



Effects of Cognition-based and Affect-based Trust Attitudes on Trust Intentions

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Abstract

Despite decades of research on trust in the workplace, researchers continue to struggle with fundamental questions regarding the conceptualization and measurement of organizational trust. To help clarify this construct, we revisit established trust definitions (Mayer et al. *Academy of Management Review*, 20(3), 709–734, Mayer et al., *Academy of Management Review* 20:709–734, 1995; Rousseau et al. *Academy of Management Review*, 23(3), 393–404, Rousseau et al., *Academy of Management Review* 23:393–404, 1998) and distinguish trust attitudes (i.e., positive expectations of others) from trust intentions (i.e., the willingness to be vulnerable). Using a three-study experimental design, we examined the causal effect of two distinct trust attitudes (i.e., cognition-based and affect-based) on two trust intentions (i.e., reliance and disclosure). We found that when cognition-based trust was high, participants were more willing to rely on a colleague (i.e., had higher reliance intentions). When affect-based trust was high, participants were more willing to share sensitive information with that colleague (i.e., higher disclosure intentions) and more willing to rely on a colleague (i.e., higher reliance intentions). We also examined the effect of mixed trust attitudes (i.e., feelings of low (vs. high) cognition-based trust paired with high (vs. low) affect-based trust). We found that, for reliance intentions, for the most part, high affect-based trust could be substituted with high cognition-based trust. Conversely, for disclosure intentions, high cognition-based trust could not substitute for high affect-based trust. The observed patterns indicate that affect-based and cognition-based attitudes are related yet distinct, with differential patterns of prediction with reliance and disclosure intentions. Our findings also underscore the importance of affect-based trust. By nurturing strong interpersonal bonds among employees, organizations can improve communication and collaboration, critical elements for organizational effectiveness.

Keywords Trust · Trust attitudes · Trust intentions · Cognition-based trust · Affect-based trust · Reliance intentions · Disclosure intentions

Introduction

Over the past few decades, there has been an increased interest in organizational trust among practitioners and academics (Ferrin, 2013; Gillespie et al., 2021). The practice

community is keen to realize the benefits of organizational trust by learning to build trust between employees, teams, and across the organization (e.g., Covey, 2018; Feltman, 2009). Organizational researchers have devoted substantial attention to understanding trust development (Colquitt et al.,

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2007), how trust relates to important work outcomes, such as job performance (Dirks & Ferrin, 2002), and, more recently, understanding why and how trust relates to these outcomes (Colquitt et al., 2012; Dirks & DeJong, 2022).

Given this widespread interest (and the volume of research on trust), it is surprising that researchers continue to struggle with fundamental issues concerning the conceptualization and measurement of this construct. Construct clarification is not a sterile exercise—it is important both from a theoretical and a practical standpoint. Researchers struggle with the mismatch between the definition of trust and its measurement, as well as the causal nature of the relation among the components of trust (Ferrin et al., 2008; Gillespie, 2003; McEvily & Tortoriello, 2011; Schilke et al., 2023). This failure to operationalize trust in a manner consistent with the definition and the lack of clarity among the components of trust makes it difficult to compare research studies and synthesize them accurately across studies (Lewicki et al., 2006). These fundamental concerns with trust may, in part, be resolved by recognizing the multifaceted nature of this complex phenomenon, clarifying the nature of the relations among the components of trust, and aligning its measurement with the intended components (Dietz & Den Hartog, 2006; Ferrin et al., 2008; McEvily & Tortoriello, 2011; Schilke, et al., 2023). Practically, trust has important outcomes in organizational life—organizations that want to assess their level of trust and design interventions to address deficiencies must be guided by strong and coherent empirical evidence. The goal of this research is to clarify the conceptualization and measurement of organizational trust.

We accomplish this goal in two main ways. First, we use multidimensional conceptualizations of trust attitudes (i.e., affect-based and cognition-based) and trust intentions (i.e., reliance and disclosure) to examine the causal effects of trust attitudes on trust intentions. Second, we test whether cognition-based trust and affect-based trust attitudes can substitute for one another to an equivalent degree by comparing the effects of different *mixed* trust attitudes (i.e., instances of high affect-based trust paired with low cognition-based trust vs. low affect-based trust paired with high cognition-based trust) on trust intentions.

Our focus on construct clarification and measurement makes four contributions to the organizational trust literature. First, we draw on attitude theory (Ajzen, 1991; Ajzen & Fishbein, 1980) to recommend separating trust into two components: trust attitudes and trust intentions. We propose that trust attitudes are best captured by the “positive expectations of others” aspect of the definition, whereas trust intentions are best captured by “the willingness to be vulnerable” aspect of the definition. We demonstrate that these components are empirically distinct and establish a causal relationship between them.

