

**A DYADIC UNDERSTANDING OF TRUST IN NEGOTIATIONS: THE ROLE OF  
CONGRUENT AND ASYMMETRIC TRUST STATES**

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## **Abstract**

This dissertation examines the role of trust congruence and asymmetry in negotiation using a dyadic perspective. Based on theories of trust congruence and social balance, I hypothesize that negotiation dyads are more likely to achieve favorable subjective outcomes when their trust levels are aligned rather than divergent, and this relationship will be mediated by integrative and distributive behaviors. Two studies were conducted to test the research model, and polynomial regression with surface analysis was used for data analyses. In Study 1, data was collected from 120 MBA students (60 dyads) using a conflict resolution exercise. Findings of this study provide preliminary evidence for the role of different dyadic trust states on negotiation, suggesting a positive effect of trust congruence and a negative impact of trust incongruence on subjective negotiation outcomes. With an enhanced research design, Study 2 manipulated different states of dyadic trust among 242 undergraduate students (121 dyads) using a negotiation exercise in which negotiators must overcome an apparent negative bargaining zone by sharing information. Results of Study 2 re-confirm the positive impact of trust congruence and the negative impact of trust asymmetry on negotiation outcomes, and these impacts are partially mediated by integrative behaviors. In general, findings of this dissertation enhance our understanding of the role of trust in negotiation, by suggesting that it is more about the dyadic ‘balance’ between two negotiators within the dyad, besides the absolute level of individual trust, which makes trust favorable in negotiation contexts. This dissertation fills a critical gap in the literature by empirically assessing the role of different dyadic states of trust in negotiation and validating the theory of trust congruence. Practically, findings of this dissertation inform negotiators of the temporal and interactive nature of trust and highlight the importance of adaptivity and alignment during negotiations.

## **Dedication**

To my late grandmother, whose unwavering belief in me continues to guide my steps. Though she is no longer with us, her spirit, and the confidence she instilled in me remain a constant source of courage.

And to my daughter, who inspires me daily and reminds me of the beauty in learning and growing. Her boundless curiosity, joy, and love have infused my life with purpose and perspective.

This dissertation is dedicated with all my heart to one who shaped my past and the other who brightens my future.

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## Chapter One: Introduction

*Every kind of peaceful cooperation among men is primarily based on mutual trust and only secondarily on institutions such as courts of justice and police.*

*-Albert Einstein*

Trust, defined as one's willingness to be vulnerable based on a positive expectation of others (Mayer, Davis, & Schoorman, 1995), is crucial in multiple aspects of organizational life. For example, organizations benefit from trust via enhanced cooperation during a strategic alliance (Das & Teng, 1998). Trust within working teams contributes to better team performance through improved information sharing, communication, and positive social exchange (Curseu & Schrujjer, 2010; de Jong & Elfring, 2010; de Jong & Ferrin, 2001; Dirks & Skarlicki, 2009). At an individual level, trust is positively related to job satisfaction, organizational commitment, and job performance (DeLuga, 1994; Dirks & Ferrin, 2002; Grant & Sumanth, 2009; McAllister, 1995).

Given its interdependent nature, trust is especially relevant in contexts where two individuals face uncertainties and must depend on each other to achieve personal and collective goals. Negotiation, where two actors actively allocate and exchange resources through back-and-forth communication (Carnevale & Pruitt, 1992), offers a great fit to study the dyadic nature of trust. Past research has recognized trust as a crucial factor contributing to successful negotiations. As said in the best-selling book on negotiation, *Getting to Yes*: "if there is *mutual trust* and confidence in one another's reliability, negotiations are likely to be smoother and more successful for both parties" (Fisher, Ury, & Patton, 2011:179). Empirical research also suggests

that when negotiators trust each other and actively work together to enlarge the pie, it is easier to reach an agreement that benefits both (see review by Kong, Dirks, & Ferrin, 2014).

Despite the positive role of trust in interactive contexts, people usually face a dilemma of trust when they negotiate (Lewicki & Polin, 2013): if they trust too much, they are likely to be exploited (e.g., Goel, Bell, & Pierce, 2005); if they don't trust, however, they will hold back the information that could have contributed to a win-win outcome. On the one hand, trust is believed to bring benefits to negotiation. For example, people are more likely to take others' perspectives (Galinsky, Maddux, Gilin, & White, 2008) and behave cooperatively when they trust their partners (De Dreu, Beersma, Stroebe, & Euwema, 2006; Tsai & Ghoshal, 1998). Thus, better agreements are more likely to be achieved, and negotiators show higher satisfaction and stronger intention for future interaction (De Dreu et al., 2006; Lewicki et al., 2007; Lewicki & Polin, 2013; Kong et al., 2014; Yao & Storme, 2021). On the other hand, it's important to recognize that trust involves inherent risks when misplaced (Schilke & Huang, 2018; Schweitzer, Ho, & Zhang, 2018; Yamahishi, 2011). This necessitates a judicious approach to trust, particularly in situations where a trust decision needs to be made within a brief time, but without sufficient prior knowledge about others' trustworthiness, such as in many negotiation contexts (Foddy, Platow, & Yamagishi, 2009; Crisp & Javenppa, 2013).

More importantly, the dyadic attributes of trust between two negotiators, whether trust is mutually shared or diverged, and the consequences of these varying states of dyadic trust have been largely overlooked (Tomlinson, Dineen, & Lewicki, 2009). Previous research usually adopts a unilateral view of trust, where one person's trust in the other is examined. This unilateral perspective has its virtue when the single negotiator is the focus of research, such as what Gunia, Brett, Nandkeolyar, and Kamdar (2011) studied in their analysis of the relationship

between trust propensity and individual strategy. However, if dyadic outcomes are appraised, simply *averaging* individual trust to represent dyadic trust becomes problematic since trust is not always mutually shared or evenly distributed within the dyad (Brower, Lester, Korsgaard, & Dineen, 2009; Dass & Kumar, 2011; Korsgaard, Brower, & Lester, 2015). As suggested by Ferrin, Bligh, and Kohles (2008), *'it takes two to tangle.'* When examining the interdependent and dyadic nature of trust, the critical issue of the trust dilemma in negotiation will not just be a matter of “trust or not” more importantly, it should also be underscored as a question of “shared or not.” To address this concern, as well as to respond to the calling for more research on dyadic states of trust (Korsgaard et al., 2014; Tomlinson et al., 2009), this dissertation will focus on dyadic trust states (congruence vs. asymmetry) and examine how they affect negotiation outcome at both dyadic and individual levels.

### **A Dyadic Perspective**

A dyadic state of trust is “an emergent property of the dyad representing the pattern of trust between two parties,” and it could be either congruent/mutual or incongruent/asymmetric (Korsgaard et al., 2015: 48). Specifically, *mutual/congruent trust* refers to the attribute of dyads where two parties trust each other at a similar level (Korsgaard et al., 2015). When trust converges at a higher level, both individuals in the dyad are willing to share critical information, take each other’s perspectives, and work collectively toward an outcome that maximizes dyadic interests. This sharedness at a higher level of trust is usually *assumed* in previous research on trust in negotiation, where the mean value of two individual’s trust is used to represent dyadic trust (e.g., Fang, Palmatier, Scheer, & Li, 2008; Przybylski & Weinstein, 2013). However, direct evidence regarding mutual trust using a dyadic perspective is still lacking (for an exception, see

Carter et al., 2015). In contrast with mutual trust, where two negotiators trust each other at an equivalent level, asymmetric or incongruent trust is a dispersion-based emergent state where two actors have various levels of trust in each other (Korsgaard et al., 2015; Tomlinson et al., 2009). Theoretically, asymmetric trust is undesirable for a relationship. As proposed in Heider's theory of balance (2013), people have a preference for consistency and balance in their relationships and perceptions. When trust is asymmetric, which indicates imbalance within the relationship, people will feel uncomfortable about the situation. Under such circumstances, negotiators will take longer time to achieve a shared understanding and will be less likely to maximize dyadic gains or develop high evaluation of the negotiation (Tomlinson et al., 2009). The benefit of unilateral high trust might be neutralized if the other actor shows a lower level of trust. Despite theoretical discussions, this attribute of dyadic trust as asymmetric has been overlooked in current literature until some recent research on team-level trust dispersion (e.g., de Jong et al., 2012; de Jong, Gillespie, Williamson, & Gill, 2021).

Given the theoretical relevance but limited empirical evidence on dyadic trust states, this dissertation will investigate whether and how different states of dyadic trust affect the process and outcomes of negotiations. Based on theories of social balance, social exchange, and trust asymmetry (Blau, 1964; Cropanzano, Anthony, & Daniels, 2017; Heider, 2013; Tomlinson et al., 2009), I propose that negotiation dyads will achieve better negotiation outcomes when their trust in each other is aligned rather than divergent: congruent trust will be positively related with the dyad's subjective evaluation of the negotiation, whereas asymmetric trust will be negatively related to this outcome. Furthermore, I propose two types of negotiation behaviors (i.e., integrative and distributive behaviors) as the mediators of the relationship between dyadic trust states and subjective evaluation of the negotiation. In addition, within dyads with incongruent

levels of trust, the higher trustor will report lower subjective outcomes than the lower trustor. It needs to be noted that *trust asymmetry and congruence are viewed as two ends of the same continuum*: even though they represent two contrasting states of dyadic trust, they are interconnected and belong to the same range of possible combinations of individual trust in a relationship. The more congruent the dyadic state, the less asymmetric it is. When trust is perfectly congruent within the dyad, another dimension of the absolute level of trust is added, so the congruence at a higher level of trust will be differentiated from that at a lower level of trust. When trust is asymmetric, individual experience will be examined based on the difference between the higher and lower trustor. *Trust asymmetry/incongruence and mutual/shared/congruent trust will be used interchangeably to describe the two attributes of dyadic trust states.*

This dissertation is expected to contribute to current literature in the following ways. First, the primary research question I have been interested in since I began this endeavor is, despite their significance and relevance in dyadic interactions, there has been limited research on the dyadic states of trust, especially in the negotiation context (Korsgaard et al., 2014; Tomlinson et al., 2009). Employing a dyadic lens, this dissertation aims to examine the effects of both congruence and asymmetry in dyadic trust on negotiation process and outcomes. This exploration will enhance our comprehension of the trust dilemma inherent in negotiation dynamics by investigating why trust is sometimes beneficial for negotiation outcomes but sometimes not. Additionally, theoretical discussions on dyadic states of trust have identified important yet neglected attributes of trust in dyadic interactions (Korsgaard et al., 2014; Tomlinson et al., 2009), but there is limited empirical evidence testing this theory. Thus, this dissertation will bridge the gap in existing literature by empirically validating the trust

congruence theory as proposed by Korsgaard et al. (2014) and Tomlinson et al. (2009). Second, this dissertation responds to the growing call for more extensive research into the antecedents of trust in negotiation (Lu et al., 2017), by pinpointing power and reputation as key precursors to interpersonal trust in the context of negotiation. Third, this dissertation is expected to contribute to the literature on trust development by examining the change of dyadic trust states overtime under both congruent and asymmetric conditions. Lastly, this dissertation has valuable practical implications, and it reminds practitioners that they not only need to ‘trust but verify’ in negotiation settings but also need to achieve a mutual understanding by bringing both to ‘the same page.’ Remaining adaptive and sensitive to the counterpart’s verbal and nonverbal cues in the interaction can help negotiators better navigate the complexities and dynamics of negotiation processes. To conclude, this dissertation aims to shed light on the critical role of trust in negotiation from a dyadic perspective. It is aimed to deepen our understanding of dyadic trust dynamics, and the findings of this dissertation are expected to guide individuals and organizations in effectively managing and leveraging trust to enhance their negotiation outcomes and foster stronger, more collaborative relationships.

In the following sections of this dissertation, a literature review will be conducted in Chapter 2, assessing the existing body of research that intersects the domains of trust and negotiation. This will set the stage for the introduction of the research model and development of theoretical propositions in Chapter 3. After this, Study 1, a preliminary investigation, will be introduced in Chapter 4. This first study is designed to evaluate the proposed research design and procedures on a smaller scale. Building upon the insights and outcomes of Study 1, Study 2 will be presented in Chapter 5, featuring an enhanced research design and an expanded sample size, which is aimed at providing a more comprehensive testing ground for the research model. Lastly,

this dissertation will conclude with a thorough discussion of the findings in both studies, followed by an acknowledgement of limitations and description of contributions of this research.

## **Chapter Two: Literature Review**

In this chapter, different conceptualizations of trust will be reviewed, followed by the dyadic states of trust and the role of trust in negotiation. By thoroughly examining the existing literature, this section aims to highlight underexplored areas in the research on trust in negotiation, and to build the theoretical foundation for developing hypotheses and assessing the proposed research model.

### **Conceptualization of Trust**

Trust has been defined in several ways in previous literature. Specifically, Mayer et al. (1995) define trust as the willingness to be vulnerable to another party based on one's trust propensity and others' trustworthiness despite the ability to monitor or control. McAllister (1995) defines trust as "the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another" (p.25). Similarly, Rousseau et al. (1998) define trust as "a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another" (Rousseau et al., 1998: 395). In review of multiple definitions proposed above, three critical determinants of trust could be extracted: trustor's general *trust propensity*; trustor's *willingness to take interpersonal risk*; and *trustee's trustworthiness*. Key domains of current trust conceptualizations are depicted in Figure 1.

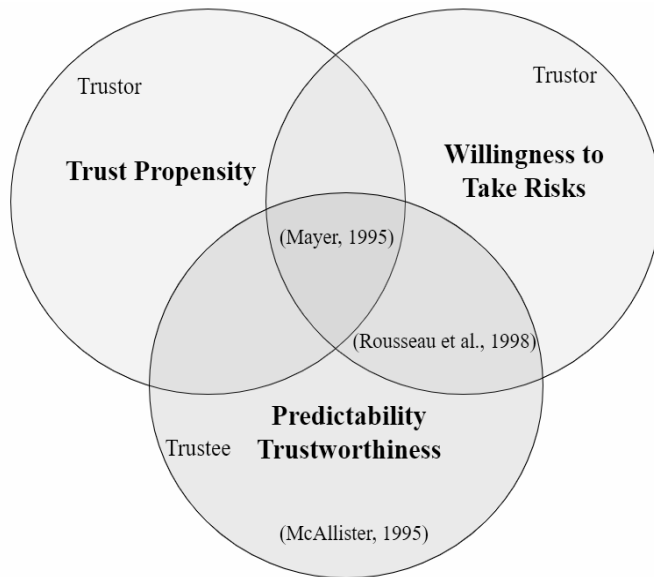


Figure 1. Conceptualizations of Trust

As shown in Figure 1, *trust propensity*, *the willingness to take interpersonal risks* (of the *trustor*), and *trustworthiness* (of the *trustee*) are three major components of trust (Colquitt, Scott, & LePine, 2007; Mayer et al., 1995). In particular, *trust propensity* is a general tendency to trust others (Mayer et al., 1995; Sorrentino, Holmes, Hanna, & Sharp, 1995). Some researchers view trust propensity more as dispositional, proposing that it is closely related to one's personality and personal experience (Kee & Knox, 1970; Rotter, 1967), while some other scholars take trust propensity as situational, that it could be affected by contextual factors such as culture norms and situational strength (Gill, Boies, Finegan, & McNally, 2005; Gunia, Brett, Nandkeolyar, & Kamdar, 2011).

*Trustworthiness* describes the trustee's characteristics in benevolence, integrity, and ability (Mayer et al., 1995). To be specific, *benevolence* is the extent to which people will take others' benefit into consideration, irrespective of self-interest. *Integrity* refers to one's attitude toward justice and consistency between words and behaviors. *Ability* is about competence and

capability to complete tasks in specific domains (Mayer et al., 1995). Usually, trustworthiness has been viewed as a valuable personal resource since it is closely related to one's reputation and is one of the most crucial factors to consider when people make trust decisions (Costa & Anderson, 2013; Kim, Dirks, & Cooper, 2009).

One's *willingness to take interpersonal risks* is more related to one's trusting behaviors. It refers to an individual's readiness to become vulnerable to the actions of another person, based on the expectation that the other will perform a beneficial action, even when the ability to monitor or control that other person is limited. This willingness is a crucial aspect of trust, especially in relationships where there is uncertainty or a lack of complete information about the other party's intentions or behaviors (Rousseau et al., 1998). Additionally, it needs to be noted that contextual factors are not included in this figure of trust conceptualization, but they will affect how the three key elements determine one's decision to trust (Shapiro, Sheppard, & Cheraskin, 1992). For example, Fine and Holyfield (1996) suggest that organization norms and socialization within an organization will reinforce one's trust expectations and one's trustworthiness. Cultural and social norms are also found to affect and shape people's general belief toward trust (e.g., Yamagishi & Yamagishi, 1994; Yao & Brett, 2021).

Based on the different antecedents and characteristics of trust, scholars have further categorized trust into several types. To start with, McAllister (1995) proposed that trust could be either *affective* or *cognitive*, depending on whether trust is placed due to emotional attachment or careful evaluations of others' trustworthiness. Specifically, *affect-based trust* is developed when people build emotional bonds through expressions of genuine care and concern for each other. It emphasizes empathy, affiliation, and rapport based on shared values (McAllister, 1995). For example, Karakowsky and colleagues' research (2020) suggests that leaders who show humor in

the workplace are more likely to gain affective trust since they are more likely to be viewed as benevolent by their followers. In contrast, *cognition-based trust* refers to trust decisions made from ‘good reasons’ including positive evaluations of others’ competence, responsibility, and reliability (McAllister, 1995). According to McAllister (1995), the two types of trust, although different, could coexist, and affect-based trust within organizations is usually developed based on the existence of cognitive trust.

Concurrently, Lewicki and Bunker (1995) proposed three types of trust: *calculus-based*, *knowledge-based*, and *identification-based trust*. Specifically, *calculative trust* arises from a rational assessment of the potential rewards of trust and risks associated with trust violation (Lewicki et al., 2006). This form of trust facilitates collaboration between two economic entities within certain boundaries, such as those set by a formal contract. The nature of this type of trust is an economic motive in weighing the pros and cons (Williamson, 1993). It tends to emerge more readily in situations of repeated interactions, where good reputations (i.e., trustworthiness) will be ‘held hostage’ by others, and people won’t risk violating trust (Ross & Lacroix, 1996). *Knowledge-based trust* aligns closely with McAllister’s cognitive trust, as they are both rooted in a rational evaluation of others’ predictability and accountability. This type of trust emerges when people have a knowledge of other’s trustworthiness or previous experience of interactions. Lastly, *identification-based trust* represents an advanced form of affect-based trust, since it involves a shared identity that stems from the emotional commitment inherent in affective-based trust. The development of identification-based trust takes the longest time, as it involves fully internalizing mutual values that stem from a deep-level comprehension of each other’s intentions attained from a prolonged period of interaction (Lewicki & Bunker, 1995).

