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What are the determinants of interpersonal trust in dyadic negotiations? Meta-analytic evidence and implications for future research

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ABSTRACT

Given the practical importance of interpersonal trust in dyadic negotiations, scholars have increasingly turned their attention to the study of determinants of trust in negotiations. However, research in this area has not been well connected or integrated, which limits the ability of scholars and practitioners to ascertain the state of current scientific knowledge and identify questions for future research. Based on attribution theory and social exchange theory, we present a conceptual framework for understanding how a variety of factors combine to influence the development of interpersonal trust in dyadic negotiations. Then, to verify the conceptual framework, we identified and meta-analysed findings from a total of 25 independent studies of determinants of trust in negotiations. The meta-analyses provided support for two of the three factors in the conceptual framework – trustor attributes and shared attributes – that are likely to influence an individual's trust in a negotiation partner. The framework and findings provide valuable scientific insights on trust and negotiation, and also valuable practical insights for negotiation practitioners.

KEYWORDS

Trust; negotiation; behaviour; affect; relationship; meta-analysis

In one of the all-time bestselling practitioner books on negotiation, 'Getting to Yes', Fisher, Ury, and Patton (1991) observed that 'there is power in developing a good working relationship between the people negotiating'; Fisher et al. further argued that 'if there is mutual trust and confidence in one another's reliability, negotiations are likely to be smoother and more successful for both parties' (p. 179). Like practitioners, social and behavioural scientists have also clearly recognised the importance of interpersonal trust in the context of dyadic negotiations. For example, Lewicki and Polin (2013) suggested that 'trust is a critical element throughout a negotiation, as both the lubricant that enhances and facilitates the negotiation process, and the binding element that often holds deals together' (p. 29). Given its apparent importance and the value trust creates, a natural question arises: What are key determinants of trust in the context of interpersonal negotiations?

Organisational researchers have begun to explore this question. For example, Bottom, Holloway, Miller, Mislin, and Whitford (2006) investigated the role of small talk and negative affect on perceptions of a partner's benevolence. Gunia, Brett, Nandkeolyar, and Kamdar (2011), focusing on the potential role of culture in trust development, found that American and Indian negotiators differ from each other in their trust levels in dyadic negotiations. More recently, Campagna, Mislin, Kong, and Bottom (2016) found that the faking of expressed anger damages negotiators' trust and thus renders negotiators a strategic disadvantage. Other scholars have suggested that communication media can affect both truth telling and trusting behaviours in negotiations (Naquin, Kurtzberg, & Belkin, 2010; Valley, Moag, & Bazerman, 1998). And yet others have investigated the effects of social motives (Olekals, Lau, & Smith, 2002; Srivastava & Chakravarti, 2009) and friendship (Olk & Elvira, 2001) on trust perceptions in the context of negotiations. However, perhaps due to the relatively early stage of inquiry, the studies in this literature are not well connected or integrated, producing a variety of specific individual findings without any overall conceptual framework to guide a systematic understanding. The literature also lacks an integrative review – whether narrative or empirical – of the empirical evidence, thus limiting the ability of scholars and practitioners to ascertain the effect sizes of a variety of predictors or identify questions for which research is lacking or findings contradictory.

In the present paper, we provide a conceptual framework outlining the factors that are likely to be important determinants of interpersonal trust in the context of dyadic negotiations. In presenting the framework, we aim to build consensus among scholars regarding the current scientific knowledge, and also provide a useful foundation for future research. Following the tradition of social psychology, we focus on cognitive, affective, and motivational factors that are likely to predict interpersonal trust in negotiation settings. Drawing on attribution theory (Kelley, 1967; cf. Mayer, Davis, & Schoorman, 1995) and social exchange theory (Blau, 1964; cf. McAllister, 1995), the conceptual framework articulates three sets of factors that capture the attribution or social exchange processes of trust development in the negotiation context: trustor attributes, trustee attributes, and shared attributes. As we note below, this framework also largely reflects the implicit model that the body of scholars who have conducted research on this topic have followed in designing and conducting their studies over the last 20 years.

To verify the conceptual framework, we conducted an extensive search of the empirical literature, which enabled us to identify, code, and meta-analyse the findings from a total of 25 independent samples that had examined the relationship between interpersonal trust and its potential determinants in the context of dyadic interpersonal negotiations. Having identified the empirical relationships with sufficient data to meta-analyse, we found empirical support for the effects of two of the three factors in the conceptual framework. In addition, our supplemental analyses suggested that some determinants identified in the conceptual model may interact as determinants of interpersonal trust.

In sum, the present study seeks to summarise and spur research on a topic that has tremendous potential for future research and that will offer significant value in the practice of negotiation. Our study advances research on the determinants of trust in dyadic interpersonal negotiations in several ways. First, the conceptual framework can help scholars understand how a variety of factors combine to influence interpersonal trust development in negotiations. Second, because research in this area is in its early stage and yet has

significant practical value, our meta-analysis focuses primarily on bivariate relationships and less on moderators. This approach enables us to understand the effect sizes of commonly investigated predictors and thus summarise the current empirical knowledge of predictors of trust in the negotiation context. Third, we also identify important and yet not well understood predictors of interpersonal trust in negotiations as well as potential boundary conditions which may alter the effects of trust determinants. In sum, the current meta-analytic research, by taking the first step to propose an overarching framework and systematically analyse the existing data, reveals the current state and promise of this research area and abundant opportunities for future research.

Trust in dyadic interpersonal negotiations

A negotiation is often defined as a social process in which two or more parties jointly decide how to allocate resources (Pruitt & Carnevale, 1993). Kelley (1966) suggested that negotiators face a 'dilemma of trust' in negotiations. If a negotiator believes everything the counterpart says and behaves too generously, he or she may become a victim to the counterpart's exploitation. Conversely, if a negotiator believes nothing the counterpart says and behaves too aggressively, the exchange of critical information between the two negotiators will be hindered, causing suboptimal outcomes (Kong, Dirks, & Ferrin, 2014; Lewicki & Polin, 2013). Thus, a negotiator's trust towards his or her counterpart, though inherently risky, benefits both parties and is crucial for negotiation effectiveness. Thus, how much should a negotiator trust his or her counterpart? And how can a negotiator earn his or her counterpart's trust?

Recent meta-analytic evidence indicates that interpersonal trust, defined as 'a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another' (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395), is a critical determinant of integrative and distributive negotiation processes and joint outcomes (Kong et al., 2014). While researchers have gained a better understanding of the beneficial implications of negotiator trust, quantitative integrative reviews on the determinants of negotiator trust are absent in the literature. To address this gap, we propose a meta-analytic review focusing on three categories of trust determinants — trustor attributes, trustee attributes, and shared attributes — from a componential perspective (Back & Kenny, 2010; Kenny & Kashy, 2014). Our review revealed that these three proposed components also reflect, to a large degree, the variety of studies found in the empirical literature. We describe our conceptual framework and propose our hypotheses in the next section.

Conceptual framework and hypotheses

A dyadic relationship, such as a negotiation relationship in which trust develops, includes two parties – trustor and trustee – and their shared context, according to Kenny and colleagues' componential view on dyadic relationships (Back & Kenny, 2010; Kenny & Kashy, 2014). Trust scholars have recognised that both trustor attributes (e.g. trust propensity) and trustee attributes (e.g. trustworthiness) can influence trust development (Fulmer & Gelfand, 2012; Schoorman, Mayer, & Davis, 2007). We argue that negotiator trust is likely to be a function of trustor attributes (perceiver effects), trustee attributes (target

effects), and shared attributes (contextual effects). Specifically, based on our systematic literature search, we identified positive and negative affect, social motives, and power as extensively studied individual attributes (mostly as trustor attributes), and pre-negotiation relationship, small talk, communication medium, and national culture as extensively studied shared attributes. According to attribution theory and social exchange theory, these factors are likely to predict not only negotiators' perceptions of their counterpart's trustworthiness but also their own trusting intentions. Following previous meta-analytic research on trust in the context of negotiations (e.g. Kong et al., 2014) and other types of social interactions (e.g. Dirks & Ferrin, 2002), we consider negotiator trust to include negotiators' perceptions of their counterpart's trustworthiness, and also negotiators' own trusting intentions.