Second, we draw from existing models of trust (Gillespie, 2003; McAllister, 1995) and use multidimensional conceptualizations of trust attitudes (i.e., affect-based and cognition-based) and trust intentions (i.e., reliance and disclosure). We demonstrate that the bases of trust are empirically distinct yet related, which supports a more complex, fine-grained understanding of trust.

Third, to more accurately mirror employee experiences in the workplace, we examine what happens when cognition-based trust and affect-based trust do not align (i.e., where an individual might have either low cognition-based trust and high affect-based trust, or high cognition-based trust and low affect-based trust). Although mixed trust situations like this are plausible and may be likely in practice, there is little theoretical or empirical work examining these situations. Our insights into how mixed trust situations affect the intention to rely on others or disclose information (trust intentions) have the potential to advance theoretical development regarding interpersonal relationships as well as foster better communication and collaboration among employees in the workplace.

Lastly, we innovate on the methodological front. To increase participant engagement when assessing reliance and disclosure trust intentions, we developed a novel method to increase realism by having participants respond to scenarios that were based on Gillespie’s (2003) Behavioral Trust Inventory. Taken together, this work of construct clarification helps situate existing models and conceptualizations of trust and, hence, helps address inconsistencies in the trust literature to help the field move forward with greater clarity.

Trust: Attitudes and Intentions

There are two well-established definitions of trust in the organizational trust literature. First, Mayer et al. (1995) define trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (p. 712). Second, Rousseau et al. (1998) define trust as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (p. 395). Both of these definitions capture the widely agreed upon tenet that trust has two key elements: positive expectations of others and the willingness to be vulnerable (Colquitt et al., 2007; Dietz & Den Hartog, 2006; Ferrin et al., 2008; McEvily & Tortoriello, 2011).

The dual conceptualization of trust as both *positive expectations of others* and *the willingness to be vulnerable* has led to confusion in the measurement of trust (Ferrin et al., 2008). Trust measures fail to capture both aspects of the definition of trust (Dietz & Den Hartog, 2006; McEvily &

Tortoriello, 2011). Some trust measures capture the positive expectation of others (e.g., Jones & George, 1998; McAllister, 1995), whereas others capture the willingness to be vulnerable (Gillespie, 2003; Mayer & Davis, 1999). In this paper, we recommend separating trust into two components: trust attitudes and trust intentions. We propose that trust attitudes are best captured by the “positive expectations of others” aspect of the construct, whereas trust intentions are best captured by “the willingness to be vulnerable” aspect of the construct.

Attitude theorists explain how attitudes (e.g., Eagly & Chaiken, 1993; Millar & Tesser, 1986; Zanna & Rempel, 1988) are distinguishable from intentions and behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Millar & Tesser, 1986; Tesser & Shaffer, 1990). According to both the theory of reasoned action and the theory of planned behavior (Ajzen, 1991; Ajzen & Fishbein, 1980), an individual’s attitudes toward a target will shape and predict their behavioral intentions, which subsequently predict their behavior toward that target. If it is the case that trust attitudes are the antecedents of trust intentions, then the former should predict the latter. We examine the understudied relationship between trust attitudes and trust intentions, a relationship that is fundamental to understanding the trust process.

Multidimensional Nature of Attitudes

A multidimensional examination of trust attitudes is important because the cognition-based and affect-based facets of attitudes may relate differently to relevant behaviors (Lewis & Weigert, 1985; Millar & Tesser, 1986), as has been found in social psychology research (Huskinson & Haddock, 2004; Millar & Tesser, 1986). Attitude theorists explain how attitudes are multidimensional constructs with cognitive and affective facets (e.g., Eagly & Chaiken, 1993; Millar & Tesser, 1986; Zanna & Rempel, 1988) that are distinguishable from behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Millar & Tesser, 1986; Tesser & Shaffer, 1990). Fishbein and Ajzen (1975) argue that an individual’s attitude about a given behavior may be more cognition-based or affect-based, depending on the target, context, and timeframe.

In line with this research, there is theoretical and empirical evidence to support a two-factor conceptualization of trust attitudes that distinguishes between cognition-based trust and affect-based trust. Whereas, *cognition-based* trust is a rational form of trust based on information about reliability, dependability, and competence, *affect-based* trust, is a relational form of trust that is grounded in care, concern, and an emotional bond between parties (Johnson-George & Swap, 1982; Lewis & Weigert, 1985; McAllister, 1995; Rempel et al., 1985). These two broad classifications are similar to other categorizations, such as Lewicki and Bunker’s (1995) calculus-based trust and knowledge-based trust

(which maps onto cognition-based trust) versus identification-based trust (which maps to affect-based trust). Similarly, Johnson-George and Swap’s (1982) distinguished between “reliableness” (cognition-based trust) and emotional trust (affect-based trust). Finally, McAllister’s (1995) trust measure, which is one of the most widely accepted measures of trust, incorporates both cognition-based and affect-based trust. This measure captures the “positive expectations of others” aspect of the definition of trust (McEvily & Tortoriello, 2011).