Other typologies of types of trust have also been mentioned in previous research, such as deterrence-based trust (Shapiro et al., 1992) and irrational trust (Weber, Malhotra & Murnighan, 2004; Weber & Murnighan, 2008). These will not be reviewed in detail since some of them share similar assumptions with the two categorization models (such as deterrence-based vs. calculus trust, see Kramer & Tyler, 1995 for a review), and some of them have too few discussions in the current literature to be categorized, such as irrational trust, where people consistently trust and contribute despite how they are treated during the interaction (Weber et al., 2004; Weber & Murnighan, 2008 ).

### **Dyadic States of Trust**

Moving the discussion to the dyadic level, the dyadic state of trust refers to “an emergent property of the dyad representing the pattern of trust between two parties” (Korsgaard et al., 2015:48), and it could be reciprocal, mutual, or asymmetric. First, *reciprocal trust* is the most discussed in the literature on trust development, where trust grows with repeated interactions and escalated commitment of reciprocity (Juvina, Saleem, Martin, Gonzalez, & Lebiere, 2013). For instance, Ferrin et al. (2008) suggest that trust develops in an upward spiral and self-reinforcing manner until congruence at a high level of trust within the dyad is formed. Given that reciprocal trust is more about the dynamic process of trust development over a longer period that usually involves repeated interactions, it will be out of the scope of this dissertation.

This dissertation will focus on the other two states of dyadic trust, i.e., *mutual* and *asymmetric* trust. Whereas a reciprocal state describes the dynamic process of trust development, *mutual trust* refers to a relatively stable state of dyadic trust where two parties trust each other at a similar level (Korsgaard et al., 2015). Mutual trust can range from mutually low to mutually

high and previous literature has identified several contextual factors that contribute to mutual trust. For example, Kramer (1999) and Weibel (2010) highlight the role of norms and rules specific to a particular situation in shaping dyadic trust states. Similarly, McKnight, Cummings, and Chervany (1998) point to the impact of formal agreements such as contracts or regulations, which function as conditions that foster mutual trust. Furthermore, Mishra and Mishra (1994) emphasize the significance of a shared organizational context in facilitating trust congruence within the organization. According to Tomlinson et al. (2009), mutual trust benefits interactions through an enhanced similarity in behavior patterns and information exchange and is believed to result in better joint outcomes in negotiations by fostering collaborative behaviors. There is an empirical study conducted by Carter and Mossholder (2015) suggesting that mutual trust can significantly improve team performance by enhancing working motivation. However, empirical investigations into this specific aspect of dyadic trust remain scarce beyond this study. This gap highlights an opportunity for further exploration and understanding of how mutual trust influences various dimensions of interpersonal interactions, especially in the context of negotiation.

Unlike mutual or reciprocal trust, where a congruent level of trust is or will be developed, asymmetric/incongruent trust is a dispersion-based emergent state of a dyad where two actors have various levels of trust in each other (Korsgaard et al., 2015; Tomlinson et al., 2009). Theoretical research suggests that asymmetric trust is dysfunctional for the interaction since it might cause misunderstandings within the dyad due to the lack of a shared mental model (Tomlinson et al., 2009). Additionally, perceptions of a psychological contract breach could arise when trust is incongruent, where one or both parties feel that implicit or explicit relational promises have been violated (Zhao, Wayne, Glibkowski, & Bravo, 2007). Furthermore,

asymmetric trust can result in irrational risk-taking behaviors, where trust incongruence leads to decisions that are not optimally calibrated to the actual level of risk involved (Weber et al., 2004). Despite a few empirical studies identifying trust incongruence as disruptive in workplace settings (e.g., Carter & Mossholder, 2015; de Jong et al., 2012; 2020), our understanding of how trust asymmetry impacts interactions, particularly in negotiation contexts, is still quite restricted due to a lack of empirical research. This gap highlights the need for further research to explore this state of dyadic trust in affecting negotiation process and outcomes. It needs to be noted that, even though trust congruence and trust asymmetry are two distinct constructs representing two different states of dyadic trust, they are viewed as two ends of the same continuum in this research. The discussion of dyadic states is expected to generate a better and deeper understanding of trust in dyadic interactions by examining the relative discrepancy between two individual's trust in each other on top of the absolute level of trust. Table 1 provides a quick glance at the most discussed types of trust at both individual and dyadic levels.

Table 1. Different Types of Trust

		Definition	Antecedents
<b>Individual Level</b>	Calculus Trust	Trust decision that is made from economic motive (Lewicki & Bunker, 1995): cost of trust violation is too high.	<ul style="list-style-type: none"> <li>● Repeated interaction (Lewicki &amp; Polin, 2003).</li> <li>● Binding contract (Malhotra &amp; Murnighan, 2002).</li> </ul>
	Cognitive/Knowledge-based Trust	Trust decision that is made from evaluation of others' predictability and ability (McAllister 1995).	<ul style="list-style-type: none"> <li>● Perceived trustworthiness (Mayer et al., 1995).</li> <li>● Reputation (SimanTov-Naclieli et al., 2020).</li> </ul>
	Affect-based Trust	Trust developed out of an emotional bond (McAllister, 1995).	<ul style="list-style-type: none"> <li>● Positive affect (Olekalns &amp; Smith, 2005).</li> <li>● Personal liking (Nicholson et al., 2001).</li> </ul>
	Identification-based Trust	Trust developed based on fully internalization of shared values (Lewicki & Bunker, 1995).	<ul style="list-style-type: none"> <li>● Common goals (Lewicki &amp; Wiethoff, 2000).</li> <li>● Shared orientation (Seijts, de Clercy, &amp; Miller, 2022).</li> </ul>
<b>Dyadic Level</b>	Reciprocal Trust	A dynamic process during trust development, which describes the escalating trust between two actors based on reciprocity (Juvina et al., 2013).	<ul style="list-style-type: none"> <li>● Trust propensity (Yakovleva et al., 2010).</li> <li>● Obligation to reciprocate (Ferrin et al., 2008).</li> </ul>
	Mutual Trust	A static state of trust where two parties share a perception about how much they trust each other (Sable, 1999; Korsgaard et al., 2015).	<ul style="list-style-type: none"> <li>● Shared norms (Kramer, 1999).</li> <li>● Shared contexts (Mishra &amp; Mishra, 1994).</li> </ul>
	Asymmetric Trust	A static state of trust where two parties diverge in how much they trust each other (Korsgaard et al., 2015; Tomlinson et al., 2009).	<ul style="list-style-type: none"> <li>● Culture diversity (de Jong et al., 2021).</li> </ul>

## Trust in Negotiation

Before delving into the role of trust in the negotiation context, I will first introduce different types of negotiation and specify which type will be the focus of this dissertation. To begin with, Deutsch (1949) classified negotiations into three types, each characterized by

differing levels of interdependence and alignment of interest among the negotiators: *competitive negotiations* feature a divergence in the interests of the negotiators, where the goals of one party are typically in opposition to those of the other, leading to a zero-sum dynamic. In contrast, *cooperative negotiations* are characterized by a mutual interdependence of negotiators, where the full maximization of interests for each party is contingent upon collaboration and joint effort. The third type, known as *mixed-motive negotiations*, represents a complex interplay of both integrative and competitive motivations. In this scenario, negotiators possess elements of cooperative intent to achieve shared gains, while simultaneously sharing competitive motivations to optimize individual outcomes.

Within the triad of negotiation types, trust has been viewed as most crucial in mixed-motive negotiations. In such scenarios, negotiators are not only dependent on each other for mutual gains, but also face inherent uncertainties concerning their counterpart's intentions and motives (Ferrin & Dirks, 2003). Therefore, negotiators need to engage in both the creation and appropriation of value, which involve both integrative behaviors, aimed at expanding the total value ('enlarging the pie'), and distributive behaviors, focused on dividing the value ('claiming the pie') (Lax & Sebenius, 1986). The coexistence of dependency and uncertainty elevates the role of trust as a critical element for success in mixed-motive negotiation.

Previous research conceptualizes trust in negotiations using different perspectives. For example, some describe trust as a stable *disposition trait*, also known as *generalized trust*, and propose that negotiators with a higher trust propensity will perceive others as more trustworthy, and thus are more likely to be cooperative during negotiations (Rotter, 1967; Parks, Henager, & Scamohorn, 1996; Uslaner, 2012). Researchers following this perspective contend that

dispositional trust will bring in more trusting behaviors during the negotiation, and people will actively seek information to reinforce their initial perception of trust (Bazerman, 1994).

Conversely, other researchers view trust in negotiation as a *temporary state* that is shaped by the context (Ross & Lacroix, 1996). This perspective posits that trust is a fluid state, responsive to the specific circumstances and interactions within the negotiation environment. For instance, some research suggests that negotiators' trusting behaviors are determined by the partners' predictability, cooperation orientation, and self-serving behaviors (Kee, 1969; Kee & Knox, 1970; Lewicki, Litterer, Minton, & Saunders, 1994), rather than individual dispositional traits. In this dissertation, I will view trust as temporal and contextual based on the empirical evidence indicating that trust can be influenced by situational factors and contextual norms (Lu et al., 2017). Additionally, trust evolves and changes rather than remains static over time (Juvina et al., 2013), which further underscores the nature of trust as an emergent state in an interactive scenario.

*Antecedents of Trust in Negotiation.* In the context of negotiation, trust decisions are usually made in a short time without adequate information about others (usually known as *swift trust*) (Foddy, Platow, & Yamagishi, 2009). Some research suggests trust will beget trust (Conger & Kanungo, 1988; Lau et al., 2014; Spreitzer, 1995). However, other studies indicate that trust in negotiation is not always reciprocated by trust in return, but rather by transgressions or exploitations when it is misplaced (Goel, Bell, & Pierce, 2005; Tomlinson et al., 2009). Given the limited resources available to make trust decisions, coupled with the potential risk associated with mistrust, negotiators need to be cautious about their decision to trust (Schweitzer, Ho, & Zhang, 2018; Yamagishi, 2011).

When making trust decisions, Ross and Lacroix (1996) suggest that both dispositional and contextual factors should be considered. Dispositional factors include one's personality traits, trust propensity, or social/egoistic motives. For example, research has shown that people with social motives are more likely to trust others since they tend to care more about the collective welfare. In contrast, people with egoistic motives are less likely to trust since they usually have a win-lose mindset and tend to be more defensive and hostile toward others' intentions (De Dreu, Koole, & Steinel, 2000; De Dreu et al., 2000). For contextual factors, research has shown that people are more likely to trust their counterparts from a culture with higher societal trust (Yao & Brett, 2021). Cultural background and national tendency for uncertainty avoidance have also been viewed as an important indicator of trust in negotiations (Kong, 2013). In intergroup contexts, people are more likely to trust members from another group if they believe the implications of different membership (such as race or ethnicity) changes over time across different scenarios, while people are less likely to trust an out-group member if they believe the categorization of different groups of people is meaningful and fixed (Kung, Chao, Yao, Adair, Fu, & Tasa, 2018).

Integrating scattered research findings, Lu et al.'s review paper (2017) suggests that antecedents of trust in negotiations could be found in both individual and contextual aspects. To begin with, individual attributes, including positive affect, prosocial motive, and power could be key determinants of individual trust in negotiation. For instance, negotiators with positive affect are more likely to trust than those who have negative affect (Boone & Buck, 2003; Dunn & Schweitzer, 2000). Todorov et al. (2008) found that people can make implicit trustworthiness judgments simply by looking at people's faces. In addition, contextual attributes, such as communication medium, national culture, and pre-negotiation interaction, are also crucial

determinants of trust. For example, negotiation dyads who communicate face-to-face are more likely to develop trust. And having a small talk before negotiation is expected to build trust via expressions of affection and reliability (Bottom et al., 2006; Morris, Nadler, Kurtzberg, & Thompson, 2002). Lu and her colleagues (2017) concluded their review paper suggesting that heterogeneous conceptualization of trust is a concern since research using various definitions of trust could not speak to or inform each other (Lu et al., 2017). Therefore, more research is still needed to identify determinants of trust in negotiation, especially with a clearly defined conceptualization of trust (Kong et al., 2014; 2017).

*Outcomes of Trust in Negotiation.* According to Thompson (1990), negotiation outcomes could be measured by either *economic* or *social-psychological* indicators. *Economic indicators* of a successful negotiation include: 1) achievement of a mutual agreement, which suggests that both negotiators are better off than what they could have gained from alternative options; and 2) creation of additional value for both the self and the dyad, usually referred to as individual and joint outcome. When two negotiators trust each other, there is a greater likelihood of an achieved agreement and increased joint value (e.g., De Dreu et al., 2000). The positive impact of trust on economic negotiation outcome is usually transmitted by negotiation behaviors including *integrative* and *distributive* behaviors. When people trust, they are more likely to engage in *integrative behaviors* during negotiation to create more value for both, such as open communication and active information sharing (Lewicki & Stevenson, 1997). Meanwhile, people who trust are less likely to engage in *distributive behaviors* aimed at claiming value, such as withholding information, making aggressive offers, or even hard bargaining (Weingart, Olekalns, & Smith, 2004).

When economic outcomes are infeasible to measure or of less relevance, researchers can turn to *social-psychological outcomes*, i.e., subjective evaluation of the negotiation, to make inferences about the interaction (Thompson, 1990). This subjective measure will evaluate people’s satisfaction about the negotiation in terms of the counterpart, the process, and the outcome (Curhan, Elfenbein, & Xu, 2006). Research has shown that negotiators are more likely to take others’ perspective when they trust the counterpart (Galinsky, Maddux, Gilin, & White, 2008), thus being more likely to cooperate to ensure an effective process of negotiation as well as a satisfying outcome for both. The review paper by Kong et al. (2014) also suggests that people will feel more satisfied with the negotiation when trust is present. The current literature on trust in negotiation is summarized in Figure 2. However, note that *the focus of the literature reviewed here is on unilateral or individual trust, and there is still a lot that remains unknown regarding antecedents and impacts of dyadic trust states.*

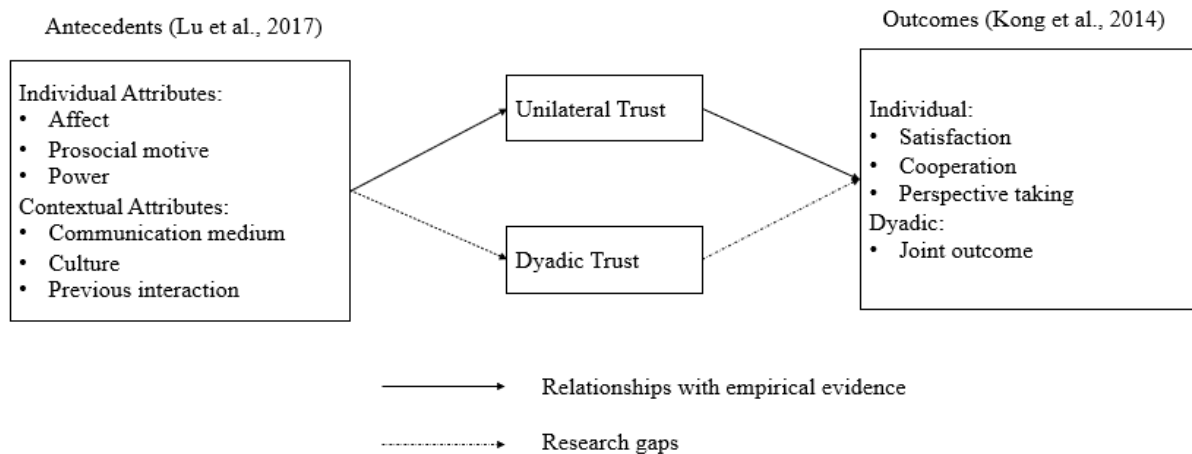


Figure 2. Current Literature on Trust in Negotiation

## Research Directions

Based on the review of the literature on trust in negotiation presented above, some research directions can be identified. First, most of the research on trust has used a compositional model when operationalizing dyadic trust (Klein & Kozlowski, 2000), with which dyadic trust is usually represented by the average score of individual trust levels, under the assumption that there is even distribution and a shared sense of trust within the negotiation dyad. This assumed homogenization is problematic since negotiators don't usually have the same level of trust in each other, especially when they have limited interactions before the negotiation. The states of dyadic trust cannot be fully understood or predicted solely by examining the trust disposition of each individual separately. Instead, dyadic trust is a complex, relational construct that embodies configurations and variations that are unique to each dyadic interaction. Together with the proposition of various states of dyadic trust (Korsgaard et al. 2015), it is necessary to apply a dyadic perspective using a configuration model, which accounts for variations of dyadic trust states, to better understand the role of trust in negotiations.

Moreover, social exchange theory has been widely used to support the favorable role of trust in negotiation (Blau, 1964). This theory views social interactions as exchanges of both tangible and intangible resources, and individuals have some obligation to reciprocate after they receive favors from others (Blau, 1964). Research drawing on this theory contends that trust will generate satisfying outcomes since it will be reciprocated with favorable behaviors from the other counterpart, such as cooperation, compromise, or information sharing (e.g., Brower, Lester, Korsgaard, & Dineen, 2009; Paillé, Bourdeau, & Galois, 2010). In the meta-analytic review conducted by Kong et al. (2014), it is found that trust will be reciprocated with more integrative

and less distributive behaviors, which not only reinforces trust per se but also leads to better individual and joint outcomes.

Social exchange theory has its merit when individuals follow the rule of reciprocity during interaction. However, there are cases where people deviate from the principle of social exchange that has been neglected in past research. For instance, there are scenarios where people don't acknowledge or reciprocate trusting behaviors (e.g., Goel, Bell, & Pierce, 2005). There are also irrational trustors who consistently contribute to the relationship despite the absence of reciprocal efforts from their counterpart (e.g., Weber et al., 2004). Given this, it is necessary to identify some boundary conditions of social exchange theory in accounting for the benefit of trust in negotiation.

To sum up, when elevating the discussion of trust in negotiation to a dyadic level, the benefit of trust is not likely to be achieved by a single person's effort but will only be achieved when trust is shared and acknowledged within the dyad. Likewise, the risk entailed by trust is neither trust itself, but the uncertainty relating to the dyadic states: whether trust will be mutually shared, or it is simply one person's wishful thinking. Given the under-explored role of dyadic trust states in negotiation, this dissertation is aimed to fill the gap and investigate how dyadic trust states (congruence vs. asymmetry) affect negotiation<sup>1</sup> using a bilateral perspective.

