative stances. As discussed in the Hypotheses section above, these assertions are confirmed via subject assessments of the first round play of the experimental game and their subsequent second round payment decision. For example, a collaboratively primed subject paired with a collaborative partner should choose a collaborative payment amount (i.e. \$4) for the second round of the game and a competitively primed subject paired with a competitive partner should choose a more competitive payment amount (i.e. \$3 or less) for the second round of the game. In addition, because collaborative and competitive orientations are both assertive, first round payment choices of subjects within these scenarios should persist (i.e. be approximately the same) into the second round when paired with less assertive (i.e. accommodative or avoidant). Finally, collaboratively primed subjects, when paired with competitive partners, will persist in making collaborative payment choices in the second round. Competitively primed subjects that are paired with collaborative partners, however, will shift their first round payment choices to more collaborative amounts.

A Wilcoxon signed ranks test comparing first and second round choices for both collaboratively and competitively primed partner combinations provides partial support for this hypothesis. For collaboratively primed subjects, pairings with collaborative, avoidant and competitive partners produced positive but non-significant changes from the initial collaborative

amount. Contrary to the hypothesis, however, collaboratively primed subjects increased their second round payment choices when faced with accommodative ($p < .10$) or compromising ($p < .015$) partners (see Table 10). For competitively primed subjects, pairings with avoidant or compromising partners produced non-significant second round increases from the initial collaborative amount and pairings with accommodative partners produced non-significant second round decreases in payment proposals. Again contrary to Hypothesis 3, however, competitively primed subjects significantly increased their second round payment proposals (into compromise levels of \$5 and above) when faced with collaborative ($p > .015$) or competitive ($p < .006$) partners (see Table 11). Hence, collaboratively oriented subjects seemed to increase their payment proposals to more cooperative partners, while competitively oriented subjects seemed to increase their payment proposals to more assertive partners. This effect will be further explored in the final study.

Hypothesis 4 used prior literature to relate final conflict handling orientations to alliance performance and satisfaction. Specifically, final collaborative and compromise stances positively relate to perceived alliance performance/satisfaction and final competitive, accommodative and avoidant stances negatively relate to perceived alliance performance/satisfaction. For the developmental study, multiple linear regression analysis was used for both the pre-experimental and post-experimental survey measurements to model the conflict orientation relationships with performance expectations (pre-experimental), performance satisfaction (post-experimental) and objective performance (post-experimental) for the overall sample ($N=218$) and the collaboratively and competitively primed orientations separately ($N=109$ in each case). Due to time and resource (i.e. expense and the number of subjects available) constraints, the ten individual orientation combinations are relatively weak-powered

(N sizes ranging from 20 to 22), and analyses for each of these orientation combinations will not be completed.

In the case of the broader sample (N=218), Hypothesis 4 was partially supported in both the pre-experimental and post-experimental phases. In the pre-experimental phase, performance expectations had positive and significant relationships with collaborative ($p > .000$), competitive ($p > .055$ -contrary to Hypothesis 4) and compromise ($p > .076$) orientations while accommodative and avoidant orientations, while in the hypothesized direction were non-significant. The overall model explained approximately 16% of the variance in performance expectations. Marginal support for the positive compromise/performance relationship and the non-significance of the negative accommodative/performance and avoidance/performance relationships are presumably due to the less assertive nature of these orientations (see Table 12, Model 1).

When analyzed across the collaboratively and competitively primed subjects (N=109 for each orientation; see Table 12, Models 2 and 3, respectively), both types exhibited significant positive relationships between collaborative orientations and perceived performance ($p < .000$ and $.051$, respectively) but only competitively primed subjects had a marginally significant positive relationship between the competitive orientation and perceived performance ($p < .061$). The other relationships, though in the hypothesized directions, were non-significant. The overall model for collaboratively and competitively primed subjects explained 16% and 10%, respectively, of the variance in perceived performance.

These relationships changed in the post-experimental assessment. Using the broad sample (N=218), collaborative orientations maintained a significant, positive relationship with both performance satisfaction ($p < .000$) and objective performance ($p < .005$). Competitive orientations, while still positively related to both performance measures, became non-significant.

Compromise/performance relationships became negative and were non-significant for performance satisfaction but significant ($p < .003$) for objective performance.

Accommodation/performance relationships became positive and were marginally significant ($p < .058$) for performance satisfaction and significant ($p < .035$) for objective performance.

Finally, avoidant stances, while still non-significant, were now positively related to performance satisfaction and objective performance. The overall model in this case accounted for approximately 18% and 11%, respectively, of the variance in performance satisfaction and objective performance (see Table 13, Models 1 and 2).

Finally, post-experimental relationships for collaboratively and competitively primed subgroups ($N=109$ in each case; see Table 13, Models 3 and 4 for the collaborative subgroup and Models 5 and 6 for the competitive subgroup) exhibited even more differences. Much of the differences in the overall sample seemed to originate in the collaborative subgroup, as collaborative orientations maintained a significant, positive relationship with both performance satisfaction ($p < .001$) and objective performance ($p < .025$). Competitive orientations, while still positively related to both performance measures, were non-significant.

Compromise/performance relationships became negative and were non-significant for performance satisfaction but significant ($p < .003$) for objective performance.

Accommodation/performance relationships became positive and were non-significant for performance satisfaction but marginally significant ($p < .087$) for objective performance. Finally, avoidant stances were non-significant and positively related to performance satisfaction and objective performance. The overall model in this case accounted for approximately 19% and 14%, respectively, of the variance in performance satisfaction and objective performance.

The competitively primed subgroup had non-significant relationships for both performance satisfaction and objective performance. For performance satisfaction, competitive, accommodative and avoidant relationships were in the opposite direction from those hypothesized. For objective performance, compromise, accommodative and avoidant relationships were in the opposite direction from those hypothesized. While the competitive subgroup explained a significant amount of the variance in performance satisfaction (15%), the amount was non-significant for objective performance. In considering the differences between pre- and post-experimental orientations for competitively primed subjects when combined with experimenter-partner orientations, this result would seem to indicate that additional analysis is necessary at the partner combination level.

In summary, it appears that Hypothesis 4 garners only partial support. Further analysis seems necessary on a partner combination basis for the competitively primed subgroup, and this will be addressed in the final study.

Hypothesis 5 asserts that after repeated rounds of the experimental game are played, collaboratively primed subjects paired with competitive, accommodative or avoidant partners will become significantly less collaborative/more competitive, and competitively primed subjects paired with competitive, accommodative or avoidant partners will remain strongly competitive. Support for this hypothesis can be ascertained via pre- versus post-experimental *t* tests of orientation measures and a Wilcoxon signed ranks test of differences between initial and final payment choices in the experimental game.

As stated in the 'Manipulation Check' section above, pre-post *t* tests of the collaboratively primed subgroup orientations showed significantly (measured as $p < .05$) lower levels of collaboration and marginally significant (measured as $p < .10$) lower levels of

accommodation when paired with consistently competitive partners. Partnering with consistently accommodating partners significantly raised levels of competitiveness and marginally lowered levels of compromise. Finally, partnering with consistently avoidant partners significantly reduced collaborativeness. Partially supporting the hypothesis, the competitive orientation measurement became higher than the collaborative measurement (with marginal significance) in the post-experimental measurement of competitive and avoidant partner combinations. No significant changes were measured for the accommodative partner combination (see Table 5).

Concerning collaboratively primed subjects' payment decisions, the Wilcoxon test shows non-significant increases from an initially collaborative level to a more compromising level for competitive and avoidant combinations, while accommodative combinations result in a marginally significant decrease to more competitive levels. Hence, there is limited support for reductions to more competitive levels for these combinations (see Table 8).

Competitively primed subjects experienced a larger number of significant conflict orientation changes. Partnering with consistently competitive partners resulted in significantly lower measured levels of competition and collaboration. Partnering with consistently accommodating partners resulted in significant increases in levels of accommodation. Finally, partnering with consistently avoidant partners significantly reduced collaboration. Between individual orientations, measured collaborativeness was non-significantly higher in the pre-experimental phase than competitiveness for the competitive, accommodative and avoidant partner combinations. This relationship did not change for the accommodative partner combination; however, the competitive orientation became dominant in the competitive partner combination (with marginal significance) and in the avoidant partner combination (with non-

significance) in post-experimental measures. Again, this partially supports Hypothesis 5 (see Table 6). Concerning competitively primed subjects' payment proposals, the Wilcoxon test shows significant increases from an initially collaborative level to more compromising levels for competitive partner combinations, while accommodative combinations result in a significant decrease to more competitive levels. Avoidant partner combinations show no significant changes from an initially collaborative level. Hence, there is again limited support for reductions to more competitive levels for these combinations (see Table 9).

To sum up the hypothesis assessment for the developmental study, Hypothesis 1 appears to be supported, as the collaboratively primed subgroup seems to have taken on their role. Hypothesis 2 garners weak support since the collaborative and competitive orientations seem equally strong for competitively primed subjects. Hypothesis 3 also was only partially supported, as collaboratively oriented subjects seemed to increase their payment proposals to more cooperative partners, while competitively oriented subjects seemed to increase their payment proposals to more assertive partners. Hypothesis 4 again received partial support, and appeared to be opposite the predicted direction in the cases of accommodative/performance and avoidance/performance relationships. Finally, Hypothesis 5 was partially supported, as collaboratively primed subjects became more competitive and less collaborative when paired with competitive, accommodative and avoidant partners and competitively primed subjects remained competitive when paired with competitive and avoidant partners. However, actual payment proposals were sometimes in the opposite direction from the hypothesis (with competitive and avoidant partners) as well as different from the measured orientations (in the case of competitively primed subjects paired with competitive and accommodative partners. A

number of these areas will be addressed in the ‘Conclusion’ section below and in the methodology for the final study.

Development study conclusions. The development study successfully created a measurement instrument and identified improvements for the final experimental methodology and analysis portions of this paper. Psychometric analysis of the initial survey identified twenty strong indicators that could be used in the final study as well as several good indicators for pre-experimental perceived performance and post-experimental performance satisfaction. Scenario development assessment revealed that development sample subjects were strongly primed to assume a collaborative alliance manager role. Competitively primed subjects, however, assumed a role that was, while strong from a competitive orientation, somewhat confounded with the collaborative conflict handling orientation. To strengthen the competitive orientation, the scenario presented to subjects will be made more specific and contain more assertive wording. In addition, subjects will be instructed to refer to their alliance manager role scenarios more often during the play of the experimental game.

Manipulation checks of pre-experimental versus post-experimental survey measurements and of payment proposals during the game itself were also positive, as game play caused significant orientation changes for both collaboratively and competitively primed subgroups. In addition, game payment proposals significantly differed over the course of the rounds and between competitively and collaboratively primed subjects as well.

Finally, an initial hypothesis assessment revealed at least partial confirmation of a number of hypotheses, while also indicating a few significant departures from prior literature in the case of orientation/performance relationships.

The next section will elaborate on final study methodological changes that were identified in the development study. Development and final study differences with regard to survey psychometrics, scenario assumption and manipulation checks will also be discussed in the ‘Final Study Results and Analysis’ section.

Final Study Methodology

Methodology changes. Based on the development study results, a number of changes to the methodology/procedures were made. First, to strengthen the evidence that subjects are assuming their primed scenarios (i.e. either collaborative or competitive), all subjects were given an initial survey measuring their individual conflict handling orientation styles (via e-mail) before they attended their experimental sessions. The instrument used was the ROC II instrument developed by Rahim (1983a, 1983b, 1983c, 2001). The instrument is based on the Thomas (1976) model and is a fairly common instrument for measuring these styles. The results of this survey will be compared to the pre- and post-experimental surveys in the ‘Analysis’ section to determine if subjects initially assumed their scenario roles and if they reverted to their individual level orientations after completing the experimental game.

Second, additional alliance manager role reminders were added to the instruction script that the experimenter read to subjects (see Appendix 2C). Specifically, the experimenter directed subjects to reread their assigned alliance manager roles to ensure that they were following them before completing the first experimental survey and before the first, second, fifth and eighth rounds of the game. The intent of these reminders was to strengthen in the subjects’ minds the importance of adhering to their assigned roles.

Third, in response to a rather low score on the post-experimental survey question that asked subjects how realistic the scenarios were (mean response=3.3 on the 7 point scale), the

scenario was linked to a specific industry. The computer hardware industry was selected for the scenarios because most, if not all, students had some exposure to this industry via the purchase of a personal computer.

Fourth, the wording of the scenarios was strengthened, particularly in the competitive case, increase their salience to subjects. For example, the competitive scenario wording describing high stakes and high organizational pressure on the alliance manager subject was changed from, “Therefore, it is critical that the alliance products are successfully manufactured and sold to ensure the future profitability of both organizations” to “With such high stakes, your company is putting high pressure on you to make sure that alliance products are successfully manufactured and sold” (see Appendix 2E).

Finally, in consideration of the experimental game literature confirming the initial collaborativeness of ultimatum game partners, the position of the block of competitive questions on both the pre- and post-experimental surveys was switched with the collaborative block, i.e. the collaborative block was made the first set of questions and the competitive block was made the second set of questions (see Appendices 2F and 2I). Question order was not addressed in the conflict orientation literature, presumably because experimental game literature was not taken into account. This issue will also be further discussed in the ‘Discussion’ section of this paper.

The full description of survey and game administration is included in Appendix 2.

Power assessment. Before selecting a sample size, it was necessary to assess the desired power of the study. Assuming a commonly accepted 80% probability of rejecting the null hypothesis that the mean survey responses of the pre-experimental and post-experimental groups are the same, a medium f^2 statistic effect size of 0.15 (corresponding to an R^2 of approximately .13), and a two-tailed p value of 0.05, an approximate minimum sample size of 100 subjects per

condition (i.e. collaboratively and competitively primed subgroups) was deemed necessary (Cohen, 1977).

Participants and final research design. Hence, the final study was administered to a convenience sample of 225 college juniors and seniors at a large public university in the Pacific Northwest. Eighteen of these subjects had participated in the development study and were therefore eliminated from the present study. In addition, eight of the subjects completed the initial survey after participating in the experiment. These students were also eliminated from the final study as it was presumed that exposure to the experiment would affect their individual-level results. Finally, one student neglected to complete the initial survey and was also eliminated from the study.

Regarding missing cells, less than 1% of the surveys contained omissions in the scale responses, and these omissions were corrected using column mean replacement. In addition, 6 subjects (3%) neglected to enter their age on the survey. Since this was again a small percentage of the total number of subjects, these omissions were also corrected using column mean replacement. The final sample consisted of 198 subjects with an average age of 22 years. The sample was 62% male, 74% White/Caucasian, 19% Asian, and 7% other ethnicities. The sample showed adequate power, as the number of subjects randomly assigned per condition was 102 and 96 for the collaborative and competitive scenarios, respectively.

Subjects were recruited from five sections of junior and senior level management courses. Subjects were directed to the experimenter's website to learn more information about the experiment. Subjects then e-mailed the experimenter if they wished to sign up for the research. To confirm their participation, subjects were required to complete the initial 28 item

survey (Rahim's ROC-II survey) and e-mail it back to the experimenter before their experimental session began.

Experimental sessions were held in a conference room weekday afternoons and evenings for groups of approximately twenty. Upon entering the conference room, subjects were directed to sit wherever they wanted at a conference table. The experimenter then described what subjects would be required to do (see Appendix 2C). Subjects then completed a consent form, read their alliance manager role scenarios and completed the 22 question pre-experimental survey. Subjects then played an eight round game (subjects were not told when the game would end to minimize end-game experimental effects) where they decided how to split the costs for producing eight alliance products. As in the developmental study, this game was played with the experimenter, although subjects were instructed that they were playing the game with an anonymous alliance partner that was located in another room. At the end of the game, the experimenter projected the game results for all participants to see on a screen in the room. Subjects then completed the final 30 question (which consisted of the 22 pre-experimental survey items plus four questions concerning subjects' use of the scenario, one question concerning when subjects changed their payment strategies, and three demographic questions regarding age, gender and ethnicity) survey. After this, drawings were held for \$50 for the top five earners in the game and \$20 for the rest of the participants. Finally, subjects were given a website that they could access to be debriefed and were then dismissed.

All surveys used a seven-point Likert scale with labels only at each end (1=strongly disagree, 7=strongly agree). For regression testing, the dependent variables are *perceived performance/satisfaction* and *objective performance*. Perceived performance/satisfaction was measured by two survey questions. Objective performance was the profitability obtained by

subjects from playing eight rounds of the experimental game. The independent variables are *collaborativeness*, *competitiveness*, *compromise*, *avoidance* and *accommodativeness*. Again, the four questions making up each of these variables and their formulation are described above. Control variables are *gender* (one question; measured dichotomously, with female=1), *age* (one question) and *ethnicity* (one question, measured dichotomously). The research basis for including these items is described above. For additional manipulation checking, subjects were asked if the scenarios were realistic, assisted subjects in understanding how to work with their partners and helped clarify subject goals with their partners. Also, subjects were asked to describe their primary objective as an alliance manager and when (if at all) they felt that they needed to change their approach toward working with their partner.

CHAPTER FIVE

ANALYSIS AND RESULTS

Psychometric analysis

Since the ROC-II is an established instrument for measuring individual-level conflict handling orientations, only an EFA and a reliability analysis were executed for this instrument. The results of the EFA were acceptable, with factor loadings (using principal axis factoring with promax rotation) ranging from 0.50 to 0.81 and communalities ranging from 0.25 to 0.66. Reliability analysis results were also adequate, showing item-total correlations ranging from 0.44 to 0.75 and alphas ranging from 0.74 to 0.88.

For the pre-experimental instrument, EFA, reliability and discriminant validity analyses were again executed for the set of variables within each of the five constructs being studied. EFA results were positive, with factor loadings (using principal axis factoring with promax rotation) ranging from 0.56 (one item) to 0.88 and communalities ranging from 0.31 to 0.78. Reliability analysis results were also acceptable, with item-total correlations ranging from 0.51 to 0.80 and alphas ranging from 0.81 to 0.88. A discriminant validity check was again completed including all of the variables for each of the five constructs being studied (collaboration, competition, compromise, accommodation, avoidance) using principal axis factoring with promax rotation, similar to the pilot study. This analysis resulted in five distinct factors with loadings ranging from 0.50 (occurring for only one variable) to 0.90, with one cross loading at 0.31. Factor correlations were low to moderate, with the highest correlation being 0.60. Taken in total, these analyses show that the five rating scales for the final study have high internal

consistency, a valid internal structure and adequate discriminant validity. Table 14 summarizes the EFA and reliability results.

In keeping with recommendations by Hinkin (1995), a confirmatory factor analysis (CFA) utilizing MPlus software was also conducted to further examine the stability of the factor structure and to allow for more precision in evaluating the measurement model. Utilizing the theory discussed in the literature review and hypotheses in conjunction with the EFA results, a five factor model was theorized, with covariances among collaboration, competition, compromise, accommodation, and avoidance.

Errors for the variables within each construct were allowed to covary if the correlation between the variable pairs were estimated at 0.67 or higher. Such error correlations reflect a multidimensional measurement model, accounting for the fact that some indicators are factorially complex (Cattell, 1978) and may have something in common other than the endogenous factors that are unanalyzed and exogenous to the model (Kline, 2005). These parameters are not uncommon in the analysis of covariance structures, particularly when based on psychological data (Byrne, 1994, 1996) such as the measurement of consumer tastes.

Maximum likelihood estimation was employed to estimate the measurement model. In concert with general standards set forth by Brown (2006) and Hu and Bentler (1999), results indicate a good-fitting model ($\chi^2(154)=242.02, p<.0001$; CFI=0.95; TLI=0.94; RMSEA=0.06; SRMR=0.07). The final model, including coefficients in standardized form (with significance levels noted) and correlations among exogenous variables, is presented in Figure 6.

Two additional tests were completed to confirm model fit and rule out common methods bias. First, each of the five orientations was paired to determine if a higher-order factor better explained the relationships. None of these configurations approached the fit statistics of the five

factor model. Second, two final tests were performed on the data to confirm the absence of common methods bias based on the recommendations of Podsakoff, MacKenzie, Lee and Podsakoff (2003). First, a Harmon's one-factor test was performed by producing a factor matrix of the variables for all five constructs under the principal components, principal axis and maximum likelihood factoring methods. Results from these tests reveal the presence of five factors, indicating that common methods effects are not a likely contaminant of the observed results. Second, an additional CFA was performed adding a single factor that relates to all variables of the confirmed measurement model. The fit of this model was significantly worse ($\chi^2(190)=2213.91, p<.0001$; CFI=0.50; TLI=0.44; RMSEA=0.17; SRMR=0.14) than the five factor model and did not meet the general standards described above. These results suggest that common methods bias was not a pervasive problem in this study.

Manipulation checks

As with the scenario development section of the preliminary study, three tests were completed to determine whether subjects adequately assumed their assigned alliance manager scenario roles (either collaborative or competitive). Additionally, a comparison of standardized scale scores for each orientation was completed between the initial (ROC-II) survey instrument and the pre-experimental survey instrument.

First, a paired samples *t* test was used to compare pre-experimental survey results for the collaborative orientation (for collaboratively primed subjects) and the competitive orientation (for competitively primed subjects) versus each of the other orientations (collaborative, competitive, compromise, accommodative and avoidant as appropriate) within the collaborative and competitive roles (i.e. within-subjects). For the collaboratively primed subjects, this test was positive and significant ($p<.001$) for each of the four comparisons. For competitively primed

subjects, the competitive orientation was positive and significant ($p < .001$) for all comparisons except competition-collaboration, which was negative and significant ($p < .02$) and competition-compromise, which was positive and marginally significant ($p < .10$). These results are summarized in Table 15.

Recognizing that each of the orientation scales may be on different metrics, each of the scale scores were standardized and subtracted from the collaborative and competitive scale totals, respectively. A scan of these more restrictive tests showed that the percentage of collaborative orientations that had higher absolute standardized values were 50% versus competitive orientations, 45% versus compromise orientations, 40% versus accommodative orientations and 42% versus avoidant orientations. For competitively primed subjects, these percentages were 45% versus collaborative orientations, 47% versus compromise orientations, 47% versus accommodative orientations and 52% versus avoidant orientations.