Multidimensional Nature of Trust Intentions

Like trust attitudes, trust intentions can also be conceptualized along two dimensions. Several researchers have developed measures of intentions or the willingness to be vulnerable to the actions of others (e.g., Mayer & Davis, 1999), which serves as the most proximal antecedent of trust behavior (Gillespie, 2003). Gillespie grouped behavioral indicators of trust into two categories, namely, reliance and disclosure behaviors. “Reliance” is the willingness to depend on another individual’s skills, ability, and knowledge and includes behaviors, such as delegating tasks and granting autonomy. “Disclosure” is the willingness to share sensitive information, which is either work-related or of a personal nature – and includes acts such as openly and honestly sharing views or opinions, sharing problems, or admitting mistakes. The key factor underlying reliance and disclosure is that the intention to engage in these behaviors involves taking a risk and making oneself vulnerable to another person. Thus, Gillespie’s trust intentions measure captures “the willingness to be vulnerable” aspect of the definition of trust (McEvily & Tortoriello, 2011).

Effect of Trust Attitudes on Trust Intentions

Not only do we expect trust attitudes to predict trust intentions, but we expect that different trust attitudes (e.g., cognition- and affect-based) should predict different trust intentions (e.g., reliance and disclosure). Millar and Tesser (1986) argue that the cognition-based component of an attitude may be more relevant to instrumental behaviors (e.g., delegating an important task). This perspective is consistent with prior findings, which suggest that a trustee’s past experiences, perceived abilities, and integrity are critical for developing cognition-based trust. Research indicates that ability and competence overlap with aspects of cognition-based trust and that ability and competence predict reliance intentions (Colquitt et al., 2012; Gillespie, 2003; Van der Werff & Buckley, 2017). Taken together, this research suggests that when an individual perceives a person as competent, reliable, and dependable, they will be more willing to rely on that person in situations that involve some risk or uncertainty:

Hypothesis 1: In conditions where cognition-based trust is high (vs low), participants will report greater reliance intentions.

Affect-based trust develops from an emotional bond between parties and centers on feelings such as empathy, care, concern, and loyalty (Deluga, 1994; McAllister, 1995; Scandura & Pellegrini, 2008). In developing the behavioral trust inventory, Gillespie (2003) posited that intentions to disclose are based on emotionally driven motives for trust and are relationship-oriented. Meta-analytic evidence indicates that the benevolence component of trustworthiness may be the most involved in developing affect-based trust (Colquitt et al., 2012; Dirks & Ferrin, 2002). Furthermore, van der Werff and Buckley (2017) found that among the several antecedents of trust, benevolence was the only component of trustworthiness that consistently predicted disclosure behaviors over time. Thus, we expect that when a person has an emotional bond with another person, they are more inclined to disclose sensitive or personal information to that person in situations involving some risk or uncertainty.

Hypothesis 2: In conditions where affect-based trust is high (vs low), participants will report greater disclosure intentions.

Mixed Trust Situations

When the bases of trust are in tandem – consistent with each other – either both low or both high, one would expect them to relate to outcomes in a similar manner. However, it is not always the case that levels of cognition- and affect-based trust will move in tandem. For example, an employee may view a co-worker as competent and reliable (i.e., high cognition-based trust) yet feel that the co-worker does not care about them (i.e., low affect-based trust). Conversely, an employee might have a friendly relationship with a co-worker (i.e., high affect-based trust), while also recognizing that the co-worker does not perform well at work and is unreliable (i.e., low cognition-based trust). Although mixed trust situations like this are plausible and may be likely in practice, there is little theoretical or empirical work examining these situations.

Given the dearth of research and inconsistent findings, it is unclear how trust attitudes will impact trust intentions when affect-based and cognition-based trust are inconsistent. There is some evidence in social psychology that affect takes precedence over cognition (i.e., primacy of affect; Zajonc, 1980). Lavine et al. (1998) found that when affect and cognition were ambivalent, affect predominantly influenced outcomes. Theoretical work argues that affect-based trust is a deeper form of trust that builds on a foundation of cognition-based trust (Lewicki & Bunker, 1995, 1996;

McAllister, 1995). Affect-based trust develops as the trustor and trustee interact with each other over time (McAllister, 1995), and thus, the emotional bonds associated with affect-based trust may be difficult to replace (Lee et al., 2023; McAllister, 1995). Although not in the context of ambivalent trust attitudes, there is some evidence that affect-based trust may have stronger relations with outcomes than cognition-based trust (Legood et al., 2021; Lu, 2014; Saleem et al., 2020; Yang & Mossholder). For example, in the context of leadership, there is evidence (including meta-analytic) that affect-based trust is a stronger mediator of relations between leadership styles and outcomes, such as performance and OCB, than cognition-based trust (Legood et al., 2021; Lu, 2014; Saleem et al., 2020).