As we turn the page from the literature review that has shaped the background of this dissertation, the subsequent chapter will outline the research model and hypotheses formulated upon the established theories and previous empirical findings.

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<sup>1</sup> Since reciprocal trust, the third dyadic states as proposed by Korsgaard et al. (2015), is more about a dynamic process involved in trust development, it will be out of the main scope of this research.

## Chapter Three: Hypotheses Development

### Negotiation Outcomes

“Negotiation outcome is the product of the bargaining situation” (Thompson, 1990). As reviewed in the previous section, negotiation outcomes could be either *economic* or *social-psychological*. *Economic outcomes* include: 1) the attainment of a mutual agreement, and 2) the generation of additional value for the self (i.e., individual outcome) and for the collective (i.e., joint outcome). In most cases, joint value is created by integrative behaviors that are aimed to ‘enlarge the pie’ and it is usually operationalized as the sum of individual gain. Economic outcomes are usually discussed in normative models of negotiation where people are assumed to be rational, and the *pareto optimal* concept is often used as an indicator of efficiency where both negotiators are better off than what they could have gained from alternative options (Cross, 1965; Nash, 1950). Economic outcomes are direct and objective indicators of negotiation success. However, in most real-world cases, economic outcomes are challenging to measure since 1) people’s best alternatives are usually confidential; 2) it is infeasible to compare individual and joint gains among different options; 3) people don’t always follow rational procedures that the normative models prescribe; and 4) cognitive biases will interfere with people’s judgments during and after negotiation (Bazerman et al., 2000).

Therefore, *social-psychological outcomes*, i.e., subjective evaluation of the negotiation, becomes an important indicator of negotiation effectiveness (Thompson, 1990), especially when social factors (such as emotion and motivational orientation as either cooperative or competitive) are incorporated into the scenario of negotiation. Research has shown that social-psychological outcomes are closely related to economic outcomes (Becker & Curhan, 2018), and they can

effectively predict long-term relationship satisfaction (e.g., Curhan, Elfenbein, & Kilduff, 2009). Given the relevance of social-psychological outcomes in negotiation research, I consider subjective value as the focal outcome in this proposed research. Specifically, Curhan and colleagues (2006) defined and validated the construct of subjective value as “social, perceptual, and emotional outcome of the negotiation” (p.494). According to Curhan et al. (2006), subjective values include feelings about the negotiation outcome, the negotiation process, and the relationship with the partner. A high subjective value should indicate high satisfaction about the outcome (i.e., agreement achieved at the end of the negotiation), the process (i.e., the process of negotiating and communicating), and the relationship (i.e., the negotiation partner). Despite the multiple sub-domains of subjective value, past research has suggested high reliability and validity of the subjective value as a single construct (e.g., Becker & Curhan, 2018; Curhan et al., 2006). Following Becker and Curhan (2018), I will focus on the overarching subjective value and investigate how dyadic trust states affect the social-psychological outcome of negotiation.

## **The Impact of Dyadic Trust on Negotiation Outcomes**

### ***Congruence Effect***

Dyadic trust represents a bidirectional calibration of trust wherein A’s confidence in B is reciprocally influenced by B’s trust in A. (Tomlinson et al., 2009). According to the theory of social balance (Heider, 2013), individuals innately prefer consistency and equilibrium in their interpersonal affiliations, and better outcomes will be achieved when there is balance and consistency within the interaction. Empirically, the research conducted by Maddux, Mullen, and Galinsky (2008) elucidates how congruent behavioral patterns, particularly through the mechanism of behavioral mimicry, engender a heightened sense of similarity and mutual

understanding within negotiating dyads. This convergence of behaviors fosters shared understandings and consequently brings in better negotiation outcomes for the dyad. Furthermore, having a shared understanding of interaction norms and expectations is often considered as desirable since it mitigates interpersonal ambiguity and facilitates the optimal utilization of social exchanges, thereby enhancing dyadic effectiveness (Marks, Zaccaro & Matthieu, 2000). Therefore, I hypothesize that negotiation dyads will have better subjective outcomes when trust is congruent within the dyad.

Among dyads with congruent trust, I further hypothesize that those with congruent trust at a higher level will have higher satisfaction about the negotiation than those with a congruent but lower level of trust. This is in line with Lewicki, Tomlinson, and Gillespie (2006), who suggest that an elevated mutual level of trust enhances the exchange of resources within the dyad and bolsters one's commitment to the relationship. Furthermore, Kong et al.' (2013) in their comprehensive meta-review on trust in negotiation, also indicates that higher level of trust leads to better outcomes in the negotiation. When trust in each other converges at a lower level, however, low trust in each other might precipitate withholding of critical information and a reduction in collaborative problem-solving efforts (Schul, Mayo, & Burnstein, 2004; Tinsley, O'Connor, & Sullivan, 2002). For ongoing of future interactions, negotiators who share low trust in each other might be less inclined to cultivate long-term relationships. Therefore, lower trust levels can create barriers to effective information exchange and hinder the ability to reach mutually beneficial agreements, thereby negatively impacting negotiation outcomes. Taken together, I propose the following hypotheses related to the *congruence effect* of dyadic trust on negotiation:

H1a: Dyadic trust congruence is positively related with dyadic subjective value: the more trust exhibits convergence between two negotiators, the more subjective value they will perceive from the negotiation (congruence effect).

H1b: The dyadic subjective value will be higher when dyadic trust converges at a higher rather than a lower level of trust.

### ***Incongruence Effect***

When trust is asymmetric/incongruent between two negotiators, trusting behaviors initiated by the higher trustor are likely to be overlooked, misunderstood, or even manipulated by the lower trustor (Brower et al., 2008; Tomlinson et al., 2008). As such, the benefit of unilateral trust might be neutralized since the relational balance is breached and there is increased uncertainty about the counterpart's intention. Based on the social balance theory (Heider, 2013), when there is an imbalance in a relationship, people will develop psychological discomfort and will take action to restore balance. Therefore, when the expected trust at a congruent level is not present, individuals are likely to find it frustrating and then adjust their behaviors accordingly (Call & Korsgaard, 2013). Moreover, individuals generally seek a shared understanding of the context they are embedded in (Echerhoff et al., 2009; 2013). When trust is incongruent within the dyad, relational uncertainty increases (de Jong et al., 2021), which is likely to reduce relationship satisfaction. Supporting these arguments, an unpublished study by Oesch et al. (2001) found that negotiation dyads with incongruent levels of trust achieved worse outcomes than those with shared high level of trust. Therefore, I hypothesize that dyadic incongruent trust will be negatively related to subjective negotiation outcome.

Zooming in on dyads with asymmetric trust, the higher and the lower trustor might develop different evaluations of the interaction. According to the social balance theory (Heider, 2013), individuals will experience psychological discomfort when their trust in each other is unequal. For the higher trustor (who receives lower trust from the counterpart), they may feel frustration, resentment, or a sense of being undervalued. The perception of asymmetry might be viewed as a breach of psychological contract, leading to negative emotions and negative evaluations of the relationship due to a perception of unfairness. For the lower trustor (who receive higher trust from their partner), the imbalance in the relationship might also be uncomfortable, but the discomfort might be weakened by a sense of complacency and the better outcomes they might receive from the negotiation. Therefore, besides the overall lower subjective value than those in a relationship with congruence and balance in trust, the individual who invests more trust in the relationship might have lower satisfaction than the individual who invests less trusts within a dyad of asymmetric trust. Taken together, I propose the following hypotheses about the *incongruence effect* of trust:

H2a: Dyadic trust incongruence is negatively related with dyadic subjective value: the more trust exhibits divergence between two negotiators, the less subjective value they will perceive from the negotiation (incongruence effect).

H2b: The higher trustor in a dyad with asymmetric trust will have lower subjective value than the lower trustor.

### **Mediating Role of Negotiation Behaviors**

Negotiation behaviors could be categorized into integrative and distributive behaviors (Lax & Sebenius, 1986). Specifically, integrative behaviors are those aiming at “enlarging the

pie” through cooperation and information exchange, whereas distributive behaviors are those aiming at “slicing the pie” by making counteroffers, withholding information, and refusing to make concessions (Weingart, Olekalns, & Smith, 2004). According to the meta-review by Kong et al. (2013), the relationship between individual-level trust and favorable negotiation outcomes is mediated by increased integrative behaviors and reduced distributive behaviors.

In one of the recent studies on trust dispersion, de Jong and colleagues (2020) propose trust consensus as an emerging state within team dynamics. They contend that this collective sense of trust can be felt and experienced by individuals, subsequently exerting a significant influence on their behaviors and interactions. When trust is shared at a higher level, both individuals will engage in more integrative behaviors, such as information sharing and compromising (Kong et al., 2013; Tomlinson et al., 2009), and such behaviors will further enhance dyadic subjective value (Oesch et al., 2001). When trust is asymmetric, however, people will take actions to restore the relationship balance by changing how they behave (Heider, 2013). In such cases, the individual with higher levels of trust (the higher trustor) is inclined to modify their strategy to correspond with their counterpart's lower level of trust. This adjustment might reduce their integrative behaviors, as the higher trustor becomes more cautious about personal risk-taking. Consequently, their mental model about the relationship might shift towards a more distributive mindset, emphasizing individual gains and ‘slicing the pie,’ and thus lower the overall satisfaction about the interaction.

Taken together, I propose that dyadic integrative and distributive behaviors will mediate the congruence and incongruence impact on subjective evaluations of the negotiation. The research model for this research is depicted in Figure 3. Table 2 summarizes all the hypotheses that are tested in this study.

Hypothesis 3a: The relationship between trust congruence and dyadic subjective value will be mediated by dyadic integrative behaviors: trust congruence will lead to better dyadic subjective outcomes by increasing dyadic integrative behaviors.

Hypothesis 3b: The relationship between trust congruence and dyadic subjective value will be mediated by dyadic distributive behaviors: trust congruence will lead to better dyadic subjective outcomes by decreasing dyadic distributive behaviors.

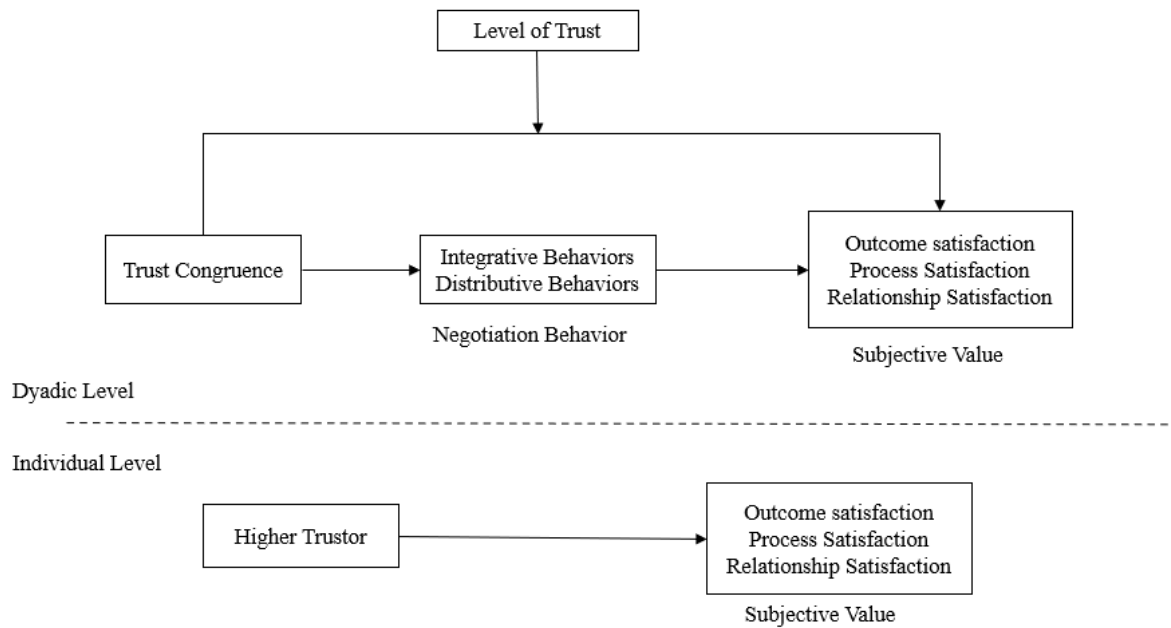


Figure 3. Research Model

Table 2. Summary of Hypotheses

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Hypotheses
H1a. Dyadic trust congruence is positively related with dyadic subjective value: the more trust exhibits convergence between two negotiators, the more subjective value they will perceive from the negotiation (congruence effect).
H1b. Dyadic subjective value will be higher when the dyad converges at a higher rather than a lower level of trust.
H2a. Dyadic trust asymmetry is negatively related with dyadic subjective value: the more trust exhibits divergence between two negotiators, the less subjective value they will perceive from the negotiation (incongruence effect).
H2b. The higher trustor in a dyad with asymmetric trust will have lower subjective values than the lower trustor.
H3a. The relationship between trust congruence and dyadic subjective value will be mediated by dyadic integrative behaviors: trust congruence will lead to better dyadic subjective outcomes by increasing dyadic integrative behaviors.
H3b. The relationship between trust congruence and dyadic subjective value will be mediated by dyadic distributive behaviors: trust congruence will lead to better dyadic subjective outcomes by decreasing dyadic distributive behaviors.

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In the following section, I will present the two studies conducted in this dissertation to empirically evaluate the proposed research model. Study 1 is conducted on a smaller scale to assess the research design and to validate the theoretical propositions. Building on the findings of Study 1, Study 2 is designed with an enhanced research design and a larger sample size. Even though not all hypotheses receive empirical support, both studies collectively generate consistent insights regarding the role of dyadic trust states in the context of negotiation.

## Chapter Four: Study 1

### Participants

Data in Study 1 was collected from a sample of 120 students (60 dyads) enrolled in an MBA negotiation course in a North American university. Participants had an average age of 28.5 and 42% of them had working experience of 4-6 years. In terms of sample composition, 43% of participants are female, and 35% have English as their first language. Among the 60 dyads, 42 dyads are mixed-gender dyads, 28 dyads speak different first languages, and the average age gap within the dyad is 4.5 years. Demographics at both individual and dyadic levels are reported in Tables 3 and 4.

Although the use of student samples in research is sometimes criticized for potential limitations in generalizability, Shadish and colleagues (2002) suggest that student samples can be comparable to real-world observations when the objective is to evaluate a theory. This aligns with the purpose of this research, which is to examine and test the theory of trust congruence. Moreover, participants in Study 1 were enrolled in an MBA program during the time of data collection. All of them have at least one year of working experience and have received systematic training in the negotiation course.

Table 3. Study 1: Demographics at Individual Level

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Individual Variables	N	%
<hr/>		
1. Gender		
Male	68	56.7
Female	52	43.4
2. Work Experience		
1-3	41	34.2
4-6	50	41.7
7-9	15	12.5
10-12	7	5.8
13 and above	7	5.8
4. First Language		
English	42	35
Non-English	78	65
5. Age		
22-29	80	66.7
30-39	34	29.1
40-47	3	2.5
Not reported	3	2.5

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N=120.

Table 4. Study 1: Demographics at Dyadic Level

Dyadic Variables		N	%
1.	Gender Composition		
	Mix gender	42	70
	All male	13	21.7
	All Female	5	8.3
2.	Age Difference		
	3 or below	29	48.3
	4-8	19	31.7
	9 or above	9	15
	Not reported	3	5
3.	Language		
	Same language	32	53.3
	Different language	28	46.7
4.	Trust Propensity		
	Similar (1 or below)	29	48.3
	Different (2 or above)	31	51.7

N=60.

### Study Procedure

Participants were randomly assigned to dyads to resolve a dispute between an owner running a carpentry business (Sandy) and the owner of Viking Investments (Pat). In the scenario, *The Viking Investment*, Sandy's company completed a carpentry project on a condo complex developed by Viking. However, due to some communication difficulties and misunderstandings, Sandy upgraded the fine carpentry for the good of Viking, but without Pat's acknowledgement.

Viking refused to pay the extra cost, which put Sandy's business at risk of bankruptcy. At the end of the scenario, the two parties agree to meet and negotiate ways to solve the dispute<sup>2</sup>.

Surveys were distributed at two time points. Students' demographics and individual attributes including trust propensity were collected at the beginning of the semester (Time 1). The course instructor randomly assigned individuals to dyads and announced the assignment one week before the negotiation exercise. Students had one week to get familiar with their assigned roles, related materials, and make plans for the upcoming negotiation. On the day of the class exercise, students were asked to fill out an online survey reporting their initial trust in their partners before they negotiated (Time 2). After they finished the exercise, they filled out another online survey recalling their level of trust, their partners' behaviors, and their subjective evaluation of the negotiation (Time 3).

## **Measures**

Surveys in this study all use a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Trust in one's counterpart and one's subjective evaluation of the negotiation are self-reported; integrative and distributive behaviors are partner-rated.

*Trust.* Participants rated trust in their partners by evaluating their partners' trustworthiness based on ability, benevolence, and integrity, using 3 selected items from each scale developed by Mayer et al. (1995). Items include "[NAME] has the ability to complete high-quality work." "[NAME] is fair and honest"; and "[NAME] will be concerned for my welfare". There are many ways to measure trust, and I used this scale because Colquitt et al. (2007) suggested that perceived trustworthiness is one of the most relevant indices of one's trust in the

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<sup>2</sup> More details about the exercise can be found in Appendix A.

other. Gunia et al.'s (2011) research also suggests that people will conceptualize trust as other's trustworthiness even with different cultural backgrounds. This scale has a reliability of 0.81 at Time 2 (before the negotiation) and 0.9 at Time 3 (after the negotiation).

*Negotiation Behaviors.* Two types of negotiation behaviors are measured in this study. The scale of *distributive behaviors* consists of 4 items, including 1) "In the negotiation, my counterpart issued warnings or used threats"; 2) "In the negotiation, my counterpart appeared forceful and assertive"; 3) "In the negotiation, my counterpart made strong arguments against my position"; and 4) "In the negotiation, my counterpart forced more on their own perspective than mine". The reliability of this scale is 0.71. When deleting the third item being "my counterpart made strong arguments against my position," reliability increased to 0.76. The result of factor analysis suggests that the 3-item scale could explain more variance (68%) than the 4-item scale (54.5%). Therefore, the 3-item scale of distributive behaviors is used in the following analyses.