Second, an independent samples t test was used to compare each of the orientations between collaboratively and competitively primed subjects (i.e. between subjects) in the pre-experimental survey. This test confirmed positive (i.e. higher values for collaboratively primed subjects) and significant t values for collaborative ($p < .026$), compromise ($p < .009$) and accommodative ($p < .002$) orientations as well as perceived performance expectations ($p < .001$). Due to its less assertive nature, the avoidant orientation was positive (i.e. higher values for collaboratively primed subjects) and non-significant ($p < .26$). Means for the competitive orientation, while differing in the appropriate direction (i.e. higher for competitively primed subjects versus collaboratively primed subjects) were non-significant ($p < .348$). See Table 16 for these results.

The third test again utilized the work of Rahim (2002) by organizing the five orientations into either integrative (representing a party's concern for self *and* others) or distributive (representing a party's concern for self *or* others) dimensions. This was again completed for each subject by first standardizing the results of each orientation and then subtracting the avoidant orientation measure from the collaborative orientation measure for the integrative dimension and the accommodative orientation from the competitive orientation measure for the distributive orientation. A larger number for the integrative dimension indicates a subject's perception of the extent to which both party's concerns are satisfied. A larger number for the distributive dimension indicates a subject's perception of the extent to which its own concerns are satisfied and the other party's concerns are not satisfied.

Two dimensional charts using the problem-solving and bargaining numbers as coordinate points once again reveal distinct differences for collaboratively and competitively primed subjects (see Figures 7 and 8).

Finally, standardized values for each orientation scale were compared between the initial and pre-experimental survey instruments for collaboratively and competitively primed subjects. For collaboratively primed subjects, absolute standardized scale values of the pre-experimental instrument were higher in 46% of the collaborative scales, 53% of the competitive scales, 52% of the compromise scales, 53% of the accommodative scales and 53% of the avoidant scales. For competitively primed subjects, these percentages were 51%, 54%, 55%, 52%, and 44%, respectively.

In sum, final study results are again strong with regard to priming subjects for the collaborative alliance manager role. The competitively primed role, while again exhibiting strength within subjects for compromise, accommodative and avoidant orientations, was not

conclusively differentiated from the collaborative role (in fact collaboration means were higher within the competitively primed orientation). Between subjects, the competitive scenario was strongly differentiated from the collaborative role when comparing the collaborative, compromise and accommodative orientations as well as performance expectations. However, the roles were not differentiated in the competitive and avoidant orientations. These results will be further addressed in the 'Discussion' section.

Once again a number of final study manipulation checks were performed via a series of *t* tests to assure that the experiment was causing significant changes in conflict handling orientations and performance assessments among collaboratively and competitively primed respondents. In addition, payments in various rounds of the experimental game were again assessed via Wilcoxon signed ranks tests to determine if significant variations were present among collaboratively and competitively primed subjects. Results of these tests are shown below.

First, within subjects pre-experiment versus post-experiment conflict handling orientations had a number of significant (measured as $p < .05$) and marginally significant (measured as $p < .10$) differences. For collaboratively primed subjects, partnering with consistently collaborative partners resulted in marginally higher measured levels of accommodation and higher levels of avoidance. Partnering with consistently competitive partners resulted in lower measured levels of collaboration. Partnering with consistently compromising partners resulted in lower levels of collaboration and marginally higher levels of avoidance. Partnering with consistently accommodating partners resulted in no significant post-experimental differences for collaborative partners. Finally, allying with avoidant partners significantly reduced levels of collaborativeness, accommodativeness and avoidance.

Performance satisfaction was significantly lower than performance expectations for competitive, compromise and avoidant partners, marginally lower for collaborative partners, and significantly higher for accommodative partners (see Table 17).

For competitively primed subjects, partnering with consistently collaborative partners did not significantly change measured post-experimental orientations. However, partnering with consistently competitive partners resulted in significantly lower measured levels of collaboration and avoidance and marginally lower levels of compromise. Partnering with consistently compromising partners resulted in significantly lower measured levels of collaboration. Partnering with consistently accommodating partners marginally increased levels of avoidance. Finally, partnering with consistently avoidant partners significantly reduced collaboration, compromise and accommodation. Performance satisfaction was significantly lower than performance expectations for all partners except the accommodative partner (where satisfaction was significantly higher than expectations) and the collaborative partner (where performance expectation differences were non-significant). See Table 18 for these results.

As described in the scenario discussion above, significant positive differences were present in the pre-experimental collaborative, compromise and accommodative orientations between collaboratively and competitively primed partners while non-significant negative differences (i.e. collaboratively primed subjects were less than competitively primed subjects) were present in the competitive orientation and non-significant positive differences were present in the avoidant orientation. Pre-experimental performance expectation differences were also significantly positive (see Table 16).

Playing the experimental game again tended to moderate these differences, presumably because subjects were exposed to partners who consistently responded to payment proposals in

the same manner regardless of the primed orientation. However, a few orientation combination differences again persisted in the post-test. Specifically, when paired with consistently collaborating and accommodative partners, collaboratively primed subjects were significantly more collaborative as compared with competitively primed partners. Non-significant differences in measured competitiveness between the two primed scenarios were maintained across all pairings. Positive significant differences in the compromising orientation were maintained only for accommodative and avoidant (marginal support) partners, while positive significant differences in the accommodative orientation were maintained for collaborative, competitive (marginal support) and accommodative partners. Finally, positive and significant differences in the avoidant orientation between collaboratively and competitively primed subjects were maintained for collaborative and competitive partners. With regard to performance, positive and significant differences in performance satisfaction were maintained for compromising (marginal support) and accommodative partners, while only pairings with collaborative partners showed marginal significance between competitively and collaboratively primed subjects (see Table 19).

Finally, significant changes in subject decision-making again occurred while playing the experimental game, as evidenced by changes in payment amounts throughout the eight rounds of the game for both collaboratively and competitively primed partner combinations. A Wilcoxon signed ranks test was again used for this analysis because normally distributed payment decisions could not be assumed given the controlled (and sometimes extreme) responses of the subjects' experimenter-partner orientation. Due to the administrative change of reminding subjects to follow their alliance manager roles after round four of the game, the Wilcoxon test for the final study compared the payment decisions between rounds one, five and eight.

Once again confirming the experimental game literature (described above) stating that subjects that live in a market economy utilize higher considerations of equity in initial proposals (Ensminger, 2004), the initial assumption of alliance collaboration was strong for both collaboratively and competitively primed subjects, as evidenced by no significant difference in the initial selection of a 'joint decision' (i.e. collaborative) payment amount of about 4.3 ($p < .67$). However, significant changes again developed over the rounds between competitively and collaboratively primed subjects once they were exposed to consistently-oriented experimenter-partners (see Table 20).

For collaboratively primed subjects, initial collaborative payment proposals did not significantly change over the course of the game when these subjects were paired with consistently competitive partners. However, consistently collaborative partner pairings resulted in more competitive ($p < .033$) proposals. Collaborative/compromising pairings caused significant ($p < .036$) increases to more compromising type proposals, while collaborative/accommodative pairings marginally increased mid-game proposals to more compromising levels, only to fall back to collaborative levels by round 8. Avoidant partner pairings essentially resulted in the same response, with significant ($p < .028$) compromise-oriented increases between rounds 1 and 5, only to fall back to more collaborative levels by round 8 (see Table 21). Competitively primed subjects in the final study exhibited less significant fluctuations in payment proposals throughout the course of the game. Competitive/collaborative pairings made no move from initial collaborative proposals. Competitive/competitive pairing subjects made modest increases to more compromising levels, while competitive/compromising pairings significantly increased their proposals but then significantly reduced them to more collaborative levels by round 8 of the game. Accomodatively paired subjects followed the same

trend, first increasing their proposals to compromising levels but then reducing them to more collaborative levels by round 8. Finally, competitively primed subjects faced with avoidant partners made more compromising (albeit non-significant) proposals throughout the course of the game.

In summary, the alliance manager scenarios and the experimental game caused a host of significant changes in the conflict handling orientations and payment proposals of both collaboratively and competitively primed subjects. The next section will assess these manipulations, as well as a number of other analyses, in terms of the study's hypotheses.

Hypothesis assessment/results

Hypotheses are assessed here in terms of final study results. Hypotheses 1 states that a collaborative conflict-handling orientation results from positive perceived relational histories, high perceived stakes/incentives, high perceived partner use of expert/referent power, low perceived partner use of reward/coercive power, high perceived organizational pressure to succeed, and high environmental munificence. Confirmation of this hypothesis is detailed in the scenario manipulation checks above. First, a paired samples *t* test compared initial survey results for the collaborative orientation versus each of the other orientations for collaboratively primed subjects. This test was positive and significant ($p < .001$) for each of the four comparisons (see Table 15).

Second, recognizing that each of the orientation scales may be on different metrics, each of the scale scores were standardized and subtracted from the collaborative scale total. A scan of these more restrictive tests showed that the percentage of collaborative orientations that had higher absolute standardized values were 50% versus competitive orientations, 45% for

compromise orientations, 40% for accommodative orientations and 42% for avoidant orientations.

Third, independent samples *t* test was used to compare each of the orientations between collaboratively and competitively primed subjects (i.e. between subjects). This test confirmed positive (i.e. higher values for collaboratively primed subjects) and significant *t* values for collaborative ($p < .026$), compromise ($p < .009$) and accommodative ($p < .002$) orientations as well as perceived performance expectations ($p < .001$). Due to its less assertive nature, the avoidant orientation was positive (i.e. higher values for collaboratively primed subjects) and non-significant ($p < .26$). Means for the competitive orientation, while differing in the appropriate direction (i.e. higher for competitively primed subjects versus collaboratively primed subjects) were non-significant ($p < .348$). Again, see Table 16 for these results.

Fourth, according to the work of Rahim (2002), the five orientations were standardized and organized into either integrative or distributive dimensions. These results were then charted using the problem-solving and bargaining numbers as coordinate points. A scan of these charts reveals distinct differences for collaboratively and competitively primed subjects (see Figures 7 and 8).

Finally, standardized values for each orientation scale were compared between the initial and pre-experimental survey instruments for collaboratively primed subjects. Absolute standardized scale values of the pre-experimental instrument were higher in 46% of the collaborative scales, 53% of the competitive scales, 52% of the compromise scales, 53% of the accommodative scales and 53% of the avoidant scales.

In summary, Hypothesis 1 receives adequate support. While the collaborative orientation itself is not always dominant for collaboratively primed subjects, the other orientations and

performance expectations are sufficiently different from individual measures and competitively primed subjects so as to distinctly establish the orientation for collaboratively primed subjects.

Hypothesis 2 states that a competitive conflict-handling orientation results from negative perceived relational histories, high perceived stakes/incentives, low perceived partner use of expert/referent power, high perceived partner use of reward/coercive power, high perceived organizational pressure to succeed, and low environmental munificence. Again, the manipulation checks for the scenario test this hypothesis.

As with collaboratively primed subjects, the paired samples *t* test compared the competitive orientation for competitively primed subjects to each of the other orientations (collaborative, competitive, compromise, accommodative and avoidant as appropriate) within the competitive role (i.e. within-subjects). As shown in Table 15, this test was positive and significant ($p < .001$) for all comparisons except competition-collaboration, which was negative and significant ($p < .02$) and competition-compromise, which was positive and marginally significant ($p < .10$). Standardizing these results and subtracting each of the scale scores from the competitive scale total showed that the percentage of competitive orientations with higher absolute standardized values were 45% versus collaborative orientations, 47% for compromise orientations, 47% for accommodative orientations and 52% for avoidant orientations.

Also as described above for collaboratively primed subjects, the independent samples *t* test comparing the two alliance manager roles (see Table 16) confirmed positive (i.e. higher values for collaboratively primed subjects) and significant *t* values for collaborative ($p < .026$), compromise ($p < .009$) and accommodative ($p < .002$) orientations as well as perceived performance expectations ($p < .001$). The avoidant orientation was positive (i.e. higher values for

collaboratively primed subjects) and non-significant ($p < .26$) and the competitive orientation, while differing in the appropriate direction, was non-significant ($p < .348$).

In addition, a scan of charts using standardized scale scores of Rahim's (2002) problem-solving and bargaining dimensions as coordinate points reveals distinct differences for collaboratively and competitively primed subjects (again, see Figures 7 and 8).

Finally, a comparison of standardized values for each orientation scale between the initial and pre-experimental survey instruments for competitively primed subjects revealed higher pre-experimental instrument scores in 51% of the collaborative scales, 54% of the competitive scales, 55% of the compromise scales, 52% of the accommodative scales and 44% of the avoidant scales.

Taken *in toto*, the competitively primed role exhibited strength between subjects for compromise, accommodative and avoidant orientations and was also adequately differentiated from the initial, individual-level orientation measures. However, the competitive scenario was again not conclusively differentiated from the collaborative role when comparing the collaborative and competitive orientations, even after strengthening the scenario and its experimental administration. This will be further addressed in the 'Discussion' section of this study.

Hypothesis 3 asserts that in the initial assessment of combined alliance partner conflict-handling orientations, combinations of the same orientations will result in that orientation, more assertive stances will dominate more passive stances, and, given the former assertions, more cooperative stances will dominate more uncooperative stances. As discussed in the hypothesis development section above, these assertions are confirmed via subject assessments of the first round play of the experimental game and their subsequent second round payment decision. For

example, a collaboratively primed subject paired with a collaborative partner should choose a collaborative payment amount (i.e. \$4) for the second round of the game and a competitively primed subject paired with a competitive partner should choose a more competitive payment amount (i.e. \$3 or less) for the second round of the game. In addition, because collaborative and competitive orientations are both assertive, first round payment choices of subjects within these scenarios should persist (i.e. be approximately the same) into the second round when paired with less assertive (i.e. accommodative or avoidant). Finally, collaboratively primed subjects, when paired with competitive partners, will persist in making collaborative payment choices in the second round. Competitively primed subjects that are paired with collaborative partners, however, will shift their first round payment choices to more collaborative amounts.

A Wilcoxon signed ranks test comparing first and second round choices for both collaboratively and competitively primed partner combinations provides partial support for this hypothesis. For collaboratively primed subjects, pairings with collaborative, avoidant and competitive partners produced negative but non-significant changes from the initial collaborative amount. Contrary to the hypothesis, however, collaboratively primed subjects increased their second round payment choices when faced with accommodative ($p < .046$) or compromising ($p < .005$) partners (see Table 22). For competitively primed subjects, pairings with accommodative, avoidant or compromising partners produced positive but non-significant second round increases from the initial collaborative amount. Again contrary to Hypothesis 3, however, competitively primed subjects showed a marginally significant increase of their second round payment proposals when faced with collaborative ($p > .067$) or competitive ($p < .083$) partners (see Table 23).

In summary, Hypothesis 3 receives partial support. Collaboratively oriented subjects seemed to increase their payment proposals to more cooperative partners, while competitively oriented subjects seemed to increase their payment proposals to more assertive partners. This effect will be further explored in the ‘Discussion’ section.

Hypothesis 4 stated that final collaborative and compromise stances positively relate to perceived alliance performance/satisfaction and final competitive, accommodative and avoidant stances negatively relate to perceived alliance performance/satisfaction. To confirm this hypothesis, multiple linear regression analysis was used for the initial, pre-experimental and post-experimental survey measurements to model the conflict orientation relationships with performance expectations (pre-experimental measure), performance satisfaction (post-experimental measure) and objective performance (post-experimental measure) for the overall sample (N=198) and separately for the collaboratively and competitively primed orientations (N=102 and N=96, respectively).

The regression model (assessed using SPSS software) for the initial phase is as follows:

$$PTOT_a, PTOTP_a \text{ or } POBJ_a, \text{ as applicable} = a + b_1 ICL_a + b_2 ICT_a + b_3 ICP_a + b_4 IAC_a + b_5 IAV_a + e_a$$

where PTOT is pre-test expected performance satisfaction, PTOTP is post-test performance satisfaction, POBJ is obtained profitability from the experimental game and ICL, ICT, ICP, IAC and IAV are the initial survey measures for collaborativeness, competitiveness, compromise, accommodation, and avoidance, respectively.

The regression model for the pre-experimental phase is follows:

$$PTOT_a, PTOTP_a \text{ or } POBJ_a, \text{ as applicable} = a + b_1 CL_a + b_2 CT_a + b_3 CP_a + b_4 AC_a + b_5 AV_a + e_a$$

where PTOT, PTOTP and POBJ are as above and CL, CT, CP, AC and AV are the pre-experimental survey measures for collaborativeness, competitiveness, compromise, accommodation, and avoidance, respectively.

Finally, the regression model for the post-experimental phase is follows:

$$PTOT_a, PTOTP_a \text{ or } POBJ_a, \text{ as applicable} = a + b_1 CLP_a + b_2 CTP_a + b_3 CPP_a + b_4 ACP_a + b_5 AVP_a + e_a$$

where PTOT, PTOTP and POBJ are as above and CLP, CTP, CPP, ACP and AVP are the post-experimental survey measures for collaborativeness, competitiveness, compromise, accommodation, and avoidance, respectively.

Table 24 provides the means, standard deviations, and correlations among all variables. To test for the presence of multicollinearity in the regression model, we examined the variance inflation factors for the linear regression and found none approaching the commonly accepted threshold of 10 (Neter, Wasserman, and Kutner 1985). This suggests that multicollinearity was not a problem. In addition, PTOT, PTOTP and POBJ were also separately regressed on age and gender and were found to be non significant.

In the case of the broader sample (N=198), Hypothesis 4 was partially supported in the initial, pre-experimental and post-experimental phases. In the initial phase, performance expectations had positive and significant relationships with collaborative ($p < .000$) orientations and negative, significant relationships with accommodative ($p < .024$) orientations. Compromise orientations, while in the hypothesized direction, were non-significant. Competitive and avoidant orientations were contrary to the hypothesis but non-significant. The overall model explained approximately 11% of the variance in performance expectations. When PTOTP and POBJ were regressed on the initial survey results, the accommodative orientation was positive

and significant, contrary to the hypothesis. However, the overall models in both of these cases were non-significant (See Table 25).

In the pre-experimental phase for the full sample, PTOT had a positive and significant relationship with collaborative ($p < .001$) orientation. The compromise orientation, while in the hypothesized direction, was non-significant. Competitive, accommodative and avoidant orientations were also non-significant, but were contrary to the hypothesis. The overall model explained approximately 20% of the variance in performance expectations. When PTOTP and POBJ were regressed on the pre-experimental survey results, the overall models and all orientations were non-significant (see Table 26, Models 1, 2 and 3).

In the post-experimental phase for the full sample, PTOT had a positive and significant relationship with competitive ($p < .001$) and accommodative ($p < .032$) orientations, contrary to the hypothesis. The compromise and avoidant orientations, while in the hypothesized direction, were non-significant. Contrary to the hypothesis, the collaborative orientation was negative but non-significant. The overall model explained approximately 11% of the variance in performance expectations.

When PTOTP was regressed on the full post-experimental survey results, all orientations were positive but non-significant. For the competitive, accommodative and avoidant orientations, this is contrary to the hypothesis. The overall model was significant, explaining approximately 19% of the variance in PTOTP.

When POBJ was regressed on the full post-experimental survey results, the collaborative orientation was positive and marginally significant ($p < .076$). Contrary to the hypothesis, the avoidant orientation was negative and marginally significant ($p < .083$). The competitive orientation was positive but non-significant and the competitive and accommodative orientations

(contrary to the hypothesis) were positive but non-significant. This model was significant, explaining 12% of the variance in POBJ (see Table 27, Models 1, 2 and 3).

Pre-experimental and post-experimental results were analyzed across collaboratively and competitively primed subjects (N=102 and N=96, respectively) for PTOT, PTOTP and POBJ. For the pre-experimental survey, both subgroups exhibited significant positive relationships between collaborative orientations and perceived performance ($p<.000$ and $p<.10$, respectively). Other relationships were positive but non-significant with the exception of the accommodative orientation for collaboratively primed subjects, which was negative and non-significant. These results are contrary to the hypothesis for competitive and accommodative (in the case of competitively primed subjects) orientations. The overall model for collaboratively and competitively primed subjects explained 23% and 11%, respectively, of the variance in perceived performance. When PTOTP and POBJ were regressed on the pre-experimental survey results, the overall models and all orientations were non-significant for both subgroups (see Table 26, Models 4, 5, and 6 for the collaborative subgroup and Models 7, 8, and 9 for the competitive subgroup).

For the post-experimental survey, the collaborative subgroup had a marginally significant ($p<.078$) positive relationship between the collaborative orientation and perceived performance. This relationship was negative and marginally significant for the competitive subgroup ($p<.08$). Both subgroups had significant positive relationships ($p<.014$ for the collaborative subgroup and $p<.026$ for the competitive subgroup) between the competitive orientation and perceived performance, contrary to the hypothesis. Also contrary to the hypothesis was the relationship between the accommodative orientation and performance, which was positive but non-significant for the collaboratively primed subjects and positive and marginally significant ($p<.072$) for

competitively primed subjects. Finally, compromise and avoidant orientations, while in the hypothesized directions, were non-significant. The collaboratively and competitively primed models explained 11% and 7% of the variance in PTOT, respectively (see Table 27, Models 4 and 7).

For collaboratively primed subjects, the post-experimental relationships between collaborative, competitive and compromise orientations and performance satisfaction were in the hypothesized directions but non-significant. However, the accommodative orientation was positive and significant ($p < .039$) and the avoidant orientation was positive but non-significant, contrary to the hypothesis. These relationships were all positive for competitively primed subjects, with the avoidant orientation being marginally significant ($p < .076$), thus being in conflict with the hypothesis for the competitive, avoidant and accommodative orientations. Variance of PTOTP explained was 21% and 16%, respectively, for the collaborative and competitive subgroups (see Table 27, Models 5 and 8).

Finally, post-experimental survey relationships with POBJ for collaboratively primed subjects were positive and significant for collaborative orientations ($p < .04$) and negative but non-significant for competitive orientations, in keeping with the hypothesis. However, compromise and avoidant orientations were contrary to the hypothesis, though non-significant, and accommodative orientations were contrary to the hypothesis and significant ($p < .041$). For competitively primed subjects, collaborative and accommodative orientations were in the hypothesized directions but non-significant, while compromise and competitive orientations were opposite the hypothesized directions and non-significant. Avoidant orientations of competitively primed subjects had a positive and marginally significant ($p < .062$) relationship with objective performance, also contrary to the hypothesis. POBJ variance explained for the

collaborative and competitive subgroups were 19% and 7%, respectively (see Table 27, Models 6 and 9).