How do trustor attributes, trustee attributes, and shared attributes shape the development of interpersonal trust in (dyadic) interpersonal negotiations? We argue that these attributes shape negotiators' interpretations and expectations of dyadic exchange and guide negotiators' behaviours towards each other. From an attributional perspective, Mayer et al. (1995) proposed that individuals form interpersonal trust by attributing social cues about another party (e.g. another party's observed small talk behaviours) to that party's trustworthiness (e.g. Bottom et al., 2006). Another view, which complements the attributional view (Dirks & Ferrin, 2002), is that negotiator trust emerges in social exchange (Blau, 1964). Specifically, trust is built through a process of reciprocal exchange and mutual influence that negotiators have towards one another (Ferrin, Bligh, & Kohles,

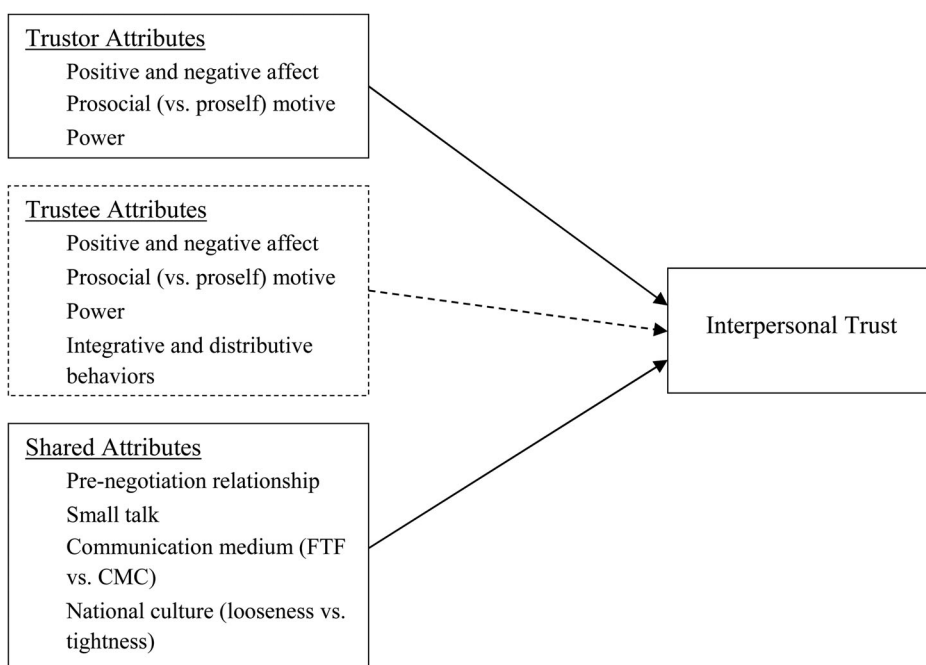


Figure 1. Conceptual framework of determinants of interpersonal trust in dyadic negotiations. Note: The dotted line indicates a linkage assumed to be present, but not presently testable via meta-analysis due to an insufficient number of studies available in the literature.

2008; Korsgaard, Brower, & Lester, 2015). Consequently, social exchange-related factors such as affective states, social motives, power, small talk, prior relationships, and communication contexts (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Homans, 1958; Lawler & Thye, 1999) are likely to influence the development of negotiator trust. As noted above, our search of the empirical literature on determinants of negotiator trust uncovered only a small number of studies of trustee attributes; therefore, we will focus our theorising and empirical analyses on trustor attributes and shared attributes. In the discussion section, we urge scholars to further investigate how trustee negotiation behaviours and other trustee attributes may influence trust development in dyadic negotiations.

Figure 1 presents our conceptual framework. We use solid lines to indicate links between trustor attributes and interpersonal trust, and between shared attributes and interpersonal trust, for which sufficient studies are available in the literature to conduct meta-analytic tests. In contrast to the solid lines, the dotted line between trustee attributes and interpersonal trust indicates a linkage that is assumed to be present, but cannot presently be tested meta-analytically due to an insufficient number of studies available in the literature.

Trustor attributes

Affect

Affect encompasses both emotions and moods (Barsade, Brief, & Spataro, 2003). According to its hedonic tone or valence, affect can be classified into positive affect and negative affect (Barrett & Russell, 1998). Although some research on affect has adopted a discrete-affect approach, noting that discrete affect has distinctive cognitive appraisals and functions (Frijda, Kuipers, & Ter Schure, 1989; Roseman, Wiest, & Swartz, 1994; Smith & Ellsworth, 1985), we chose a valence approach over a discrete-affect approach because the valence approach provides a useful integrative framework (as has been noted in many areas of affect research including affective neuroscience, cognitive development, and psychopathology; Posner, Russell, & Peterson, 2005). Additionally, we did not have a sufficiently large sample size for conducting a meta-analysis from a discrete-affect perspective.

Researchers have examined the intrapersonal functions of affect across a range of social situations, explaining how affect can shape attention, thoughts, memory, and judgment (Erez & Isen, 2002; Isen, Niedenthal, & Cantor, 1992; Tversky & Kahneman, 1974; Watson & Tellegen, 1985). While changes in the environment can evoke different affective states (Frijda, 1987, 1988; Lazarus, 1991; Plutchik, 1980), affective states convey information about the nature of the environment: positive affective states signal to individuals that the environment is lenient and potential rewards are present and thus motivate individuals to maintain such positive feelings, whereas negative affective states signal to individuals that the environment is threatening and thus compel the individuals to enact appropriate action and repair their negative feelings (Baumann & DeSteno, 2010; Frijda, 1987; Schwarz, 1990; Schwarz & Clore, 1983). Consistent with this logic, in a series of five experiments, Dunn and Schweitzer (2005) provided evidence that positive affective states increased interpersonal trust towards coworkers or acquaintances whereas negative affective states decreased interpersonal trust. Similarly, Forgas and East (2008) found that

negative mood increased, whereas positive mood decreased, people's scepticism in deciding whether the target was guilty or innocent of taking an item of value.

Therefore, we argue that positive affect leads negotiators to form positive perceptions of their counterpart's trustworthiness and intentions to accept vulnerability to their counterpart's behaviours, whereas negative affect leads negotiators to form negative perceptions of their counterpart's trustworthiness and intentions to accept their vulnerability to their counterpart's behaviours. Accordingly, we propose the following hypotheses:

Hypothesis 1. Trustor positive affect is positively related to trust in a negotiation counterpart.

Hypothesis 2. Trustor negative affect is negatively related to trust in a negotiation counterpart.

Social motives

Defined as the extent to which people weight their own outcomes versus others' outcomes in socially interdependent situations (De Dreu, Weingart, & Kwon, 2000; Van Lange & De Dreu, 2001), social motives have long been identified as a potentially important determinant of negotiation behaviours (De Dreu, Weingart, et al., 2000; Deutsch, 1969). Dispositionally, some negotiators have relatively prosocial motives – to maximise the joint outcome – whereas others have relatively proself/egoistic motives – to maximise their own outcome. Extant evidence indicates that individuals with prosocial motives tend to think and act in a collectively rational manner, whereas individuals with proself motives tend to think and act in an individually rational manner (De Cremer & Van Lange, 2001). Consequently, we argue that prosocial vs. proself motives could influence interpersonal trust in dyadic negotiations by guiding negotiators' rationality and social perceptions.