The scale of *integrative behaviors* also consists of 4 items, including 1) "In the negotiation, my counterpart listened with an open mind"; 2) "In the negotiation, my counterpart was willing to share relevant information or data"; 3) "In the negotiation, my counterpart showed concern for my perspective"; and 4) "In the negotiation, my counterpart asked questions to understand my interests". The reliability  $\alpha$  for this scale is 0.88. To generate dyadic level negotiation behaviors, I calculated inter-rater reliability (ICC<sub>1</sub>; ICC<sub>2</sub>) and within group agreement index (rwg<sub>j</sub>). All these values exceed the thresholds as suggested by Bliese (2000). Therefore, mean values are used to represent these variables at the dyadic level.

*Negotiation Outcomes.* The Subjective Value Inventory (SVI) is used in this study to represent subjective negotiation outcomes (Curhan et al., 2006). The survey asks respondents

about their evaluation of the negotiation based on their feelings about the outcome, process, and relationship with their partners. *Outcome satisfaction* was measured using three items, including “I am satisfied with my own outcome.” “I am satisfied with the balance between my own outcome and my negotiation partner’s outcome”; and “I think the terms of the agreement are consistent with principles of legitimacy or objective criteria”. *Process satisfaction* was also measured using three items: “I feel like my counterpart listened to my concerns.” “I would characterize the negotiation process as fair”; “I am satisfied with the ease of reaching an agreement”. Three items were used to measure *relational satisfaction* with one of the items being: “The negotiation built a good foundation for a future relationship with my counterpart.” the other two being “The negotiation made me trust my negotiation partner” and “My counterpart made a positive ‘overall’ impression on me.” The reliability  $\alpha$  for the three scales is 0.92, 0.91, and 0.96, respectively. The factor analysis of these three outcome variables generates one component that explains 92% of the variance. Based on this, and to simplify the following analyses, I re-coded the three types of satisfaction into one dependent variable and labeled it as dyadic subjective value. Similarly, I calculated inter-rater reliability and within-group agreement index before averaging the individual score to represent the dyad, and all indexes support this operationalization.

*Control Variables.* Given the impacts of specific demographics on trust development, I controlled for differences in gender, age, first language spoken, and trust propensity within dyads for analyses on the dyadic level. First, studies have shown that people are more likely to perceive others as trustworthy with an increase in age (Li & Fung, 2013; Cassidy, Bouncer, Lanie, & Krendl, 2019). Therefore, age difference is likely to result in incongruent trust and thus is included as one of the controls for the analysis at the dyadic level.

Second, gender difference in trust perception has also been identified in previous research: women are found to be more likely to trust others than men, and dyads consisting of same-gender individuals are more likely to develop trust than mixed-gender dyads (Chaudhuri, Paichayontvijit, & Shen, 2013; Haselhuhn, Kennedy, Kray, Zant, & Schweitzer, 2015). Given these findings, I grouped dyads into three categories: mix-gender dyads, both female dyads, and both male dyads, and controlled for gender composition in my analyses.

In addition, research also suggests that people with distinct cultural backgrounds deal with trust-related signals in diverse ways and will develop different trust beliefs (e.g., Branzei, Vertinsky, & Camp II, 2007; Gunia et al., 2011). As found by de Jong et al. (2021), a group of members with more diverse cultural backgrounds will have a more dispersed level of trust. In this study, I used the first language spoken by participants to represent cultural background (Kashima & Kashima, 1998) and categorized dyads into same-language and different-language speaking dyads and controlled for this variable in my analyses.

Finally, trust propensity has been viewed as an essential indicator of trust, as proposed by Colquitt et al. (2007). Therefore, I also included the difference in trust propensity as one of my control variables. To summarize, I included gender composition, age difference, difference in first language spoken, and difference in trust propensity as control variables in the following analyses on congruence and incongruence effects of dyadic trust states, with the purpose to eliminate any alternative explanations and enhance the validity of the proposed research model.

### **Analytical Approach**

To test hypotheses relating to trust congruence and incongruence, I used polynomial regression with surface analysis as Edwards (1995) suggested. This technique has been viewed

as a solid analytical tool to study discrepancy in variables that comes from diverse sources (Edwards, 1995; Shannock, Baran, Gentry, Pattison, & Heggstad, 2010). It solves the problems that could have been caused using an algebraic method, such as using absolute or squared difference between two component variables (Edwards, 1993; Shannock et al., 2010). For example, using a difference score could result in possible confounding of each variable's effect on the outcome, and it might make invalid assumptions and misinterpret the role of congruence or accuracy. However, polynomial regression with a response surface analysis can demonstrate relationships between a composite variable and an outcome under perfect congruent and incongruent conditions using a three-dimensional graph. Moreover, it will tell us how outcome variables change when the incongruence is in different directions ( $X > Y$  vs.  $X < Y$ ) (Edwards & Parry, 1993).

To conduct a polynomial regression, independent variables are firstly scale-centered, as Edwards (1994) suggested. For a 5-point scale used in this study, all variables will deduct 3 to get a centered score. Then, three new variables are created using the scale-centered variable: the square term of A's trust in B ( $T_A$ ), the square term of B's trust in A ( $T_B$ ), and the product of  $T_A$  and  $T_B$ . With the newly created variables, I ran a regression with the polynomial model, as shown by the following equation:

$$Z = b_0 + b_1T_A + b_2T_B + b_3T_A^2 + b_4T_AT_B + b_5T_B^2 + e$$

*Equation 1. Polynomial Regression Model*

where Z refers to the outcome variable, dyadic subjective value;  $T_A$  stands for A's trust in B (Pat's trust in Sandy in this scenario);  $T_B$  is B's trust in A (Sandy's trust in Pat). For simplification, control variables are not shown in this equation. Next, the surface graph was

plotted using surface values calculated following instructions proposed by Shannock et al. (2010), where independent variables from two different sources are represented by the perpendicular horizontal axes and the dependent variable is the vertical axis. There are two reference lines on the floor of the figure: the congruence line and the incongruence line. Under the perfect condition of congruence ( $X=Y$ ), slope indicates the relationship with the outcome variable, either positively or negatively related, when X and Y are totally congruent. The curvature of the congruence line tells us whether the relationship is linear. A linear effect is confirmed if the curvature of the congruence line is not significant. For the condition of incongruence ( $X=-Y$ ), the slope shows the direction of incongruence impact on the dependent variable: a positive slope suggests the outcome is affected to a larger extent when the discrepancy is in the direction of  $X > Y$ , and vice versa if the slope is negative. The curvature of the incongruence line indicates how the outcome variable changes with various degrees of discrepancy. For example, a significant negative curvature suggests the outcome variable will suffer with two individuals getting more diverged on the composite variable. In contrast, a significant positive curvature suggests that the outcome will benefit from increasing asymmetry (Shannock et al., 2010).

According to Edwards and Cable (2009), a congruence impact is fully supported if the surface satisfies three conditions: 1) the surface was curved downward along the incongruence line (a must-met condition); 2) the peak of the surface is along the congruence line, which means that the value of the dependent variable is maximized when  $X=Y$ ; 3) the surface is flat along the congruence line. For the third condition, if otherwise is the case, the sloped congruence line suggests that the outcome variable depends not only on the congruence level but also on the composite variable's absolute value.

## Results

*Descriptive statistics*, including means and correlations, are reported in Table 5. As can be inferred from Table 5, age difference positively correlates with dyadic subjective value. The other control variables have no significant correlations with the independent or dependent variables, except age difference. Two negotiators' trust in each other is not related before the negotiation ( $r = -0.05, p = 0.75, n.s.$ ) but becomes moderately correlated with each other during the negotiation ( $r = 0.50, p < 0.01$ ). This suggests that once two individuals start to interact in the negotiation, trust will not be an individual decision anymore, but will become interdependent between two negotiators and will adjust accordingly based on the feedback received from the other. Before the negotiation, trust from Pat ( $T_A$ ) has a small to moderate correlation with other variables, but not the trust from Sandy ( $T_B$ ). Moreover,  $T_A$  at Time 3 (after the negotiation) also has stronger correlations than  $T_B$  with other variables. This might imply a directional effect of trust incongruence, that Pat's trust in Sandy ( $T_A$ ) is of more importance when evaluating dyadic interaction and outcome.

Table 5. Study 1: Means and Correlations Among Variables at Dyadic Level

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Gender Composition <sup>3</sup>	0.14	0.13	-0.01	-0.05	0.09	0.06	0.20	0.10	-0.05	0.17	
2. Language Composition		-0.04	-0.10	0.14	-0.20	-0.08	-0.04	-0.15	0.17	-0.03	
3. Age Difference			0.17	-0.07	0.07	0.19	0.19	0.12	-0.18	0.24 <sup>+</sup>	
4. Trust Propensity				0.16	0.10	0.15	0.04	0.06	-0.10	0.11	
5. T <sub>A</sub> (Time 2)				(3.53)	-0.05	0.44 <sup>**</sup>	0.31 <sup>*</sup>	0.40 <sup>**</sup>	-0.22 <sup>+</sup>	0.38 <sup>**</sup>	
6. T <sub>B</sub> (Time 2)					(3.52)	0.05	0.32 <sup>*</sup>	0.21	-0.09	0.16	
7. T <sub>A</sub> (Time 3)						(4.02)	0.50 <sup>**</sup>	0.75 <sup>**</sup>	-0.61 <sup>**</sup>	0.83 <sup>**</sup>	
8. T <sub>B</sub> (Time 3)							(3.93)	0.65 <sup>**</sup>	-0.59 <sup>**</sup>	0.76 <sup>**</sup>	
9. Integrative Behaviors								(4.87)	-0.61 <sup>**</sup>	0.81 <sup>**</sup>	
10. Distributive Behaviors									(2.85)	-0.69 <sup>**</sup>	
11. Subjective Value											(4.74)

<sup>+</sup>  $p < 0.1$ ; <sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ ;  $N$  ranges from 57 to 60.

<sup>3</sup> Note: Gender composition: 1=both female; 2=both male; 3=mix gender. Language difference: 1=same language; 2=different language. Trust propensity difference: 1=similar (below the median); 2=difference (above the median). A refers to Pam, and B refers to Sandy in the scenario. Trust measured at Time 2 was before the negotiation, and Time 3 was after the negotiation.

Furthermore, critical variables included in the research model are all significantly correlated. It must be noted that since the subjective value is measured simultaneously with negotiation behaviors and trust at Time 3 (after the negotiation), some of these variables are highly correlated, which might indicate the existence of common method bias and multicollinearity. Therefore, multicollinearity was evaluated in all the following analyses using variance inflation factor (VIF) and tolerance. There are no strict cut-offs for these two indicators, but scholars generally use VIF exceeding 4.0 and a tolerance score below 0.4 as signals of multicollinearity concern (Allison, 1999; Hair, Black, Babin, & Anderson, 2009).

*Test of main effects.* H1a proposes that trust congruence will elevate dyadic subjective value. Trust at Time 2 (before the negotiation) is measured without any actual occurred interaction or any social information about the counterpart's trustworthiness. Thus, their trust decision might not be validated to accurately reflect their actual trust in the negotiation. Given this, trust *during* the negotiation (measured at Time 3, after the negotiation) is used to test the congruence and incongruence effects. The polynomial regression, as described in Equation 1, is conducted using SPSS. As shown in Table 6, the slope of the congruence line is positive and significant (slope = 1.08,  $p < 0.001$ ), suggesting that trust congruence is positively related to dyadic subjective value.

Table 6. Study 1: Polynomial Regression Results for Trust Congruence and Incongruence Effects

Variables	Dyadic Subjective Value	
Constant ( $b_0$ )	3.42 <sup>***</sup>	3.60 <sup>***</sup>
Gender Composition	0.18	0.01
Language Composition	-0.01	0.04
Age Difference	0.33	0.09
Trust Propensity Difference	0.17	-0.00
A's trust in B ( $T_A$ ) ( $b_1$ )		0.67 <sup>***</sup>
B's trust in A ( $T_B$ ) ( $b_2$ )		0.42 <sup>***</sup>
$T_A^2$ ( $b_3$ )		-0.01
$T_A \times T_B$ ( $b_4$ )		0.17 <sup>*</sup>
$T_B^2$ ( $b_5$ )		-0.15 <sup>**</sup>
$R^2$	0.08	0.88
$\Delta R^2$		0.80 <sup>***</sup>
Congruence line ( $T_A = T_B$ )		
Slope ( $b_1 + b_2$ ) <sup>4</sup>		1.08 <sup>***</sup>
Curvature ( $b_3 + b_4 + b_5$ )		-0.06
Incongruence line ( $T_A = -T_B$ )		
Slope ( $b_1 - b_2$ )		0.25 <sup>+</sup>
Curvature ( $b_3 - b_4 + b_5$ )		-0.40 <sup>**</sup>

<sup>+</sup>  $p < 0.1$ , <sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ ;  $N = 50$ ; Coefficients are unstandardized.

<sup>4</sup>  $b_0$ -  $b_5$  refer to coefficients in Equation 1.

Moreover, the curvature of the incongruence line is negative and marginally significant (curvature = -0.40,  $p < 0.1$ ), demonstrating that dyadic subjective value will reduce when trust from two individuals diverges. A 3-D surface graph is plotted for better visualization of the congruence and incongruence effect (see Figure 4<sup>5</sup>), where  $T_A$  and  $T_B$  are perpendicular horizontal axes, and the subjective value is the vertical axis. As we can see, the surface is curved downward along the incongruence line (solid line on the floor) and is flat in the congruence line (dashed line on the floor). This justifies the congruence and incongruence effect as suggested by Edwards and Cable (2009), thus both H1a and H2a are supported.

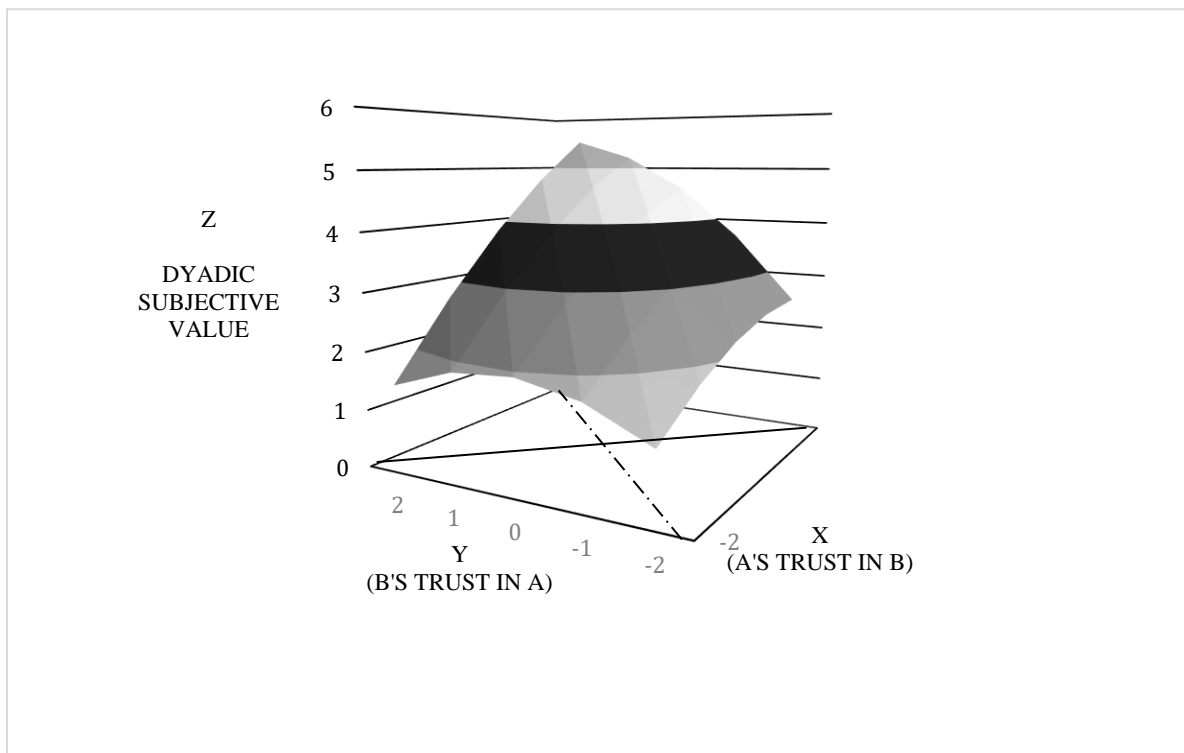


Figure 4. Study 1: Dyadic Subjective Value as Predicted by Trust Congruence and Incongruence.

<sup>5</sup> Solid line= incongruence line; dashed line= Congruence line.

H1b proposes that trust congruence at a higher level of trust will generate better outcomes than that at a lower level of trust. As shown in Table 6, the congruence line is linear with an insignificant curvature (curvature = -0.06,  $p = 0.69$ , *n.s.*) together with a significant positive slope (slope = 1.08,  $p < 0.001$ ). Figure 4 also shows that trust congruence with higher level of trust corresponds to higher level of dyadic subjective value. Therefore, H1b is also supported.

For the multicollinearity test, the VIFs for each independent variable range from 1.78 to 3.25, which are below the threshold of 4 as suggested by Hair et al. (2009). There are two variables ( $T_A^2$  and  $T_A T_B$ ) that have tolerance below 0.4 (0.38 and 0.31 respectively), which could be caused by structural multicollinearity brought by including newly created terms using existing variables. From Weisburd and Britt (2013), only tolerance below 0.20 will indicate severe multicollinearity, and thus, I assume a tolerance score less than 0.40 is acceptable, with VIFs being within an acceptable range.

*Test of mediation.* In H3a and H3b, I propose that increased dyadic integrative and decreased distributive behaviors will mediate the relationship between trust congruence and subjective value. The block variable approach (Edwards & Cable, 2009) is applied to test this indirect effect of trust congruence. Specifically, I created a block variable using the five quadratic terms obtained from the polynomial regression equation ( $T_A$ ,  $T_B$ ,  $T_A^2$ ,  $T_B^2$ ,  $T_A T_B$ ). According to Edward and Cable (2009), a block variable is “a weighted linear composite of the variables that constitute the block, in which the weights are the estimated regression coefficients for the variables in the block” (p. 660). Following this, I used the coefficients obtained from the polynomial regression to create the weighted linear composite for the mediation test:

$$\text{Block Variable} = 0.664 \times T_A + 0.416 \times T_B - 0.084 \times T_A^2 + 0.172 \times T_A T_B - 0.145 \times T_B^2$$

*Equation 2. Block Variable in Study 1*

Next, the PROCESS procedure in SPSS using bias-corrected confidence intervals constructed from 10,000 bootstrap samples is applied to assess the mediation model (Hayes, 2018). Two separate tests were conducted for the two mediators. The result suggests that trust congruence significantly predicts dyadic integrative behavior (path  $a = 0.81$ , 95% CI [0.67, 1.01]). Dyadic integrative behavior also has a significant positive relationship with the outcome in the mediation model (path  $b = 0.20$ , 95% CI [0.05, 0.37]). The indirect effect of trust congruence on dyadic subjective value through dyadic integrative behavior is also significant (path  $ab = 0.16$ , 95% CI [0.03, 0.43]). As summarized in Table 7, H3a is supported. For the mediation path through distributive behaviors, only a significant path  $a$  is found, suggesting that trust congruence is negatively related to dyadic subjective value. However, neither path  $b$  nor path  $ab$  is significant (see Table 8), providing no statistical evidence for the mediation effect through distributive behaviors. Thus, H3b is not supported.