In summary, Hypothesis 4 garners only partial support. In the initial and pre-experimental phases, collaborative orientations are positively and strongly related to performance expectations. This positive relationship is also present to a lesser extent (non-significantly) for compromise orientations. Negative relationships between accommodative orientations and performance expectations are also supported. However, negative relationships between competitive and avoidant orientations and performance expectations are not supported.

The collaborative and compromise orientation relationships carry through to the post-experimental phase when related to performance satisfaction and objective performance. Also, the negative relationship between PTOTP/POBJ and the competitive orientation is weakly supported in the post-experimental assessment (though not for competitively primed subjects). The negative relationship between avoidant orientations and performance is again not supported for either competitively or collaboratively primed subjects, and the hypothesized negative relationship between accommodative orientations and performance is actually weakly positive for collaboratively primed subjects.

Hypothesis 5 asserts that after repeated rounds of the experimental game are played, collaboratively primed subjects paired with competitive, accommodative or avoidant partners will become significantly less collaborative/more competitive, and competitively primed subjects paired with competitive, accommodative or avoidant partners will remain strongly competitive. As with the developmental study, support for this hypothesis can be ascertained via pre- versus post-experimental *t* tests of orientation measures, comparisons of the standardized scores for the competitive and collaborative orientations (within-subjects) for each combination and a

Wilcoxon signed ranks test of differences between initial and final payment choices in the experimental game.

As stated in the ‘Manipulation Check’ section above, pre-post t tests of the collaboratively primed subgroup orientations (see Table 17) showed significantly ($p < .04$) lower levels of collaboration and higher, but non-significant levels of competitiveness when paired with consistently competitive partners. When comparing the standardized scores for the competitive and collaborative orientations within the collaborative/competitive partner combination, 62% of the subjects had higher competitive scores versus 52% in the pre-experimental survey.

Collaboratively primed subjects partnering with consistently accommodating partners resulted in a non-significant increase in collaboration and a non-significant decrease in competition. In addition, there was no change in the proportion of standardized scores between the competitive and collaborative orientations in the pre- and post-experimental surveys; both remained at 50%.

Finally, partnering with consistently avoidant partners significantly reduced collaborativeness ($p < .005$) and non-significantly reduced competitiveness. The proportion of competitive scores also increased for this combination, from 53% in the pre-test to 63% in the post-test.

Concerning collaboratively primed subjects’ payment decisions, the Wilcoxon test shows non-significant increases from an initially collaborative level to a more compromising level for competitive and avoidant combinations, while accommodative combinations result in a non-significant decrease to more competitive levels (see Table 20). Hence, there is little support for reductions to more competitive levels for these combinations.

For competitively primed subjects (Table 18), partnering with consistently competitive partners resulted in significantly lower measured levels of collaboration ($p < .023$) and non-significantly higher levels of competition. The proportion of subjects that had higher standardized scores for the competitive orientation versus the collaborative orientation changed little, going from 50% pre-test to 45% post-test.

Partnering with consistently accommodating partners resulted in non-significant decreases in levels of collaboration and non-significant increases in levels of competition. Again the proportion of subjects with higher standardized competitive orientation scores experienced a minor increase, from 52% pre-test to 57% post-test.

Finally, partnering with consistently avoidant partners significantly reduced collaboration ($p < .015$) and non-significantly reduced competition. The proportion of standardized scores favoring competition increased from 42% pre-experiment to 58% post-experiment.

Concerning competitively primed subjects' payment proposals, the Wilcoxon test shows non-significant increases from an initially collaborative level to more compromising levels for competitive and avoidant partner combinations, while accommodative combinations result in a non-significant decrease to more competitive levels (see Table 21). Hence, there is again little support for reductions to more competitive levels for these combinations.

In summary, Hypothesis 5 receives partial support. While reductions in collaborativeness were strongly supported for both collaboratively and competitively primed subgroups when paired with competitive and avoidant partners, the effect was less conclusive when paired with accommodative partners. Competitive orientations weakly supported the hypothesis in the cases of competitive and accommodative partners, but were contrary to the hypothesis in the case of avoidant partners. Finally, subject payment amounts in the game were also weakly contrary to

the hypothesis for competitive and avoidant combinations (i.e. subjects increased their payments to more compromising levels) but weakly supported the hypothesis for the accommodative combination.

To sum up the hypothesis assessment for the final study, Hypothesis 1 appears to be supported, as the collaboratively primed subgroup seems to have taken on their role. Hypothesis 2 again garners only weak support since the collaborative and competitive orientations seem equally strong for competitively primed subjects. Hypothesis 3 receives partial support, as collaboratively oriented subjects seemed to increase their payment proposals to more cooperative partners, while competitively oriented subjects seemed to increase their payment proposals to more assertive partners. Hypothesis 4 also garners only partial support, as collaborative and compromise orientations are positively related to performance and competitive orientations are negatively (though weakly) related to performance. However, the hypothesized negative relationship between both accommodativeness and avoidance and performance is either not supported or contrary to the hypothesis. Lastly, Hypothesis 5 also received partial support. While collaborative orientations were generally reduced and competitive orientations were generally increased when paired with competitive, accommodative and avoidant combinations, these results were sometimes weak and/or contrary to the hypothesis. Also, actual payment proposals were generally contrary to the hypothesis. These results will be more fully discussed below.

CHAPTER SIX

DISCUSSION

The results of this study will first be discussed with regard to the literature reviewed in the earlier chapters of this paper as they apply to the five phases in the model of conflict handling orientations and alliance performance. Integrated into this discussion will be implications for researchers and practitioners in alliances and alliance management. This section will conclude with an assessment of the limitations of this study and suggestions for future research.

Significance/implications of results

As discussed in the hypothesis development section of this study, the relationship between alliance conflict handling orientations and alliance performance was modeled in five distinct phases: a predispositional phase, where five contextual factors (relational history, alliance stakes/incentives, partner use of power, organizational pressure for success, environmental munificence) drive the establishment of an initial orientation; an initial interaction phase, where each partner's dominant conflict handling orientation affects the combined alliance conflict handling orientation; an adjustment phase, where initial performance assessments begin to affect contextual factors, thereby changing initial conflict handling orientations (this phase was not directly modeled); a performance phase, where conflict handling orientations begin to affect alliance performance assessments and decision-making; and finally, a repeated interaction phase, where repeated negative partner contact and performance assessment will result in the 'devolution' of collaborative orientations over time.

To test each of these phases, a sample of junior and senior undergraduate business students were asked to assume either a collaborative or competitive alliance manager role. These

subjects then played an experimental game with an anonymous partner by proposing amounts that they were willing to pay for the manufacture of a particular product. The partner was actually the experimenter, who assumed a consistent role using one of the conflict handling orientations, and expressed this role by either accepting or rejecting the subject payment amount. Subject orientations were measured via an initial, individual survey that subjects completed prior to the experimental session, a pre-experimental survey and a post-experimental survey. Alliance performance was also measured pre-experimentally (in terms of performance expectations) and post experimentally (in terms of performance satisfaction and actual game performance).

In the predispositional phase, results supported the establishment of a collaborative orientation via an alliance manager scenario that emphasized a positive perceived relational history, high perceived stakes, high perceived partner use of expert/referent power, low perceived partner use of reward/coercive power, high perceived organizational pressure to succeed and high environmental munificence. Less conclusive support was garnered for a competitive orientation resulting from negative perceived relational history, high perceived stakes, low perceived partner use of expert/referent power, high perceived partner use of reward/coercive power, high perceived organizational pressure to succeed, and low environmental munificence. However, it is important to note that the testing established conclusive evidence of differences in the five orientations between the two subgroups, even if the collaborative and competitive orientations within subjects were not decidedly dominant. These results confirm the ability of the contextual factors in their tested configurations to drive the establishment of conflict handling orientations. This is true even if the factors are not actually ‘experienced’ but instead merely ‘primed,’ as they are in this study. Hence, Hypothesis 1 supports the importance of initial conditions of an individual partner’s alliance environment

(Doz, 1996) and the role of these conditions in driving a partner's initial performance expectations and conflict handling behaviors within the alliance. Alliance partners rely heavily on such prior conditions in the formation of organizational schema and behavioral predispositions toward the alliance (Child et al., 2005; Hunt, 1995; Thomas, 1976). While future research is necessary to parse out the individual importance of each of these factors in the development of a dominant conflict orientation for alliance partners, this exploratory study confirms their combined ability to drive such orientations.

The initial payment levels chosen by both collaboratively and competitively primed subjects as well as the apparent dominance of the collaborative orientation in all three surveys also confirm alliance work of Cummings (1984) and the experimental game work of Ensminger (2004) which alludes to the fact that partners will be more collaborative when they presume the possibility of joint gains when undertaking an alliance. This presumption is strong even in the face of contrary initial conditions. However, this outcome could also be at least partially explained by the embeddedness of college student-subjects in the social network of a university institution which may value initial collaborativeness among its members. Future research should attempt to discern these effects by testing and comparing the responses of college students with those of actual business/alliance managers.

The initial interaction phase also appears to be explained by the initial priming of the conflict handling orientations of each subgroup, combined with the initial predisposition toward collaborativeness in an alliance environment. Specifically, collaboratively primed subjects made more generous payment proposals to more cooperative (accommodative and compromising) partners while competitively primed subjects increased their payment proposals to more assertive (competitive and collaborative) subjects. Given the Hypothesis 1 result, the initial interaction

phase for collaboratively primed subjects logically makes sense, as this group might tend to reward a collaborative response to their payment proposal with further collaboration. In the case of the competitively primed subject, the contextual factors may make the stakes and incentives, as well as the personal gain that can be derived from ‘winning’ the game, more salient. Therefore, these subjects may feel a need to ‘correct’ their initial competitive response (which actually was only slightly less than the collaboratively primed subject response on average) in the early stages of the game to a more collaborative stance in order to have any hope of being ‘in the money’ at the end of the game. This idea reflects a competitive subject’s consideration of the inducements for engaging in alliance conflict resolution versus the contributions of time and resources necessary to resolve conflicts (Pondy, 1967; Leach, 1980; Deutsch, 1969; Kauser, 2007), i.e. competitive partners are eager to assertively solve conflicts if they perceive a positive economic benefit (Wayhuni et al. 2007; Thomas, 1976) for doing so.

While the adjustment phase was not modeled in this study because the contextual factors were essentially exogenous to the model, performance phase results infer some adjustment phase relationships. The performance phase also extends the conflict orientation/alliance performance literature by assessing this relationship for both competitively and collaboratively primed subjects in pre- and post-experimental conditions. Overall, the positive relationship between the collaborative orientation and performance is well-supported in the pre-experimental condition but is only supported with regard to objective game performance for the collaborative subgroup in the post-test. The positive relationship between compromise orientations and performance, while generally in the hypothesized direction, was not supported. The hypothesized negative relationship between competitive orientations and performance was generally in the opposite direction and non-significant. The hypothesized negative avoidance orientation/performance

relationship was also in the opposite direction and marginally significant only for post-test competitively primed subjects. Finally, the hypothesized negative relationship between the accommodative orientation and performance was significant for the initial survey, but was significant in the opposite direction for post-experimental, competitively primed subjects.

While some of these results coincide with prior alliance conflict research (Mohr and Spekman, 1994; Lin and Germain, 1998; Parry et al., 2008), they also imply that future research should be much more specific when relating conflict handling orientations to performance. As this study illustrates, such relationships are dependent upon the conflict handling orientations of each partner and the contextual factors within which the alliance operates. For example, higher accommodative orientations appear to assist collaboratively primed partners in attaining higher performance regardless of which orientation their partner assumes. This could possibly be due to the more cooperative predisposition of these partners. However, more avoidant orientations are positively related to performance for competitively primed partners, which may be accounted for by their less cooperative predisposition. Only after these relationships are discretely measured and/or controlled for can performance relationship assertions be accurately made. As this research did not have the statistical power to model the relationships between the collaboratively and competitively primed subgroups matched with their five partner orientation combinations (collaborative-competitive, competitive-compromising, etc.) and performance, future research should attempt to model these relationships. This suggestion will be further discussed in the next section.

Repeated interaction phase hypotheses and results were central to this research and could be considered a primary contribution of this study. Results indicated a pre-experimental versus post-experimental drop in collaboration for both subgroups when paired with competitive,

accommodative or avoidant partners. However, this drop was not significant enough for the competitive orientation to become dominant in either condition. In fact, changes in the competitive orientation were bi-directional (both positive and negative) and non-significant. The avoidant orientation also experienced a number of counterintuitive changes, decreasing for collaborative-avoidant combinations and increasing for competitive-accommodative combinations. Performance satisfaction for both subgroups was as expected, significantly decreasing for competitive and avoidant combinations but significantly increasing for accommodative orientations.

Objective performance results were also contrary to the hypothesis, with both subgroups increasing their payment proposals (though more weakly for collaboratively primed subjects) to competitive, accommodative and avoidant partners in the early rounds, only to have these initial increases fall back to more collaborative levels by the end of the game.

Another interesting result to note is that neither collaboratively nor competitively primed subjects strongly opted for the 'no play' option in the game when paired with these less cooperative partners.

These results provide evidence of the dynamic process that causes a large percentage of alliance relationships to drift into suspended states of underperformance (Eaves et al., 2003) and also supports the real options work of Kogut (1991) and Child et al., (2005). Specifically, as long as the cost of remaining in an alliance relationship does not increase significantly, it tends to be maintained in the hope of future improvement. In this study, since there was no cost to subjects for remaining in the alliance (i.e. they did not have to pay to be in the study and their actions were anonymous to their partner and other study participants), they continued to make payment proposals to their partners rather than opting out of game play.

In addition, Lin and Germain (1998) and Dwyer, Schurr and Oh (1987) assert that high exit barriers such as high organizational pressure and high stakes in the alliance provide powerful incentives to continue the relationship, even if it deteriorates due to conflicts. In the present study, both collaboratively and competitively primed subgroups were exposed to high organizational pressure for success and high stakes in their scenarios, which, when combined with a chance to earn actual cash compensation by continuing game play, provided strong incentives to make reasonable payment proposals to their partners until the end. These contextual factors were apparently stronger than negative relational histories, high partner use of coercive power and low environmental munificence (in the case of competitively primed subjects) in motivating game play.

Also important to the game theory literature, these results reject the idea of a ‘tit for tat’ strategy as discussed by Axelrod (1984) in favor of Parkhe’s (1993) notion that reputational concerns driven by repeated interaction may cause partners to disdain defection or ‘no play’ strategies in favor of longer term considerations.

In summary, repeated interaction results support the hypothesized ‘devolution’ of the alliance relationship as it drifts into underperformance and existing schema regarding the uncooperativeness of competitive or avoidant partners are confirmed over succeeding rounds of the experimental game (Hunt, 1995). However, this drop in cooperativeness by the focal alliance partner seems to be less precipitous than theorized (Child et al., 2005). Apparently, the focal partner first attempts to accommodate the less cooperative or more assertive partner, as evidenced by more generous payment proposals in the early rounds of the game. Even when these attempts fail, the focal partner does not revert to competitive proposals but instead opts for more collaborative proposals. These results provide evidence of the ‘stickiness’ of alliance

relationships, and indeed indicate that under strongly incentivized scenarios, these relationships can be ‘stickier’ than previously conjectured. Future research should further investigate this phenomenon using the five conflict handling orientations, which provide much more focused and structured measures of cooperation and competition.

Finally, although this research uses business students and experimental games as proxies for actual alliance relationships, alliance managers and their organizations should take note of several implications.

The first implication from this research for alliance managers is to understand that conflict handling orientations of their alliances are initially driven by the environmental contexts in which they and their partners exist. Hence, an initial assumption of collaborativeness and joint gain that is present in most alliance relationships can be dampened by high organizational pressure to succeed, low incentives or negative prior alliance experience. It is also important to note, however, that these orientations will change over time based upon changes in these contexts and partner assessments of the success of the relationship. Therefore, alliance partners should continually monitor and honestly assess how such contextual factors are changing the alliance.

Second, it is important for alliance partners to acknowledge the dimensionality of the alliance relationship. Rather than simply labeling partner actions as ‘cooperative’ or ‘competitive,’ partners should work to understand the drivers behind compromise, accommodative or avoidant stances and their effect on overall alliance performance by recognizing that cooperative and assertive factors may work in direct or dichotomous directions.

Alliance managers should also note the performance directions taken by the various conflict orientation combinations for collaboratively and competitively primed partners.

However, the variability of these results should alert alliance partners to the equifinality of the alliance relationship. In other words, different partner conflict handling orientations do not necessarily point directly to alliance success or failure. The strength of specific ‘within-partner’ orientations should be measured and considered in light of contextual factors before performance predictions are made.

Lastly, regardless of alliance performance results, the ‘stickiness’ of the alliance relationship should be continually and honestly assessed by each partner. This phenomenon can be thought of as an ‘escalation of commitment’ bias (Staw, 1976) in an alliance framework. In this assessment, therefore, ‘sunk’ costs such as unrecoverable ‘hostages’ (investments) should be ignored in the calculation of the future value of the alliance and alliance managers should be aware of behavioral attempts by organizational members or even themselves to ‘save face’ and ‘justify’ the original commitment by continuing the alliance. With this bias in mind, managers should make a rational determination of why the organization’s best interests are served by continuing the alliance relationship. Flexible contracting terms with periodic ‘out’ clauses could also be of some use in this assessment.

Study limitations/future research suggestions

While this work was quite comprehensive in its investigation of conflict handling orientations and performance as they relate to alliance partners, it carries a number of limitations and resulting future research suggestions that can be added to those discussed above.

First, the use of college students and experimental games to proxy company phenomena may significantly detract from the external validity of its results. Although this work should be considered exploratory, and although business students and realistic alliance manager scenarios were used in the study, future work should use alliance partners from actual organizations and

should attempt temporal comparisons of conflict handling orientations rather than experimental proxies.

The external validity of these findings can also be enhanced via additional study methodologies and analyses. While common methods bias was ruled out as a significant factor in this work, other methodologies using secondary data, interviews and/or ethnographic methods would be useful to confirm these survey-driven, experimental results. In addition, the lack of power needed to analyze conflict handling orientation/performance relationships of the five individual combinations within each subgroup should be remediated and more powerful analysis tools such as structural equation modeling, hierarchical linear modeling (comparing individual-level, partner-level, and alliance level orientation results) should be considered. Configurational approaches (see Doty, Glick and Huber, 1993) might also be useful to express alliance partner level or combined alliance level orientations and their relationship to alliance performance.

Second, this study covered only linear, dyadic alliance relationships for just two orientations (collaborativeness and competitiveness), thereby limiting the range of possible results. Future research should consider priming the other three orientations to completely confirm the basic effects explored here. Succeeding studies could then explore the possibility of non-linear relationships as well as orientation interactions and their effects on alliance performance. Additionally, the adjustment phase that was described in this study but not tested could be modeled and analyzed.

Finally, relationships between additional contextual factors (such as culture, organizational size and organizational age), conflict handling orientations and alliance performance could be explored. For example Cummings (1984) notes that a strong external threat leads to more alliance partner collaboration. This theory could be tested via experimental

and survey data using the measurement instruments developed in this study and an additional priming scenario. Alternatively, actual external threats could be identified for alliance partners and collaborative orientations could be proxied in order to test this phenomenon with secondary data. Similar to the discussion of alliance ‘stickiness’ above, other alliance phenomena such as learning races (Hamel, 1991) and ‘holdup’ could also be explored in relation to the specific conflict handling orientations exhibited by partners engaging in these behaviors.

In sum, this initial and exploratory research on the relationship among alliance conflict handling orientations and alliance performance could be expanded into a research stream that relates such orientations to a host of other alliance activities and phenomena.

CHAPTER SEVEN

CONCLUSION

Strategic alliance activity is currently on the rise as businesses incessantly search for new ways to capitalize on core competencies and fulfill strategic objectives regarding market positioning, knowledge acquisition and cost reduction. However, such undertakings are quite risky, and the chance of alliance failure or under-productivity is high. Although relationship problems brought on by partner conflict are prime reasons for alliance failure or underperformance, there is a dearth of literature that attempts to explain the relationships between alliance partner characteristics, conflict handling orientations and performance. This study responds to this gap in the literature by developing an exploratory model that studies some of the relationships among these constructs. Using prior work in the sociology, marketing, strategic alliance and organizational behavior fields, a five phase model was built relating alliance partner contextual factors, conflict handling orientations and performance assessments. The model was then tested by placing undergraduate business students in an alliance manager scenario with certain conflict handling characteristics and allowing them to play an experimental game with an anonymous partner that consistently assumes one conflict handling orientation. The design allowed for pre- and post-experimental measurement of subjects' conflict handling orientations as well as their performance assessments.

Results support five distinct phases in the conflict handling process for alliance partners: a predispositional phase where a number of contextual factors (relational history, stakes and incentives, partner power, organizational pressure for success, environmental munificence) drive the establishment of initial conflict handling orientations; an initial interaction phase where partners initially attempt to collaborate; an adjustment phase where partner orientations and

performance assessments begin to affect initial contextual factors; a performance phase where partner orientations begin to affect positive or negative performance assessments; and finally a repeated interaction phase where unfavorable partner conflict orientation pairings result in a reduction in collaborativeness but not necessarily the dissolution of the alliance. The initial collaborative predisposition and continuing ‘stickiness’ of the alliance relationship should assist alliance managers and their parent organizations in strategically assessing the initial complementarity and ultimate success of the alliance relationship.