First, social motives should directly influence negotiators' perceptions of their counterpart and the nature of exchange even before the negotiation begins. There are moderately strong links between social motives and beliefs regarding others' interpersonal orientations as well as the level of confidence they have in such beliefs (De Cremer & Van Lange, 2001; De Dreu & Van Lange, 1995). Research indicates that negotiators' prosocial (versus proself) motives inhibit their win–lose mindset; in contrast, negotiators' proself motive triggers a win–lose mindset and a fixed-pie bias (Carnevale & Pruitt, 1992; De Cremer & Van Lange, 2001; De Dreu, Koole, & Steinel, 2000): 'In theory, egoistic negotiators develop distrust, hostile attitudes, and negative interpersonal perceptions Prosocial negotiators, in contrast, develop trust, positive attitudes and perceptions, engage in constructive exchange of information, listen, and seek to understand one another's perspective' (De Dreu, Weingart, et al., 2000, p. 891). Thus, prosocial motives lead negotiators to have positive attitudes and perceptions about their counterpart and social exchange and thus form trust towards their counterpart.

Second, as a specific negotiation proceeds and concludes, compared to proself negotiators, prosocial negotiators are more likely to think and behave in a problem-solving and non-contentious manner (with such behaviours likely to be reciprocated by the counterpart; Weingart, Prietula, Hyder, & Genovese, 1999), and earn higher joint outcomes (De Dreu, Weingart, et al., 2000). Compared to proself negotiators who direct their attention and seek information that is more advantageous for them, prosocial negotiators search for information that supports mutually beneficial information exchange (Van Lange &

De Dreu, 2001). The social process of exchanging mutually beneficial information and cooperating with one another is likely to engender interpersonal trust (Blau, 1964; Cropanzano & Mitchell, 2005). Taken together, the above arguments lead us to propose the following hypothesis:

Hypothesis 3. Trustor prosocial (versus proself) motives are positively related to trust in a negotiation counterpart.

Power

One factor inherent in virtually all negotiations is negotiator power, which, according to Kim, Pinkley, and Fragale (2005), can include potential power, power in use, and realised power. Although negotiator power has been conceptualised in a number of ways, one dominant conceptualisation in negotiation contexts is the negotiator's possession of a strong 'Best Alternative To a Negotiated Agreement' (BATNA) (Kim et al., 2005). Although power can be viewed as a relational variable (with one party's power determined in part by the other party's power or dependence), a BATNA can also be viewed as a negotiator's individual attribute that only this negotiator possesses in a specific negotiation (Kim et al., 2005). Consistent with this view, and recognising that the dominant approach in the literature on trust and negotiation to date has been to conceptualise and operationalise power as an individual rather than relational construct, in this paper we also treat power as an individual attribute.

A strong BATNA enables a negotiator to easily walk away from a negotiation and seek an alternative counterpart for resources (Pruitt & Carnevale, 1993). The negotiator who recognises that he or she has such power is likely to consider himself or herself in a position to exert strong control over the process of the current negotiation (Fisher et al., 1991). Given that trust is defined as the willingness to accept vulnerability based upon positive expectations of the intentions or behaviours of another (Mayer et al., 1995), a negotiator who perceives himself or herself as having high power is likely to form cynical attributions for others' prosocial behaviours (Inesi, Gruenfeld, & Galinsky, 2012) and therefore may reduce positive perceptions of others and subsequent interpersonal trust. Moreover, because powerful negotiators have more control over the negotiation process, they are likely to perceive less uncertainty, risk, and dependence in the negotiation, which makes interpersonal trust less necessary for cooperation and negotiation effectiveness (cf. Rousseau et al., 1998). Accordingly, we argue that negotiators with higher power have less positive perceptions of their counterpart and a weaker desire to trust or rely on their counterpart, thereby resulting in lower trust towards their counterpart.

Hypothesis 4. Trustor power is negatively related to trust in a negotiation counterpart.

Shared attributes

The negotiation literature has focused primarily on four shared attributes: the pre-negotiation relationship, small talk, communication medium, and national culture.

Pre-negotiation relationship

Kramer (1999) argued that trust is history-based, that is, '[i]nteraction histories give decision makers information that is useful in assessing others' dispositions, intentions,

and motives. This information, in turn, provides a basis for drawing inferences regarding their trustworthiness and for making predictions about their future behavior' (p. 575; also see Lewicki, Litterer, Minton, & Saunders, 1994, p. 124). Kramer's argument is consistent with social exchange theory, which claims that trust emerges from episodes of exchange interactions and in turn influences subsequent exchange processes (Blau, 1964).

Although a pre-negotiation relationship can be negative and thus may convey information regarding the counterpart's lack of trustworthiness, almost all existing negotiation studies have focused on positive pre-negotiation relationships (e.g. friendships). In addition, as the Vanneste, Puranam, and Kretschmer (2014) meta-analysis has shown, trust generally grows over time as two parties have more exchange episodes with one another, even when individuals have pessimistic initial beliefs about the counterpart's trustworthiness.

Why would a pre-negotiation relationship positively predict interpersonal trust? First, interactions lead people to identify with each other over time as they internalise each other's preferences (Lewicki & Bunker, 1995; Shapiro, Sheppard, & Cheraskin, 1992). Qualitative social network research provides suggestive evidence that social ties increase trust, information sharing, and cooperation by increasing the predictability of counterpart behaviours and the ability to anticipate each other's interests and preferences (Uzzi, 1997, 1999). Second, in the process of information and resource exchange, negotiators are likely to gather accurate information about their counterparts which can help them overcome any initial pessimistic beliefs about their counterparts that they may have had. And as they learn more about each other's preferences and values, they are likely to further identify with each other. Third, considering that many relationships are voluntary, negotiators tend to choose trustworthy counterparts, if possible, and distance themselves from untrustworthy counterparts by ending their relationships early or withdrawing their relational investment (Gelfand, Major, Raver, Nishii, & O'Brien, 2006). Thus, trust should be high in long-lived relationships because many relationships are voluntarily formed, and consequently untrustworthy partners may be excluded over time (Gambetta, 1988).

Based on the above arguments and evidence, we propose that the presence of a pre-negotiation relationship is likely to facilitate negotiator trust.

Hypothesis 5. The presence of a pre-negotiation relationship is positively related to trust in a negotiation counterpart.

Small talk

Defined as a type of conversation seemingly unrelated to the task at hand (Bottom et al., 2006), small talk is typically informal and pleasant in nature. Negotiators are often advised that, rather than jumping straight into the 'business' of a negotiation, they should first engage in small talk to lubricate the interaction with some rapport, which ultimately benefits negotiators economically and relationally (Bottom et al., 2006; Mislin, Campagna, & Bottom, 2011; Morris, Nadler, Kurtzberg, & Thompson, 2002).

Small talk conveys affection and formal courtesies, and expresses fairness and reliability (Bottom et al., 2006). Engaging in small talk allows people to reveal their 'humanness' to each other by disclosing personal information (e.g. Lundeen & Schuldt, 1989). Negotiators can form emotional bonds when they discover that they and their counterpart are associated with a common group, use similar language or jargon, or share similar attitudes,

values and interests (Ferrin et al., 2008). At the same time, friendliness expressed during small talk can induce positive affect, positive attitudes, cooperative mindsets, positive social perceptions, and honest information exchange (Bottom et al., 2006; Mislin et al., 2011; Morris et al., 2002). Thus, small talk can promote social cohesiveness and reduce the tension of a potentially threatening or competitive situation (Coupland & Ylänne-McEwen, 2014). Accordingly, we hypothesise that the presence of small talk will facilitate interpersonal trust:

Hypothesis 6. The presence of small talk is positively related to trust in a negotiation counterpart.

Communication medium

Email communication and other forms of computer-mediated or virtual communication (CMC) are increasingly common in daily life; consequently, CMC negotiations have increasingly captured scholarly attention (Morris et al., 2002; Swaab, Galinsky, Medvec, & Diermeier, 2012). How do CMC negotiations differ from face-to-face (FTF) negotiations? The key distinction is that in FTF negotiations individuals can use numerous modes of communication, such as vocal communication (e.g. voice inflection, sighs), facial expressions, body language (e.g. gestures, touch), and verbal or textual communication, whereas in CMC negotiation individuals largely rely on textual communication rather than a mixture of communication modes (Daft & Lengel, 1986; Swaab et al., 2012; Trevino, Daft, & Lengel, 1990).