Table 7. Study 1: Indirect Effect of Trust Congruence on Subjective Value via Integrative Behavior

Variable	Mediator: Integrative Behavior	Outcome: Dyadic Subjective Value
Coefficient of the block variable ( <i>a</i> path)	0.81***	
Coefficient of Mediator, controlling of the block variable ( <i>b</i> path)		0.20*
Indirect effect of trust congruence via integrative behavior ( <i>ab</i> )		0.16*
95% bootstrapped CIs		[0.01, 0.40]

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N = 54$ <sup>6</sup>; Coefficients are standardized<sup>7</sup>.

<sup>6</sup> 54 dyads were left for the mediation analyses after the missing data were removed. Same with the other mediation test.

<sup>7</sup> Control variables include gender composition, language difference, age difference, and difference in trust propensity.

Table 8. Study 1: Indirect Effect of Trust Congruence on Subjective Value via Distributive Behaviors

Variable	Mediator: Distributive Behavior	Outcome: Dyadic Subjective Value
Coefficient of the block variable ( <i>a</i> path)	-0.68***	
Coefficient of Mediator, controlling of the block variable ( <i>b</i> path)		-0.05
Indirect effect of trust congruence via distributive behavior ( <i>ab</i> )		0.03
95% bootstrapped CIs		[-0.08, 0.13]

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\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N = 54$ ; Coefficients are standardized<sup>8</sup>.

### Discussion of Study 1

Study 1 examined the impact of trust congruence and trust asymmetry on subjective negotiation outcomes, offering insightful preliminary results for following steps in this research. Specifically, results in Study 1 indicate a positive relationship between the level of trust congruence and the perceived dyadic subjective value. This implies that dyads characterized by a higher mutual trust tend to report higher evaluations of the negotiation process. Conversely, an inverse relationship was observed with trust asymmetry: the greater the divergence in trust levels between two negotiators, the lower their collective satisfaction with the negotiation will be.

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<sup>8</sup> Control variables include gender composition, language difference, age difference, and difference in trust propensity.

These findings offer empirical validation for the theoretical propositions concerning the effects of congruence and incongruence of dyadic trust states, thereby enriching the existing literature on trust in negotiation.

Moreover, results in Study 1 implies a marginally significant directional effect of trust incongruence, with the slope along the incongruence line equaling 0.25 ( $p = 0.095$ , marginally significant) (See Table 6). A significant slope for the incongruence line suggests that the direction of trust asymmetry matters, and a positive slope in the context of Study 1 indicates that  $T_A$  (Pat's trust in Sandy) has more weight on the outcome than  $T_B$  (Sandy's trust in Pat). Going back to the scenario, this could be the result of a power difference between Pat and Sandy. Even though power was not explicitly measured in Study 1, the two roles in the scenario, Pat and Sandy, have different numbers of alternatives and various levels of dependence on each other, which indicate a difference of power in the negotiation context.

There are inconsistent findings regarding the role of power in trust development: some studies found that power differences could be an antecedent of trust incongruence in negotiation (e.g., Inesi et al., 2012; Van Dijk et al., 2017), while other studies failed to find empirical support of the relationship between power and trust (Lu et al., 2017). In the context of Study 1, Pat, who has more power over Sandy, appears to have greater influence on the dyad's subjective value. Therefore, it will be interesting to examine the role of power more carefully and investigate whose trust will be of more importance when evaluating negotiation outcomes in future studies.

### **Limitations of Study 1**

Some limitations need to be noted in Study 1. First, the measure of trust used in Study 1 is based on one's evaluation of another's ability, integrity, and benevolence. Although it has been

widely applied in trust research, this scale only incurs one's rational evaluation of others' trustworthiness, but does not include one's willingness to be vulnerable nor risk-taking behaviors, which are other crucial components of trust. Especially in the context of negotiation where two parties are likely to have conflicting interests under some circumstances, perceived trustworthiness might not wholly explain one's actual trust intention or behaviors. Therefore, in Study 2, I will use another measure of trust to better fit the negotiation context.

Second, the two roles in the current negotiation exercise have asymmetric dependence on each other, which implies a power difference. The surface analysis result also suggests a marginal significant directional incongruence effect, that Pat (who has more power) has more influence on the dyadic outcome. Lastly, a notable limitation of Study 1 is its constrained capacity to conduct a comparative analysis of experiences between the higher and lower trustor, due to the limited sample size of dyads characterized as with asymmetric trust.

In the next Chapter, Study 2 will address the limitations of Study 1, and further test the research model of this dissertation.

## Chapter Five: Study 2

### Study Overview

Findings of Study 1 have offered some preliminary evidence of the impact of different dyadic trust states on the negotiation process and outcomes. However, some limitations need to be considered when designing Study 2. First, beyond negotiating an issue, the exercise used in Study 1 also involves conflict resolution between two parties. Further, there is an evident level of power difference between the two parties, which might introduce an alternative explanation, i.e., difference in power and dependence, for the variance in negotiation behaviors and outcomes. Second, common method bias could be a concern given that individual trust and subjective outcomes were measured at the same time – at the end of the negotiation exercise. Furthermore, since trust measured after the negotiation is highly correlated to negotiation behaviors and outcomes, it is hard to detect the causal effect of dyadic trust on negotiation outcomes. Lastly, the trust measure used in Study 1 is more about one's evaluation of the other's trustworthiness rather than one's actual trust decisions. Trust is contextual and could mean different things in different scenarios. Thus, a trust scale that is more tailored to the negotiation context is needed to evaluate the role of trust in negotiations.

Study 2 is designed and conducted to address these limitations and to provide additional empirical support for the theory of trust congruence. Specifically, the negotiation exercise used in Study 2, adapted from a role-play simulation called *Zephyr*, does not include elements of interpersonal conflict or implied power discrepancy (as in Study 1). Rather, the exercise involves a negotiation between a corporate leasing company, *Zephyr*, and a rising start-up company, *Federico*, over an acquisition offer. This negotiation scenario introduces the concept of ZOPA (zone of possible agreement) and demonstrates the importance of trust in identifying mutual

interest when there is a negative ZOPA (meaning that there is no overlap between two parties' reservation prices). The reservation price of the start-up company, Federico, includes the cost of purchasing a house near Chicago for family reasons, which is provided as confidential information that is unknown to the other party. On the other hand, Federico does not know that Zephyr plans to sell or rent out some houses they own in the Chicago area at prices lower than the market. Based on the information in the negotiation materials, Zephyr and Federico have a negative bargaining zone, meaning their reservation prices do not overlap. However, if they trust each other enough to share information about the housing issue and other potential alternatives, they can achieve a positive bargaining zone where the reservation price of each side overlaps. Therefore, having a high level of shared trust will increase the likelihood of information exchange and ultimately lead to an agreement that maximizes benefits for both parties<sup>9</sup>.

Furthermore, this study manipulates different levels of trust and creates different states of dyadic trust using reputation<sup>10</sup>. Thus, we can better compare the distinct experience and subjective evaluation between the higher and the lower trustor within dyads with asymmetric trust.

## **Participants**

Participants were business undergraduates at a North American university. A total of 299 students participated in this research, with 281 participants completing at least one of the three waves of data collection. After removing missing entries and those without a matching negotiation partner, the final data set includes 242 students (121 dyads). As seen in Table 9, about 61% of the participants are women, and the majority (99.6%) are 18-24. Approximately

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<sup>9</sup> More details about the exercise can be found in Appendix B.

<sup>10</sup> Manipulation materials can be found in Appendix E.

74% of the sample are native English speakers and nearly all participants (95%) have at least one year of working experience.

*Table 9. Study 2: Demographics at Individual Level*

Individual Variables		N	%
1.	Gender		
	Male	92	38.3%
	Female	147	61.3%
	Undecided	1	0.4%
2.	Work Experience		
	None	12	5%
	1 year or less	73	30.4%
	1-3 years	117	47.8%
	3 or more years	38	15.8%
4.	First Language		
	English	179	74.6%
	Non-English	61	25.4%
5.	Age		
	<18	1	0.4%
	18-24	239	99.6%

*N*=240.

## **Procedures**

An invitation was sent out to students with the course instructor's help, and 336 students signed up to participate in a virtual negotiation exercise via the Zoom platform in exchange for extra course credit. Participants were randomly paired and then randomly assigned to one of four conditions: 1) congruent low level of trust; 2) congruent high level of trust; 3) asymmetric trust;

and 4) the control condition where trust is not manipulated. 40 dyads for each condition were assigned at the beginning of the data collection. After eliminating missing and incomplete data, the final data set consists of 29 dyads in the congruent low trust condition, 26 dyads in the congruent high trust condition, 36 dyads in the asymmetric trust condition, and 30 dyads in the control condition. More descriptives about the dyadic data can be found in Table 10.

*Table 10. Study 2: Demographics at Dyadic Level*

Dyadic Variables		N	%
1.	Gender Composition		
	Mix gender	60	49.6
	All male	43	35.5
	All Female	16	13.2
	Missing	2	1.7
2.	Language		
	Same language	71	58.7
	Different language	48	39.7
	Missing	2	1.7
4.	Manipulation		
	Control	30	24.8
	Low-Low	29	24
	High-High	26	21.5
	Asymmetric	36	29.8

*N* = 121.

Data for Study 2 was collected at three time points to minimize common method bias. A link to the Time 1 survey was sent when their participation schedule was confirmed, which was approximately 2-4 days before the negotiation exercise took place. This survey asked about

participants' demographics and general tendency to trust. When participants joined the Zoom meeting, they were provided and asked to read the role materials (including the manipulation material in non-control conditions). They then completed the Time 2 survey (before the negotiation), which asks about participants' initial trust towards their negotiation partner and their understanding of role materials. Participants then joined the breakout rooms, where they had 30 minutes to negotiate the acquisition offer between Zephyr and Federico. After they finished negotiating and returned to the main session, participants were asked to complete the Time 3 survey (after the negotiation), followed by a short debrief about the exercise and the manipulation. This post-negotiation survey includes questions about the final deal, trust, negotiation behaviors, and subjective evaluation of the negotiation. In line with Study 1, trust in partner and subjective value were self-reported, whereas integrative and distributive behaviors were partner-rated.

### ***Manipulation of Trust***

Trust was manipulated before the negotiation exercise to create different dyadic states at the beginning of the interaction (see Appendix E). Specifically, I manipulated participants' trust in their dyadic partner by disclosing different information about their reputation (trustworthy vs. untrustworthy). Reputation is used since it affects how others expect and interpret other's intentions (Wu, Balliet, & Van Lange, 2016). According to schema theory, reputation will exert a 'halo effect' on interactions, and people will interpret the same behaviors as having different motives and intentions based on someone's reputation (Bruder, 1973; Fiske & Taylor, 1991). For example, Tinsley and colleagues (2002) found that people with a distributive reputation will obtain less individual value and less joint outcome since their partners are less likely to trust them. Similarly, SimanTov-Nachlieli, Har-Vardi, and Moran (2020) found that people will

behave differently and are more likely to trust a partner who has a reputation of trustworthiness. Moreover, reputation has also been identified as a critical antecedent of trust in negotiation (Lu et al., 2017; Tasa & Bahmani, 2023). Therefore, I am convinced that manipulating an individual's reputation to be perceived as either distributive or integrative can serve as an effective means to manipulate trust levels, which is anticipated to establish different states of dyadic trust in Study 2.

Specifically, participants received information about their partner's reputation through an email from a close friend named Sandy. This email describes their negotiation partner's reputation as either distributive or integrative. For example, a partner with an integrative reputation was described as "willing to work towards mutually beneficial solutions" and "transparent in communication," whereas a partner with a distributive reputation was described as "tough to compromise with" and "care more about individual benefits."

For dyads in the congruent low trust condition, both parties received distributive reputation information about each other. For dyads in the congruent high trust condition, both parties received integrative reputation information about each other. For dyads in the asymmetric trust condition, one participant received integrative reputation information about their negotiation partner while the other received distributive reputation information about their partner. For dyads in the control condition, no information about reputation was distributed.

## **Measures**

*Trust propensity (Time 1)*. Two measures of this construct were included as potential control variables. The first is the trust propensity in negotiation scale developed by Gunia et al. (2020). This is a five-item scale, consisting of items being "In negotiations, you should not trust the other party even if you know them well in other contexts" (reverse coded); "In negotiations,

most people are basically honest”; “In negotiations, people will keep promises and commitments”; “In negotiations, there is no point trusting the other party until you have had repeated interactions” (reverse coded). However, this scale exhibited a very low reliability ( $\alpha = .63$ ). After deleting the two reverse-coded items that have weak correlations with other items, the 3-item scale has a reliability of 0.68, which is still lower than the threshold of 0.7 that indicates adequate reliability. Thus, it is removed from the analysis. The second measure was a single item measuring one’s general tendency to trust, being “How likely are you to trust people in general?” To demonstrate convergent validity, the single-item measure has significant correlations with pre-negotiation trust ( $r = 0.18^{**}, p < 0.01$ ), integrative behaviors ( $r = 0.13^{**}, p < 0.01$ ), and distributive behaviors during negotiation ( $r = -0.16^*, p < 0.05$ ). Thus, it was included as a control variable in the following analyses.

*Trust in Negotiation.* This 3-item scale of trust in negotiation used in Study 2 is not about one’s evaluation about other’s trustworthiness, but about one’s intention to engage in trusting behaviors (Lewicki & Stevenson, 1997). Sample items include: “I am willing to trust my negotiation partner” and “I will share information with my negotiation partner.” This scale has a reliability of 0.78 at Time 2 (before the negotiation) and 0.86 at Time 3 (after the negotiation).

*Negotiation Behaviors (Time 3).* The same scales of integrative and distributive behaviors are used in Study 2. Specifically, the scale of distributive behaviors includes 4 items, one of which being “In the negotiation, my counterpart issued warnings or used threats”. This scale has a reliability of 0.74 in Study 2. The scale of integrative behaviors also consists of 4 items, one being “In the negotiation, my counterpart listened with an open mind”. The reliability  $\alpha$  for this scale is 0.86.

*Subjective Values (Time 3)*. The same scale of subjective value inventory was utilized in Study 2 to measure the subjective outcome of negotiation (Curhan et al., 2006). The factor analysis result suggests that all items about negotiation process, outcome, and relationship load onto one factor with an eigenvalue larger than 1. Therefore, as with Study 1, these three sub-categories of subjective negotiation outcomes were re-coded into one single construct ( $\alpha = .90$ ).

## **Results**

### ***Manipulation check***

To evaluate the effectiveness of this manipulation, participants answered questions regarding their evaluation about their partner's trustworthiness and their intention to engage in trusting behaviors, after they read their materials and were ready to enter the negotiation (in the pre-negotiation survey at Time 2). Specifically, the scale of trustworthiness in negotiation (Au & Wong, 2019) was used, which has a reliability of 0.87 in this study. This scale has three items: "My negotiation partner is likely to keep promises and commitments." "My negotiation partner is likely to share information honestly and openly." and "My negotiation partner is likely to do what they say they will do." For the intended trusting behaviors, the same scale is used as described in the previous section (Lewicki & Stevenson, 1997). The one-way ANOVA with the Turkey post-hoc multiple comparisons test was used for the manipulation check. As can be seen in Table 11 and Figure 5, the result suggests that there are significant differences in trustworthiness among the control group ( $mean = 4.2$ ;  $SD = 0.47$ ), low trust group ( $mean = 3.07$ ;  $SD = 0.94$ ) and high trust group ( $mean = 4.73$ ;  $SD = 0.88$ ). Significant differences are also reported for intended trusting behaviors among the control group ( $mean = 3.49$ ;  $SD = 0.81$ ), low

trust group ( $mean = 3.17$ ;  $SD = 0.91$ ) and high trust group ( $mean = 3.78$ ;  $SD = 0.69$ ). Taken together, the manipulation of trust is successful in Study 2.

*Table 11.* Study 2: Manipulation Check

Group	Mean Difference	95% CI
Control vs. Low Trust		
Trustworthiness in Negotiation	1.13 <sup>***</sup>	[0.69, 1.46]
Intended Trusting Behaviors	0.32 <sup>*</sup>	[0.01, 0.64]
Control vs. High Trust		
Trustworthiness in Negotiation	0.53 <sup>**</sup>	[0.10, 0.97]
Intended Trusting Behaviors	0.28 <sup>+</sup>	[0.00, 0.64]
Low vs. High Trust		
Trustworthiness in Negotiation	1.66 <sup>***</sup>	[1.27, 2.05]
Intended Trusting Behaviors	0.61 <sup>***</sup>	[0.32, 0.89]

<sup>+</sup>  $p < 0.1$ ; <sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ ;  $N = 242$ .

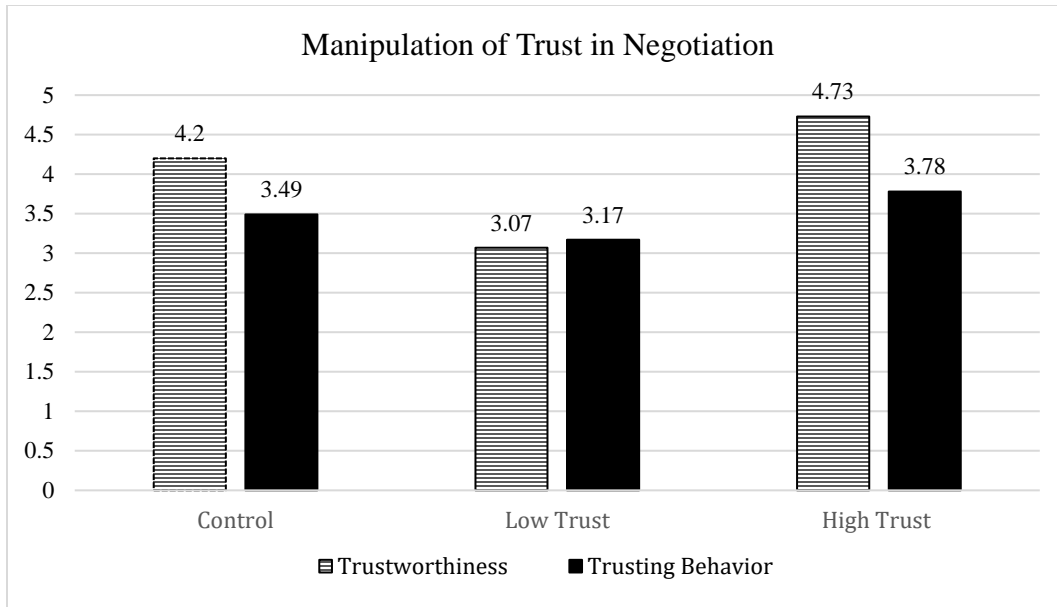


Figure 5. Study 2: Manipulation Check

### Descriptives

Descriptive statistics, including means and correlations at the dyadic level, are reported in Table 12. As can be seen in Table 12, the gender composition of negotiation dyads had no significant correlations with any other variables in the research model. However, the difference in native language spoken by participants is significantly correlated with pre-negotiation trust ( $r = -0.18, p < 0.05$ ), suggesting that when two participants spoke different native languages in the dyad, they were less likely to trust each other before the negotiation. Furthermore, since the general trust propensity significantly correlates with pre- and post-negotiation trust at the individual level, I include the difference score of trust propensity as another control variable.