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FIGURE 1

Conflict-Handling Orientations (Thomas, 1976)

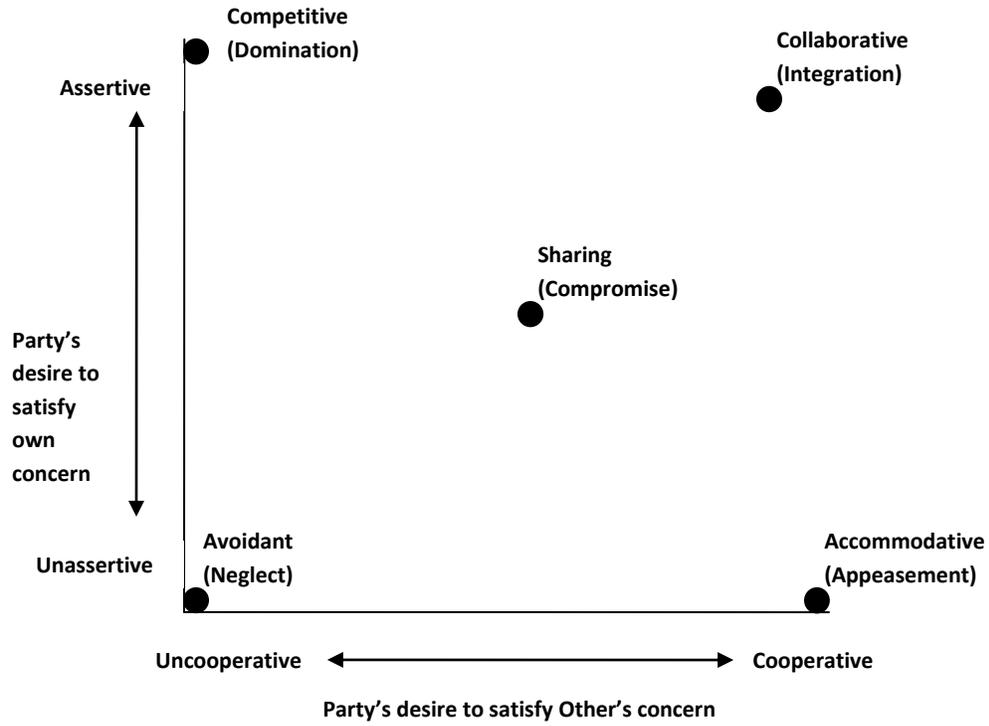


FIGURE 2

General Model-Dyadic Alliance Conflict-Handling Orientations and Performance

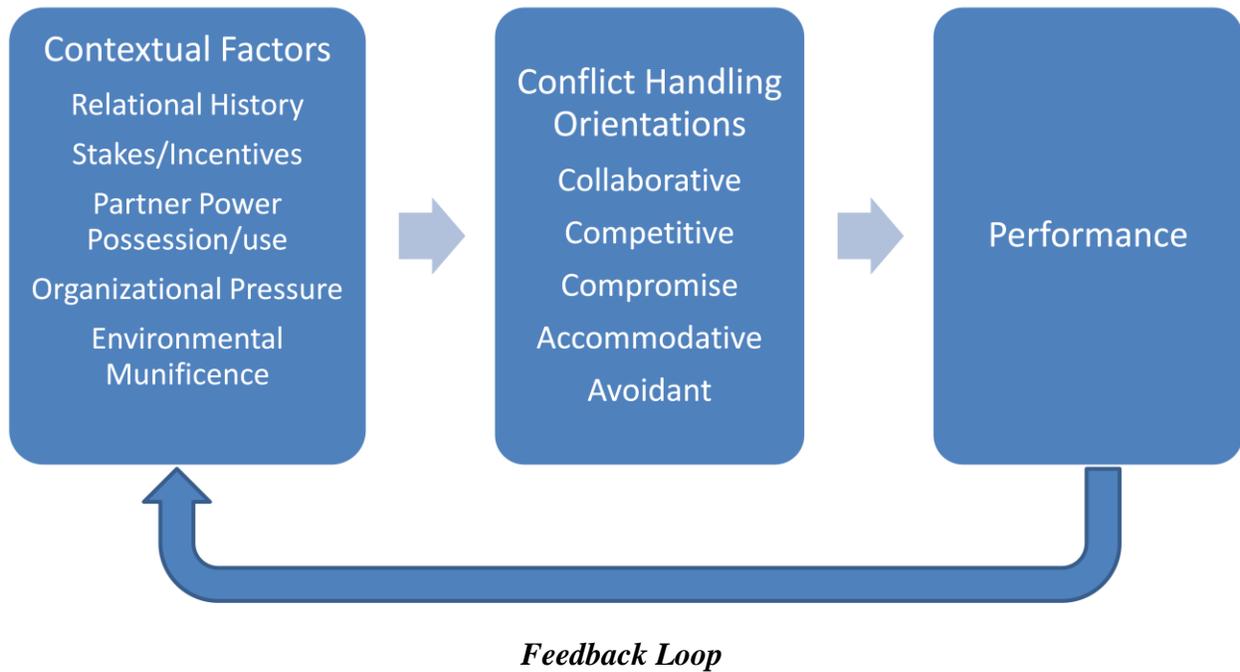
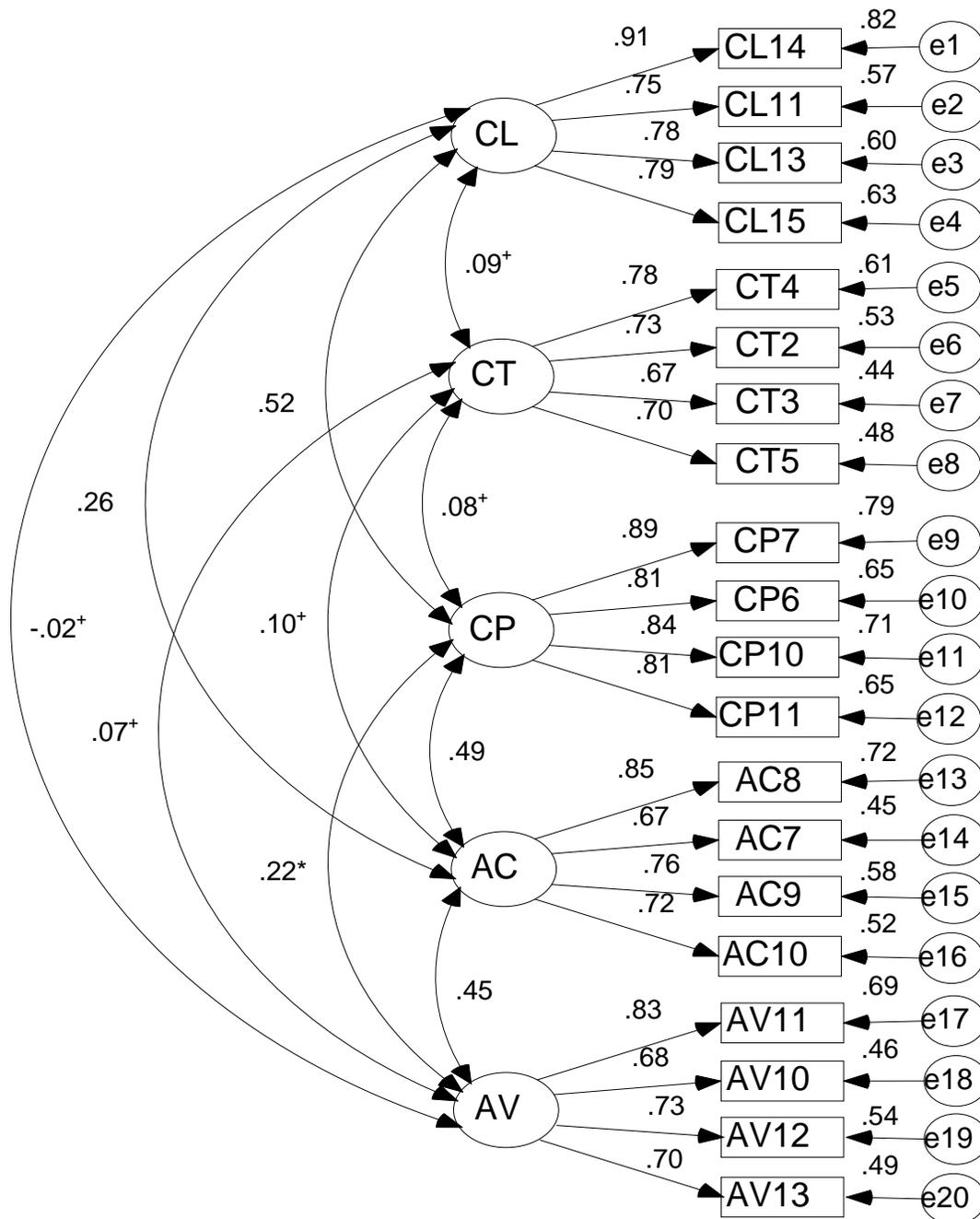


FIGURE 3

Confirmatory Factor Analysis for Development Study
 (p<.001 for all parameter estimates except where noted; N=218)



* p < .01
 + p > .10

FIGURE 4

Two-Dimensional (Integrative versus Distributive) Conflict Handling Orientation Plot for Collaboratively Primed Subjects-Developmental Study (Pre-experiment; N=109; with trend line)

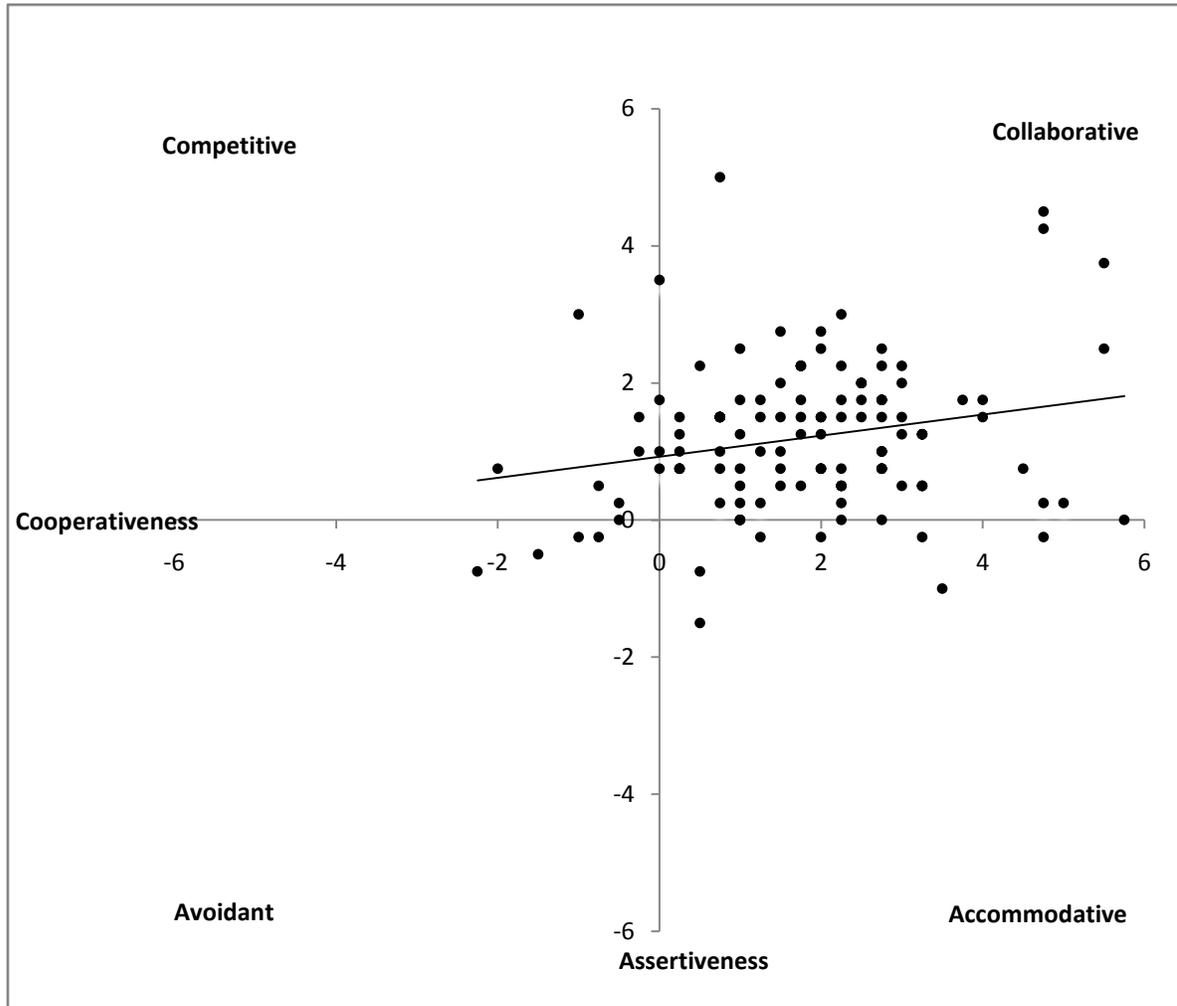


FIGURE 5

Two-Dimensional (Integrative versus Distributive) Conflict Handling Orientation Plot for Competitively Primed Subjects-Developmental Study
(Pre-experiment; N=109; with trend line)

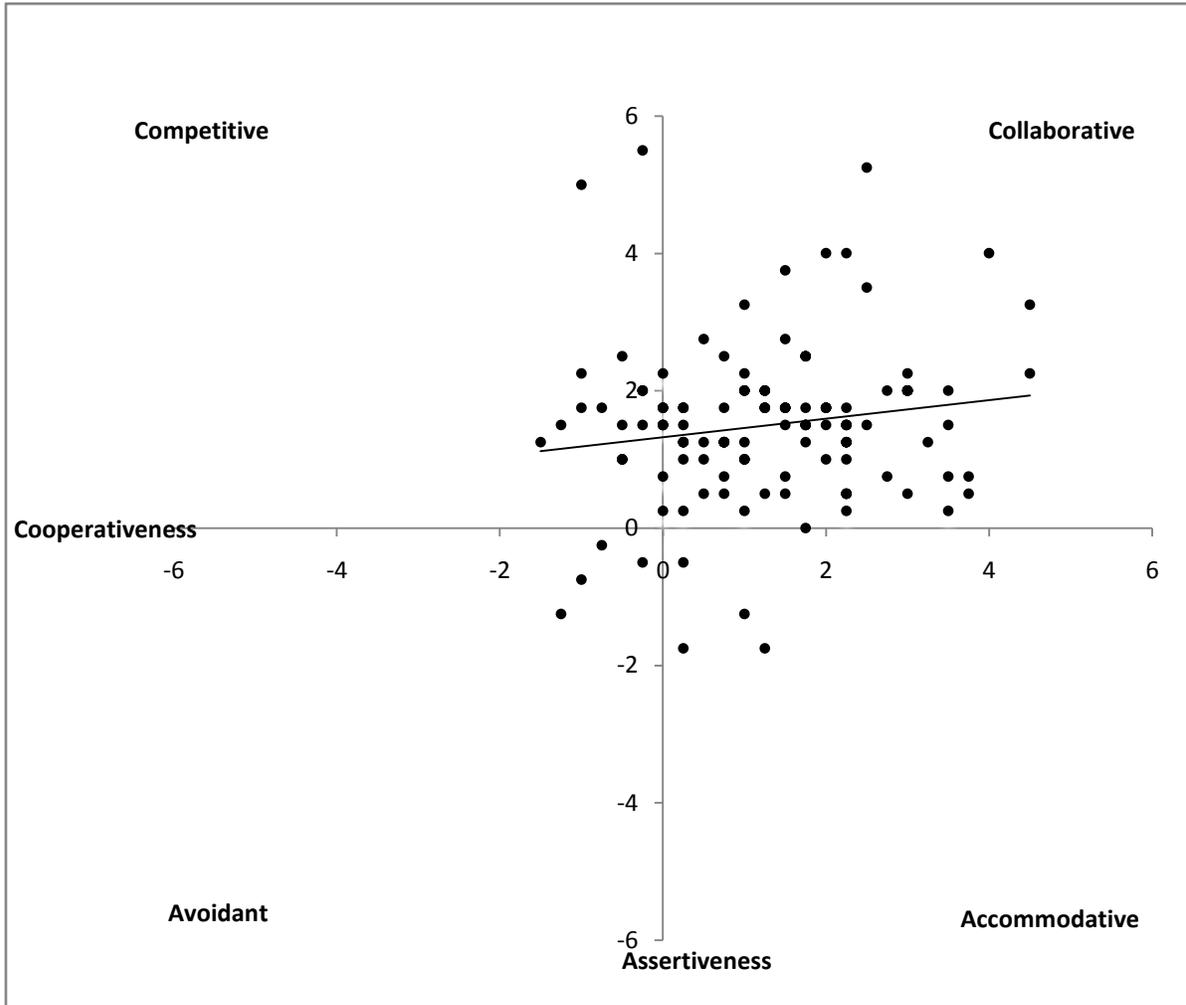
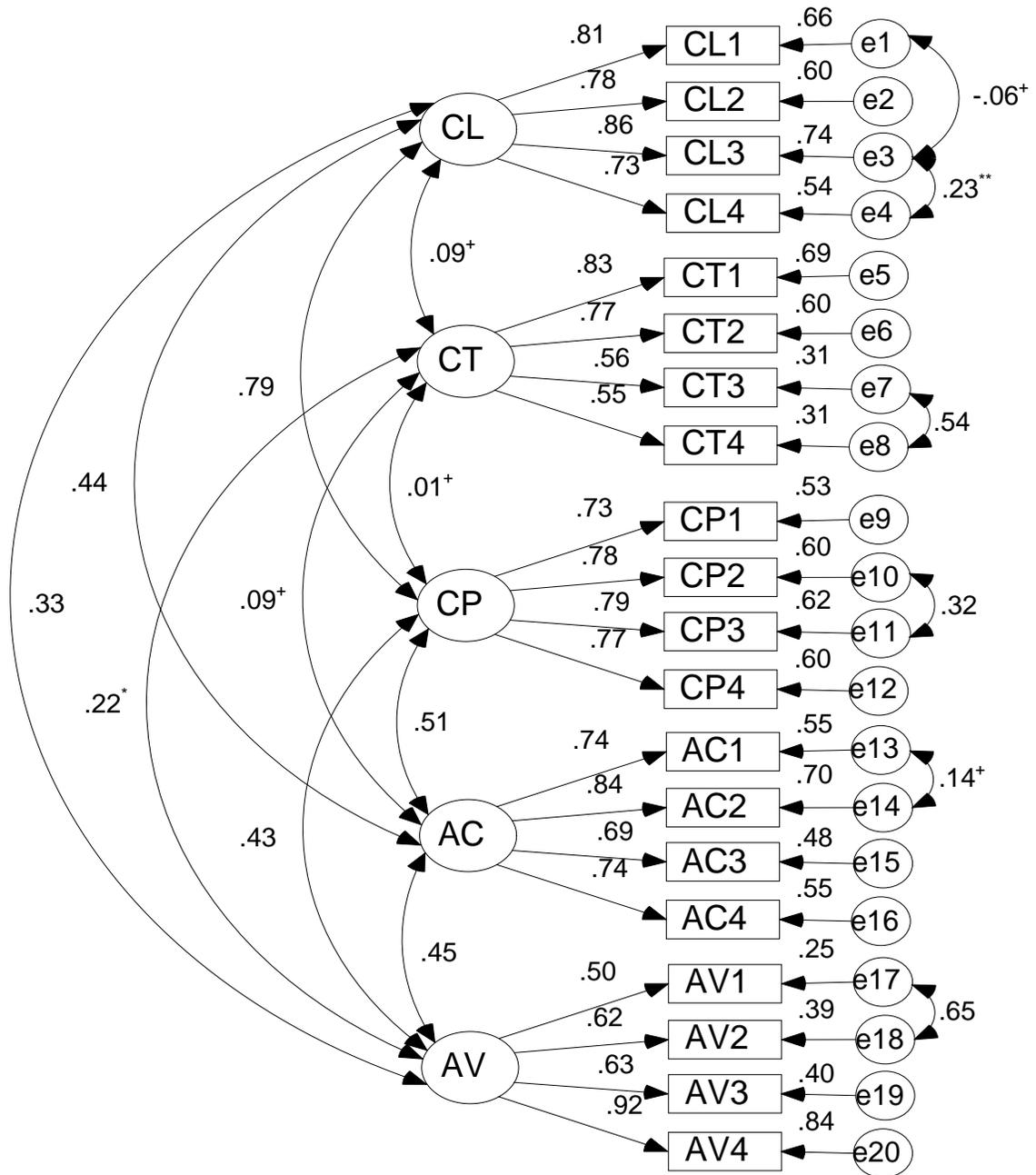


FIGURE 6

Confirmatory Factor Analysis for Final Study
 (p<.001 for all parameter estimates except where noted; N=198)



* p < .01
 ** p < .05
 + p > .10

FIGURE 7

Two-Dimensional (Integrative versus Distributive) Conflict Handling Orientation Plot for Collaboratively Primed Subjects-Final Study (Pre-experiment; N=102; with trend line)

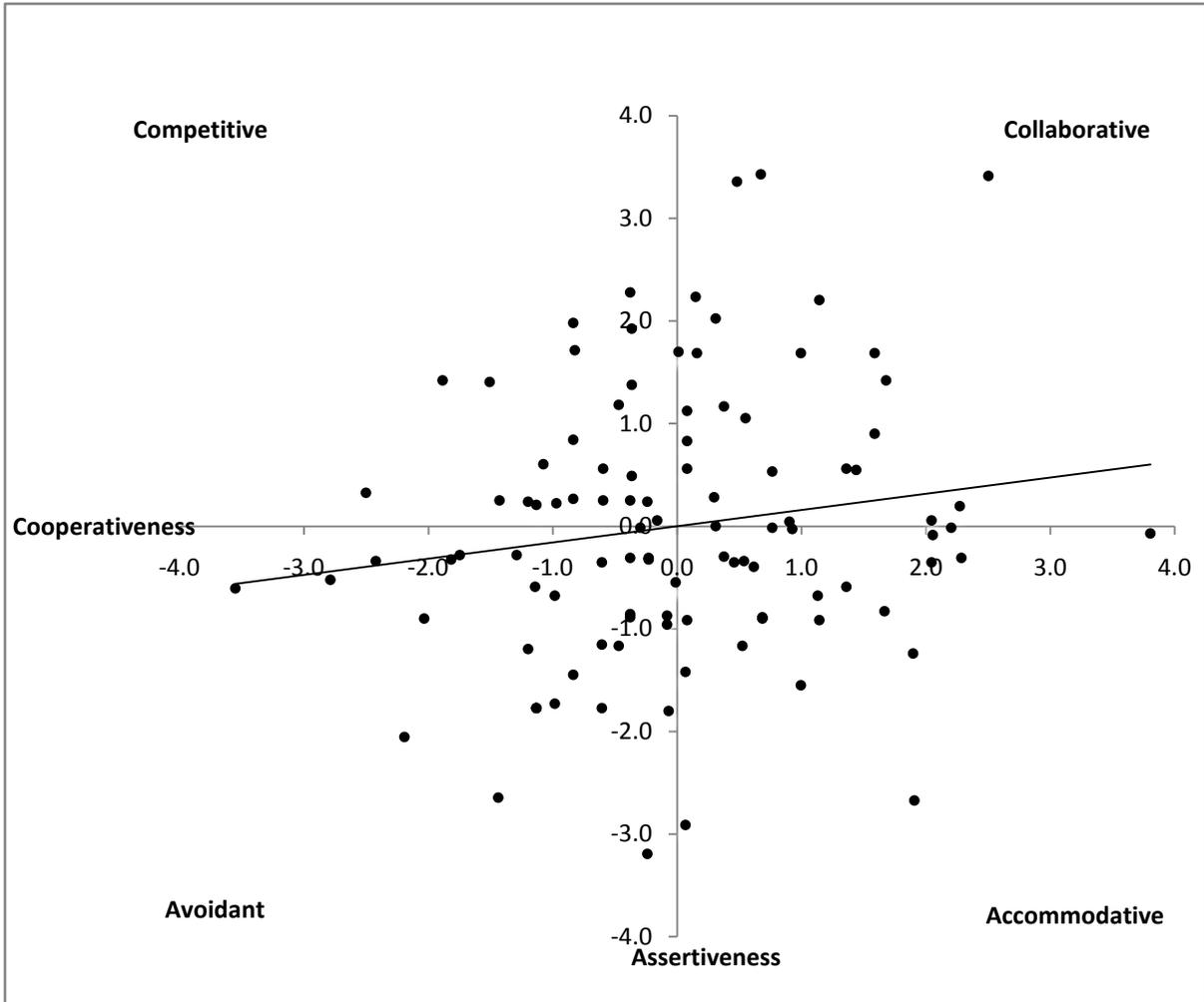


FIGURE 8

Two-Dimensional (Integrative versus Distributive) Conflict Handling Orientation Plot for Competitively Primed Subjects-Final Study
(Pre-experiment; N=96; with trend line)