From the communication medium richness perspective, ambiguity reduction is a function of the medium's ability to facilitate feedback, communicate multiple cues, present individually tailored messages, and use natural language to convey subtleties; the capacity of a communication channel to convey multiple communication cues determines the extent to which people will be able to work effectively with each other (Daft & Lengel, 1986; Swaab et al., 2012). As the ability to carry nonverbal information increases, the ability to effectively communicate complex ideas, thoughts, and affect also increases (Daft & Lengel, 1986; Trevino et al., 1990). Whereas CMC sufficiently conveys task-related information, it is suboptimal for conveying relational or other non-task-related information (Naquin & Paulson, 2003).

The implication of the above-mentioned communication medium difference is that developing rapport and trust is likely to be more difficult via CMC versus FTF communication (Swaab et al., 2012). Previous research has found that negotiators exchange more honest information in FTF negotiations than in textual or email negotiations (McGinn & Keros, 2002; Valley, Thompson, Gibbons, & Bazerman, 2002), and they also feel more satisfied about their outcomes and relationships in FTF negotiations (Purdy, Nye, & Balakrishnan, 2000). FTF interactions are more likely to induce socially desirable behaviours such as truth telling, other regarding (Valley et al., 1998), and rapport building (Drolet & Morris, 2000), than communication via telephone or text-only communication (McGinn & Croson, 2004). In contrast, CMC may make individuals less aware of others, more aggressive, more task-oriented, and less civil, and may create a sense of social distance (Naquin & Paulson, 2003). Consequently, we expect trust in a negotiation counterpart to be higher in FTF as compared to CMC negotiations.

Hypothesis 7. A FTF (versus CMC) communication medium is positively related to trust in a negotiation counterpart.

National culture

In this analysis, we focus on intra-cultural negotiation, which means that the two negotiators operate within the same culture, and thus the cultural assumptions, values, etc. are shared between them. A national culture not only determines individuals' dispositional trust (Ferrin & Gillespie, 2010; Kong, 2013, 2016) but also influences how individuals believe they should behave in a given situation and how they interpret others' behaviours (Gelfand, Erez, & Aycan, 2007). When two negotiators are from a common culture, their shared culture serves as a common interpretive and normative guide to individual trust and behaviours in general (Ferrin & Gillespie, 2010; Johnson & Cullen, 2002) as well as in negotiation settings specifically (Gunia et al., 2011).

National cultures can be categorised along numerous dimensions (e.g. Hofstede, 1991). Given the inherent focus of trust on uncertainty tolerance/avoidance, one dimension of culture that is particularly relevant to trust is the tightness–looseness dimension (Gelfand, Nishii, & Raver, 2006; Triandis, 2004). Compared with loose cultures (e.g. the United States), tight cultures (e.g. China and India) tend to have strong, clearly defined, and reliably imposed social norms (Gelfand, Nishii, et al., 2006) that enforce behavioural expectations through control (e.g. monitoring and sanctioning) and thus inhibit improvisation or interpretation (Gunia et al., 2011). Cultural tightness–looseness is therefore likely to influence the extent to which social norms are imposed and the extent to which individuals are sensitive to such social norms in interpersonal situations such as negotiations. Individuals in tight cultures are likely to manage their relationships based to a large degree on situational norms and constraints, whereas individuals in loose cultures are relatively more likely to manage their relationships based on interpersonal trust (Branzei, Vertinsky, & Camp, 2007). Furthermore, imposed social norms in tight cultures are likely to lead negotiators to attribute others' trustworthy behaviours to external or situational factors, thus crowding out interpersonal trust (Cialdini, 1996; Ferrin, Bligh, & Kohles, 2007; Malhotra & Murnighan, 2002). In other words, compared to individuals in tight cultures, those in loose cultures are more likely to rely on interpersonal trust (versus strict norms and sanctions) for cooperation. Accordingly, we expect negotiator trust to be higher in loose national cultures as compared to tight national cultures.

Hypothesis 8. Cultural looseness (versus tightness) is positively related to trust in a negotiation counterpart.

Method

Literature search

Sample

We conducted a systematic literature search to identify all accessible published and unpublished studies reporting bivariate relationships between interpersonal trust and its potential determinants in the context of dyadic negotiations. The search terms we used to identify negotiation studies included *negotiat**, *bargaining*, *bargainer*, *dispute*, or

disputant in the titles, subject terms, or keywords of papers. We limited the search to negotiation studies that examined trust as a key variable by using the terms *trust*, *trustworthiness*, *perceived ability*, *perceived competence*, *benevolence*, *benevolent*, *integrity*, *reliability*, *reliable*, *dependability*, or *dependable* in the titles, subject terms, or keywords of the papers.

Our systematic literature search comprised several specific steps. First, using the search terms described above, we searched the PsycINFO, PsycARTICLES, Web of Science, Wiley Interscience, ScienceDirect, Dissertation & Theses (ProQuest), Social Science Research Network, and Academy of Management Archive search engines/databases. Second, using the same search terms, we searched specific journals across several disciplines, including *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Organizational Behavior and Human Decision Processes*, *Organization Science*, *Personnel Psychology*, *Journal of International Business Studies*, *Industrial & Labor Relations Review*, *Journal of Management Studies*, *Journal of Organizational Behavior*, *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, *Management Science*, *Negotiation and Conflict Management Research*, *American Journal of Sociology*, *American Sociological Review*, *Journal of Experimental Social Psychology*, *American Economic Review*, and *International Journal of Conflict Management*. Third, recognising that recent meta-analyses might have included studies relevant to the current meta-analysis, we checked the references of and citations to Kong et al. (2014) and Colquitt, Scott, and LePine (2007). Fourth, recognising that studies of the determinants of trust would likely have cited the field's most influential and seminal article, we checked citations to Mayer et al. (1995) through Web of Science. Fifth, to identify unpublished studies and work in progress, we called for unpublished papers via ListSers of the Academy of Management, the International Association for Conflict Management, and the Society for Judgment and Decision Making, and we also directly contacted prominent scholars working in this research area to request unpublished studies. Finally, we used the Google Scholar search engine to identify any papers that were relevant but had not been found using the procedures described above.

Inclusion criteria

We followed the method of Kong et al. (2014) and only included studies that focused on dyadic negotiations with no third-party mediation involved. Studies that focused on other entities or levels, such as intergroup negotiations or organisation-level negotiations, were excluded. In addition, we excluded Ultimatum Game, Prisoner's Dilemma Game, Trust Game, and allocation decision making studies from our analysis. Studies that did not report empirical findings were also excluded.

For analysis of the effects of communication medium on trust, we only included studies that varied FTF versus CMC medium within the specific study (typically as a manipulated variable). By doing so, we ensured that the included papers were likely to control for exogenous factors that could influence trust levels such as measurement or sample differences. In other words, to assess the effects of FTF versus CMC on trust we did not meta-analyse data from a set of studies in which some studies focused only on FTF negotiations and others focused only on CMC negotiations, because the results of such an analysis would be susceptible to alternative explanations attributable to exogenous factors that might have co-varied across the FTF and CMC conditions. Similarly, in estimating the

bivariate relationships between national culture and negotiator trust, we only included those studies in which the study sample included tight *and* loose cultures (typically coded as a dummy variable).

Variable coding

Our search uncovered 25 papers and dissertations/theses for coding. The population-estimation of a bivariate relationship often requires at least three studies ($k \geq 3$) (Fehr, Gelfand, & Nag, 2010). Thus, we only considered variables whose bivariate relationships with trust were reported in at least three independent studies. Three authors coded the papers and reached consensus upon discussion. Given the nature of the variables of interest, the coding involved minimal ambiguity.