Alternatively, there is also research evidence that affect- and cognition-based trust may act as substitutes for each other. The presence of either one would have similar effects on outcomes. For example, De Jong and colleagues (2016) found in their meta-analysis on team trust that cognition- and affect-based trust had similar relations (of equivalent strength) with team performance. Similarly, Legood et al. (2023) report that cognition and affect-based trust had nearly identical relations with procedural justice.

The inconsistencies in these findings could be understood by considering differences in the outcomes under investigation. We propose that whether affect-based trust dominates versus whether cognition- and affect-based trust act as substitutes may depend on the outcome. For example, Webber and Klimoski (2004) found evidence that reliable performance acted as a substitute for low cognition-based trust when the goal was to sustain client engagement. However, they also found that service-oriented OCBs did not act as a substitute for low affect-based trust when the goal was more complex—business expansion. Although their research study did not examine situations in which the bases of trust were incongruent, it does provide evidence that there may be substitutes for cognition-based trust but not for affect-based trust. One potential explanation for these findings is differences in perceived risk for each outcome. Mayer et al. (1995) argued that trustors weigh the level of trust they hold towards a trustee against the level of risk in a situation when deciding whether to engage in risk-taking behaviours (i.e., trust behaviours) – with trustors being more likely to engage in trust behaviours specifically when the level of trust they feel outweighs the level of perceived risk in the situation. In Webber and Klimoski's study, it is possible that acquiring new clients involved greater risk – and thus, required a deeper form of trust (i.e., affect-based trust), relative to maintaining current clients (which involved less risk; and thus, required less trust).

Building on this rationale, we posit that relying on others to help with work tasks (i.e., reliance intentions) may involve less risk and, therefore, may result when *either*

cognition-based or affect-based trust is present. Conversely, we posit that sharing personal or sensitive information (i.e., disclosure intentions) might involve higher risk and, therefore, require a deeper form of trust (namely, affect-based trust). Consequently, we propose that when either cognition-based or affect-based trust is high, participants will be more willing to rely on another person in situations that involve some risk; however, *only* when affect-based trust is high will participants be more willing to disclose personal or sensitive information to that person in situations that involve some risk.

Hypothesis 3: In the mixed trust conditions (i.e., high affect-based trust and low cognition-based trust condition vs. low affect-based and high cognition-based trust condition), reliance ratings will be similar.

Hypothesis 4: In the mixed trust conditions, disclosure ratings will be higher in the high affect-based trust and low cognition-based trust condition than in the low affect-based trust and high cognition-based trust condition.

The Current Research

In Studies 1 and 2, we used a vignette design that described a fictional work colleague, and in Study 3, we used a guided narrative design¹ that had participants identify and describe a real work colleague. We manipulated levels of cognition-based trust (low vs. high) and levels of affect-based trust (low vs. high) and tested their effects on intentions to rely on a co-worker and intentions to disclose personal information to a co-worker. These experimental designs allowed us to test the causal effects of trust attitudes on trust intentions, and the differential effects of affect-based and cognition-based trust attitudes on reliance and disclosure trust intentions.

Study 1

Method

Participants

A sample of 229 undergraduate students from a Canadian university participated in Study 1. Most of these participants were women (72.1%), and of the remaining, 26.2% were men, and 1.7% did not report their gender. Participants ranged in age from 18 to 51 years ($M = 19.93$, $SD = 3.40$). Approximately half of the participants (50.2%) were employed at the time of the study (of these 23.2% had some

managerial experience). We did not collect information on ethnicity from participants in Study 1. Three participants (for whom more than 25% of the data was missing) and two participants (who failed the comprehension checks) were omitted from the analysis. Thus, the final sample was 224 participants.

Procedures and Materials

Study 1 employed a two-way, between-subjects factorial design using two independent variables: cognition-based trust (low versus high) and affect-based trust (low versus high). Participants were randomly assigned to one of four conditions (e.g., high cognition-based trust/high affect-based trust). The two dependent variables were reliance and disclosure intentions. All participants were asked to read an identical paragraph explaining their working conditions in a fictitious organization. Specifically, they were a successful leading consultant at an architecture firm; they had recently been put in charge of an important project but had increasing demands at home that could conflict with their ability to complete their assigned tasks. A junior consultant, Peter, had been assigned to work with them to help them finish the project.