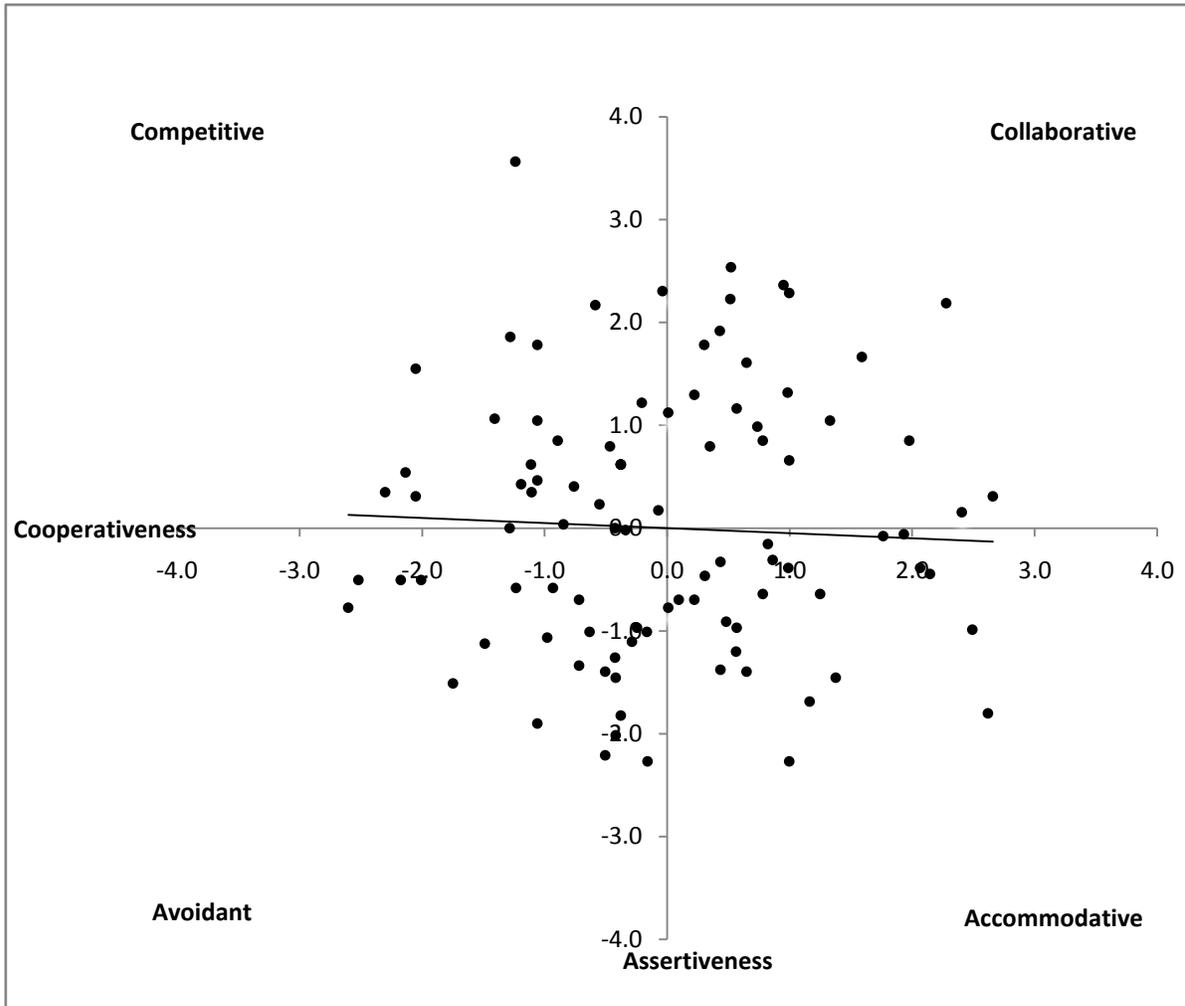


TABLE 1

Conceptual Model and Relevant Literature

<u>Conceptual Phase</u>	<u>Relationships</u>	<u>Relevant Literature</u>
Predispositional	<p>-H1: A collaborative conflict-handling orientation results from: a) positive perceived relational history, b) high perceived stakes/incentives, c) high perceived partner use of expert/referent power, d) low perceived partner use of reward/coercive power, e) high perceived organizational pressure to succeed, and f) high environmental munificence.</p> <p>-H2: A competitive conflict-handling orientation results from: a) negative perceived relational history, b) high perceived stakes/incentives, c) low perceived partner use of expert/referent power, d) high perceived partner use of reward/coercive power, e) high perceived organizational pressure to succeed, and f) low environmental munificence.</p>	<p>Follett (1941); Pondy (1967); Thomas (1976); Parkhe (1993); Geringer (1991); Axelrod (1984); Child et al. (2005); Gulati et al (1994); Kogut (1989); Macaulay (1963); Macneil (1978); Dore (1983); Dyer and Singh (1998); Doz, Olk and Ring (2000); Kale et al (2000); Coser (1956); Dubin (1957); Molnar and Rogers (1979); Deutsch (1969); Rosenberg and Stern (1971); Walker (1972); Kemp and Ghauri (1999); Hunt (1995); Fiske and Taylor (1984); Cyert and March (1963); Argyris and Schon (1978); Sinkula (1994); Lin and Germain (1998); Prahalad and Bettis (1986)</p>
Initial Interaction	<p>-Combinations of the same conflict-handling orientations result in that orientation (H3a).</p> <p>-More assertive stances will dominate more passive stances (H3b).</p> <p>-More cooperative stances will dominate more uncooperative stances (H3c).</p> <p>-For assertive-uncooperative and assertive-cooperative stances, the most strongly measured will dominate (H3d).</p>	<p>Thomas (1976); Pondy (1967); Blau (1955)</p>
Performance	<p>-Initial collaborative stances positively relate to perceived alliance performance/satisfaction (H4a).</p> <p>-Initial compromise stances positively relate to perceived alliance performance/satisfaction (H4b).</p> <p>-Initial competitive stances negatively relate to perceived alliance performance/satisfaction (H4c).</p> <p>-Initial accommodative stances negatively relate to perceived alliance performance/satisfaction (H4d).</p> <p>-Initial avoidant stances negatively relate to perceived alliance performance/satisfaction (H4e).</p>	<p>Blake et al. (1964); Thomas (1976); Pondy (1967); Rosenbloom (1973); Zhou et al. (2007); Duarte and Davies (2003); Freidman and Beguin (1971); Wright (1979); Killing (1983); Lewis (1990); Kauser (2007); Buckley and Casson (1988); Lane and Beamish (1990); Parkhe (1993); Lyles and Salk (1996); Beamish and Banks (1987); Cullen et al. (1995); Ring and Van de Ven (1994); Zaheer et al. (1998); Buchel (2000); Tilman (1990); Ding (1997); Lane and Beamish (1990); Bruner and Spekman (1998); Li et al. (2001); Kauser and Shaw (2004); Robson et al. (2006); Mohr and Spekman (1994); Lin and Germain (1998); Parry et al. (2008); Lin and Miller (2003); Lawrence and Lorsch (1967); Doz (1996)</p>
Repeated Interaction	<p>-Initial collaborative, compromise or accommodative stances combined with repeated accommodative, competitive or avoidant stances devolve to competition (H5a).</p> <p>-Initial avoidant stances combined with repeated avoidant stances will remain avoidant in the short-term (H5b).</p>	<p>Thomas (1976); Hamel (1991); Kogut (1991); Doz (1996); Eaves et al (2003)</p>

TABLE 2

Development Study Reliability and Exploratory Factor Analysis Results for Selected Variables

<u>Item</u>	<u>Corrected Item-Total Correlation</u>	<u>Extraction Communalities (h^2)*</u>	<u>Factor Loadings*</u>
Competition			
I would try to win my company's position.	0.63	0.52	0.72
I would make some effort to get my way in terms of my company's desires.	0.60	0.45	0.67
I would be firm in pursuing my company's goals.	0.67	0.61	0.78
I would press to get my company's points made.	0.61	0.49	0.70
Alpha = 0.81			
Collaboration			
I would try to investigate alliance issues to find solutions that are acceptable to both alliance partners.	0.69	0.56	0.75
I would try to integrate our ideas to come up with joint decisions on alliance management.	0.70	0.58	0.76
I would try to work with our alliance partner to find solutions to alliance management problems which satisfy our joint expectations.	0.83	0.85	0.92
I would try to work with our alliance partner for a proper understanding of alliance management problems.	0.74	0.63	0.79
Alpha = 0.88			
Compromise			
I would try to find a fair combination of gains and losses for both alliance partners.	0.75	0.65	0.80
I would try to find a position on alliance management issues that is intermediate between theirs and ours.	0.82	0.78	0.88
I would try to find a middle course to resolve an impasse regarding alliance management decisions.	0.79	0.72	0.85
I would usually propose a middle ground for breaking deadlocks in alliance management decision between us and our partner.	0.76	0.66	0.81
Alpha = 0.90			
Avoidance			
I would try to stay away from disagreement with our alliance partner.	0.59	0.43	0.66
I would avoid a conflict encounter with our alliance partner.	0.73	0.70	0.84
I would try to keep my company's disagreements with our alliance partner within my organization in order to avoid hard feelings.	0.64	0.53	0.73
I would try to avoid unpleasant exchanges with our alliance partner.	0.64	0.51	0.71
Alpha = 0.82			
Accommodation			
If our alliance partner's position seems very important to them, I would try to meet their wishes.	0.59	0.42	0.65
I would usually accommodate the wishes of our alliance partner.	0.75	0.74	0.86
I would usually allow concessions to our alliance partner.	0.70	0.60	0.78
I would often go along with the suggestions of our alliance partner.	0.64	0.52	0.72
Alpha = 0.84			

*Calculated using principal axis factoring with promax rotation.

TABLE 3

Paired Samples t Tests for Developmental Study

(For all t scores, $p < .001$ except where noted)

Pre-experimental significance of collaborative orientation for collaboratively primed subjects (N=109)

<u>CL</u> <u>versus</u>	<u>Mean</u> <u>Difference</u>	<u>t</u> <u>Score</u>
CT	1.44	3.54
CP	2.81	7.45
AC	6.24	13.88
AV	7.21	11.76

Pre-experimental significance of competitive orientation for competitively primed subjects (N=109)

<u>CT</u> <u>versus</u>	<u>Mean</u> <u>Difference</u>	<u>t</u> <u>Score</u>
CL	0.05	0.11*
CP	3.02	6.11
AC	5.95	12.52
AV	4.97	9.11

CL = collaborative orientation scale
CT = competitive orientation scale
CP = compromise orientation scale
AC = accommodative orientation scale
AV = avoidant orientation scale

* $p > .10$

TABLE 4

Independent Samples t Tests for Developmental Study

Pre-experimental comparison of collaboratively versus competitively primed subjects for each orientation (N=109 for each subgroup)

<u>Scale</u>	<u>Mean Difference</u>	<u>t Score</u>
CL	1.25	2.76**
CT	-0.24	-0.58
CP	1.40	2.50**
AC	0.92	1.75 ⁺
AV	-1.04	-1.56
PE	0.94	3.15**

CL = collaborative orientation scale

CT = competitive orientation scale

CP = compromise orientation scale

AC = accommodative orientation scale

AV = avoidant orientation scale

PE = Performance expectation scale

⁺ p < .10

* p < .05

** p < .01

*** p < .001

Negatives denote higher numbers for competitively primed subjects

TABLE 5

Pre- versus Post-Experimental Conflict Handling Orientation Changes for Collaboratively Primed Subjects-Developmental Study

(Negatives denote higher post-experimental numbers; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Orientation Combination</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Performance</u>
CL/CL	(1.24) 1.50	(0.62) 0.63	(-0.62) -1.08	(0.00) .00	(-1.76) -2.01⁺	(2.95) 2.65[*]
CL/CT	(4.64) 3.80^{***}	(0.82) 0.84	(0.86) 1.01	(2.46) 1.95⁺	(0.05) 0.04	(9.14) 15.79^{***}
CL/CP	(2.91) 3.19^{**}	(0.68) 1.26	(-0.27) -0.34	(-0.64) -0.70	(-1.00) -1.58	(5.68) 6.28^{***}
CL/AC	(0.09) 0.11	(-1.36) -2.24[*]	(2.18) 1.92⁺	(0.23) 0.29	(-0.55) -0.76	(-0.41) -0.47
CL/AV	(4.73) 5.03^{***}	(1.23) 1.11	(-0.27) -0.34	(2.41) 1.63	(-0.46) -0.46	(8.96) 15.77^{***}

TABLE 6

Pre- versus Post-Experimental Conflict Handling Orientation Changes for Competitively Primed Subjects-Developmental Study

(Negatives denote higher post-experimental numbers; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Orientation Combination</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Performance</u>
CT/CL	(1.05) 1.64	(0.05) 0.07	(-.064) -1.15	(-0.05) -0.05	(0.96) 0.91	(1.23) 1.49
CT/CT	(3.91) 5.91^{***}	(1.86) 2.24[*]	(-0.23) -0.24	(-0.55) -0.70	(-0.82) -1.02	(6.82) 9.72^{***}
CT/CP	(1.59) 2.33[*]	(3.00) 3.05^{**}	(-3.77) -2.97^{**}	(-2.91) -3.54^{**}	(-3.77) -4.21^{***}	(-2.82) 2.91^{**}
CT/AC	(-0.14) -0.24	(0.38) 0.56	(-0.62) -1.03	(-1.81) -2.59[*]	(-0.91) -0.99	(-2.00) -3.46^{**}
CT/AV	(1.86) 2.22[*]	(-0.18) -0.15	(-0.82) -0.87	(0.09) 0.08	(0.23) 0.18	(8.64) 15.10^{***}

For Tables 5 and 6:

- ⁺ p < .10
- ^{*} p < .05
- ^{**} p < .01
- ^{***} p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=22; collaborative/compromise=22; collaborative/accommodative=22; collaborative/avoidant=22; competitive/collaborative=22; competitive/competitive=22; competitive/compromise=22; competitive/accommodative=21; competitive/avoidant=22

TABLE 7

Post-Experimental Comparison of Collaboratively versus Competitively Primed Subjects for each Orientation Combination-Developmental Study

(Negatives denote higher numbers for competitively primed subjects; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Partner Orientation</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Performance</u>
CL	(0.75) 0.66	(-1.37) -1.38	(0.56) 0.47	(1.55) 1.02	(2.30) 1.53	(0.80) -0.62
CT	(1.09) 0.70	(0.91) 0.65	(1.23) 0.87	(-0.73) -0.49	(-1.00) -0.61	(-0.68) -0.97
CP	(-0.18) -0.14	(2.46) 2.26*	(-0.73) -0.53	(-2.00) -1.24	(-1.86) -1.22	(-1.14) -0.86
AC	(0.77) 0.60	(1.07) 1.02	(-3.16) -1.84⁺	(-1.49) -1.35	(-3.89) -2.73**	(-1.18) -1.28
AV	(-1.55) -1.10	(-1.14) -0.87	(1.09) 0.81	(-2.41) -1.38	(-1.41) -0.83	(-0.36) -1.04

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=22; collaborative/compromise=22; collaborative/accommodative=22; collaborative/avoidant=22; competitive/collaborative=22; competitive/competitive=22; competitive/compromise=22; competitive/accommodative=21; competitive/avoidant=22

TABLE 8

Wilcoxon Signed Ranks Test across Experimental Game Rounds by Orientation Combination-Developmental Study

(Collaboratively primed subjects; significant items highlighted)

Z Scores for Round Comparisons (means in parentheses)

<u>Orientation Combination</u>	<u>Rnd 1 v. Rnd 4</u>	<u>Rnd 4 v. Rnd 8</u>	<u>Rnd 1 v. Rnd 8</u>
Collaborative/Collaborative	(4.10) -0.32	(4.24) -0.98	(4.00) -0.57
Collaborative/Competitive	(4.36) -0.31	(4.50) -0.63	(5.00) -0.97
Collaborative/Compromising	(4.05) -1.64⁺	(4.64) -0.99	(4.36) -1.66⁺
Collaborative/Accommodative	(3.73) -0.46	(3.59) -1.57	(3.18) -1.68⁺
Collaborative/Avoidant	(4.59) -0.14	(4.50) -1.03	(5.36) -1.14

TABLE 9

Wilcoxon Signed Ranks Test across Experimental Game Rounds by Orientation Combination-Developmental Study

(Competitively primed subjects; significant items highlighted)

Z Scores for Round Comparisons (means in parentheses)

<u>Orientation Combination</u>	<u>Rnd 1 v. Rnd 4</u>	<u>Rnd 4 v. Rnd 8</u>	<u>Rnd 1 v. Rnd 8</u>
Competitive/Collaborative	(4.05) -0.23	(4.14) -0.28	(4.18) -0.32
Competitive/Competitive	(4.45) -2.29[*]	(5.68) -0.24	(5.77) -1.98[*]
Competitive/Compromising	(4.05) -2.15[*]	(4.82) -1.39	(4.45) -1.69⁺
Competitive/Accommodative	(4.43) -1.98[*]	(3.95) -2.32[*]	(3.33) -2.86^{**}
Competitive/Avoidant	(4.36) -1.96[*]	(5.55) -0.86	(4.91) -0.73

For Tables 8 and 9:

- ⁺ p < .10
- ^{*} p < .05
- ^{**} p < .01
- ^{***} p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=22; collaborative/compromise=22; collaborative/accommodative=22; collaborative/avoidant=22; competitive/collaborative=22; competitive/competitive=22; competitive/compromise=22; competitive/accommodative=21; competitive/avoidant=22

TABLE 10

Wilcoxon Signed Ranks Test across Experimental Game Rounds One and Two by Orientation Combination-Developmental Study
(Collaboratively primed subjects; significant items highlighted)

<u>Orientation Combination</u>	<u>Round 1 Mean</u>	<u>Round 2 Mean</u>	<u>Z Score Comparison</u>
Collaborative/Collaborative	4.10	4.48	-1.33
Collaborative/Competitive	4.36	4.64	-1.11
Collaborative/Compromising	4.05	4.86	-2.42*
Collaborative/Accommodative	3.73	4.18	-1.64⁺
Collaborative/Avoidant	4.59	4.64	-0.83

TABLE 11

Wilcoxon Signed Ranks Test across Experimental Game Rounds One and Two by Orientation Combination-Developmental Study
(Competitively primed subjects; significant items highlighted)

<u>Orientation Combination</u>	<u>Round 1 Mean</u>	<u>Round 2 Mean</u>	<u>Z Score Comparison</u>
Competitive/Collaborative	4.05	4.95	-2.43*
Competitive/Competitive	4.45	5.36	-2.74**
Competitive/Compromising	4.05	4.27	-0.85
Competitive/Accommodative	4.43	4.14	-1.30
Competitive/Avoidant	4.36	4.68	-0.87

For Tables 10 and 11:

- ⁺ p < .10
- * p < .05
- ** p < .01
- *** p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=22; collaborative/compromise=22; collaborative/accommodative=22; collaborative/avoidant=22; competitive/collaborative=22; competitive/competitive=22; competitive/compromise=22; competitive/accommodative=21; competitive/avoidant=22

TABLE 12

Pre-Experimental Regression Analysis Results-Developmental Study
(Standard errors in parentheses)

<u>Variables</u>	Model, Sample Group, Dependent Variable		
	Model 1	Model 2	Model 3
	Full PTOT	Collab. PTOT	Compet. PTOT
Collaboration	0.31^{***} (0.05)	0.38^{***} (0.07)	0.21[*] (0.07)
Competition	0.12⁺ (0.05)	0.10 (0.06)	0.18⁺ (0.07)
Compromise	0.13⁺ (0.04)	0.07 (0.05)	0.16 (0.06)
Accommodation	-0.01 (0.04)	-0.06 (0.06)	0.01 (0.06)
Avoidance	-0.07 (0.03)	-0.05 (0.04)	-0.02 (0.05)
Intercept	3.38 [*] 1.49	3.83 ⁺ 2.12	2.85 2.17
R²	0.18	0.19	0.14
Adjusted R²	0.16	0.16	0.10
n	218	109	109
F	9.06 ^{***}	4.96 ^{***}	3.41 ^{**}

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

TABLE 13

Post-Experimental Regression Analysis Results-Developmental Study
(Standard errors in parentheses)