Many papers included in this meta-analysis used experimental manipulation to investigate the effects of various trust determinants. For example, Campagna et al. (2016) used an emotional expression manipulation to elicit different affect levels; Olekalns et al. (2002) manipulated social motives by encouraging participants to focus on maximising either individual or joint outcomes; Campagna, Bottom, Kong, and Mislin (2010) manipulated power by instructing one party that they had another job offer available to them; Olk and Elvira (2001) randomly assigned participants to negotiate with either a friend or an unacquainted person; and Mislin et al. (2011) gave participants in the small talk condition a 10-minute period in which to engage in open text messaging whereas participants in the no talk condition moved directly to contracting. For our analysis of national culture, United States samples were coded as loose cultures and China and India samples were coded as tight cultures. This coding is consistent with prior research on loose vs. tight cultures, for example, Gunia et al. (2011) compared negotiators in the U.S. versus India and Zhang, Liu, and Liu (2014) compared those in the U.S. versus China.

Other papers measured rather than manipulated the variables identified as predictors of trust. For example, Liu and Wang (2010) measured positive and negative affect with compassion and anger scales, respectively. Miller, Farmer, Miller, and Peters (2010) measured pre-negotiation relationship with the familiarity with the other party scale. The [Appendix](#) provides detailed information on the included papers.

Analysis

We transformed the Pearson's r , Cohen's d , F - and t -statistics to Fisher's z . If studies reported relationships for multiple types of trust (e.g. cognition-based trust, affect-based trust, general trust), we randomly selected one type of trust for analysis (Kong et al., 2014). We conducted our analyses using the software MIX Pro 2.0 (Bax, Yu, Ikeda, Tsuruta, & Moons, 2006). We performed random-effects analyses, assuming that the studies were not drawn from the same population and were not functionally equivalent (Hedges & Vevea, 1998). The sample heterogeneity statistics (Q and I^2) largely supported this assumption. We individually corrected each observed effect size for attenuation due to unreliability in the measurement. If a trust determinant was manipulated, its alpha was coded as 1. If a study used a single item measure or did not report the alpha of a measure, we coded the alpha as 1. This coding errs towards overstating rather than understating reliability and therefore should produce more conservative results (i.e. smaller

Table 1. Meta-analytic summary of determinants of interpersonal trust in dyadic negotiations.

	<i>k</i>	<i>N</i> _{individuals}	<i>r</i> (uncorrected)	95% CI (<i>r</i>) (uncorrected)	<i>r</i> (corrected)	95% CI (<i>r</i>) (corrected)	<i>Q</i>	<i>I</i> ² (%)
<i>Trustor attributes</i>								
Positive affect	14	2341	.35	[.22, .47]	.39	[.25, .51]	101.56***	87.20
Negative affect	9	1537	-.28	[-.35, -.20]	-.32	[-.40, -.24]	14.84	46.09
Power	3	354	.00	[-.14, .15]	.00	[-.14, .15]	1.46	0.00
Prosocial (vs. proself) motive	3	256	.45	[.11, .70]	.52	[.11, .78]	12.46**	83.94
<i>Shared attributes</i>								
Pre-negotiation relationship	7	1068	.30	[.13, .46]	.35	[.15, .51]	35.93***	83.30
Small talk	4	602	.23	[.01, .43]	.26	[.002, .49]	15.00***	80.00
Communication medium (FTF vs. CMC)	3	316	.46	[.11, .70]	.57	[.01, .86]	30.63***	93.47
National culture (looseness vs. tightness)	4	791	.26	[.03, .47]	.32	[.02, .56]	32.32***	90.72

Note: Given that *Q* is statistically under-powered when the number of studies is low and when the sample size within the studies is low, we also provided *I*² [= 100% × (*Q*-*df*)/*Q*], whose larger values indicate more heterogeneity. Typically, an *I*² of 75% indicates large heterogeneity, 50% moderate heterogeneity, and 25% low heterogeneity.

p* < .05; *p* < .01; ****p* < .001.

effect sizes) after correcting for attenuation due to unreliability. We calculated an optimally weighted corrected mean effect size (Fisher's z) and converted it back to a correlation coefficient r , by weighting each effect size as a function of inverse variance (Cohn & Becker, 2003). We used the 95% confidence interval (CI) of an estimated correlation coefficient to determine the significance of a bivariate relationship; if a 95% CI excludes zero, its corresponding weighted mean correlation is interpreted to be significantly different from zero.

For the bivariate relationships in Table 1, we further corrected for publication bias (Begg & Mazumdar, 1994) caused by the 'file drawer problem' (Rosenthal, 1979), if any. We adopted the 'trim-and-fill' method (fixed effects) (Duval & Tweedie, 2000), which accounts for the sample sizes of the studies and estimates both the number of unpublished studies and the publication-bias-adjusted estimate of the true mean effect size (Geyskens, Krishnan, Steenkamp, & Cunha, 2009). The trim-and-fill technique (Duval & Tweedie, 2000) is based on the assumption that the full set of possible studies on a topic will be distributed symmetrically around a true mean. In estimating the number of plausibly missing studies, the trim-and-fill method 'trims' the outlying studies that do not have a counterpart on the other side of the mean. The mean effect is recalculated, often resulting in a more conservative effect size; the outlying studies are returned, and their counterparts are estimated based on the new mean level effect size.

Paterson, Harms, Steel, and Credé (2016) compiled information from more than 250 meta-analyses conducted over the past 30 years in the organisational behaviour and human resources literatures and found an average corrected effect of $r_{\text{corrected}} = .28$. And more specific to the present study, they found an average corrected effect of $r_{\text{corrected}} = .22$ for studies of interpersonal processes. Because there is substantial variability in the distribution of bivariate relationships' effect sizes across research domains (Bosco, Aguinis, Singh, Field, & Pierce, 2015; Paterson et al., 2016), we interpret the magnitude of the true mean correlation estimates in reference to these estimates by Paterson et al. (2016) rather than the conventional benchmarks proposed by Cohen (1988), and accordingly we characterise our estimates as 'below-average', 'average', or 'above-average' in relation to Paterson et al.'s benchmarks. Using Paterson et al.'s (2016) benchmarks should help researchers produce better-informed non-nil hypotheses, estimate statistical power, and plan appropriate sample sizes in dyadic negotiation research.

Results

Bivariate relationships between trustor attributes and interpersonal trust

The meta-analytic results are presented in Table 1. Consistent with Hypotheses 1 and 2, which, respectively, predicted an overall positive relationship between trustor positive affect and trust in a negotiation counterpart and an overall negative relationship between trustor negative affect and trust in a negotiation counterpart, we found a positive and above-average-size relationship between positive affect and negotiator trust ($r_{\text{corrected}} = .39$, $CI_{95\%} [.25, .51]$) and a negative and above-average-size relationship between negative affect and negotiator trust ($r_{\text{corrected}} = -.32$, $CI_{95\%} [-.40, -.24]$). Consistent with Hypothesis 3, which predicted a positive relationship between prosocial

(vs. proself) motives and trust in a negotiation counterpart, we found a positive and above-average-size relationship between prosocial (vs. proself) motives and negotiator trust ($r_{\text{corrected}} = .52$, $CI_{95\%} [.11, .78]$). Power had a null relationship with negotiator trust ($r_{\text{corrected}} = .00$, $CI_{95\%} [-.14, .15]$), rendering no support for Hypothesis 4.

Bivariate relationships between shared attributes and interpersonal trust

The presence of a pre-negotiation relationship and small talk, two shared attributes, were predicted to be positively related to trust in a negotiation counterpart (Hypotheses 5 and 6). We found support for a positive and above-average-size relationship between the presence of a pre-negotiation relationship and negotiator trust ($r_{\text{corrected}} = .35$, $CI_{95\%} [.15, .51]$) and the presence of small talk and negotiator trust ($r_{\text{corrected}} = .26$, $CI_{95\%} [.002, .49]$). Thus, both Hypotheses 5 and 6 were supported. Consistent with Hypotheses 7 and 8 which, respectively, predicted that FTF (vs. CMC) medium and cultural looseness (vs. tightness) would have positive relationships with negotiator trust, we found positive and above-average-size relationships for FTF (vs. CMC) medium with negotiator trust ($r_{\text{corrected}} = .57$, $CI_{95\%} [.01, .86]$) and cultural looseness (vs. tightness) with negotiator trust ($r_{\text{corrected}} = .32$, $CI_{95\%} [.02, .56]$).