Depending on the participants' assigned condition, they were also asked to read one of four paragraphs with information about their co-worker, Peter. Cognition- and affect-based trust manipulations were drawn from the description of the facets of trust in McAllister's (1995) seminal article. To manipulate cognition-based trust, information about Peter's competence, dependability, and professional credentials was varied. Participants read that Peter graduated with a [A/C] average, that Peter [holds/does not hold] a professional attitude about work, and that in past work interactions with him, he completed his assigned work [effectively/poorly] and was often [on time/late], in the high and low cognition-based trust conditions respectively. To manipulate affect-based trust, information about the participant's emotional bond with Peter varied. Participants read that they [like/do not like] Peter, that he [does/does not] really listen, he [does or does not] offer constructive advice, and that working with Peter will make work [more/less] enjoyable, in the high and low affect-based trust conditions respectively.

After reading the manipulation paragraph about Peter, all participants completed a comprehension check and McAllister's (1995) scale, which consisted of six cognition-based trust items (e.g., "I do not doubt Peter's competence and preparation for the job") and five affect-based trust items (e.g., "If I shared my problems with Peter, I know he would respond constructively and with care") that were adapted to refer to Peter. All items were assessed on a 9-point scale (1 = *completely disagree*, 9 = *completely agree*). Internal reliability estimates were acceptable for both (affect-based

¹ We thank an anonymous reviewer for suggesting a guided narrative approach.

trust: Cronbach's $\alpha=0.90$; cognition-based trust: Cronbach's $\alpha=0.87$).

Next, participants read scenarios that corresponded with the items in Gillespie's (2003) Behavioral Trust Inventory. In five of the scenarios, participants were asked to choose whether or not to rely on Peter in a situation that involved taking a risk. For example, in one scenario, the participant must miss a meeting and has the option of allowing Peter to give a presentation during the meeting on the participant's behalf. This scenario corresponds with Gillespie's item, "Depend on Peter to handle an important issue on your behalf." In the remaining five scenarios, participants were asked to choose whether or not to disclose information to Peter in a situation that involved taking a risk. For example, in one scenario, issues at home with their partner are affecting the participant's work and they need to decide whether or not to disclose this information to Peter. After reading each scenario, participants indicated their willingness to perform the particular behavior discussed in the scenario (e.g., "How willing would you be to let Peter take over completing the proposal?"). Participants chose their response to each question on a 9-point scale (1 = *not at all willing*, 9 = *completely willing*). Participants' responses to the five willingness questions for the reliance scenarios and the five willingness questions for the disclosure scenarios were averaged across the scenarios to generate each participant's score for reliance (Cronbach's $\alpha=0.67$) and disclosure (Cronbach's $\alpha=0.71$). To minimize bias, the order in which participants completed the trust measures and scenarios was counter-balanced, and the order of the scenarios was randomized.

Results and Discussion

Manipulation Results

We conducted a two-way multivariate analysis of variance (MANOVA) to assess whether the manipulation of cognition and affect-based trust attitudes was successful. The overall multivariate effect of condition on participants' combined trust attitudes was not significant for the interaction, *Pillai's trace* = 0.02, $F(2, 203) = 2.33$, $p = 0.100$, $\eta^2 = 0.00$; however it was significant for the main effects of cognition-based trust manipulation condition, *Pillai's trace* = 0.66, $F(2, 203) = 198.59$, $p < 0.001$, $\eta^2 = 0.66$, 90% CI [0.60, 0.71] and the affect-based trust manipulation condition, *Pillai's trace* = 0.71, $F(2, 203) = 243.64$, $p < 0.001$, $\eta^2 = 0.71$, 90% CI [0.65, 0.75]. Given these findings, we further explored the univariate main effects of both cognition-based and affect-based manipulation conditions on participants' reported levels of both cognition-based and affect-based trust attitudes, to assess whether the manipulations were successful.

Cognition-based Trust Manipulation This manipulation of cognition-based trust was successful. Participants in the high cognition-based trust condition reported greater cognition-based trust towards the target ($M = 6.78$, $SD = 1.37$) than participants in the low cognition-based trust condition ($M = 3.71$, $SD = 1.17$), $F(1, 204) = 369.69$, $p < 0.001$, *Cohen's d* = 2.42, 95% CI = [2.07, 2.78]. As expected, the cognition-based trust manipulation had no effect on feelings of affect-based trust toward the target, $F(1, 204) = 0.74$, $p = 0.389$, *Cohen's d* = 0.06, 95% CI = [-0.21, 0.33].