Model, Sample Group, Dependent Variable

<u>Variables</u>	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Full <u>PTOTP</u>	Full <u>POBJ</u>	Collab. <u>PTOTP</u>	Collab. <u>POBJ</u>	Compet. <u>PTOTP</u>	Compet. <u>POBJ</u>
Collaboration	0.32^{***} (0.09)	0.24^{**} (0.38)	0.36^{***} (0.11)	0.25[*] (0.49)	0.20 (0.15)	0.13 (0.66)
Competition	0.18 (0.08)	0.02 (0.36)	0.07 (0.13)	0.06 (0.54)	0.00 (0.11)	-0.01 (0.49)
Compromise	-0.07 (0.08)	-0.24^{**} (0.35)	-0.09 (0.10)	-0.30^{**} (0.43)	0.02 (0.15)	0.06 (0.66)
Accommodation	0.17⁺ (0.09)	0.20[*] (0.38)	0.19 (0.12)	0.21⁺ (0.51)	0.10 (0.14)	0.13 (0.59)
Avoidance	0.08 (0.08)	0.08 (0.33)	-0.02 (0.11)	0.03 (0.47)	0.18 (0.11)	0.14 (0.49)
Intercept	-3.86 ⁺ 2.30	-2.16 9.95	-4.83 3.37	-0.34 14.56	-3.26 [*] 3.19	-3.78 13.88
R²	0.20	0.13	0.22	0.18	0.19	0.09
Adjusted R²	0.18	0.11	0.18	0.14	0.15	0.04
n	218	218	109	109	109	109
F	10.26 ^{***}	6.07 ^{***}	5.86 ^{***}	4.60 ^{***}	4.69 ^{***}	1.93 ⁺

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

TABLE 14

Final Study Reliability and Exploratory Factor Analysis Results

<u>Item</u>	<u>Corrected Item-Total Correlation</u>	<u>Extraction Communalities (h^2)*</u>	<u>Factor Loadings</u> *
Competition			
I would try to win my company's position.	0.65	0.54	0.73
I would make some effort to get my way in terms of my company's desires.	0.60	0.44	0.67
I would be firm in pursuing my company's goals.	0.63	0.54	0.74
I would press to get my company's points made.	0.63	0.54	0.73
Alpha = 0.81			
Collaboration			
I would try to investigate alliance issues to find solutions that are acceptable to both alliance partners.	0.75	0.66	0.82
I would try to integrate our ideas to come up with joint decisions on alliance management.	0.69	0.56	0.75
I would try to work with our alliance partner to find solutions to alliance management problems which satisfy our joint expectations.	0.80	0.78	0.88
I would try to work with our alliance partner for a proper understanding of alliance management problems.	0.70	0.58	0.76
Alpha = 0.88			
Compromise			
I would try to find a fair combination of gains and losses for both alliance partners.	0.65	0.50	0.71
I would try to find a position on alliance management issues that is intermediate between theirs and ours.	0.77	0.74	0.86
I would try to find a middle course to resolve an impasse regarding alliance management decisions.	0.76	0.73	0.85
I would usually propose a middle ground for breaking deadlocks in alliance management decision between us and our partner.	0.65	0.50	0.71
Alpha = 0.86			
Avoidance			
I would try to stay away from disagreement with our alliance partner.	0.62	0.55	0.74
I would avoid a conflict encounter with our alliance partner.	0.71	0.74	0.86
I would try to keep my company's disagreements with our alliance partner within my organization in order to avoid hard feelings.	0.51	0.31	0.56
I would try to avoid unpleasant exchanges with our alliance partner.	0.66	0.51	0.72
Alpha = 0.81			
Accommodation			
If our alliance partner's position seems very important to them, I would try to meet their wishes.	0.66	0.53	0.73
I would usually accommodate the wishes of our alliance partner.	0.76	0.76	0.87
I would usually allow concessions to our alliance partner.	0.62	0.47	0.69
I would often go along with the suggestions of our alliance partner.	0.68	0.56	0.75
Alpha = 0.84			

*Calculated using principal axis factoring with promax rotation.

TABLE 15

Paired Samples t Tests for Final Study
(For all t scores, $p < .001$ except where noted)

Pre-experimental significance of collaborative orientation for collaboratively primed subjects (N=102)

<u>CL</u> <u>versus</u>	<u>Mean</u> <u>Difference</u>	<u>t</u> <u>Score</u>
CT	2.46	6.49
CP	1.52	5.81
AC	5.58	11.94
AV	5.51	14.81

Pre-experimental significance of competitive orientation for competitively primed subjects (N=96)

<u>CT</u> <u>versus</u>	<u>Mean</u> <u>Difference</u>	<u>t</u> <u>Score</u>
CL	-1.05	-2.43*
CP	0.81	1.67+
AC	5.27	10.50
AV	4.22	7.97

CL = collaborative orientation scale
CT = competitive orientation scale
CP = compromise orientation scale
AC = accommodative orientation scale
AV = avoidant orientation scale

* $p < .05$

+ $p < .10$

Negatives denote higher numbers for competitively primed subjects

TABLE 16

Independent Samples t Tests for Final Study

Pre-experimental comparison of collaboratively primed (N=102) versus competitively primed (N=96) subjects for each orientation

<u>Scale</u>	<u>Mean Difference</u>	<u>t Score</u>
CL	0.97	2.27*
CT	-0.44	-0.94
CP	1.32	2.62**
AC	1.71	3.19**
AV	0.73	1.13
PE	1.61	5.88***

CL = collaborative orientation scale

CT = competitive orientation scale

CP = compromise orientation scale

AC = accommodative orientation scale

AV = avoidant orientation scale

PE = Performance expectation scale

+ p < .10

* p < .05

** p < .01

*** p < .001

Negatives denote higher numbers for competitively primed subjects

TABLE 17

Pre- versus Post-Experimental Conflict Handling Orientation Changes for Collaboratively Primed Subjects-Final Study

(Negatives denote higher post-experimental numbers; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Orientation Combination</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Performance</u>
CL/CL	(-0.05) -0.09	(-0.67) -1.02	(0.00) 0.00	(-1.19) -1.73⁺	(-2.14) -2.32[*]	(1.48) 1.72⁺
CL/CT	(2.14) 2.15[*]	(-0.91) -1.50	(0.95) 0.87	(0.91) 1.11	(-0.14) -0.18	(8.24) 9.47^{***}
CL/CP	(1.29) 2.98^{**}	(0.95) 1.34	(0.43) 0.50	(-1.07) -1.54	(-1.14) -1.80⁺	(3.62) 5.64^{***}
CL/AC	(-0.20) -0.40	(0.70) 1.03	(-0.75) -1.46	(-0.95) -1.35	(-1.20) -1.48	(-1.50) -4.02^{***}
CL/AV	(3.84) 3.20^{**}	(0.16) 0.16	(1.55) 1.46	(2.68) 2.50[*]	(2.53) 2.21[*]	(9.58) 18.41^{***}

TABLE 18

Pre- versus Post-Experimental Conflict Handling Orientation Changes for Competitively Primed Subjects-Final Study

(Negatives denote higher post-experimental numbers; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Orientation Combination</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Performance</u>
CT/CL	(1.61) 1.04	(0.83) 1.14	(-0.83) -0.65	(-0.56) -0.47	(1.61) 1.42	(1.89) 1.64
CT/CT	(2.95) 2.48[*]	(-0.70) -0.85	(2.35) 1.91⁺	(1.10) 1.13	(3.95) 2.78^{**}	(6.95) 12.75^{***}
CT/CP	(2.72) 2.50[*]	(1.22) 1.36	(1.50) 1.57	(0.72) 0.68	(-0.17) -0.13	(4.33) 4.78^{**}
CT/AC	(1.38) 1.33	(-0.38) -0.81	(0.00) 0.00	(-1.14) -1.56	(-1.38) -1.75⁺	(-2.00) -3.57^{**}
CT/AV	(5.53) 2.70[*]	(0.58) 0.56	(4.53) 3.47^{**}	(3.21) 2.31[*]	(1.11) 0.68	(7.42) 9.99^{***}

For Tables 17 and 18:

- ⁺ p < .10
- ^{*} p < .05
- ^{**} p < .01
- ^{***} p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=21; collaborative/compromise=21; collaborative/accommodative=20; collaborative/avoidant=19; competitive/collaborative=18; competitive/competitive=20; competitive/compromise=18; competitive/accommodative=21; competitive/avoidant=19

TABLE 19

Post-Experimental Comparison of Collaboratively versus Competitively Primed Subjects for each Orientation Combination-Final Study

(Negatives denote higher numbers for competitively primed subjects; significant items highlighted)

t Scores for Conflict Handling Orientation Scales (mean differences in parentheses)

<u>Partner Orientation</u>	<u>CL</u>	<u>CT</u>	<u>CP</u>	<u>AC</u>	<u>AV</u>	<u>Perf. Sat.</u>	<u>Obj. Perf.</u>
Collaborative	(3.04) 1.96⁺	(0.33) 0.30	(0.86) 0.62	(3.38) 2.45[*]	(5.39) 3.13^{**}	(1.57) 1.27	(7.48) 1.78⁺
Competitive	(2.26) 1.37	(-0.07) -0.06	(2.33) 1.63	(2.91) 2.01[*]	(3.09) 1.92⁺	(0.71) 0.93	(-0.98) -1.33
Compromising	(2.14) 1.59	(-0.97) -0.72	(1.03) 0.83	(1.79) 1.26	(0.91) 0.54	(1.95) 1.98⁺	(3.46) 1.26
Accommodative	(3.03) 2.28[*]	(-1.16) -0.94	(4.48) 4.15^{***}	(3.15) 2.40[*]	(1.02) 0.60	(1.11) 2.05[*]	(0.90) 0.35
Avoidant	(1.42) 0.62	(1.00) 0.65	(2.95) 1.68⁺	(-0.05) -0.03	(0.21) 0.12	(-0.21) -0.63	NA

⁺ p < .10

^{*} p < .05

^{**} p < .01

^{***} p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=21; collaborative/compromise=21; collaborative/accommodative=20; collaborative/avoidant=19; competitive/collaborative=18; competitive/competitive=20; competitive/compromise=18; competitive/accommodative=21; competitive/avoidant=19

TABLE 20

**Wilcoxon Signed Ranks Test across Experimental Game Rounds by Orientation
Combination-Final Study**

(Collaboratively primed subjects; significant items highlighted)

Z Scores for Round Comparisons (means in parentheses)

<u>Orientation Combination</u>	<u>Rnd 1 v. Rnd 5</u>	<u>Rnd 5 v. Rnd 8</u>	<u>Rnd 1 v. Rnd 8</u>
Collaborative/Collaborative	(4.48) -2.04*	(4.05) 0.00	(4.00) -2.13*
Collaborative/Competitive	(4.81) -0.07	(4.86) -1.34	(5.67) -1.14
Collaborative/Compromising	(4.10) -1.84⁺	(4.52) -0.17	(4.67) -2.10*
Collaborative/Accommodative	(4.05) -1.63⁺	(4.25) -1.89⁺	(3.95) -0.38
Collaborative/Avoidant	(4.42) -2.20*	(5.63) -1.06	(4.74) -0.53

TABLE 21

**Wilcoxon Signed Ranks Test across Experimental Game Rounds by Orientation
Combination-Final Study**

(Competitively primed subjects; significant items highlighted)

Z Scores for Round Comparisons (means in parentheses)

<u>Orientation Combination</u>	<u>Rnd 1 v. Rnd 5</u>	<u>Rnd 5 v. Rnd 8</u>	<u>Rnd 1 v. Rnd 8</u>
Competitive/Collaborative	(4.00) -0.68	(4.28) -0.76	(4.06) -0.05
Competitive/Competitive	(4.30) -1.53	(5.35) -0.12	(5.25) -1.24
Competitive/Compromising	(4.06) -2.16*	(4.61) -1.60	(4.17) -0.37
Competitive/Accommodative	(4.52) -0.02	(4.62) -1.45	(3.81) -1.59
Competitive/Avoidant	(4.58) -0.23	(4.74) -0.79	(5.26) -0.92

For Tables 20 and 21:

- ⁺ p < .10
- * p < .05
- ** p < .01
- *** p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=21;
collaborative/compromise=21; collaborative/accommodative=20; collaborative/avoidant=19;
competitive/collaborative=18; competitive/competitive=20; competitive/compromise=18;
competitive/accommodative=21; competitive/avoidant=19

TABLE 22

Wilcoxon Signed Ranks Test across Experimental Game Rounds One and Two by Orientation Combination-Final Study
(Collaboratively primed subjects; significant items highlighted)

<u>Orientation Combination</u>	<u>Round 1 Mean</u>	<u>Round 2 Mean</u>	<u>Z Score Comparison</u>
Collaborative/Collaborative	4.48	4.29	-0.59
Collaborative/Competitive	4.81	4.14	-1.58
Collaborative/Compromising	4.10	4.90	-2.84**
Collaborative/Accommodative	4.05	4.25	-2.00*
Collaborative/Avoidant	4.42	4.63	-0.59

TABLE 23

Wilcoxon Signed Ranks Test across Experimental Game Rounds One and Two by Orientation Combination-Final Study
(Competitively primed subjects; significant items highlighted)

<u>Orientation Combination</u>	<u>Round 1 Mean</u>	<u>Round 2 Mean</u>	<u>Z Score Comparison</u>
Competitive/Collaborative	4.00	4.61	-1.83⁺
Competitive/Competitive	4.30	5.00	-1.73⁺
Competitive/Compromising	4.06	4.56	-1.47
Competitive/Accommodative	4.52	4.62	-0.48
Competitive/Avoidant	4.58	5.00	-1.31

For Tables 22 and 23:

- ⁺ p < .10
- * p < .05
- ** p < .01
- *** p < .001

Orientation N sizes: collaborative/collaborative=21; collaborative/competitive=21; collaborative/compromise=21; collaborative/accommodative=20; collaborative/avoidant=19; competitive/collaborative=18; competitive/competitive=20; competitive/compromise=18; competitive/accommodative=21; competitive/avoidant=19

TABLE 24

Final Study Descriptive Statistics and Correlation Coefficients (N=198)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1. ICL																							
2. ICT	-0.46																						
3. ICP	0.67**	-0.04																					
4. IAC	0.33**	-0.03	0.32**																				
5. IAV	-0.02	-0.05	0.06	0.56**																			
6. CL	0.52**	0.02	0.32**	0.17*	0.06																		
7. CT	0.09	0.09	0.16*	0.05	0.01	0.17*																	
8. CP	0.43**	-0.05	0.38**	0.25**	0.15*	0.67**	0.05																
9. AC	0.17*	0.00	0.10	0.35**	0.25**	0.38**	0.09	0.44**															
10. AV	0.01	-0.03	0.09	0.05	0.28**	0.22**	0.17*	0.29**	0.42**														
11. PTOT	0.32**	0.03	0.23**	-0.01	-0.01	0.43**	0.10	0.38**	0.27**	0.23**													
12. CLP	0.13	0.03	0.04	0.17*	0.18*	0.36**	0.04	0.31**	0.14	0.14*	0.18*												
13. CTP	0.22**	0.06	0.21**	0.04	0.02	0.29**	0.59**	0.19**	0.14*	0.22**	0.21**	0.03											
14. CPP	0.11	0.04	0.16*	0.14	0.18**	0.29**	0.13	0.38**	0.24**	0.24**	0.24**	0.66**	-0.02										
15. ACP	0.09	0.03	0.07	0.33**	0.25**	0.24**	0.12	0.25**	0.53**	0.28**	0.26**	0.53**	-0.01	0.59**									
16. AVP	0.01	0.04	0.08	0.17*	0.32**	0.22**	0.16*	0.23**	0.40**	0.54**	0.18**	0.50**	0.05	0.50**	0.67**								
17. PTOTP	0.00	0.01	-0.06	0.10	-0.02	0.12	0.07	0.07	0.08	0.09	0.08	0.36**	0.01	0.38**	0.39**	0.38**							
18. POBJ	-0.03	0.02	-0.08	0.06	-0.03	0.09	0.05	0.01	0.02	0.07	0.05	0.31**	0.02	0.27**	0.31**	0.33**	0.90**						
19. Rnd	0.00	0.03	-0.05	0.12	0.08	-0.14*	-0.12	-0.08	0.07	0.03	-0.05	-0.09	-0.05	-0.12	0.02	0.04	-0.19**	-0.20**					
20. Age	0.09	0.14	-0.02	0.13	-0.05	0.05	-0.14	0.01	0.07	-0.12	0.05	0.09	-0.03	0.03	0.07	0.05	0.07	0.07	0.16*				
21. Gender	0.07	-0.27**	0.08	-0.05	0.06	0.10	-0.03	0.06	-0.07	0.13	0.07	0.10	0.11	0.14*	-0.03	0.00	0.05	0.01	0.01	-0.22**			
22. Ethnicity	-0.02	0.06	0.05	-0.24**	-0.15*	0.04	0.06	-0.04	-0.20**	0.02	-0.05	-0.03	-0.02	-0.04	0.19**	-0.08	-0.07	0.00	-0.04	-0.07	-0.06		
Mean	37.95	21.48	19.87	23.69	22.86	23.74	21.96	22.05	17.80	18.34	11.16	21.66	21.81	21.10	17.46	18.1	7.21	21.23	3.13	21.74	0.38	2.77	
s.d.	5.53	4.67	3.09	5.56	5.83	3.03	3.31	3.58	3.85	4.53	2.07	5.42	4.03	4.67	4.92	5.72	4.74	19.60	2.77	1.87	0.49	1.06	

* p < .05

** p < .01

ICL=initial survey collaborative scale; ICT=initial survey competitive scale; ICP=initial survey compromise scale; IAC=initial survey accommodative scale; IAV=initial survey avoidant scale; CL=pre-experimental survey collaborative scale; CT=pre-experimental survey competitive scale; CP=pre-experimental survey compromise scale; AC=pre-experimental survey accommodative scale; AV=pre-experimental survey avoidant scale; PTOT=pre-experimental survey performance expectations; CLP=post-experimental survey collaborative scale; CTP=post-experimental survey competitive scale; CPP=post-experimental survey compromise scale; ACP=post-experimental survey accommodative scale; AVP=post-experimental survey avoidant scale; PTOTP=post-experimental survey performance satisfaction; POBJ=experimental game objective performance; Rnd=post-experimental survey strategy change round

TABLE 25

Initial Survey Regression Analysis Results-Final Study
(Standard errors in parentheses)

Model, Sample Group, Dependent Variable

<u>Variables</u>	Model 1	Model 2	Model 3
	Full <u>PTOT</u>	Full <u>PTOTP</u>	Full <u>POBJ</u>
Collaboration	0.36^{***} (0.04)	0.03 (0.08)	-0.01 (0.35)
Competition	0.04 (0.03)	0.01 (0.07)	0.02 (0.30)
Compromise	0.06 (0.06)	-0.14 (0.15)	-0.12 (0.61)
Accommodation	-0.20[*] (0.03)	0.21 [*] (0.08)	0.17 ⁺ (0.34)
Avoidance	0.11 (0.03)	-0.13 (0.07)	-0.12 (0.30)
Intercept	5.82 ^{***} 1.36	8.59 ^{**} 3.30	30.75 [*] 13.69
<i>R</i>²	0.13	0.03	0.02
Adjusted <i>R</i>²	0.11	0.01	0.00
<i>n</i>	198	198	198
<i>F</i>	5.76 ^{***}	1.3	0.96

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

TABLE 26

Pre-Experimental Regression Analysis Results-Final Study
(Standard errors in parentheses)

Model, Sample Group, Dependent Variable

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	Full	Full	Full	CL	CL	CL	CT	CT	CT
<u>Variables</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>
CL	0.29^{***} (0.06)	0.11 (0.15)	0.15 (0.64)	0.40^{***} (0.07)	0.02 (0.24)	0.08 (0.98)	0.22⁺ (0.08)	0.21 (0.20)	0.23 (0.84)
CT	0.03 (0.04)	0.05 (0.11)	0.02 (0.44)	0.02 (0.04)	0.01 (0.15)	0.00 (0.60)	0.09 (0.07)	0.10 (0.15)	0.03 (0.64)
CP	0.14 (0.05)	-0.04 (0.13)	-0.11 (0.56)	0.15 (0.06)	0.12 (0.19)	0.08 (0.77)	0.06 (0.09)	-0.24 (0.20)	-0.29 ⁺ (0.83)
AC	0.06 (0.04)	0.02 (0.11)	-0.02 (0.44)	-0.03 (0.05)	0.06 (0.16)	0.09 (0.65)	0.06 (0.07)	0.00 (0.15)	-0.08 (0.63)
AV	0.10 (0.03)	0.06 (0.08)	0.07 (0.35)	0.08 (0.04)	0.05 (0.13)	0.03 (0.52)	0.14 (0.05)	0.08 (0.11)	0.10 (0.48)
Intercept	3.06 [*] 1.30	1.16 3.33	5.17 13.78	3.66 [*] 1.55	-0.33 5.19	-14.71 21.05	3.31 ⁺ 1.95	1.71 4.44	17.02 18.75
R²	0.22	0.02	0.02	0.27	0.04	0.04	0.15	0.05	0.06
Adjusted R²	0.2	-0.01	-0.01	0.23	-0.01	-0.01	0.11	-0.01	0.01
n	198	198	198	102	102	102	96	96	96
F	10.52 ^{***}	0.81	0.67	7.18 ^{***}	0.72	0.82	3.26 ^{**}	0.9	1.14

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

TABLE 27

Post-Experimental Regression Analysis Results-Final Study
(Standard errors in parentheses)

Model, Sample Group, Dependent Variable									
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	Full	Full	Full	CL	CL	CL	CT	CT	CT
<u>Variables</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>	<u>PTOT</u>	<u>PTOTP</u>	<u>POBJ</u>
CL	-0.02 (0.04)	0.11 (0.08)	0.17⁺ (0.34)	0.22⁺ (0.04)	0.15 (0.12)	0.24[*] (0.50)	-0.25⁺ (0.05)	0.13 (0.11)	0.14 (0.47)
CT	0.22^{***} (0.04)	0.00 (0.08)	0.00 (0.33)	0.24^{**} (0.04)	-0.13 (0.11)	-0.11 (0.46)	0.23[*] (0.05)	0.11 (0.11)	0.08 (0.48)
CP	0.15 (0.04)	0.14 (0.09)	0.01 (0.41)	0.05 (0.05)	0.12 (0.14)	-0.02 (0.58)	0.14 (0.06)	0.10 (0.13)	-0.01 (0.58)
AC	0.22[*] (0.04)	0.15 (0.09)	0.11 (0.39)	0.09 (0.05)	0.26[*] (0.13)	0.26[*] (0.54)	0.27⁺ (0.06)	0.03 (0.13)	-0.05 (0.58)
AV	-0.04 (0.03)	0.15 (0.07)	0.16⁺ (0.32)	-0.05 (0.04)	0.09 (0.10)	0.10 (0.41)	-0.02 (0.06)	0.25⁺ (0.11)	0.28⁺ (0.50)
Intercept	6.14 ^{***} 1.02	-2.71 2.23	-10.82 9.61	7.18 ^{***} 1.24	-2.19 3.39	-15.52 13.96	6.60 ^{***} 1.50	-3.92 3.09	-10.02 13.76
R²	0.13	0.21	0.14	0.16	0.25	0.23	0.12	0.20	0.12
Adjusted R²	0.11	0.19	0.12	0.11	0.21	0.19	0.07	0.16	0.07
n	198	198	198	102	102	102	96	96	96
F	5.67 ^{***}	10.09 ^{***}	6.36 ^{***}	3.56 ^{**}	6.42 ^{***}	5.75 ^{***}	2.50 [*]	4.51 ^{***}	2.39 [*]

⁺ p < .10
^{*} p < .05
^{**} p < .01
^{***} p < .001

APPENDIX 1

DEVELOPMENT STUDY DATA COLLECTION MATERIALS

APPENDIX 1A
DEVELOPMENTAL STUDY RECRUITMENT FLYER

MANAGEMENT RESEARCH OPPORTUNITY

LEARN ABOUT ALLIANCES!