Publication bias

A trim-and-fill (fixed effects) method was used for correcting publication bias. We did not detect publication bias for positive affect, negative affect, power, communication medium, and national culture. After correcting publication bias, we found a positive and average-size relationship between prosocial (vs. proself) motives and negotiator trust ($r_{\text{publication bias corrected}} = .22$, $CI_{95\%} [.09, .35]$), a positive and above-average-size relationship between pre-negotiation relationship and negotiator trust ($r_{\text{publication bias corrected}} = .27$, $CI_{95\%} [.19, .34]$), and a positive and above-average-size relationship between small talk and negotiator trust ($r_{\text{publication bias corrected}} = .44$, $CI_{95\%} [.36, .52]$). Comparing these results to the results above, we found the three effect sizes became smaller, which suggesting some non-confirmatory results might not be published. However, given that a trim-and-fill method has recently been criticised by some statisticians (Simonsohn, Nelson, & Simmons, 2014; Terrin, Schmid, Lau, & Olkin, 2003), interpretation of our results may also require caution.

Supplemental moderator analyses

We recognised that some of the bivariate relationships examined in our meta-analysis might be subject to moderation effects. First, it is frequently recognised that mode of communication (FTF versus CMC) will result not only in a main effect, but may also moderate the effects of other predictors on a given outcome (Swaab et al., 2012). Second, past meta-analyses (Dirks & Ferrin, 2002; Kong et al., 2014) have found that effects often vary according to how the trust variable is operationalised. The relatively high level of sample heterogeneity (Q and I^2) and relatively large number of independent samples in the relationships between positive and negative affect and trust afforded the opportunity to conduct supplemental moderator analyses for these two expected effects.

First, we subjected the relationship between positive affect and trust and the relationship between negative affect and trust to tests of between-group homogeneity (Hedges & Olkin, 2014). A significant between-group homogeneity statistic (Q_B) indicates a significant between-group difference in the estimates of the mean effect sizes (i.e. significant moderation). We found that the relationship between positive affect and trust was stronger in CMC ($r_{corrected} = .51$) versus FTF ($r_{corrected} = .20$) negotiations ($Q_B = 34.07, p < .001$). In contrast, we found no indication that the relationship between negative affect and trust differed significantly in CMC ($r_{corrected} = -.35$) versus FTF ($r_{corrected} = -.35$) negotiations ($Q_B = .00, n.s.$).

Second, we examined whether the trust definition – trust (trustworthiness) perceptions vs. trust intentions – would moderate the relationships between positive affect and negotiator trust and between negative affect and negotiator trust. We found that the relationship between positive affect and negotiator trust was stronger when trust was measured as trust perceptions ($r_{corrected} = .51$) versus trust intentions ($r_{corrected} = .30$) ($Q_B = 15.54, p < .001$). In contrast, we did not find a significant moderating effect of trust definition on the relationship between negative affect and negotiator trust ($Q_B = 1.41, n.s.$). We also tested whether trust type (i.e. affect- vs. cognition-based trust) would moderate the relationship between positive affect and negotiator trust; no support was found for this effect.

Due to the limited number of independent samples, we were unable to test whether communication medium or trust definition moderated any other bivariate relationships between trustor attributes and negotiator trust, or shared attributes and negotiator trust.

Discussion

Although trust is assumed to be integral to the negotiation experience, to date there has apparently been no attempt to systematically or quantitatively summarise the scientific evidence on the determinants of interpersonal trust in the context of dyadic negotiations. In the present research, we undertook an exploratory approach, presenting a conceptual framework entailing three broad categories of determinants of negotiator trust: trustor attributes, trustee attributes, and shared attributes. Trust scholars have categorised the commonly investigated antecedents of interpersonal trust within organisations into several bases including dispositional trust, history-based trust, third parties as conduits of trust, category-based trust, and rule-based trust (Kramer, 1999). Our categorisation of trust determinants complements these bases identified by other scholars. For example, we deemed affect and social motives, alongside with trust propensity, as trustor attributes. We also considered how shared attributes such as communication medium and national culture, alongside with third parties as conduits of trust, could predict negotiator trust.

We then conducted meta-analytic tests to estimate the overall effects of trustor attributes and shared attributes on negotiator trust. Due to an insufficient number of independent samples on trustee attributes, we did not meta-analyse their effects on negotiator trust. In addition, we conducted supplemental moderation tests and found that some trust determinants interact with each other, and also that the operationalisation of trust exerts a moderator effect, in determining negotiator trust. Taken together, our findings shed light on the current state of knowledge in this area and should also help scholars identify important avenues for future research.

Implications for research

Trustor attributes and shared attributes

In cumulating the empirical evidence, our meta-analysis indicates that trustor attributes (positive affect, negative affect, and social motives) and shared attributes (the presence of a pre-negotiation relationship, the presence of small talk, a FTF vs. CMC medium, and a loose vs. tight national culture) all have significant and relatively strong relationships with interpersonal trust in dyadic negotiations. Several specific findings warrant further discussion.

First, we note that FTF (vs. CMC) negotiations had a surprisingly large relationship with trust ($r_{\text{corrected}} = .57$), highlighting the importance of building trust via FTF negotiations. The magnitude of the effect size estimate is more than twice the magnitude of typical interpersonal process effect sizes reported in the field of organisational behaviour and human resources (Paterson et al., 2016). Of course, given the relatively small number of studies included in the meta-analysis, caution is warranted in interpreting this effect size, and further research on this topic is clearly needed. Our findings would not lead us to suggest that practitioners avoid CMC negotiations at all cost (e.g. Parlamis & Ames, 2010), as it would be impossible to do so in today's highly technology-enabled business world. Instead, we recommend that researchers search for ways to effectively build trust in CMC negotiations. For example, Morris et al. (2002) found that engaging in a relationship-building chat prior to a virtual negotiation could establish rapport and the requisite positive feelings that may contribute to subsequent cooperation.

Second, prosocial (vs. proself) motives had a strong, positive relationship with trust ($r_{\text{corrected}} = .52$). The magnitude of the effect size estimate is again about twice the magnitude of the relevant effect sizes reported by Paterson et al. (2016), highlighting an important role for motivation-related individual differences in negotiators' trust development. We note that meta-analyses of determinants of interpersonal trust in other contexts, such as leadership and the workplace (Colquitt et al., 2007; Dirks & Ferrin, 2002), have focused on individuals' trust propensity as the focal individual difference variable, and have reported small but significant effects. Future research will therefore benefit from considering whether negotiators' trust propensity might be related to interpersonal trust, independently or jointly with social motives. And equally, future research is likely to benefit from considering whether prosocial vs. proself motives may predict interpersonal trust in contexts other than negotiation.

Third, the present meta-analysis found a null relationship between trustor power and trust. This null relationship seems consistent with the interpersonal circumplex model in personality and social psychology, which proposes that agency/dominance (power) and communion/affiliation (trust) are orthogonal dimensions underlying interpersonal traits and behaviours (Conte & Plutchik, 1981; Gifford & O'Connor, 1987). Nevertheless, future research should further investigate how power may influence negotiator trust. Given that power magnifies the expression of dispositions (e.g. Anderson & Thompson, 2004; Guinote, Weick, & Cai, 2012), it is possible that power may play a moderator role altering the relationship between trustor dispositional factors (e.g. prosocial versus proself motives) and negotiator trust. Accordingly, we urge researchers to focus on investigating the conditions under which power may or may not relate to negotiator trust, and also what dispositional factors' effects on negotiator trust may be moderated by power.