Affect-based Trust Manipulation The manipulation of affect-based trust was also successful. Participants in the high affect-based trust condition experienced higher levels of affect-based trust attitudes toward the target ($M = 6.92$, $SD = 1.18$), than participants in the low affect-based trust condition ($M = 3.02$, $SD = 1.36$), $F(1, 204) = 488.85$, $p < 0.001$, *Cohen's d* = 3.03, 95% CI = [2.64, 3.42]. The affect-based trust manipulation also had a significant – albeit smaller – effect on cognition-based trust, such that participants in the high affect-based trust condition reported greater cognition-based trust toward the target ($M = 5.65$, $SD = 2.06$) than participants in the low affect-based trust condition ($M = 4.89$, $SD = 1.87$), $F(1, 204) = 36.60$, $p < 0.001$, *Cohen's d* = 0.38, 95% CI = [0.11, 0.65]. Notably, the effect of the cognition-based manipulation was 6.37 times stronger than the effect of the affect-based manipulation on cognition-based trust attitudes. Although the effect of affect-based manipulation is much smaller, it may indicate that having affect-based trust leads to the development of cognition-based trust. Alternatively, the affect-based trust manipulation may have inadvertently included cognition-based trust elements. It is important to see whether such a finding is replicated with an alternate manipulation of affect-based trust.

Also, it is interesting to note that the manipulations of cognition-based trust (*Cohen's d* = 2.42) and affect-based trust (*Cohen's d* = 3.03) were similar in strength, as evidenced by their overlapping confidence intervals. Thus, any potential differences in the findings are not due to differences in the strength of the manipulations.

Table 1 presents the descriptive statistics and correlations between the Study 1 variables. Note that cognition-based trust attitudes and affect-based trust attitudes were weakly correlated, $r(208) = 0.29$, $p < 0.001$, and reliance trust intentions and disclosure trust intentions were moderately correlated, $r(219) = 0.50$, $p < 0.001$.

Main Results

To investigate our hypotheses, we conducted a two-way multivariate analysis of variance (MANOVA), using cognition-based and affect-based trust conditions as our independent

Table 1 Means, Standard Deviations, and Correlations with Confidence Intervals for Study 1

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Age	19.93	3.40	—					
2. Gender	1.73	0.44	-.03 [-.17, .10]	—				
3. Cognition-based trust	5.24	2.00	.13 [-.01, .26]	.03 [-.11, .16]	—			
4. Affect-based Trust	5.10	2.31	.11 [-.03, .24]	.11 [-.02, .24]	.29** [.16, .41]	—		
5. Reliance Intentions	5.51	1.33	.14 [.00, .27]	.03 [-.10, .16]	.52** [.42, .62]	.38** [.26, .49]	—	
6. Disclosure Intentions	5.08	1.63	.08[-.06, .22]	.01 [-.12, .14]	.17* [.04, .30]	.63** [.54, .71]	.50** [.39, .59]	—

N = 224. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. Gender is coded as 1 (males), 2 (females)

p* < .05. *p* < .01

variables and reliance and disclosure intentions as our dependent variables. The overall multivariate effect of condition on the combined trust intentions was not significant for the interaction, *Pillai's trace* = 0.00, *F*(2, 214) = 0.36, *p* = 0.696; but it was significant for the cognition-based trust condition, *Pillai's trace* = 0.16, *F*(2, 214) = 20.23, *p* < 0.001, and the affect-based trust condition, *Pillai's trace* = 0.30, *F*(2, 214) = 46.22, *p* < 0.001. These findings indicate that the two conditions significantly differ in their combined trust intentions. We next proceeded to examine the univariate main effects of condition on each of the trust intentions. All cell-level means for both reliance and disclosure intentions are provided in Table 2.

Reliance Intentions

Supporting hypothesis 1, we found that participants in the high cognition-based trust condition were more willing to engage in reliance behaviors (*M* = 5.94, *SD* = 1.31) than participants in the low cognition-based trust conditions (*M* = 5.04, *SD* = 1.19), *F*(1, 215) = 33.97, *p* < 0.001, *Cohen's d* = 0.72, 95% *CI* = [0.45, 0.99]. However, participants in the high affect-based trust condition were also significantly more willing to engage in reliance behaviors (*M* = 5.78, *SD* = 1.28), than participants in the low affect-based trust condition (*M* = 5.16, *SD* = 1.32), *F*(1, 215) = 18.11,

p < 0.001, *Cohen's d* = 0.48, 95% *CI* = [0.21, 0.75]. Notably, the effect sizes for the cognition-based trust conditions and the affect-based trust conditions on reliance were equivalent (i.e., overlapping confidence intervals). The interaction was not significant, *F*(1, 215) = 0.11, *p* = 0.745, η^2 = 0.00, 90% *CI* [0.00, 0.02].

Consistent with our predictions, inducing greater cognition-based trust causes participants to intend to rely more on their co-worker. However, unexpectedly, inducing greater affect-based trust also causes participants to intend to rely more on their co-worker. This could be because, as revealed by the manipulation check data, inducing greater affect-based trust also led to greater cognition-based trust. Perceiving a co-worker as a friend and enjoying working with them might lead individuals to view their co-worker as more competent (See Fig. 1).