EARN EXTRA CREDIT!

CHANCE TO WIN CASH!

My name is Charlie Funk and I am a 4th year Ph.D. student in Management at WSU. I am currently researching partner interactions in business alliances, and I am inviting WSU business students to assist me in this work. Your job as a student subject would be to attend a research session lasting approximately one hour, carefully read all materials describing your role in the research, complete two surveys of approximately 60 questions each and play an experimental game with an anonymous partner.

You will benefit from this research in three ways:

FIRST, your participation will help you understand the types of decisions that business alliance partners need to make. This insight will be valuable in your business career.

SECOND, every student will receive extra class credit to compensate them for their hour's work.

THIRD, the students who place in the top five of the experimental game will be entered into a drawing for \$50, and the remaining players will be entered into a drawing for \$20.

I will be conducting this research in one-hour sessions on the following dates and times:

Wednesday, November 12, 7:00 p.m.

Thursday, November 13, 4:00 p.m.

Thursday, November 13, 7:00 p.m.

Wednesday, November 19, 4:00 p.m.

Wednesday, November 19, 7:00 p.m.

Thursday, November 20, 4:00 p.m.

Thursday, November 20, 7:00 p.m.

All sessions will be conducted in **TODD HALL ROOM 339 (Management Department Conference Room)**.

If you are interested in assisting in this research, please send your name, e-mail address and the date and time of the session that you will attend to cfunk1@wsu.edu

A minimum of 10 people per session is necessary to run the experiment. If there are less than 10 people in the session that you signed up for, I will e-mail you and give you an opportunity to sign up for another session.

If you have any questions, please include them with your note.

Thank you for your interest and I look forward to seeing you at one of my research sessions!

APPENDIX 1B
DEVELOPMENTAL STUDY RECRUITMENT SCRIPT AND SAMPLE SIGNUP SHEET

RECRUITMENT SCRIPT

Thank you Professor XXXX.

Hello, my name is Charlie Funk and I am a 4th year Ph.D. student in Management at WSU. I am currently working on a project that studies partner interactions in business alliances, and I am inviting WSU business students to assist me in this work. Your job as a student subject would be to carefully read all materials describing your role in the research, complete two surveys of approximately 60 questions each and play an experimental game with an anonymous partner. I expect that this work will take approximately one hour.

You will benefit from this research in three ways. First, your participation will give you a better idea of the types of decisions that business alliance partners need to make. This insight will be valuable in your own business careers.

Second, every student will receive extra class credit to compensate them for their hour's work.

Finally, the students who place in the top five of the experimental game will be placed into a drawing for \$50. This means that the five "winners" of the game will each have a 20% chance of earning \$50. The remaining players, of which there will only be 15 at the most, will be placed into a drawing for \$20. These players will have a 1 in 15 chance for winning \$20.

I will be conducting this research in one hour sessions on various afternoons and evenings over the next few weeks. I have placed signup sheets for these sessions in the front of the room. If you are interested in assisting in this research, please print your name and your e-mail address in the space provided for one of these times. I will need a minimum of 10 people per session to run the experiment. I need your e-mail address, therefore, to inform you if I do not have enough people for the session that you signed up for and give you an opportunity to sign up for another session.

Are there any questions?

Thank you for your time and I look forward to seeing you at one of my research sessions.

BUSINESS ALLIANCE RESEARCH SIGNUP SHEET

DATE: NOVEMBER 5, 2008 TIME: 4:00 P.M.

NAME

E-MAIL ADDRESS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

APPENDIX 1C

DEVELOPMENTAL STUDY INSTRUCTION SCRIPT

(Participants will be allowed to choose their own seats as they enter the room. Each seat will have in front of it a group of documents with matching code numbers)

Hello and thank you for participating in this study. My name is Charlie Funk and these are my associates xxxxxx and xxxxx who will be helping me with this experiment.

This experiment studies how partners in business alliances interact with each other. In the experiment, you will be asked to read a scenario that requires you to assume the role of an alliance manager that has certain relationship characteristics. You will then be given a survey that assesses these characteristics. Next, you will play a several rounds of an experimental game with an anonymous alliance partner. This game will ask both you and your partner to make certain decisions regarding the business activity of the alliance. You will be asked to fill out a final survey at the end of the game. Finally, we will have a \$50 drawing for the top five earners in the game and a \$20 drawing for the rest of the participants. I also take attendance and report your participation in this session to your instructors so that you receive your extra credit for the classes. We expect that this session will approximately one hour.

The partner that you will play the game with is located in another room and you will be anonymous to each other. The only interaction that you will have will be through the play of the game.

A game sheet and a ‘runner’ will be used to allow you to communicate your game decisions to your alliance partner. XXXXX will be the runner. There will also be a ‘moderator’ in the room to administer each round of the game. XXXXX will be the moderator. The moderator will wait for everyone in the room to complete each round by filling out the game sheet for that round. He will then instruct the runner to collect the game sheets. The runner will bring the game sheets to my office where I will be recording the information from both rooms. The runner will then return the game sheet to you with your alliance partner’s response. You will then be asked to play the next round of the game. This process will continue until I return to the room to inform you that the game has ended. At that time, I will put on the screen the game results and you will then fill out the final survey. We will then complete the drawings for \$50 and \$20 and dismiss you.

In front of you is a packet containing one small note cards and six other documents with a code number on them. Throughout this game, you will be identified by this code number.

At this point, please set the note card in front of you, and unclip the six documents so that we can discuss them.

The document on top is a consent form that you will need to read and sign in order to participate in the experiment. The second document is a half-page description of your role as

alliance manager. The third document is a survey that will initially assess your relationship with your alliance partner. The fourth document is a description of the ‘alliance task,’ i.e. the game that you will play with your partner. The fifth document is the ‘Game Sheet’ and will be used to record the play of the game with your partner and will contain the information that is given to the runner and shared with myself (the recorder) and your alliance partner. The sixth and last document is the final survey that again assesses your relationship with your alliance partner.

Each document has its own set of instructions. Once you are instructed by the moderator or me, please carefully read the instructions before completing each document. If you have any questions about the documents during the course of the session, the moderator will be available to answer them. Please do not hesitate to ask any questions that you have about the documents as we want to make sure that you complete them as accurately as possible.

Finally we would ask that you do not talk with each other during this experiment and do not discuss the experiment with anyone once you have completed the session.

Are there any questions at this point?

If there are no further questions, please read and sign the consent form on the last page. Detach the last page and give it to the moderator. You may keep the remainder of the form. If you no longer wish to participate in the experiment at this point, please quietly leave the room. (MODERATOR COLLECTS THE CONSENT FORM **SIGNATURE SHEET ONLY**)

Now, please read the first document, answer the first survey and turn the survey in to the moderator.

(ONCE ALL SUBJECTS HAVE READ THE SCENARIO, COMPLETED THE FIRST SURVEY AND TURNED THEM IN TO THE MODERATOR) Now please read the instructions and complete the first round of the game sheet for both items. Once you have completed this, please allow the runner to collect the game sheets. The runner will then bring them to me and return shortly with your partner’s response on these sheets and will pass the responses to you.

(MODERATOR COMMENT) Now please complete the second round of the game sheet and allow the runner to collect the sheets as before.

(AFTER THE FINAL ROUND, THE CO-INVESTIGATOR RETURNS AND PUTS THE RESULTS ON THE SCREEN) At this point the game has ended. I will now show the results of the game. The results correspond to your seat numbers on the cards in front of you. The top five earners in the game are xxx, xxx, xxx, xxx and xxx.

(AFTER SUBJECTS HAVE HAD A CHANCE TO VIEW THE RESULTS) Now, please fill out the final survey and turn it and all of the other materials in to me.

(AFTER ALL MATERIALS HAVE BEEN COLLECTED)

The moderator will collect the seat number cards from the five highest earners and place them in a hat for the \$50 drawing. After that drawing, the moderator will then collect the seat numbers from the rest of you and place them in a hat for the \$20 drawing.

(ADMINISTER THE FIRST DRAWING-CO-INVESTIGATOR COMMENT) I now have a hat that contains the seat numbers the top five earners in the game. I will now choose one of you at random to select from the hat the winner of the \$50 prize. (MODERATOR WILL PAY THE WINNER)

(ADMINISTER THE SECOND DRAWING) I now have a second hat that contains the seat numbers for the all of the remaining players in the game. I will now choose one of you at random to select from the hat the winner of the \$20 prize. (MODERATOR WILL PAY THE WINNER)

(AFTER THE DRAWING IS COMPLETED) The results of this project will be viewable on my website after August 31, 2009 (MODERATOR PASSES OUT A SHEET CONTAINING THE WEBSITE ADDRESS). Please check this website if you are interested in those results.

Thank you for your time and cooperation on this project.

**APPENDIX 1D
DEVELOPMENTAL STUDY CONSENT FORM**

WASHINGTON STATE UNIVERSITY
College of Business
Management and Operations Department

Research Study Consent Form

Study Title: Partner Interaction in Business Alliances

Researchers:

*Principal Investigator: Dr. John Cullen (Management and Operations Department;
Ph.: 509-335-4440)*

*Co-Investigator: Charles Funk (Management and Operations Department; Ph.:
509-335-7792)*

You are being asked to take part in a research study carried out by Dr. John Cullen and Charles Funk. This form explains the research study and your part in it if you decide to join the study. Please read the form carefully, taking as much time as you need. Ask the researcher to explain anything you don't understand.

You can decide not to join the study. If you join the study, you can change your mind later or quit at any time. There will be no penalty if you decide to not take part in the study or quit later.

This study has been approved for human subject participation by the Washington State University Institutional Review Board.

What is this study about?

-This research study is being done to study how alliance partners interact.

-You are being asked to take part because you are a junior or senior level business student at Washington State University.

-Taking part in the study will take about one hour to complete.

-You cannot take part in this study if you are under the age of 18 or if you are not a junior or senior level business student at Washington State University.

What will I be asked to do if I am in this study?

If you take part in the study, you will be asked to:

- 1) Read a brief scenario requesting that you assume the role of an alliance manager (estimated time: 5 minutes)
- 2) Complete a survey consisting of about 60 questions (estimated time: about 10 minutes)
- 3) Play an experimental game where you propose a hypothetical dollar amount to contribute to the cost of building a number of alliance products. Your alliance partner will either accept or reject this proposal (estimated time: about 35 minutes).
- 4) Complete a final survey consisting of about 65 questions (estimated time: about 10 minutes).

The most personal information that you will be asked during this session is your age, gender and ethnicity. However, this information will not be personally identified to you in any way.

You may refuse to answer any question in these surveys or not participate in any part of the experimental game if you so choose.

Are there any benefits to me if I am in this study?

The potential benefits to you for taking part in this study are:

- 1) experience in important business research, and
- 2) exposure to alliance decision-making criteria and experiencing the results of alliance management decisions in a low risk format.

Are there any risks to me if I am in this study?

The potential risks from taking part in this study are negligible.

Will my information be kept private?

The data for this study are being collected anonymously. Once collected, neither the researcher(s) nor anyone else will be able to link data to you. The data for this study will be kept confidential to the extent allowed by federal and state law. No published results will identify you, and your name will not be associated with the findings.

Physical data will be kept in the co-investigator's locked office and computerized data will be stored only on the co-investigator's personal computer. The researchers will have access to this data. In addition, the results of this study may be published or presented at professional meetings. However, the identities of all research participants will remain anonymous.

Finally, the data for this study will be kept for a minimum of 3 years, according to Washington State University guidelines.

Are there any costs or payments for being in this study?

There will be no costs to you for taking part in this study.

You will receive extra class credit or \$10 (whichever is applicable) for taking part in this study. If you decide to quit the study after you have begun it you will still be eligible to complete a written project for extra class credit or you will still receive half of the \$10 participation payment (whichever is applicable).

Who can I talk to if I have questions?

If you have questions about this study or the information in this form, please contact Charles Funk (e-mail address: cfunk1@wsu.edu ; ph.: 509-335-7792).

What are my rights as a research study volunteer?

Your participation in this research study is completely voluntary. You may choose not to be a part of this study. There will be no penalty to you if you choose not to take part. You may choose not to answer specific questions or to stop participating at any time.

What does my signature on this consent form mean?

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- The researcher has responded to your questions and concerns
- You believe you understand the research study and the potential benefits and risks that are involved.

Statement of Consent

I give my voluntary consent to take part in this study. I will be given a copy of this consent document for my records.

Signature of Participant

Date

Printed Name of Participant

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect.

I certify that when this person signs this form, to the best of my knowledge, he or she understands the purpose, procedures, potential benefits, and potential risks of participation.

I also certify that he or she:

- Speaks the language used to explain this research
- Reads well enough to understand this form or, if not, this person is able to hear and understand when the form is read to him or her
- Does not have any problems that could make it hard to understand what it means to take part in this research.

Signature of Person Obtaining Consent

Date

Printed Name of Person Obtaining Consent

Role in the Research Study

APPENDIX 1E DEVELOPMENTAL STUDY SCENARIOS

Collaboratively Primed Subjects

Please assume the role of an alliance manager of a large manufacturing company. Your most important project is a new alliance with another similarly-sized manufacturer in your industry to create products that are highly valued by industry customers. Your company's past experience with these types of alliances has been excellent, and both your company and your alliance partner have made huge investments in this alliance. Therefore, it is critical that the alliance products are successfully manufactured and sold to ensure the future profitability of both organizations.

While the alliance will jointly develop and manufacture the products, your partner holds most of the 'know-how' and technology for their successful production and sale. Fortunately, your partner has stated that they intend to use this expertise for the joint benefit of the alliance. Your company is aware of this and has given you general instructions to work closely with your partner and to make joint decisions on alliance investments so that the partnership is successful. As the alliance manager, however, you are free to make decisions and investments that you feel are in the best interests of your organization, even if they conflict with these general instructions.

Competitively Primed Subjects

Please assume the role of an alliance manager of a large manufacturing company. Your most important project is a new alliance with another similarly-sized manufacturer in your industry to create products that are highly valued by industry customers. Your company's past experience with alliances has been negative, with the majority of these relationships falling well short of their projected value while incurring significant costs. In addition, the current economic situation is causing high costs for the raw materials and equipment needed to make alliance products. Also, government regulations are currently unfavorable toward alliances in your industry. Despite these problems, your company made a huge investment in the alliance. Therefore, it is critical that your company gains 'know-how' and new technology from the partnership, even if the products themselves are unsuccessful.

While the alliance will jointly develop and manufacture products, your partner holds most of the 'know-how' and technology to successfully make and sell these products. Unfortunately, your partner is threatening to withhold this expertise from the alliance unless you approve a profit sharing agreement that is very favorable to them. Your company is aware of this and has given you general instructions to 'take what you can get' from the partner while making minimal investments in the alliance to ensure that your organization has a successful outcome. As the alliance manager, however, you are free to make decisions that you feel are in the best interests of your organization, even if they conflict with these general instructions.

APPENDIX 1F
DEVELOPMENTAL STUDY PRE-EXPERIMENTAL SURVEY

Assuming the alliance manager role that you have been given, please respond to the following statements concerning how you would handle alliance management conflicts with your alliance partner. To do this, please read the statement and circle the appropriate number from 1 (meaning 'strongly disagree') to 7 (meaning 'strongly agree') below each statement:

I would usually be firm in pursuing my company's goals.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to win my company's position.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would make some effort to get my way in terms of my company's desires.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would be firm in pursuing my company's goals.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would press to get my company's points made.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to find a compromise solution to alliance management problems.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would give up some arguing points to our alliance partner in exchange for others.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to find a compromise solution to alliance management problems.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would let our alliance partner have some of their positions if they let us have some of ours.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would propose a middle ground.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to find a fair combination of gains and losses for both alliance partners.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

APPENDIX 1G DEVELOPMENTAL STUDY GAME DESCRIPTION

Alliance Task

To begin the alliance, you and your partner need to decide how to split the manufacturing costs for a number of products. The total cost to make each product is \$10 million, and you and your partner will decide how to split these costs one product at a time.

Because you have the manufacturing facilities to make these products, your partner has asked you to propose a division of the \$10 million cost for each product between you and your partner. Based on your proposal, your partner will either:

- 1) **ACCEPT** the proposal if they wish to pay the difference between the amount you propose and \$10 million,
- 2) **REJECT** the proposal if they do not wish to pay the difference, or
- 3) **NOT CONSIDER** the proposal if they wish to make no payment for the product.

Both parties know that the most efficient division of costs to manufacture the product is \$4 million from your company and \$6 million from your partner (because you have the available manufacturing facilities and they have the more expensive technology). However, you are free to propose any split of the amount between \$0 and \$10 million. You are also free to propose not to make any or all of the products in the group.

Calculation of Company Earnings

Your company and your partner's company will each earn \$10 million in sales from each product. If your partner **ACCEPTS** your proposal, your company's profit will be the \$10 million in sales less the amount of costs that you proposed to pay for that particular product. For example, if you proposed that your company would pay \$4 million of the total cost, and your partner accepted this proposal, your company would earn \$10 million less \$4 million, or \$6 million and your partner would earn \$10 million less \$6 million, or \$4 million.

If your partner **REJECTS** or **DOES NOT CONSIDER** your proposal, the product does not get manufactured and both your company and your partner's company earn **ZERO**.

Calculation of Cash Paid to You and Your Anonymous Partner

The five people that have made their companies the most money will be entered into a drawing for \$50. The remaining people will be entered into a drawing for \$20. These drawings will be held at the end of the game. The same type of drawing will be held for your anonymous partners as well.

Now, please propose how much you wish to pay for the manufacture of the first product by circling the number amount under 'Product #1' on the game sheet. The runner will communicate this information to your partner and will return to you your partner's accept or reject decision as well as your cumulative earnings and your partner's cumulative earnings. You will then decide on the next product. This process will continue, with you proposing amounts and your partner communicating their response, until the room moderator stops the game.

APPENDIX 1H

DEVELOPMENTAL STUDY GAME SHEET

GAME SHEET

PAYMENT LEVEL (\$M)											EARNINGS				
											Your Earnings (\$M)	Partner Earnings (\$M)			
<u>PRODUCT #1</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		
<u>PRODUCT #2</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		
<u>PRODUCT #3</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		
<u>PRODUCT #4</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		
<u>PRODUCT #5</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		
<u>PRODUCT #6</u>															
	VERY LOW			JOINT DECISION			MODERATE			VERY HIGH					
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT		

APPENDIX 11
DEVELOPMENTAL STUDY GAME RESULTS SCHEDULE

ROUNDS	<u>1 A</u>		<u>2 B</u>		<u>3 C</u>		<u>4 D</u>		<u>5 E</u>		<u>6 F</u>		<u>7 G</u>		<u>8 H</u>		<u>9 I</u>		<u>10 J</u>		Your	Ptn	Your	Ptn	CURRENT	1 a	
	Seat	Your Ptn	Your Ptn	Profit	Profit	Total	Total	ROUND																			
Number	Cost	Resp	Cost	Resp	Cost	Resp	\$MIL	\$MIL	\$MIL	\$MIL																	
1A1																					\$ -	\$ -	\$ -	\$ -			
1A2																						\$ -	\$ -	\$ -	\$ -		
1A3																						\$ -	\$ -	\$ -	\$ -		
1A4																						\$ -	\$ -	\$ -	\$ -		
1A5																						\$ -	\$ -	\$ -	\$ -		
1A6																						\$ -	\$ -	\$ -	\$ -		
1A7																						\$ -	\$ -	\$ -	\$ -		
1A8																						\$ -	\$ -	\$ -	\$ -		
1A9																						\$ -	\$ -	\$ -	\$ -		
1A0																						\$ -	\$ -	\$ -	\$ -		
1B1																						\$ -	\$ -	\$ -	\$ -		
1B2																						\$ -	\$ -	\$ -	\$ -		
1B3																						\$ -	\$ -	\$ -	\$ -		
1B4																						\$ -	\$ -	\$ -	\$ -		
1B5																						\$ -	\$ -	\$ -	\$ -		
1B6																						\$ -	\$ -	\$ -	\$ -		
1B7																						\$ -	\$ -	\$ -	\$ -		
1B8																						\$ -	\$ -	\$ -	\$ -		
1B9																						\$ -	\$ -	\$ -	\$ -		
1B0																						\$ -	\$ -	\$ -	\$ -		

APPENDIX 1J
DEVELOPMENTAL STUDY POST-EXPERIMENTAL SURVEY

Now that you have completed the game, please respond to the following statements concerning how you would handle alliance management conflicts with your alliance partner. To do this, please read the statement and circle the appropriate number from 1 (meaning 'strongly disagree') to 7 (meaning 'strongly agree') below each statement:

I would usually be firm in pursuing my company's goals.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to win my company's position.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would make some effort to get my way in terms of my company's desires.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would be firm in pursuing my company's goals.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would press to get my company's points made.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to get our alliance partner to settle for a compromise.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would use 'give and take' bargaining on alliance management issues so that a compromise can be made.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to find a middle course to resolve an impasse regarding alliance management decisions.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would usually propose a middle ground for breaking deadlocks in alliance management decision between us and our partner.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would negotiate with our alliance partner so that a compromise could be reached.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

Please answer the following questions about yourself:

Please circle your GENDER:

MALE

FEMALE

Please print your AGE: _____

Which of the following best describes your racial or ethnic background? (Please circle one.)