Fourth, in the present meta-analysis, there were a total of four independent samples that provided sufficient statistical and other information for us to meta-analytically estimate the bivariate relationship between cultural looseness (vs. tightness) and negotiator trust. Despite the close relevance of the cultural looseness vs. tightness dimension to trust, the literature provides relatively little insight into *how and why* trust levels and dynamics are likely to differ across these dimensions. Our meta-analytic results indicate that future research is very much warranted to explore these phenomena. Additionally, in our meta-analyses, we defined national culture as a shared attribute for both a trustor and a trustee, rather than as an individual cultural value. We note that the current negotiation literature provides little insight into how individual cultural values relate to negotiator trust in *intercultural* negotiations. Given the increasing prevalence of intercultural negotiations, we urge scholars to further examine how cultural differences, particularly in looseness vs. tightness, and also intercultural dynamics, influence negotiator trust.

Interplay of determining attributes

Research on trust determinants in negotiation settings is still in its early stage and the large majority of negotiation studies has focused on the effects of trustor or shared attributes, neglecting trustee attributes, and also largely neglecting the potential interplay of predictors. The moderating effects of FTF vs. CMC, and trust definition (trust perceptions vs. trust intentions), on the relationship between trustor positive affect and trust suggest that exploring the interplay of various trust determinants deserves more research attention and is a promising avenue for future research.

The literature on affect suggests that heuristic processing occurs when individuals are not very familiar with others and lack adequate information for systematic processing (Clore, Gasper, & Garvin, 2001; Schwarz, 1990). Compared to FTF negotiations in which negotiators have richer, observable information about their counterpart, CMC negotiators are compelled to rely more upon the information conveyed by their feelings to make heuristic judgments about their counterpart. Consequently, positive affect, which is strongly associated with heuristic processing (Bodenhausen, Kramer, & Süsser, 1994) and facilitates self-other overlap (Waugh & Fredrickson, 2006), is more likely to facilitate interpersonal trust in CMC versus FTF negotiations. Due to the reduced information conveyed in CMC negotiations as compared to FTF negotiators, CMC negotiators have fewer nonverbal cues for their trust judgments than FTF negotiators. Thus, positive affect, as nonverbal information, is likely to be more salient and important to CMC negotiators' heuristic processing than to that of FTF negotiators. We also note that for practitioners, our findings suggest that particularly in CMC negotiations, negotiators should focus on methods to induce positive affect in their counterpart to develop their counterpart's trust in them.

The moderating effect of the trust definition on the relationship between positive affect and negotiator trust can be explained using Mayer et al.'s (1995) model. According to Mayer and colleagues (1995), trust intentions are determined by trust perceptions (perceived trustworthiness) and thus are probably less susceptible to the influences of intra- and interpersonal and contextual factors. Therefore, positive affect is expected to have a stronger relationship with trust perceptions than with trust intentions. Meanwhile, the non-significant moderating effect of the trust definition on the relationship between negative affect and negotiator trust is somewhat surprising to us. Given that negative affective

states have a greater variety of distinctive manifestations than positive affective states (Frijda, 1987), and some negative affective states have stronger effects on interpersonal trust than others (e.g. Dunn & Schweitzer, 2005), the non-significant result may be due in part to differences in the specific negative affective states included in the primary studies.

A logical and promising next step for academic researchers will be to explore how communication medium and trust definition may modify the effects of other trustor and trustee attributes on negotiator trust. For example, Swaab et al. (2012) proposed and verified a communication orientation model in which communication medium and communicators' social motives interact with one another in determining whether negotiators and decision-makers achieve high-quality outcomes. Although they did not investigate negotiator trust, their logic can be applied to the development of negotiator trust.

Limitations and directions for future research

Given that trust is widely recognised, both by practitioners and academic scholars, as important to negotiation effectiveness, we were surprised by the relatively small number of empirical studies that have examined the determinants of trust in the context of dyadic negotiations. Only a small number of trustor attributes and shared attributes have received systematic attention to date, and the number of independent studies examining any of these variables is also relatively small. We were particularly surprised that the number of studies examining the relationships of trustee attributes with negotiator trust was so small that meta-analysis was impossible.

Many practitioner sources on the topic of negotiation (e.g. Malhotra, 2004) prescribe a range of strategies and behaviours that negotiators (i.e. trustees) can employ to earn trust. Such advice apparently has a limited empirical base. Meanwhile, trust has been found to be a critical determinant of negotiators' integrative and distributive behaviours (Kong et al., 2014). Yet whether and how these negotiation behaviours influence trust development has also not been systematically investigated. Based on our meta-analytic findings, we suggest that the trustor attributes of positive affect, negative affect, prosocial (vs. proself) motive, and power may also influence trust as trustee attributes. For example, positive affect and negative affect might predict trust through affective contagion effects (Brief & Weiss, 2002; Hatfield, Cacioppo, & Rapson, 1994). Similarly, the Emotion as Social Information Model suggests an interpersonal route through which emotions can regulate social behaviours (Van Kleef, 2009; Van Kleef, De Dreu, & Manstead, 2010), which are in turn likely to predict trust. Following the same logic as was presented for trustors above, a trustee's social motive could also influence negotiation dynamics as a negotiation proceeds and concludes, which could then predict negotiator trust. For trustee power, researchers have observed that dependence on a trustee is likely to positively predict interpersonal trust because attributions of trustworthiness will be affected by individuals' feelings of dependence (Weber, Malhotra, & Murnighan, 2004). When the negotiator (trustor) perceives that the counterpart (trustee) has power, the trustor is more likely to depend on the trustee and is motivated to believe that the trustee is trustworthy for achieving the anticipated benefits of negotiation outcomes. Accordingly, it is likely that trustee power will exert a positive effect on negotiator trust. In short, the question of how negotiators can earn their counterpart's trust, though important to negotiation practice, is not well

addressed in scientific research. As articulated above, the present study and Kong et al.'s (2014) meta-analysis together provide some promising starting points for further investigations in this line of inquiry. We have accordingly reflected these variables in the conceptual model (Figure 1). We strongly encourage researchers to focus attention on this issue.

Like any other meta-analysis, the current one has limitations worth noting. Caution is needed in drawing strong conclusions given the small N and k (Oswald & Johnson, 1998). As the literatures on trust and negotiation grow, the present results will need to be updated. Nevertheless, we believe that the present meta-analysis represents an important first step towards organising the currently fragmented literature, building consensus, and pushing the literature forward (Chan & Arvey, 2012). Second, the proposed conceptual framework was based on our observation of the current literature, reflecting the collective wisdom of the community of researchers who have pursued this line of inquiry. Nevertheless, the framework may have omitted concepts that have been under-investigated. Future research can extend our model by including and testing more determining factors. Third, we urge researchers to replicate the direct relationships identified in the present research and the detected moderating effect of communication medium using primary data. Knowledge development in any discipline requires replication work (Hubbard, Vetter, & Little, 1998; Singh, Ang, & Leong, 2003; Tsang & Kwan, 1999). Yet as Hubbard and Vetter (1996) noted, compared to accounting, economics, and finance, in which less than 10% of published empirical work is replication work, management and marketing witness an even lower percentage (5% or less) of published replication work. With more empirical evidence accumulated, researchers will be able to identify more moderating factors for the relationships between determining factors and negotiator trust. Fourth, in coding the variables, we observed considerable heterogeneity in the conceptualisation and measurement of trust in negotiations. Recent meta-analyses on trust consequences in negotiations suggest that different dimensions of trust may play different roles in negotiations (Kong et al., 2014). When the number of empirical studies grows, it will be valuable for researchers to further examine whether the type of trust could serve as a moderator of the relationships between determinants and negotiator trust (similar to Dirks & Ferrin, 2002). Finally, although meta-analyses are an extremely useful tool for quantitatively cumulating the findings from past research, they are notably weak at providing evidence on causality. Thus, readers should exercise caution in inferring causality from our findings.