Disclosure Intentions

Consistent with hypothesis 2, participants in the high affect-based trust condition were more willing to engage in disclosure behaviors (*M* = 5.91, *SD* = 1.36), than participants in the low affect-based trust condition (*M* = 4.12, *SD* = 1.38), *F*(1, 215) = 92.74, *p* < 0.001, *Cohen's d* = 1.31, 95% *CI* = [1.02, 1.60]. There was no significant difference in participants' reported willingness to engage in disclosure behaviors

Table 2 Reliance and Disclosure Ratings by Condition for Study 1

Condition	<i>n</i>	Reliance Intentions		<i>n</i>	Disclosure Intentions	
		<i>M</i> (95% <i>CI</i>)	<i>SD</i>		<i>M</i> (95% <i>CI</i>)	<i>SD</i>
High Affect-based and High Cognition-based	57	6.34 _a [5.98, 6.69]	1.33	56	6.05 _a [5.65, 6.45]	1.50
Low Affect-based and High Cognition-based	55	5.56 _b [5.24, 5.89]	1.19	57	4.12 _b [3.75, 4.49]	1.41
High Affect-based and Low Cognition-based	63	5.30 _b [5.05, 5.56]	1.03	63	5.80 _a [5.49, 6.11]	1.23
Low Affect-based and Low Cognition-based	46	4.70 _c [4.31, 5.10]	1.33	46	4.13 _b [3.73, 4.53]	1.34

n = number of participants in each condition; *M* = mean; *SD* = standard deviation; Within a column, means with different subscripts are statistically significantly different. Values in square brackets indicate the 95% confidence interval for each mean

**p* < .05

between the high cognition-based trust conditions ($M=5.08$, $SD=1.76$) and the low cognition-based trust conditions ($M=5.11$, $SD=1.51$), $F(1, 215)=0.24$, $p=0.628$ *Cohen's* $d=0.01$, $95\% CI=[-0.25, 0.27]$. The interaction was not significant, $F(1, 215)=0.72$, $p=0.40$, $\eta^2=0.00$, $90\% CI [0.00, 0.03]$. Thus, consistent with our predictions, inducing greater affect-based trust causes participants to intend to disclose sensitive or personal information to their co-worker more.

Trust Intentions in the Mixed Trust Conditions

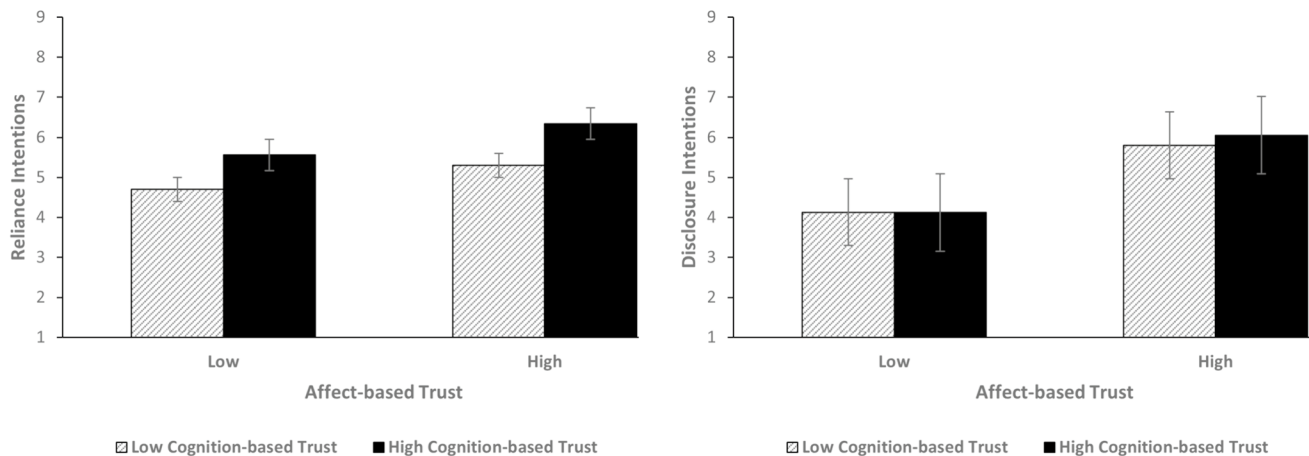
Finally, we examined participants' reliance and disclosure intentions in the mixed trust conditions (i.e., high cognition-based trust paired with low affect-based trust vs. low cognition-based trust paired with high affect-based trust). In support of hypothesis 3, reliance intentions were equivalent when low affect-based trust was paired with high cognition-based trust ($M=5.56$, $SD=1.19$), versus when high affect-based trust was paired with low cognition-based trust ($M=5.30$, $SD=1.03$), $t(116)=1.27$, $p=0.207$, *Cohen's* $d=0.23$, $95\% CI=[-0.13, 0.60]$. This suggests that to rely on someone, one only needs high levels of either cognition-based trust or affect-based trust; each form of trust can substitute for the other. Consistent with Hypothesis 4, disclosure intentions were lower when low affect-based trust was paired with high cognition-based trust ($M=4.12$, $SD=1.41$), than when high affect-based trust was paired with low cognition-based trust ($M=5.80$, $SD=1.23$), $t(118)=6.97$, $p<0.001$, *Cohen's* $d=1.27$, $95\% CI=[0.88, 1.67]$. Unlike the pattern

of results for reliance, these findings suggest that for disclosure intentions, high affect-based trust (with low cognition-based) was needed to increase disclosure intentions, and high cognition-based trust (with low affect-based trust) was not substitutable.