Asian

Black/African American

White/Caucasian

Hispanic (may be any race)

Native American

Other. Please Specify: _____

THANK YOU FOR YOUR PARTICIPATION!

APPENDIX 2

FINAL STUDY DATA COLLECTION MATERIALS

APPENDIX 2A
FINAL STUDY RECRUITMENT FLYER

MANAGEMENT RESEARCH OPPORTUNITY

LEARN ABOUT ALLIANCES!

EARN EXTRA CREDIT!

CHANCE TO WIN CASH!

My name is Charlie Funk and I am a 4th year Ph.D. student in Management at WSU. I am currently researching partner interactions in business alliances, and I am inviting WSU business students to assist me in this work. Your job as a student subject would be to attend a research session lasting approximately one hour, carefully read all materials describing your role in the research, complete three surveys of approximately 30 questions each and play an experimental game with an anonymous partner.

You will benefit from this research in three ways:

FIRST, your participation will help you understand the types of decisions that business alliance partners need to make. This insight will be valuable in your business career.

SECOND, every student will receive extra class credit to compensate them for their hour's work.

THIRD, the students who place in the top five of the experimental game will be entered into a drawing for \$50, and the remaining players will be entered into a drawing for \$20.

I will be conducting this research in one-hour sessions on the following dates and times:

TO BE DETERMINED

All sessions will be conducted in **TODD HALL ROOM 339 (Management Department Conference Room)**.

If you are interested in assisting in this research, please send your name, e-mail address and the date and time of the session that you will attend to cfunk1@wsu.edu

I will send you a confirming e-mail that also asks you to complete a five minute, 30 question survey and e-mail it back to me. You will also be sent a consent form to read. Your completion and return of this survey serves as your initial consent.

A minimum of 10 people per session is necessary to run the experiment. If there are less than 10 people in the session that you signed up for, I will e-mail you and give you an opportunity to sign up for another session.

If you have any questions, please include them with your note.

Thank you for your interest and I look forward to seeing you at one of my research sessions!

APPENDIX 2B
FINAL STUDY RECRUITMENT SCRIPT

RECRUITMENT SCRIPT

Thank you Professor XXXX.

Hello, my name is Charlie Funk and I am a 4th year Ph.D. student in Management at WSU. I am currently working on a project that studies partner interactions in business alliances, and I am inviting WSU business students to assist me in this work. Your job as a student subject would be to carefully read all materials describing your role in the research, complete three surveys of approximately 30 questions each and play an experimental game with an anonymous partner. I expect that this work will take approximately one hour.

You will benefit from this research in three ways. First, your participation will give you a better idea of the types of decisions that business alliance partners need to make. This insight will be valuable in your own business careers.

Second, every student will receive extra class credit to compensate them for their hour's work.

Finally, the students who place in the top five of the experimental game will be placed into a drawing for \$50. This means that the five "winners" of the game will each have a 20% chance of earning \$50. The remaining players, of which there will only be 15 at the most, will be placed into a drawing for \$20. These players will have a 1 in 15 chance for winning \$20.

I will be conducting this research in one hour sessions on various afternoons and evenings over the next few weeks. All sessions will be held in Todd Hall Room 339, which is the Management and Operations Department conference room.

If you are interested in assisting with this research, please go to my website,

<http://www.cb.wsu.edu/~cfunk/>

to see the available times and send me an e-mail informing me of the time that you wish to attend. I will send you a return e-mail confirming your time. The return e-mail will also ask you to complete a five minute survey of approximately 30 questions and return it to me.

Alternatively, you can just use the information on the screen here and e-mail me your session time.

I will need a minimum of 10 people per session to run the experiment. If I do not have enough people for the session that you signed up for, I will e-mail you to give you an opportunity to sign up for another session.

Are there any questions? Thank you for your time and I look forward to seeing you at one of my research sessions.

APPENDIX 2C
FINAL STUDY INSTRUCTION SCRIPT

INSTRUCTION SCRIPT

(Participants will be allowed to choose their own seats as they enter the room. Once the session starts, the moderator will pass out a paper-clipped package of six documents to each subject, randomly starting at one subject in the room.)

Hello and thank you for participating in this study. My name is Charlie Funk and these are my associates xxxxxx and xxxxx who will be helping me with this experiment.

This experiment studies how partners in business alliances interact with each other. In the experiment, you will be asked to read a scenario that requires you to assume the role of an alliance manager that has certain relationship characteristics. You will then be given a survey that assesses these characteristics. Next, you will play a several rounds of an experimental game with an anonymous alliance partner. This game will ask both you and your partner to make certain decisions regarding the business activity of the alliance. You will be asked to fill out a final survey at the end of the game. Finally, we will have a \$50 drawing for the top five earners in the game and a \$20 drawing for the rest of the participants. I also take attendance and report your participation in this session to your instructors so that you receive your extra credit for the classes. We expect that this session will approximately one hour.

The partner that you will play the game with is located in another room and you will be anonymous to each other. The only interaction that you will have will be through the play of the game.

A game sheet and a ‘runner’ will be used to allow you to communicate your game decisions to your alliance partner. XXXXX will be the runner. There will also be a ‘moderator’ in the room to administer each round of the game. XXXXX will be the moderator. The runner will wait for everyone in the room to complete each round by filling out the game sheet for that round. He will then collect the game sheets. The runner will bring the game sheets to my office where I will be recording the information from both rooms. The runner will then return the game sheet to you with your alliance partner’s response. You will then be asked to play the next round of the game. This process will continue until I return to the room to inform you that the game has ended. At that time, I will put on the screen the game results and you will fill out the final survey. We will then complete the drawings for \$50 and \$20 and dismiss you.

In front of you is a packet containing one small note cards and six other documents with a code number on them. Throughout this game and throughout the remainder of the project, you will be identified by this code number.

At this point, please set the note card in front of you, and unclip the six documents so that we can discuss them.

The document on top is a consent form that you will need to read and sign in order to participate in the experiment. The second document is titled “Alliance Manager Role” and is a half-page description of your role as alliance manager. The third document is a survey that will initially assess your relationship with your alliance partner. The fourth document is titled “Alliance Task” and is a description of the game that you will play with your partner. The fifth document is titled “Game Sheet” and will be used to record the play of the game with your partner and will contain the information that is given to the runner and shared with myself (the recorder) and your alliance partner. The sixth and last document is the final survey that again assesses your relationship with your alliance partner.

Each document has its own set of instructions. Once you are instructed by the moderator or me, please carefully read the instructions before completing each document. If you have any questions about the documents during the course of the session, the moderator will be available to answer them. Please do not hesitate to ask any questions that you have about the documents as we want to make sure that you complete them as accurately as possible.

Finally we would ask that you do not talk with each other during this experiment and do not discuss the experiment with anyone once you have completed the session. It will not help you in the game to share your information with others or to use your neighbor’s responses.

Are there any questions at this point?

If there are no further questions, please read the consent form and sign the last page. Detach the last page and give it to the moderator. You may keep the remainder of the form. If you no longer wish to participate in the experiment at this point, please quietly leave the room. (MODERATOR COLLECTS THE CONSENT FORM **SIGNATURE SHEET ONLY**)

Now, please read the first document, answer the first survey and turn the survey in to the moderator.

(ONCE ALL SUBJECTS HAVE READ THE SCENARIO, COMPLETED THE FIRST SURVEY AND TURNED THEM IN TO THE MODERATOR) Now please read the instructions and complete the first round of the game sheet for both items. Please also reread your alliance manager role once more to make sure that you understand and are following the role. Once you have completed this, please allow the runner to collect the game sheets. The runner will then bring them to me and return shortly with your partner’s response on these sheets and will pass the responses to you.

Now please complete the second round of the game sheet and allow the runner to collect the sheets as before. Please keep the sheet with your alliance manager role close by so that you can refer to it and follow it as we complete the remaining rounds of the game.

(AFTER THE FOURTH AND SEVENTH ROUNDS OF THE GAME) Please reread your alliance manager role again to ensure that you are following it.

(AFTER THE FINAL ROUND, THE CO-INVESTIGATOR RETURNS AND PUTS THE RESULTS ON THE SCREEN) At this point the game has ended. I will now show the results of the game. The results correspond to your seat numbers on the cards in front of you. The top five earners in the game are xxx, xxx, xxx, xxx and xxx.

(AFTER SUBJECTS HAVE HAD A CHANCE TO VIEW THE RESULTS) Now, please fill out the final survey and turn it and all of the other materials in to me.

(AFTER ALL MATERIALS HAVE BEEN COLLECTED)

The moderator will collect the seat number cards from the five highest earners and place them in a hat for the \$50 drawing. After that drawing, the moderator will then collect the seat numbers from the rest of you and place them in a hat for the \$20 drawing.

(ADMINISTER THE FIRST DRAWING-CO-INVESTIGATOR COMMENT) I now have a hat that contains the seat numbers the top five earners in the game. I will now choose one of you at random to select from the hat the winner of the \$50 prize. (MODERATOR WILL PAY THE WINNER)

(ADMINISTER THE SECOND DRAWING) I now have a second hat that contains the seat numbers for the all of the remaining players in the game. I will now choose one of you at random to select from the hat the winner of the \$20 prize. (MODERATOR WILL PAY THE WINNER)

(AFTER THE DRAWING IS COMPLETED) The results of this project will be viewable on my website after August 31, 2009 (MODERATOR PASSES OUT A SHEET CONTAINING THE WEBSITE ADDRESS). Please check this website if you are interested in those results.

Thank you for your time and cooperation on this project.

**APPENDIX 2D
FINAL STUDY CONSENT FORM**

WASHINGTON STATE UNIVERSITY
College of Business
Management and Operations Department

Research Study Consent Form

Study Title: Partner Interaction in Business Alliances

Researchers:

*Principal Investigator: Dr. John Cullen (Management and Operations Department;
Ph.: 509-335-4440)*

*Co-Investigator: Charles Funk (Management and Operations Department; Ph.:
509-335-7792)*

You are being asked to take part in a research study carried out by Dr. John Cullen and Charles Funk. This form explains the research study and your part in it if you decide to join the study. Please read the form carefully, taking as much time as you need. Ask the researcher to explain anything you don't understand.

You can decide not to join the study. If you join the study, you can change your mind later or quit at any time. There will be no penalty if you decide to not take part in the study or quit later.

This study has been approved for human subject participation by the Washington State University Institutional Review Board.

What is this study about?

-This research study is being done to study how alliance partners interact.

-You are being asked to take part because you are a junior or senior level business student at Washington State University.

-Taking part in the study will take about one hour to complete.

-You cannot take part in this study if you are under the age of 18 or if you are not a junior or senior level business student at Washington State University.

What will I be asked to do if I am in this study?

If you take part in the study, you will be asked to:

- 1) Complete a survey consisting of about 30 questions at the time that you sign up for this research (estimated time: 5 minutes).
- 2) Read a brief scenario requesting that you assume the role of an alliance manager (estimated time: 5 minutes)
- 3) Complete a survey consisting of about 20 questions (estimated time: about 5 minutes)
- 4) Play an experimental game where you propose a hypothetical dollar amount to contribute to the cost of building a number of alliance products. Your alliance partner will either accept or reject this proposal (estimated time: about 35 minutes).
- 5) Complete a final survey consisting of about 30 questions (estimated time: about 10 minutes).

The most personal information that you will be asked during this session is your age, gender and ethnicity. However, this information will not be personally identified to you in any way.

You may refuse to answer any question in these surveys or not participate in any part of the experimental game if you so choose.

Are there any benefits to me if I am in this study?

The potential benefits to you for taking part in this study are:

- 1) experience in important business research, and
- 2) exposure to alliance decision-making criteria and experiencing the results of alliance management decisions in a low risk format.

Are there any risks to me if I am in this study?

The potential risks from taking part in this study are negligible.

Will my information be kept private?

The data for this study are being collected anonymously. Once collected, neither the researcher(s) nor anyone else will be able to link data to you. The data for this study will be kept confidential to the extent allowed by federal and state law. No published results will identify you, and your name will not be associated with the findings.

Physical data will be kept in the co-investigator's locked office and computerized data will be stored only on the co-investigator's personal computer. The researchers will have access to this data. In addition, the results of this study may be published or presented at professional meetings. However, the identities of all research participants will remain anonymous.

Finally, the data for this study will be kept for a minimum of 3 years, according to Washington State University guidelines.

Are there any costs or payments for being in this study?

There will be no costs to you for taking part in this study.

You will receive extra class credit or \$10 (whichever is applicable) for taking part in this study. If you decide to quit the study after you have begun it you will still be eligible to complete a written project for extra class credit or you will still receive half of the \$10 participation payment (whichever is applicable).

Who can I talk to if I have questions?

If you have questions about this study or the information in this form, please contact Charles Funk (e-mail address: cfunk1@wsu.edu ; ph.: 509-335-7792).

What are my rights as a research study volunteer?

Your participation in this research study is completely voluntary. You may choose not to be a part of this study. There will be no penalty to you if you choose not to take part. You may choose not to answer specific questions or to stop participating at any time.

What does my signature on this consent form mean?

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- The researcher has responded to your questions and concerns
- You believe you understand the research study and the potential benefits and risks that are involved.

Statement of Consent

I give my voluntary consent to take part in this study. I will be given a copy of this consent document for my records.

Signature of Participant

Date

Printed Name of Participant

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect.

I certify that when this person signs this form, to the best of my knowledge, he or she understands the purpose, procedures, potential benefits, and potential risks of participation.

I also certify that he or she:

- Speaks the language used to explain this research
- Reads well enough to understand this form or, if not, this person is able to hear and understand when the form is read to him or her
- Does not have any problems that could make it hard to understand what it means to take part in this research.

Signature of Person Obtaining Consent

Date

Printed Name of Person Obtaining Consent

Role in the Research Study

APPENDIX 2E

FINAL STUDY SCENARIOS

Alliance Manager Role-Collaboratively Primed Subjects

You are an alliance manager for a large computer hardware manufacturing company. Your most important project is a new alliance with another similarly-sized manufacturer in your industry to create wireless computing components that are highly valued by industry customers. Your company's past experience with these types of alliances has been excellent. Also, although the current economic downturn is hurting most industries worldwide, the economic and regulatory outlook for the computer components industry is very favorable for these types of alliances. Therefore, both your company and your alliance partner have made huge investments in the alliance, and the future profitability of both organizations depends on its success. With such high stakes, your company is putting high pressure on you to make sure that alliance products are successfully manufactured and sold.

Although the alliance will jointly develop and manufacture these wireless products, your partner holds most of the 'know-how' and technology for their successful production and sale. Fortunately, your partner has stated that they intend to use this expertise for the joint benefit of the alliance. Your company is aware of this and has given you general instructions to work closely with your partner and to make joint decisions on future alliance payments and investments so that the partnership is successful. As the alliance manager, however, you are free to make decisions and investments that you feel are in the best interests of your organization, even if they conflict with these general instructions.

Alliance Manager Role-Competitively Primed Subjects

You are an alliance manager for a large computer hardware manufacturing company. Your most important project is a new alliance with another similarly-sized manufacturer in your industry to create wireless computing components that are highly valued by industry customers. Your company's past experience with these types of alliances has been very poor. In fact, the majority of these relationships incurred high costs and fell well short of their expected value. In addition, the current economic downturn has led to high costs for the raw materials and equipment needed to manufacture these products. Also, government regulation is currently unfavorable toward alliances in your industry, as evidenced by a growing number of lawsuits alleging that such alliances limit competition.

Despite these problems, your company has made a huge investment in the alliance. They have done so because they expect a large future return from the new component technology and 'know-how' that can be obtained from the partnership, even if current sales are unsuccessful. With such high stakes, however, your company is putting high pressure on you to make the alliance work in their favor.

Although the alliance will jointly develop and manufacture these wireless products, your partner holds most of the 'know-how' and technology for their successful production and sale. Unfortunately, your partner is threatening to withhold this expertise from the alliance unless you

approve a profit sharing agreement that is very favorable to their side. Your company is aware of this and has given you general instructions to obtain the 'know-how' and technology from the partner while making minimal future payments and investments in the alliance so that your company is successful. As the alliance manager, however, you are free to make decisions that you feel are in the best interests of your organization, even if they conflict with these general instructions.

APPENDIX 2G FINAL STUDY GAME DESCRIPTION

Alliance Task

To begin the alliance, you and your partner must decide how to split the manufacturing costs for a number of wireless component products. The total cost to make each product is \$10 million, and you and your partner will decide how to split these costs one product at a time.

Because you have the manufacturing facilities to make these products, your partner has asked you to propose a division of the \$10 million cost for each product between you and your partner. Based on your proposal, your partner will either:

- 1) **ACCEPT** the proposal if they wish to pay the difference between the amount you propose and \$10 million,
- 2) **REJECT** the proposal if they do not wish to pay the difference, or
- 3) **NOT CONSIDER** the proposal if they wish to make no payment for the product.

Both parties know that the most efficient division of costs to manufacture the product is \$4 million from your company and \$6 million from your partner (because you have the available manufacturing facilities and they have the more expensive technology). However, you are free to propose any split of the amount between \$0 and \$10 million. You are also free to propose not to make any or all of the products in the group.

Calculation of Company Earnings

By prior agreement, your company and your partner's company will split expected sales of \$20 million equally, with each company earning \$10 million from each product. If your partner **ACCEPTS** your proposal, your company's profit will be the \$10 million in sales less the amount of costs that you proposed to pay for that particular product. For example, if you proposed that your company would pay \$4 million of the total cost, and your partner accepted this proposal, your company would earn \$10 million less \$4 million, or \$6 million and your partner would earn \$10 million less \$6 million, or \$4 million.

If your partner **REJECTS** or **DOES NOT CONSIDER** your proposal, the product does not get manufactured and both your company and your partner's company earn **ZERO**.

Calculation of Cash Paid to You and Your Anonymous Partner

The five people that have made their companies the most money at the end of the game will be entered into a drawing for \$50. The remaining people will be entered into a drawing for \$20. These drawings will be held at the end of the game. The same type of drawing will be held for your anonymous partners as well.

Now, please propose how much you wish to pay for the manufacture of the first product by circling the number amount under 'Product #1' on the game sheet. The runner will communicate this information to your partner and will return to you your partner's accept or reject decision as well as your cumulative earnings and your partner's cumulative earnings. You will then decide on the next

product. This process will continue, with you proposing amounts and your partner communicating their response, until the room moderator stops the game.

APPENDIX 2H FINAL STUDY GAME SHEET

<u>GAME SHEET</u>										EARNINGS					
YOUR PROPOSAL										PARTNER RESPONSE		Your	Partner		
YOUR PAYMENT LEVEL (\$M)												Earnings	Earnings		
												(\$M)	(\$M)		
PRODUCT #1															
	VERY LOW		JOINT DECISION		MODERATE			VERY HIGH							
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
PRODUCT #2															
	VERY LOW		JOINT DECISION		MODERATE			VERY HIGH							
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
PRODUCT #3															
	VERY LOW		JOINT DECISION		MODERATE			VERY HIGH							
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
PRODUCT #4															
	VERY LOW		JOINT DECISION		MODERATE			VERY HIGH							
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
PRODUCT #5															
	VERY LOW		JOINT DECISION		MODERATE			VERY HIGH							
NO PLAY	1	2	3	4	5	6	7	8	9	10	NO CONSIDER	ACCEPT	REJECT	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>

APPENDIX 2I
FINAL STUDY POST-EXPERIMENTAL SURVEY

Now that you have completed the game, please respond to the following statements concerning how you would handle future alliance management conflicts with your alliance partner. To do this, please read the statement and circle the appropriate number from 1 (meaning 'strongly disagree') to 7 (meaning 'strongly agree') below each statement:

I would try to investigate alliance issues to find solutions that are acceptable to both alliance partners.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to integrate our ideas to come up with joint decisions on alliance management.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to work with our alliance partner to find solutions to alliance management problems which satisfy our joint expectations.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

I would try to work with our alliance partner for a proper understanding of alliance management problems.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

Based on the scenario that I read, my primary objective as an alliance manager was to

_____.

I felt that I needed to change my approach toward working with my alliance partner after round (circle number or statement below):

1 2 3 4 5 6 7 8 9 10 I did not change my approach

Please answer the following questions about yourself:

Please circle your GENDER:

MALE FEMALE

Please print your AGE: _____

Which of the following best describes your racial or ethnic background? (Please circle one.)

Asian

Black/African American

White/Caucasian

Hispanic (may be any race)

Native American

Other. Please Specify: _____

THANK YOU FOR YOUR PARTICIPATION!

APPENDIX 2J
STUDY DEBRIEFING STATEMENT

PARTNER INTERACTION IN BUSINESS ALLIANCES

DEBRIEFING STATEMENT

Thank you for participating in this survey. The purpose of this study was to assess the how alliance partners might handle conflicts based on how they view their company's performance related to the alliance.

To test this idea, we asked you to assume the role of an alliance partner with a certain orientation toward conflicts. Some of you were randomly placed into 'collaborative' roles where you were expected to cooperate with your partners for the best interests of the alliance. Others were randomly placed into 'competitive' roles where you were expected to act in the best interests of your company regardless of the actions that your alliance partner pursued.

The experimental game that you played allowed us to measure your interaction with your partner. The game required you to propose how much of the cost of an alliance product you were willing to pay for. Your partner either accepted or rejected this proposal.

We would like you to know that although you were told that you were playing the game against an anonymous person, you were actually playing the game against the experimenter. The experimenter was randomly assuming a specific conflict handling orientation to see how you would react to an alliance partner that consistently exhibited this orientation. Hence, the experimenter assumed either a collaborative (attempting to make the most efficient cost split with you), competitive (attempting to make the most favorable cost split for himself), compromise (attempting to split costs with you approximately evenly), accommodative (attempting to split the costs in your best interests) or avoidant (not playing the game at all) role in order to measure your reactions when such a stance is consistently presented to you. We presented these conflict orientations to you so that we could better understand how conflict handling orientations of alliance partners change as the partners interact and attempt to jointly make decisions. Considering the large number of business alliances that are being undertaken today (both within and outside the U.S.), this information is critical for both researchers and business organizations. However, we would once again like to reiterate that your responses for this study are completely anonymous.

Please contact Charles Funk at Washington State University (ph. 509-335-7792) if you are interested in receiving a summary of the results of this study.

Thank you again for your time and assistance in this important research.