Also seen in Table 12, two negotiators' trust in each other are not correlated before the negotiation ( $r = 0.13, n.s.$ ), probably because pre-negotiation trust was manipulated rather than naturally developed from interactions. After the negotiation, however, trust in each other between the two parties becomes positively and significantly correlated with each other ( $r =$

0.25,  $p < 0.01$ ). This re-confirms the findings in Study 1, that trust is no longer an individual decision but becomes interdependent when there is interaction between two individuals.

Furthermore, critical variables included in the research model are all significantly correlated with each other. To avoid common method bias, only pre-negotiation trust is kept in the analysis so that independent variables (i.e., trust) and outcome variables (i.e., negotiation behaviors and subjective values) are measured at separate times.

Table 12. Study 2: Means and Correlations Among Variables at Dyadic Level

Variables	1	2	3	4	5	6	7	8	9	10
1. Gender Composition <sup>11</sup>		0.12	0.10	0.08	-0.03	0.12	-0.08	-0.01	-0.02	-0.01
2. Language Composition			0.04	-0.18*	-0.13	-0.05	-0.05	0.09	0.03	0.02
3. Trust Propensity Difference (Time 1)			(1.03)	0.21*	0.15	0.23*	0.07	-0.12	0.15	0.10
4. T <sub>Z</sub> (Time 2)				(3.28)	0.13	0.29**	0.10	-0.14	0.14	0.10
5. T <sub>F</sub> (Time 2)					(3.67)	0.22*	0.47**	-0.20*	0.27**	0.27**
6. T <sub>Z</sub> (Time 3)						(3.55)	0.25**	-0.24**	0.56**	0.45**
7. T <sub>F</sub> (Time 3)							(3.65)	-0.26**	0.53**	0.44**
8. Distributive Behaviors								(1.92)	-0.44**	-0.43**
9. Integrative Behaviors									(3.42)	0.67**
10. Subjective Value										(3.83)

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N$  ranges from 119 to 121

<sup>11</sup> Note: Gender composition: 1=both female; 2=both male; 3=mix gender. Language difference: 1=same language; 2=different language. Z refers to Zephyr, and F refers to Federico in the scenario. Trust measured at Time 2 was before the negotiation, and Time 3 was after the negotiation.

### ***Test of Main Effects***

H1a proposes that the more aligned trust is between two negotiators, the higher subjective value they will have. To test this congruence effect, the same polynomial regression procedure as used in Study 1 is conducted using SPSS. As shown in Table 13, the slope of the congruence line is positive and marginally significant ( $slope = 0.26, p = 0.06$ ), suggesting that trust congruence is positively related to dyadic subjective value, and H1a is supported. It needs to be noted that the incongruence line has a marginal significant curvature ( $curvature = -0.28, p = 0.07$ ), suggesting that one's subjective value will marginally drop when trust diverges between two negotiators, which partially supports the proposed incongruence effect in H2a. This is different from the significant incongruence in Study 1, which is likely caused by the change of dyadic trust during the negotiation.

A 3-D surface graph is plotted for better visualization in Figure 6, where TZ and TF are perpendicular horizontal axes, and the subjective value is the vertical axis. As we can see, the surface is curved slightly downward along the incongruence line (solid line on the floor) and is flat in the congruence line (dashed line on the floor). Even though the incongruence effect is not fully supported as in Study 1, the congruence effect is marginally significant as suggested by the polynomial regression result (Edwards & Cable, 2009).

Table 13. Study 2: Polynomial Regression Results for Trust Congruence and Incongruence Effects.

Variables	Dyadic Subjective Value	
Constant ( $b_0$ )	3.86 <sup>***</sup>	3.57 <sup>***</sup>
Gender Composition	-0.04	-0.038
Language Composition	0.03	0.09
Trust Propensity Difference (Time 1)	0.01	0.04
Zephyr's trust in Federico ( $T_Z$ ) ( $b_1$ )		0.07
Federico's trust in Zephyr ( $T_F$ ) ( $b_2$ )		0.19
$T_Z^2$ ( $b_3$ )		-0.01
$T_Z \times T_F$ ( $b_4$ )		0.12 <sup>+</sup>
$T_F^2$ ( $b_5$ )		-0.08
$R^2$	0.002	0.15
$\Delta R^2$		0.15 <sup>**</sup>
Congruence line ( $T_A = T_B$ )		
Slope ( $b_1 + b_2$ )		0.26 <sup>+</sup>
Curvature ( $b_3 + b_4 + b_5$ )		-0.04
Incongruence line ( $T_A = -T_B$ )		
Slope ( $b_1 - b_2$ )		-0.13
Curvature ( $b_3 - b_4 + b_5$ )		-0.28 <sup>+</sup>

<sup>+</sup>  $p < 0.1$ , \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N = 121$ ; Coefficients are unstandardized<sup>12</sup>.

<sup>12</sup>  $b_0$ -  $b_5$  refer to coefficients in Equation 1.

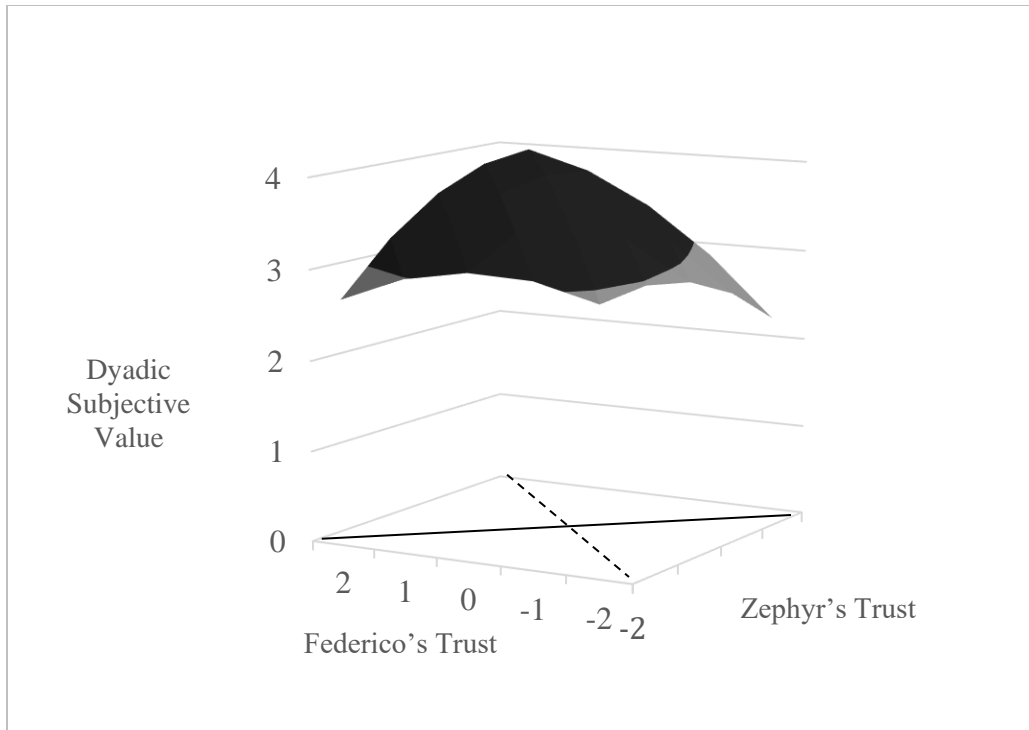


Figure 6. Study 2: Dyadic Subjective Value as Predicted by Trust Congruence and Incongruence

H1b proposes that dyadic subjective value will be higher when trust converges at a higher level of trust. As shown in Table 13, the congruence line is linear with an insignificant curvature ( $curvature = 0.04, n.s.$ ) together with a marginal significant positive slope ( $slope = 0.26, p < 0.10$ ). As can be inferred from Figure 6, when trust converges at a higher level, the dyadic subjective value becomes higher. To supplement the analysis here, I conducted the  $t$ -test to compare the dyadic subjective value between the condition with shared low trust and the condition with shared high trust. The result shows that the subjective value in the condition of shared high trust ( $mean = 4.0$ ) is marginally significantly higher than that in the condition of shared low trust ( $mean = 3.7; p < 0.1$ ). Together, the results provide some support for H1b and suggest a trend where subjective value will increase when trust converges at a higher rather than a lower level of trust.

H2b proposes that the higher trustor in a dyad with asymmetric trust will have lower subjective values. To test this hypothesis, I filtered out the 36 dyads in the asymmetric trust condition and conducted an independent samples *t*-test between the two parties within the dyad. The mean subjective value of the higher trustor (3.81) is slightly higher than that of the lower trustor (3.73), but the result suggests no significant difference between these two groups ( $p = 0.33$ ). Therefore, H2b is not supported.

*Test of mediation.* H3a and H3b propose negotiation behaviors (integrative and distributive) as mediators of the impact of dyadic trust on negotiation outcomes. Specifically, I propose that trust congruence will increase dyadic integrative behaviors and reduce distributive behaviors, through which it will positively affect dyadic subjective value. As in Study 1, the block variable approach (Edwards & Cable, 2009) is applied to test the mediation effect. A block variable is created using the five quadratic terms obtained from the polynomial regression equation ( $T_Z$ ,  $T_F$ ,  $T_Z^2$ ,  $T_F^2$ ,  $T_Z T_F$ ). Following the suggestion of Edward and Cable (2009), a weighted linear composite is created using coefficients obtained from the polynomial regression:

$$\text{Block Variable} = 0.067 \times T_Z + 0.192 \times T_F - 0.008 \times T_Z^2 + 0.121 \times T_F \times T_Z - 0.077 \times T_F^2$$

*Equation 3.* Block Variable in Study 2

Next, the same PROCESS procedure in SPSS used in Study 1 (using bias corrected confidence intervals constructed from 10,000 bootstrap samples) is applied here to test the mediation model (Hayes, 2018). Integrative and distributive behaviors are included in the same mediation model for a parallel mediation test. The use of parallel mediation can provide a more comprehensive understanding of the underlying mechanisms by assessing each mediator while

controlling the shared variance between mediator variables (Hayes, 2013). The result shown in Table 14 suggests that trust congruence has a significant positive impact on dyadic integrative behavior (path  $a_1 = 1.02$ , 95% CI [0.53, 1.50]). Dyadic integrative behavior is also positively correlated with dyadic subjective evaluation at a significant level (path  $b_1 = 0.47$ , 95% CI [0.34, 0.59]). The indirect effect of trust congruence on dyadic subjective value through dyadic integrative behavior is also significant (path  $ab_1 = 0.47$ , 95% CI [0.24, 0.78]). Therefore, H3a is supported in Study 2.

For distributive behaviors, its negative relationship with dyadic trust is not significant after controlling for integrative behaviors in the parallel mediation model (path  $a_2 = -0.35$ , 95% CI [-0.77, 0.08]). The negative impact of distributive behaviors on dyadic subjective values is significant (path  $b_2 = -0.17$ , 95% CI [-0.32, -0.02]), but the indirect mediation effect is not significant (path  $ab_2 = 0.06$ , 95% CI [-0.02, 0.19]). As shown in Table 14, H3b is not supported. A summary of the hypotheses test results in both Study 1 and 2 can be found in Table 15.

Table 14. Study 2: Indirect Effect of Trust Congruence on Dyadic Subjective Value via Dyadic Integrative and Distributive Behavior.

Variable	Mediator 1: Integrative Behavior	Mediator 2: Distributive Behavior	Outcome: Dyadic Subjective Value	95% bootstrapped CIs
Coefficient of the block variable ( $a_1$ path)	1.02***			[0.53, 1.50]
Coefficient of the block variable ( $a_2$ path)		-0.35		[-0.77, -.08]
Coefficient of Mediator1, controlling of the block variable ( $b_1$ path)			0.47***	[0.34, 0.59]
Coefficient of Mediator2, controlling of the block variable ( $b_2$ path)			-0.17*	[-0.32, -0.02]
Indirect effect of trust congruence via integrative behavior ( $ab_1$ )			0.47***	[0.24, 0.78]
Indirect effect of trust congruence via distributive behavior ( $ab_2$ )			0.06	[-0.02, 0.19]

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N = 121$ ; Coefficients are standardized<sup>13</sup>.

<sup>13</sup> Control variables include gender composition, language difference, and difference in trust propensity.

*Table 15. Summary of Hypotheses Test Results*

Hypotheses	Study 1	Study 2
H1a. Dyadic trust congruence is positively related with dyadic subjective value.	√	√
H1b. Dyadic subjective value will be higher when the dyad converges at a higher rather than a lower level of trust.	√	√
H2a. Dyadic trust asymmetry is negatively related to dyadic subjective value.	√	×/√ <sup>14</sup>
H2b. The higher trustor in a dyad with asymmetric trust will have lower subjective values than the lower trustor.	N/A	×
H3a. The relationship between trust congruence and dyadic subjective value will be mediated by dyadic integrative behaviors.	√	√
H3b. The relationship between trust congruence and dyadic subjective value will be mediated by dyadic distributive behaviors.	×	×

## **Discussion of Study 2**

Study 2 has addressed some of the limitations in Study 1 by using time-lagged data and a better-fit measure of trust in negotiation, which has reduced the risk of common method bias and strengthened the validity of the research model. Furthermore, the exercise used in Study 2 involves no presupposed power disparities between two negotiators. Although power dynamics are not explicitly evaluated within the scope of Study 2, the negotiation materials are crafted to ensure equality in terms of alternative offers and mutual dependence, which suggests an absence

<sup>14</sup> Represents marginally significant.

of power imbalance between the two negotiators (Zephyr and Federico). Consequently, this elimination of power variance allows for a more focused examination of the contrasting states of dyadic trust.

The results of Study 2 have replicated most of the findings in Study 1 with some exceptions: first, the effect size of the congruence effect is much smaller in Study 2. It needs to be noted that the results only generate marginally significant support for the congruence effect of dyadic trust on subjective values (as proposed in H1a). After investigating the change of trust before and after negotiation, a significant increase of trust alignment was found after the negotiation. Since trust during negotiation is more related to negotiation outcome and evaluations, it is likely that this increase of trust alignment has reduced the impact of pre-negotiation trust on one's subjective evaluations. Similarly, this might also explain why the incongruence effect was not found in Study 2, given that the manipulated trust incongruence before negotiation became more congruent after the negotiation.

As a post-hoc analysis, I conducted additional sets of polynomial regressions on negotiation behaviors, which are more likely to be influenced by pre-negotiation trust. The results together with the surface analyses suggest both significant congruence and incongruence effects of dyadic trust on dyadic integrative behaviors (see Table 16), and a significant congruence effect on dyadic distributive behaviors (see Table 17). Therefore, it is likely that pre-negotiation trust has a stronger impact on negotiation behaviors, which then in return changes the state of dyadic trust during negotiation that better predicts negotiation outcomes.

Table 16. Study 2: Polynomial Regression Results for Trust Congruence and Incongruence Effects on Dyadic Integrative Behavior

Variables	Dyadic Subjective Value	
Constant ( $b_0$ ) <sup>15</sup>	3.47 <sup>***</sup>	3.12 <sup>***</sup>
Gender Composition	-0.03	-0.02
Language Composition	0.04	0.11
Trust Propensity Difference (Time 1)	-0.02	0.01
Zephyr's trust in Federico ( $T_Z$ ) ( $b_1$ )		0.11
Federico's trust in Zephyr ( $T_F$ ) ( $b_2$ )		0.48 <sup>**</sup>
$T_Z^2$ ( $b_3$ )		-0.04
$T_Z \times T_F$ ( $b_4$ )		0.15 <sup>+</sup>
$T_F^2$ ( $b_5$ )		-0.29 <sup>*</sup>
$R^2$	0.003	0.18
$\Delta R^2$		0.18 <sup>***</sup>
Congruence line ( $T_A = T_B$ )		
Slope ( $b_1 + b_2$ )		0.59 <sup>***</sup>
Curvature ( $b_3 + b_4 + b_5$ )		-0.18
Incongruence line ( $T_A = -T_B$ )		
Slope ( $b_1 - b_2$ )		-0.37 <sup>**</sup>
Curvature ( $b_3 - b_4 + b_5$ )		-0.48 <sup>+</sup>

<sup>+</sup>  $p < 0.1$ , <sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ ; Note.  $N = 121$ ; Coefficients are unstandardized.

<sup>15</sup>  $b_0$ -  $b_5$  refer to coefficients in Equation 1.

Table 17. Study 2: Polynomial Regression Results for Trust Congruence and Incongruence Effects on Dyadic Distributive Behavior

Variables	Dyadic Subjective Value	
Constant ( $b_0$ ) <sup>16</sup>	1.74 <sup>***</sup>	1.85 <sup>***</sup>
Gender Composition	-0.03	-0.05
Language Composition	0.12	0.08
Trust Propensity Dispersion (Time 1)	0.09	0.10
Zephyr's trust in Federico ( $T_Z$ ) ( $b_1$ )		-0.06
Federico's trust in Zephyr ( $T_F$ ) ( $b_2$ )		-0.36 <sup>**</sup>
$T_Z^2$ ( $b_3$ )		0.045
$T_Z \times T_F$ ( $b_4$ )		-0.03
$T_F^2$ ( $b_5$ )		0.19 <sup>+</sup>
$R^2$	0.03	0.114
$\Delta R^2$		0.09 <sup>*</sup>
Congruence line ( $T_A = T_B$ )		
Slope ( $b_1 + b_2$ )		-0.41 <sup>***</sup>
Curvature ( $b_3 + b_4 + b_5$ )		0.20
Incongruence line ( $T_A = -T_B$ )		
Slope ( $b_1 - b_2$ )		0.30 <sup>*</sup>
Curvature ( $b_3 - b_4 + b_5$ )		0.27

<sup>+</sup>  $p < 0.1$ , <sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ ;  $N = 121$ ; Coefficients are unstandardized.