Concluding remarks

The present meta-analysis addressed a question that is important to both negotiation scholars and practitioners: What are the determinants of interpersonal trust in dyadic negotiations? We organised and summarised the currently fragmented literature, proposing an overarching framework. We also proffered the 'best evidence' for the bivariate relationships between trust and its seven determining factors while detecting the moderating effect of FTF vs. CMC medium on the relationship between positive affect and negotiator trust. By taking this initial and exploratory step to enhance the scientific knowledge of the determinants of negotiator trust, we hope that our findings not only provide valuable insight on the current state of the literature for negotiation scholars and practitioners,

but also serve as a springboard for future research in this important but under-investigated area.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix. Summary of independent samples included in the meta-analysis

Article	Trust definition	Trust variable category	Label of trust variable	Alpha of trust variable	Alpha of trust determinant	Uncorrected correlation (<i>r</i>)	Sample size	Nation	Medium type
<i>Trust determinant: positive affect</i>									
Campagna et al. (2016) Study 1	PE	ABT	Benevolence	0.96	0.90	0.64	140 individuals	USA	CMC
Campagna et al. (2016) Study 2	PE	ABT	Benevolence	0.89	0.86	0.30	87 dyads	USA	CMC
Campagna et al. (2016) Study 3	PE	ABT	Benevolence	0.86	0.92	0.34	71 dyads	USA	CMC
Conlon and Shelton (2002)	WTAV	GT	GT	0.79	0.84	0.18	141 dyads	USA	FTF
Kong and Bottom (2010)	WTAV	GT	GT	0.63	0.81	-0.12	68 dyads	USA	FTF
Kong, Tuncel, and McLean (2011)	WTAV	GT	GT	0.77	0.90	0.10	79 dyads	USA	FTF
Kurtzberg, Naquin, and Belkin (2009)	PE	CBT	Integrity	0.76	1	0.62	62 dyads	USA	CMC
Liu and Wang (2010)	WTAV	GT	GT	0.70	0.77	0.22	277 individuals	USA	Not applicable
Mislin et al. (2011) Study 1	PE	GT	GT	0.89	1	0.25	65 dyads	USA	CMC
Mislin et al. (2011) Study 2	PE	CBT	GT	0.74	0.87	0.27	127 dyads	USA	CMC
Morris et al. (2002)	PE	CBT	Integrity	0.90	0.92	0.60	55 dyads	USA	CMC
Olekalns and Smith (2009)	PE	CBT	Integrity	0.81	1	0.02	60 dyads	Australia	FTF
Wiltermuth and Neale (2011) Study 1	WTAV	GT	GT	1	1	0.61	77 dyads	USA	FTF
Wiltermuth and Neale (2011) Study 2	WTAV	GT	GT	1	1	0.52	70 dyads	USA	CMC
<i>Trust determinant: negative affect</i>									
Bottom et al. (2006)	PE	ABT	Benevolence	0.91	0.78	-0.24	54 dyads	USA	CMC
Campagna et al. (2016) Study 1	PE	ABT	Benevolence	0.96	0.93	-0.36	140 individuals	USA	CMC
Campagna et al. (2016) Study 2	PE	ABT	Benevolence	0.89	0.90	-0.26	87 dyads	USA	CMC
Campagna et al. (2016) Study 3	PE	ABT	Benevolence	0.86	0.89	-0.29	71 dyads	USA	CMC
Conlon and Shelton (2002)	WTAV	GT	GT	0.79	0.91	-0.40	141 dyads	USA	FTF
Kong and Bottom (2010)	WTAV	GT	GT	0.63	0.74	-0.08	68 dyads	USA	FTF
Kong et al. (2011)	WTAV	GT	GT	0.77	0.95	-0.38	79 dyads	USA	FTF
Liu and Wang (2010)	WTAV	GT	GT	0.70	0.86	-0.26	277 individuals	USA	Not applicable
Olekalns and Smith (2009)	PE	CBT	Integrity	0.81	1	-0.03	60 dyads	Australia	FTF

<i>Trust determinant: social motives</i>										
Olekalns et al. (2002)	PE	CBT	Integrity	0.79	1	0.62	48 dyads (with confederate)	Australia	FTF	
Ramírez-Marín, Medina, and Steinel (2007)	WTAV	GT	GT	0.89	1	0.21	88 dyads	Spain	FTF	
Srivastava and Chakravarti (2009)	PE	CBT	Integrity	0.79	1	0.53	16 dyads	USA	FTF	
<i>Trust determinant: power</i>										
Campagna et al. (2010)	PE	CBT	Integrity	1	1	-0.19	30 dyads	USA	CMC	
Wiltermuth and Neale (2011) Study 1	WTAV	GT	GT	1	1	0.04	77 dyads	USA	FTF	
Wiltermuth and Neale (2011) Study 2	WTAV	GT	GT	1	1	0.05	70 dyads	USA	CMC	
<i>Trust determinant: pre-negotiation relationship</i>										
Kong and Bottom (2010)	WTAV	GT	GT	0.63	1	0.18	68 dyads	USA	FTF	
Kwon and Weingart (2008)	PE	CBT	Integrity	0.90	1	0.22	98 dyads	USA	CMC	
Miller et al. (2010)	PE	CBT	Integrity	0.89	0.63	-0.04	84 individuals	USA	CMC	
Morris et al. (2002)	PE	CBT	Integrity	0.90	0.77	0.43	55 dyads	USA	CMC	
Olk and Elvira (2001)	PE	GT	GT	0.77	1	0.17	104 dyads	USA	FTF	
Stevenson (1997)	PE	GT	GT	0.89	1	0.71	37 dyads	USA	FTF	
Zhang et al. (2014)	PE	CBT	Integrity	0.78	1	0.40	130 dyads	USA & China	FTF	
<i>Trust determinant: small talk</i>										
Bottom et al. (2006)	PE	ABT	Benevolence	0.91	0.80	0.30	54 dyads	USA	CMC	
Mislin et al. (2011) Study 1	PE	CBT	Integrity	0.74	1	0.41	127 dyads	USA	CMC	
Mislin et al. (2011) Study 2	PE	GT	GT	0.89	1	-0.07	65 dyads	USA	CMC	
Morris et al. (2002)	PE	CBT	Integrity	0.90	1	0.22	55 dyads	USA	FTF	
<i>Trust determinant: communication medium</i>										
Citera, Beauregard, and Mitsuya (2005)	PE	CBT	Ability	0.92	1	0.30	70 dyads	USA	FTF vs. CMC	
Naquin and Paulson (2003)	PE	CBT	Integrity	0.70	1	0.74	34 dyads	USA	FTF vs. CMC	
Parlamis and Ames (2010)	WTAV	GT	GT	0.79	1	0.25	54 dyads	USA	FTF vs. CMC	
<i>Trust determinant: national culture</i>										
Gunia et al. (2011) Study 1	PE	CBT	Integrity	0.71	1	0.24	205 individuals	US vs. India	CMC	
Gunia et al. (2011) Study 2	PE	GT	GT	0.86	1	0.21	67 dyads	US vs. India	FTF	

(Continued)

Appendix. Continued.

Article	Trust definition	Trust variable category	Label of trust variable	Alpha of trust variable	Alpha of trust determinant	Uncorrected correlation (<i>r</i>)	Sample size	Nation	Medium type
Zhang (2002)	PE	CBT	Integrity	0.71	1	0.55	96 dyads	US vs. China	FTF
Zhang et al. (2014)	PE	CBT	Integrity	0.78	1	0.01	130 dyads	US vs. China	FTF

Note: Trust definition includes the positive expectation (PE) component (McAllister, 1995) and the willingness to accept vulnerability (WTAV) component of the definition by Mayer et al. (1995). Trust category includes cognition-based trust (CBT), affect-based trust (ABT), and general trust (GT). Detailed trust category includes general trust (GT), and perceived ability, benevolence, and integrity. FTF = Face-to-face negotiation; CMC = negotiation via computer-mediated communication including email, video conference, etc. Liu and Wang (2010) used a hypothetical negotiation task, so the medium type was coded as 'Not applicable'. If a trust determinant was manipulated, its alpha was coded as 1. If a study used a single item measure or did not report the alpha of a measure, we coded the alpha as 1. If the study reported types of effect size other than correlations, we transformed them into correlation coefficients.