Second, Study 2 found no supporting evidence for the different subjective evaluations between the higher and the lower trustors. The post-hoc analysis suggests that participants' trust in each other changes significantly before and after the negotiation within dyads with

<sup>16</sup>  $b_0$ -  $b_5$  refer to coefficients in Equation 1.

asymmetric trust. As shown in Table 18, the result of the paired-samples *t*-test suggests that the difference between two negotiators' trust in each other decrease significantly from Time 2 to Time 3 (mean difference = 1.12,  $p < 0.001$ ). Based on the post-hoc analysis on the change of trust, we can see that the higher trustor has significantly lowered their trust during the negotiation, suggesting that dyadic trust won't remain asymmetric for a long time during the interaction but will swiftly transition to a state where two negotiators' trust levels are closer to each other. This finding is in alignment with the social balance theory that people will change their behavior to restore the balance.

*Table 18.* Study 2: Change of Trust from Time 2 (Pre-negotiation) to Time 3 (Post-negotiation).

Variable Pair	Mean Change	95% CI
1. Trust (H) <sup>17</sup> : T3-T2	-0.91 <sup>***</sup>	[0.56, 1.26]
2. Trust (L): T3-T2	0.42 <sup>+</sup>	[-0.98, 0.14]
3. Trust Asymmetry: T3-T2	-1.12 <sup>***</sup>	[0.59, 1.64]

<sup>+</sup>  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;  $N = 36$ .

Even though trust asymmetry has a negative impact on negotiation process and outcomes at the dyadic level, Study 2 found no significant empirical support for its impact at the individual level. Moreover, the results of Study 2 also suggest that trust is more dynamic and changes more when there is a divergence between two negotiators.

<sup>17</sup> Trust (H)=Trust from the higher trustor in the dyad; Trust (L)=Trust from the lower trustor in the dyad; Trust Asymmetry=the difference of trust between the higher and the lower trustor.

## Chapter Six: General Discussion

Combining findings from Study 1 and 2, this dissertation confirms the positive congruence effect and the borderline negative incongruence effect of dyadic trust states on negotiation process and outcomes. According to the summary of research findings presented in Table 15, both studies consistently demonstrate that dyadic trust congruence is positively related to dyadic integrative behaviors and subjective outcomes of negotiation. These findings highlight the critical role of trust congruence in shaping negotiation dynamics and outcomes. Understanding and fostering such congruence can contribute to more effective and mutually beneficial negotiation processes in various contexts.

For the incongruence effect, however, it is only significant when trust and negotiation outcome are measured simultaneously, as found in Study 1. When a temporal lag is introduced between the measure of trust and subjective evaluation, the negative incongruence impact becomes weaker to a marginally significant level, as evidenced in the findings of Study 2. This finding could be explained by the dynamic change of trust during the negotiation, especially when it is asymmetric between two negotiators. As suggested in the post-hoc analysis about the change of dyadic trust (see Table 18), negotiators seem more sensitive to social imbalance cues and thus are more likely to adjust their behaviors when an asymmetry is perceived. In contrast with dyads with congruent levels of trust where the dyadic state remains relatively stable, individuals perceiving asymmetric trust change adaptively during the interaction, and thus, the pre-assigned asymmetric state won't stay long enough to impact the outcome. To better capture the incongruence effect, dyadic trust that is measured closer to the stabilized state might be more insightful.

For the mediation process through dyadic integrative and distributive behaviors, both Study 1 and 2 suggest integrative behavior as a significant mediator in the relationship between dyadic trust states and subjective values. Both studies suggest that trust congruence will bring more integrative behaviors, resulting in higher subjective values. However, neither study supports distributive behaviors as a significant mediator when testing in a parallel mediation model. The lack of significance observed in the mediating role of distributive behavior can be attributed to several factors. Firstly, the inherent complexity and subjectivity in measuring distributive behavior pose methodological challenges, thus potentially diminishing the precision and reliability of its assessment within the research framework. As can be inferred in the reliability tests, the scale of distributive behavior consistently generates lower reliability in both Study 1 and 2 compared to other variables in the research model. Secondly, the negotiation context provided in the exercises might have prioritized the use of integrative strategies. Therefore, the impact of distributive tactics is limited to exerting a significant mediating influence on the relationship between trust congruence and negotiation outcomes. Finally, the participants in this research, especially those recruited in Study 2, have received little to none training on negotiation before engaging in the exercise. The lack of experience could consequently undermine the potency of distributive behavior as a significant mediator in the observed relationship, since participants might be more reluctant to use a distributive strategy than those experienced negotiators, and they might also be less likely to detect cues related to distributive intentions.

At the individual level, Study 2 found no significant support for the different subjective evaluations between the higher and the lower trustor within the dyad with asymmetric trust.

This absence of significant support can be attributed to several factors. Firstly, individuals within dyads with trust asymmetry may not uniformly perceive the discrepancy precisely, or they may perceive it at different points in time, thereby contributing to variations in subjective evaluations. Secondly, the subjective evaluation of asymmetrical trust is influenced by many factors beyond the mere presence of trust asymmetry. For those higher trustors, they might have lower subjective evaluations if they interpret the discrepancy as an unfair breach of psychological contract, or as a reflection of their own trustworthiness as being low. On the contrary, they might not lower their subjective evaluation of the negotiation if they attribute the asymmetry to an unintended motive or factors that are out of their counterpart's control. For those lower trustors, many factors might also affect their subjective outcomes. For example, they might elevate their trust immediately to acknowledge the higher trust of their counterparts and to seize the opportunity to create value, resulting in better outcomes and strengthening relationships. Alternatively, they might view the asymmetry as an opportunity to capitalize, maximizing their one-time gains in the current interaction but sacrificing a long-term relationship. Overall, the complexity of individual cognitive processes, emotional responses, and situational attributions complicates the delineation of subjective evaluations in the context of asymmetrical trust within dyadic interactions.

Regarding the dynamic change of trust over time, it needs to be noted that individuals react differently to the perception of asymmetry. As shown in Table 18, the higher trustors significantly lowered their trust by 0.91, on average, during the negotiation ( $p < 0.001$ ), while the lower trustors only increased their trust by 0.42, on average, during the negotiation ( $p < 0.1$ ). This could be explained by the research conducted by Baumeister and colleagues (2001), which suggests that negative experience will have stronger impact than positive experience, thus the

higher trustor negotiating with a lower trustor (negative experience) might react with more changes than those with positive experience (lower trustors negotiating with a counterpart who displays higher level of trust). Overall, there is a trend that two negotiators with different level of trust will 'meet in the middle' which re-confirms the dynamic and interdependent nature of trust in negotiation and suggests that people will adjust their trust levels based on how their partner behaves.

## **Contributions**

*Dyadic states of trust.* Maintaining a balance between two individuals is important for many types of relationships, including negotiation. However, previous studies on trust focused either on the trustor or the trustee (Fulmer & Gelfand, 2012), but did not pay much attention to the dyadic equilibrium of trust in negotiations. The examination of dyadic states of trust in this dissertation contributes to current literature in several ways. First, this dissertation re-evaluates the underlying assumption of trust as reciprocal and shareable and identifies a boundary condition of social exchange theory by examining dyadic trust congruence and trust asymmetry. The social exchange theory (Blau, 1964) has been widely used in previous research to support the favorable role of trust in negotiation, as trust is predicted to be reciprocated with cooperation and information sharing. However, the findings of this dissertation suggest that social exchange theory might only work when trust is shared and congruent between two negotiators. When trust is asymmetric, however, trust will not beget integrative behaviors that facilitate positive negotiation outcome. Therefore, instead of viewing trust unilaterally, levitating to a dyadic level and investigating the configurations within the dyad will be a better approach to understand trust in negotiation and other types of interactions. Based on this, social balance theory (Heider, 2013) might be a more overarching perspective to evaluating the role of trust in different states: when

there is an equilibrium within the negotiation dyads, both will have higher subjective values. The empirical findings of this dissertation suggest that it is more about the balance of trust between two negotiators, rather than the rule of reciprocity or the individual level of trust, which makes trust critical in the negotiation contexts.

Second, the distinct impact of trust congruence and trust asymmetry responds to the scholarly demand for more research on dyadic trust states (Korsgaard et al., 2015). Even though the incongruence effect on subjective outcome was not consistently supported in both studies, a significant incongruence effect of dyadic trust on negotiation behaviors was identified, suggesting that there will be significantly less integrative behaviors when trust is more asymmetric, and this can *indirectly* contribute to lower dyadic subjective value. Taken together, this dissertation is the first attempt to empirically test the theory of trust congruence (Tomlinson et al., 2009), and it offers critical empirical evidence for future research on dyadic trust states.

*Antecedent of dyadic trust states.* When it comes to antecedents of trust in negotiation, Lu et al.'s review paper (2017) suggests that the current literature still needs more effort in identifying factors contributing to trust in the negotiation context, and there is even less research identifying antecedents of dyadic trust states. A few previous studies have found that difference in affect, power, gender, and culture backgrounds can result in incongruent dyadic trust states (Armstrong & Yee, 2001; Dunn & Schweitzer, 2000; Buchan et al., 2008; Dyer & Chu, 2000; Graebner, 2009; Inesis et al., 2012; Stoel & Muhanna, 2012; Yao & Brett, 2021). However, this dissertation does not find a significant impact of gender or culture differences on dyadic trust states. It is likely that some boundary conditions on the impact of demographic differences, such as individual's belief of social categorization as either malleable or fixed, as suggested by Kung et al. (2018), are not identified or examined in this research. It is also possible that the influences

of demographic factors were weakened during the negotiation process, when interaction behaviors became more prominent. Similarly, the impact of manipulated pre-negotiation trust in Study 2 also diminished after the negotiation. Furthermore, even though the manipulation of trust in Study 2 re-confirms the role of reputation in shaping pre-negotiation trust (SimanTov-Nachlieli et al., 2020), this effect decreased when participants started to negotiate, especially in dyads with incongruent trust. It implies that negotiators are inclined to actively seek and interpret real-time cues during the negotiation, utilizing these insights to recalibrate their trust in the counterpart accordingly. Taken together, these observations suggest that trust should be viewed as an emerging state, instead of a static trait, in social contexts with more than one individual. Both interactive and temporal factors should be considered when finding antecedents to different states of dyadic states since they could vary across different stages of interaction.

*Change of trust over time.* Even though the dynamic development of trust is beyond this dissertation's primary focus, I find some empirical evidence pertaining to the temporal change of trust. First, the data collected in Study 2 suggests that trust will become more congruent over time. Different from the proposition of social exchange theory on trust development, which predicts that trust will develop into a shared-low-trust state when trust is asymmetric, Study 2 suggests that two people will 'meet in the middle' (i.e., the higher trustor will lower his trust while the lower trustor will put more trust) during the negotiation, when they have different levels of trust before negotiations. This finding can be better explained by the social balance theory (Heider, 2013): when the balance within the interaction is disrupted, individuals are motivated to take actions to restore equilibrium, either by adjusting their own levels of behavior or by attempting to change the other party's behaviors. The finding about the change of trust asymmetry in Study 2 supports this theoretical proposition and demonstrates that negotiators

within asymmetric-trust dyads swiftly changed their behaviors and adjusted their trust levels during the interaction.

Second, by comparing the higher trustor and the lower trustor in the asymmetric trust dyads, Study 2 suggests that the higher trustor adjusted much more than the lower trustor to repair the imbalance. Furthermore, social exchange theory would predict that the perception of reciprocity breach will result in negative subjective outcomes (for the higher trustor), while Study 2 find no significant difference in subjective evaluations about the negotiation between the higher and the lower trustor. Taken together, this result provides novel empirical evidence regarding the development of trust and dynamic change of dyadic trust states within negotiation contexts. It responds to the scholarly demand for more research on the evolution of trust, thereby enriching the existing literature on trust dynamics in negotiation scenarios (Lewicki & Bunker, 1995; Serva et al., 2005). Based on the preliminary finding in Study 2, future research is suggested to develop a longitudinal design and further investigate the pattern of dyadic trust states and how they develop and change in the negotiation contexts.

*Practically*, since both studies in this research found the positive impact of trust congruence on negotiation process and outcomes, practitioners need to establish a balanced level of trust within the negotiation dyads, and this can be achieved through communication and integrative behaviors during the interaction. In addition, given the negative impact of trust asymmetry, practitioners should be trained to identify and address situations with asymmetric trust. This might involve understanding the reasons behind the trust disparity and taking steps to bridge the gap. For instance, if one party is less trusting, the other might make more conciliatory gestures to balance the trust levels and remind each other of the importance of mutual trust in creating extra values for both. Third, while a good reputation can foster pre-negotiation trust, as

suggested in Study 2 through the successful manipulation of trust using reputation information, it's not enough to rely solely on past accolades. Continuously demonstrating integrity and behaviors that match the pre-negotiation reputation during the negotiation process is also crucial (Tasa & Bahmani, 2023).

Furthermore, given the dynamic change of trust before and after the negotiation found in Study 2, this research also suggests practitioners to view trust in a dynamic way and remain adaptive during the negotiation process. Negotiators should continuously work on maintaining and enhancing congruent trust throughout the process. In addition to having a well-planned negotiation strategy, negotiators should also be attentive to verbal and non-verbal cues during the negotiation, so that they can make accurate adjustments to maintain the balance of trust with their counterpart. Lastly, organizations are suggested to provide training for their employees in building mutual trust and effective communication, especially for those who are expected to engage in frequent negotiations. By integrating these implications into negotiation practice and training sessions, individuals and organizations can enhance their chances of getting mutually beneficial outcomes and building long-term relationships.

### **Limitations and Future Directions**

This research marks an initial exploration into dyadic trust states within the context of negotiation. As with any pioneering study, it presents certain limitations which offer avenues for further inquiry and refinement in future research.

First, trust in this study is measured either before or after the negotiation, and neither are perfect in capturing the real-time trust during the negotiation. Therefore, future research is suggested to seek other ways to observe trust during the interaction episode and measure how it

changes over time. For example, as what Gabriel and Diefendorff (2015) did in their research on emotional labor dynamics, a similar momentary approach could be designed to examine how trust develops and changes in different negotiation episodes. Specifically, the process of negotiation could be videotaped, and negotiators can watch back their negotiation and provide continuous ratings of trust during the negotiation. Alternatively, dyadic trust states can be coded based on the observation of interactions rather than self-reported trust before and after the interaction. By doing so, future research will offer richer information about how trust forms and changes over time and informs the research on trust adaptiveness in negotiations.

Second, the analysis technique used in this dissertation, polynomial regression with surface analysis, while insightful, is only one approach to understanding complex interpersonal dynamics. Recent research by Yao and Ma (2023) points out some potential limitations of the traditional polynomial regression procedures, suggesting likely oversimplifications of the interpretation on congruence and incongruence effects. They have identified 16 possibilities for a congruence effect that have been implied but have yet to be tested in previous research on congruence. Furthermore, their research also proposes complexities and various implications of an incongruence effect, suggesting a likelihood that some misfit might be preferred over a perfect match. Even though this dissertation has found initial evidence regarding the congruence and incongruence effect of dyadic trust states on negotiation, it did not further examine the exact type or complexity of the congruence effect as addressed by Yao and Ma (2023). Moving forward, congruence researchers might benefit from adopting the more holistic method in running polynomial regressions as suggested by Yao and Ma (2023). Alternatively, future research can also use methods such as the Actor-Partner Interdependence Model (APIM) (Cook & Kenny, 2005). APIM offers a nuanced understanding of interactions within dyads, shedding

light on how individuals influence and are influenced by their relationship partners, thereby providing a more comprehensive view of dyadic states of trust.

Third, the exclusive evaluation of subjective outcomes in this highlights the need for future research to incorporate objective outcomes as well. While subjective evaluations provide valuable insights into individuals' perceptions and experiences, they are inherently susceptible to biases, individual differences, and situational influences. Therefore, future studies could benefit from complementing subjective measures with objective indicators of negotiation outcomes. Additionally, to capture the longitudinal dynamics and long-term effects of trust congruence and asymmetry, future researchers should consider using repeated interactions over a longer span of time. By tracking the change of different trust states and their impacts on both objective and subjective negotiation outcomes across multiple interactions, we can obtain a more comprehensive understanding of how dyadic trust develops, evolves, and influences relationship dynamics and outcomes over the long term. Moreover, given the consistent evidence regarding the favorable outcome brought by congruent trust, it is important next to identify factors that contribute to trust congruence, especially within a brief time in the context of negotiation. Previous research suggests binding contracts could help, but there is still a debate about whether it will enhance trust or not. Some suggest that it will help build trust since it reduces uncertainty and interpersonal risks (McKnight Cummings, & Chervany, 1998). However, other research suggests that binding contracts will inhibit the development of trust since people will attribute others' cooperation to the contract instead of to one's trustworthiness (Malhotra & Murnighan, 2002). Besides the inconsistent findings about the binding contract, current literature offers limited evidence on factors contributing to trust congruence. More importantly, the findings of this dissertation suggest that the antecedent of trust might change over time at different stages,

and social information determining pre-negotiation trust might become less relevant during the interaction. Therefore, future research is suggested to dive deeper into the process of trust convergence and identify more factors contributing to the emergent state of shared trust.

In addition, the accuracy of trust judgment will be crucial to study dyadic trust states in negotiation and other dyadic interactions. People adjust their behavior based on what they observe in the interaction. Thus, an accurate interpretation of other's behaviors and intentions is crucial to build shared trust. Schilke and Huang (2018) found that an accurate match between one's trust and the counterpart's trustworthiness will affect how people interact with each other, while this dissertation did not measure the objective accuracy of trust development but is more about one's subjective evaluation. Therefore, it will be meaningful to examine the accuracy of trust judgement and investigate how it affects the interaction when there is misalignment between actual and felt trust.

Finally, this research only examined two types of negotiation behaviors (integrative and distributive behaviors) as mediators. There are many other types of behaviors that are critical in negotiation contexts but were not included in this research model. For example, the proposition of first offers and counteroffers (Lipp, Smolinski, & Kesting, 2023) and the use of multi-issue offers (Yao, Brett, Zhang, & Ramirez-Marin, 2021). These behaviors are closely related to how much one trusts their counterpart in the negotiation and might also be affected by different dyadic trust states. Furthermore, the higher trustor and the lower trustor might develop different negotiation strategies during the interactions (e.g., Yao et al., 2021). Thus, future research can investigate and compare different negotiation behaviors in dyads with asymmetric trust to provide more insights about the impact of dyadic trust states on individual behaviors and outcomes.

## **Conclusion**

Despite the limitations described above, the two studies conducted in this dissertation research represent a pioneering effort to explore different dyadic states of trust in the negotiation context and to test the trust congruence theory, which contributes to the existing body of literatures on both trust and negotiation. Additionally, this dissertation identifies new and promising avenues for future research, providing valuable insights for both scholars and practitioners interested in the dynamics of trust in negotiations. Findings regarding the congruence and asymmetry effect of dyadic trust states in this research can have broad implications that extend beyond the specific context of negotiation and apply to various scenarios and types of relationships. For example, the dynamics of trust observed within negotiation settings likely mirror those found in other cooperative interactions, such as teamwork, leader-member exchange, and partnership formation. Understanding how trust congruence shapes negotiation process and outcomes can inform strategies for building and maintaining effective relationships and teamwork.

Moreover, the dynamics of trust observed between two negotiators may parallel those found in friendships, romantic partnerships, or family relationships. Insights into how trust asymmetry impacts relationship dynamics can offer valuable guidance for individuals in navigating interpersonal interactions. Furthermore, the study of dyadic trust states can inform organizational practices and policies aimed at fostering trust-based cultures within workplaces. By understanding the factors that contribute to trust congruence, organizations can develop interventions and training programs to promote trust convergence and mitigate challenges related to trust asymmetry.

In conclusion, we need to bring people to the same page of trust besides making wise trust decisions. The findings of this dissertation about trust congruence and asymmetry hold

relevance and applicability across a wide range of scenarios and types of relationships. Future studies are expected to expand on these findings by exploring a broader range of professional interactions and incorporating more diverse samples to enhance the generalizability and of this research. Both individuals and organizations can benefit by enhancing their ability to cultivate and sustain relationships with mutual trust.

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## Appendix A

### Study 1: General Description of *The Viking Investments*

*Viking Investments* is a popular role-playing exercise commonly used in negotiation training and academic settings. The exercise includes a backstory involving financial investments, property improvements, misunderstandings, and potential legal disputes. It is designed to teach conflict resolution and practice negotiation skills, especially in complex situations involving multiple issues and the potential for both cooperative and competitive interactions.

There are two major roles in the scenario of this exercise: Pat is a condominium developer and owns Viking Investments. Sandy is a carpentry contractor who runs a carpentry company WoodCrafters. The scenario revolves around a business dispute between Sandy and Pat: Sandy's company completed a carpentry project at a condominium complex developed by Viking. Unfortunately, due to communication problems and misinterpretation, Sandy upgraded the fine carpentry with Viking's best interest in mind, but without Pat's explicit approval. When Pat declined to cover the additional expenses, it left Sandy's company facing potential bankruptcy. As the situation culminated, both parties agreed on arranging a meeting to negotiate potential resolutions to the conflict.

Participants are assigned either the role of Pat or Sandy and are given specific information relevant to their character. The negotiation exercise focuses on dispute resolution and reaching an agreement that satisfies both parties' interests. Each protagonist in the *Viking Investments* exercise enters the negotiation with distinct perspectives, interpretations of past agreements, and different assessments of their legal standing. Pat focuses on integrity and financial aspects, while Sandy emphasizes the investment and improvements made.

## **The Role of Sandy**

### ***Background***

You live in a small town where you developed your carpentry business WoodCrafer's. Your company is one of the top businesses in the area with a good reputation and competitive prices.

Your business has close relationships with Vikings in the following aspects: 1) when you started your business, they loaned you \$200,000 with a rate 1% higher than other lenders. You have no other choice since you have reached your credit limit. Even though the extra 1% has reduced your room for margin, you don't need to pay the principal back and the loan is renewable with Viking; 2) you have leased a business space from Viking Investments with a rent higher than the market price. You have been thinking about moving to another building with less monthly rent, but your targeted building all sudden became unavailable as the landlord changed their mind. The other option you have is another space with a worse location and even higher rent. You would like to negotiate with Viking to lower the rent, since the economy is getting worse for all the business, and you heard some gossip saying that Viking has no other prospect renters; 3) you just completed a carpentry project for a condominium complex developed by Viking. You need Vikings to pay you for the project in full amount immediately so you can cover your other expenses and overdue payments. Otherwise, your company is likely to go bankrupt which will harm your reputation and credit scores.

### ***The Dispute***

After you signed a formal contract with Viking on the condo project, you found a competitor developer was working on a similar condo project. To make Viking's condos more attractive and competitive, you upgraded the carpentry project. However, you made significant improvements to the carpentry project without formal consent from Viking since Pat was on a trip and the

secretary failed to reach out to Pat about the upgrade. Pat came back and informed you that they would not pay the extra cost since the whole condo complex had been sold on paper and the deal price won't cover the upgrade. Pat was angry about you breaching the contract and making decisions without mutual consent. You decided to meet and solve this dispute.

***Prepare for the Meeting***

- Your lawyer confirmed that you were in a weak position since the contract you signed is final, and no amendments shall be effective without mutual consent. Therefore, Vikings has no obligation to pay you the extra cost related to the upgrades.
- You checked with your banker and other lending agencies, and they were conservative about lending money to your business because of the economic slowdown.
- You have an option to sell your house, and a local real estate agent told you that they have a potential buyer who is willing to pay a good price on your house.

## **The Role of Pat**

### ***Background***

You are the owner of Viking Investments with a focus on real estate development. You have competitors both from the local area and from the out-of-state developers. Due to a recent economic recession, you have been facing severe challenges.

You have multifaceted relationships with WoodCrafters run by Sandy: 1) You had a renewable loan to Sandy. Sandy had been paying the interest on time but had not paid the principal. Now it is a good time for you to stop renewing the loan. 2) Sandy leased a business space from Viking. Recently, Sandy informed you of the lease termination and planned to move to another space with lower rent. You have a potential renter who can pay higher rent, but nothing is on paper yet. 3) you subcontracted a carpentry project for your 100-unit condo complex to WoodCrafters, since they have a good reputation and competitive prices. The relationship with Sandy has been professional but might be strained due to the current dispute.

### ***The Dispute***

As a careful investor, you did your research and developed a 100-unit condominium with your available capital. However, due to the economic recession and the rising of another condo project, you realized that you must act fast. You found WoodCrafters to be the best subcontractor for the carpentry project since they have talented carpenters who can meet the higher standard of quality. You signed the contract with Sandy, believing they will honor and follow through the agreed items. However, Sandy upgraded the carpentry project with additional cost that you cannot afford. Plus, you have made an agreement with a buyer to sell your complex at a price

that did not include the upgrades. You felt upset about Sandy's breach of commitment, but you agreed to meet and talk about the challenge.

***Prepare for the Meeting***

- You talked with your lawyer, and it was confirmed that the contract you signed with Sandy should be final and binding. You are not responsible for the extra cost. Your lawyer also points out that, if Sandy declared bankruptcy, things might get complicated since Sandy has other creditors and you might have to return the prepayment from Sandy.
- You also talked with one of your friends who is a successful businesswoman. She suggests you pay Sandy but deduct the loan amount and overdue rent.
- You reviewed your current financial status and found yourself lucky to sell the condo complex. You are fully leveraged as a company.

## Appendix B

### Study 2: General Description of *Zephyr*

The Zephyr Exercise is a role-playing simulation often used in negotiation training and education. This exercise involves a negotiation scenario between two parties: Zephyr, a corporate leasing company looking to expand its business, and Federico's Car Service, a promising local company whose owner has decided to sell. Zephyr was interested in purchasing Federico's and they agreed to meet and negotiate on the acquisition offer.

The negotiation scenario is designed to introduce the concept of negative bargaining zone, where two negotiators bottom prices do not overlap. The exercise also emphasizes understanding the difference between each party's positions (what they say they want) and interests (their underlying needs and motivations). Participants are expected to utilize their negotiation skills and come up with creative problem-solving to find mutually beneficial solutions.

Participants are randomly assigned the role of Zephyr or Federico with relevant role materials, and the exercise takes about 30 minutes to finish.

## **The Role of Zephyr**

### ***Background***

Zephyr Inc. is a corporate leasing company serving a niche market of wealthy people visiting the Chicago area. You have been seeking opportunities to expand your business and are targeted to increase your present in the coastal cities.

### ***Confidential Information***

- Zephyr's core business focus is short-term car and housing leases for their high-end clients. Recently, the need for luxury car rental has increased, thus your company decided to sell some rental properties at a lower price than the current market and shift the focus to car leasing.
- As the Vice President of Business Development, you are eager to expand your car rental business in the coastal areas. Recently, you heard about Federico's Car Service and knew the owner was going to sell the company.
- After an initial phone call with Federico, you felt it to be a great opportunity to expand if you can acquire the company. You did some research and realized that the cost to start a new branch of Zephyr from scratch would be at least \$1.5M.
- You could not spend more than \$1.5M to purchase Federico's Car Services. Plus, you will need \$350,000 to buy additional cars after the acquisition. Therefore, the highest price you are willing to pay is \$1.15M.

## **The Role of Federico**

### ***Background***

You started your car service company years ago and the business performance has been successful thanks to the growth in the economy and the increased number of wealthy people living around the coastal area. However, you decided to sell your company and move to Chicago. You heard that Zephyr is interested in buying your company and you were going to meet and talk about the acquisition opportunity.

### ***Confidential Information***

- The main reason for you selling the company is that you need to take care of your 85-year-old mother who lives in Chicago. Even though you are still passionate about running your business, you would like to move to Chicago and spend more time with your family. Currently you have \$20,000 in the saving account, but to take care of your mom, you will need at least \$40,000 emergency fund to cover likely medical and caring costs.
- You need to buy a house and think about the living cost after moving to Chicago. Your realtor has helped you find a house for sale for \$900,000. You did your math and found you will need at least \$295,000 to cover the moving expense, renovation, down payment, and closing cost.
- You have maintained a client list consisting of high-profile clients. You also own a collection of ultraluxury cars based on the needs of your customers.
- You have \$20,000 outstanding rent to pay if you sell your company, and you must pay back the remaining loan of \$740,000. In total, the lowest price you are willing to sell your company at is \$1,265,000.

- After talking with your financial advisor, you are confident that your company is worth \$1,500,000.
- You have another potential buyer who is willing to buy part of the fleet with the full client list for \$800,000, and you are waiting for a better offer.

## Appendix C

### Study 1 Questionnaire: Pre-negotiation

1. What is your student ID?
2. What is your dyad ID?
3. What is your role in this exercise?
4. What is your age?
5. What is your gender?
  - a. Male
  - b. Female
  - c. I identify with neither.
6. How many years of full-time work experience do you have?
  - a. 1-3
  - b. 4-6
  - c. 7-9
  - d. 10-12
  - e. 13+
7. Is English your first language?
  - a. Yes
  - b. No. If not, what is your first language? \_\_\_\_\_
8. Which category most closely describes your racial origin?
  - a. Black or African
  - b. Asian
  - c. Hispanic or Latino

- d. White or European
- e. Pacific Islander
- f. Indigenous/Native population
- g. Prefer not to answer.
- h. Another option not listed here: \_\_\_\_\_

### **Study 1 Questionnaire: Post-negotiation**

1. How much would you agree with the following statements describing your counterpart (1 being strongly disagree; 5 being strongly agree)<sup>18</sup>?
  - a. They are fair and honest.
  - b. They stick to their word and use sound principles to guide themselves.
  - c. They are concerned for my welfare.
  - d. They would go out of their way to help me and would not knowingly do anything to hurt me.
  - e. They have the ability to do high-quality negotiations.
  - f. They have the knowledge and skills needed.
  
2. Recalling the behaviors of your negotiation partner, how much do you agree with the following statements (1 being strongly disagree; 5 being strongly agree)<sup>19</sup>?
  - a. She/He issued warnings or used threats.
  - b. She/He appeared forceful and assertive.
  - c. She/He made strong arguments against my position.
  - d. She/He focused more on their own perspective than mine

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<sup>18</sup> Trust Scale: Ability; Benevolence; and Integrity.

<sup>19</sup> Distributive Behaviors Scale: item a-d; Integrative Behaviors Scale: item e-h.

- e. She/He listened with an open mind.
  - f. She/He was willing to share relevant information or data.
  - g. She/He showed concern for my perspective.
  - h. She/He asked questions to understand my interests.
3. Please indicate how much you agree or disagree with the statements below (1 being strongly disagree; 5 being strongly agree)<sup>20</sup>:
- a. I am satisfied with my own outcome – i.e., the extent to which the terms of the agreement (or lack of agreement) benefit you.
  - b. I am satisfied with the balance between my own outcome and my negotiation partner's outcome.
  - c. I think the terms of the agreement are consistent with principles of legitimacy or objective criteria.
  - d. I feel like my negotiation partner listened to my concerns.
  - e. I would characterize the negotiation process as fair.
  - f. I am satisfied with the ease of reaching an agreement.
  - g. The negotiation made me trust my negotiation partner.
  - h. This negotiation built a good foundation for a future relationship with my negotiation partner.”
  - i. My counterpart made a positive “overall” impression on me.

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<sup>20</sup> Subjective Value Inventory

## Appendix D

### Study 2 Questionnaire: Demographics (Time 1)

1. What is your university email?
2. What is your student ID?
3. Your age?
4. What is your gender?
  - a. Male
  - b. Female
  - c. Non-binary/third gender
  - d. Prefer to self-describe \_\_\_\_\_
  - e. Prefer not to say.
5. How many years of work experience do you have?
  - a. None
  - b. Less than 1 year
  - c. 1-3 years
  - d. 3 or more years
6. Is English your first language?
  - a. Yes
  - b. No. If not, what is your first language? \_\_\_\_\_
7. Which category most closely describes your racial origin?
  - i. Black or African
  - j. Asian
  - k. Hispanic or Latino

- l. White or European
  - m. Pacific Islander
  - n. Indigenous/Native population
  - o. Prefer not to answer.
  - p. Another option not listed here: \_\_\_\_\_
8. On a 5-point scale, how likely are you to trust people in general? (1=extremely unlikely; 5=extremely likely)
9. In the context of business negotiation, to what extent do you agree with the following statements? (1=strongly disagree; 5=strongly agree)<sup>21</sup>
- a. Most people are basically honest.
  - b. People will do what they say they will do.
  - c. People will keep promises and commitments.
  - d. You should not trust the other party even if you know them well in other contexts.
  - e. There is no point trusting the other party until you have had repeated interactions.

### **Study 2 Questionnaire: Pre-Negotiation (Time 2)**

1. What is your student number/ID?
2. What is your assigned role in this negotiation?
3. What is your dyad id?
4. How prepared do you think you are for the negotiation?
  - a. Not at all
  - b. A little
  - c. Somewhat prepared

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<sup>21</sup> Trust Propensity in Negotiation Scale

- d. A lot
  - e. A great deal
5. How much do you agree with the following statements describing your negotiation partner (based on the negotiation material; 1 being strongly disagree; 5 being strongly disagree)<sup>22</sup>?
- a. My negotiation partner is likely to keep promises and commitments.
  - b. My negotiation partner is likely to do what they say they will do.
  - c. My negotiation partner is likely to share information honestly and openly.
6. How likely are you going to engage in the following behaviors in the upcoming negotiation (1 being highly unlikely and 5 being highly likely)<sup>23</sup>?
- a. I will share information with my negotiation partner.
  - b. I am willing to trust my negotiation partner.
  - c. I will be fair and honest.

**Study 2 Questionnaire: Post-Negotiation (Time 3)**

1. Did you and your negotiation partner agree on a deal?
- a. No
  - b. Yes. If yes, what are the price and terms of this deal?
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<sup>22</sup> Trustworthiness in Negotiation Scale

<sup>23</sup> Trusting Behavior in Negotiation Scale

2. Recalling the behaviors of your negotiation partner, how much do you agree with the following statements (1 being strongly disagree; 5 being strongly agree)<sup>24</sup>?
- a. She/He issued warnings or used threats.
  - b. She/He appeared forceful and assertive.
  - c. She/He made strong arguments against my position.
  - d. She/He focused more on their own perspective than mine
  - e. She/He listened with an open mind.
  - f. She/He was willing to share relevant information or data.
  - g. She/He showed concern for my perspective.
  - h. She/He asked questions to understand my interests.
3. Recalling YOUR behaviors in the negotiation, how much do you agree with the following statements (1 being strongly disagree; 5 being strongly agree)<sup>25</sup>?
- a. I shared information with my negotiation partner.
  - b. I trusted my negotiation partner.
  - c. I was fair and honest.
4. Please indicate how much you agree or disagree with the statements below (1 being strongly disagree; 5 being strongly agree)<sup>26</sup>:
- a. I am satisfied with my own outcome – i.e., the extent to which the terms of the agreement (or lack of agreement) benefit you.
  - b. I am satisfied with the balance between my own outcome and my negotiation partner's outcome.

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<sup>24</sup> Distributive Behaviors Scale: item a-d; Integrative Behaviors Scale: item e-h.

<sup>25</sup> Trusting Behavior in Negotiation Scale

<sup>26</sup> Subjective Value Inventory

- c. I think the terms of the agreement are consistent with principles of legitimacy or objective criteria.
- d. I feel like my negotiation partner listened to my concerns.
- e. I would characterize the negotiation process as fair.
- f. I am satisfied with the ease of reaching an agreement.
- g. The negotiation made me trust my negotiation partner.
- h. This negotiation built a good foundation for a future relationship with my negotiation partner.”
- i. My counterpart made a positive “overall” impression on me.

## Appendix E

### Study 2: Manipulation of Trust

#### *High Trust*

“To Federico/Zephyr:

Hi! I hope you're doing well! I heard that you'll be negotiating with Zephyr on the acquisition offer, and I want to give you a heads-up on what I've heard.

I have heard good things about negotiating with them! They are willing to work towards mutually beneficial solutions and will follow through on commitments. It sounds like they care about finding optimal solutions for both and are willing to compromise for this purpose instead of just thinking about themselves.

I hope this information can help you prepare for the negotiation. Let me know if you need anything else!

Take care,

Your friend Sandy”

#### *Low Trust:*

“To Federic/Zephyr:

Hi! I hope you're doing well! I heard that you'll be negotiating with Federico on the acquisition offer, and I want to give you a heads-up on what I've heard.

From what I've heard, negotiating with them can be a bit tricky. Some people have said that they aren't very flexible and can be tough to compromise with. There was even one instance where they didn't follow through on commitments. It sounds like they care about individual interests more than seeking mutually beneficial solutions.

I hope this information can help you prepare for the negotiation. Let me know if you need anything else!

Take care,

Your friend Sandy”