In Study 1, participants in the high affect-based trust condition reported higher levels of cognition-based trust. Although this finding may provide evidence that affect-based trust is a deeper form of trust that builds on cognition-based trust, an alternative interpretation is that the affect-based trust manipulation was problematic. Thus, a second study was designed to replicate the findings of Study 1 and ensure the efficacy of the manipulation of affect-based trust.

Study 2

Given the cross-over effects of the affect-based trust manipulation on ratings of cognition-based trust and on intentions to rely on the co-worker, the goal of Study 2 was to conceptually replicate Study 1 but with stronger manipulations of affect- and cognition-based trust that were orthogonal to one another. We took inspiration from the definition and items of McAllister's (1995) cognition-based and affect-based trust subscales when designing the details of the manipulations, such that the affect-based trust manipulation centered on creating a feeling of care, concern, and closeness; whereas the cognition-based manipulation centered on creating an evaluation of competence, dependability, and reliability.



Error bars represent the standard error around the mean

Fig. 1 Condition Means for Reliance Intentions (left panel) and Disclosure Intentions (right panel) for Study 1

Method

Participants

A sample of 332 undergraduate students from a Canadian university participated in Study 2. Most of the participants were women (79.4%), 19.3% were men, 1.3% did not disclose their gender identity. Participants ranged in age from 18 to 49 years ($M = 20.12$, $SD = 4.00$). Participants identified themselves as white European (73.8%), Southeast Asian (7.2%), South Asian (3.8%), Black/African/Caribbean (3.8%), Latin American (2.5%), and other (8.8%). Over half of the sample (58.0%) was employed at the time of the study, of which 48.5% had been with their current employer for at least one year. Forty-three participants, for whom more than 5% of the data was missing, forty-four participants who failed the comprehension check items, and seven participants who failed the attention check were omitted from the analysis. Thus, the final sample was 238 participants.

Procedures and Materials

The procedures and materials for Study 2 were nearly identical to Study 1, except for the manipulation of cognition-based and affect-based trust. To manipulate cognition-based trust, information about the co-worker's (John) competence and professionalism varied. Participants read that John [was/was not] well-respected by colleagues, that John [was/was not] competent and professional, and John's co-workers [did not/did] feel the need to monitor his work closely because he was [never/often] unprepared and [did not/did] make careless mistakes, in the high and low cognition-based trust conditions respectively. To manipulate affect-based trust, information about the participant's emotional bond with John varied. Participants read that they [were/were not] enthused about working with John on a project because he [was/was not] very constructive and helpful, and they [did/did not] feel comfortable sharing their ideas with John, and that they would feel a sense of [loss/relief] if John was transferred out of their department in the high and low affect-based trust conditions respectively.

After reading the manipulation paragraph about John, all participants completed two comprehension check items and McAllister's (1995) cognition-based (Cronbach's $\alpha = 0.87$) and affect-based trust (Cronbach's $\alpha = 0.91$) scales. Participants also responded to ten detailed scenarios depicting work-related situations involving risk to assess John's reliance intentions (five questions in total, but one had to be removed because of a typo; Cronbach's $\alpha = 0.69$) and disclosure intentions (five questions; Cronbach's $\alpha = 0.73$). Reliance and disclosure items were measured on a 5-point scale (1 = *completely unwilling*, 2 = *somewhat unwilling*, 3 = *neutral*, 4 = *somewhat willing*, 5 = *completely willing*).

Results and Discussion

Manipulation Results

The data for Study 2 was examined using the same analyses as Study 1. The overall multivariate effect of condition on the combined trust attitudes was not significant for the interaction, *Pillai's trace* = 0.01, $F(2, 232) = 1.64$, $p = 0.197$; but it was significant for the cognition-based trust condition, *Pillai's trace* = 0.77, $F(2, 232) = 397.58$, $p < 0.001$ and the affect-based trust condition, *Pillai's trace* = 0.64, $F(2, 232) = 205.77$, $p < 0.001$. Given this, we examined the univariate main effects of condition on each of the trust attitudes to assess whether the manipulations were successful.

Cognition-based Trust Manipulation This manipulation was successful. Participants in the high cognition-based trust condition reported higher levels of cognition-based trust ($M = 7.69$, $SD = 1.25$) compared with participants in the low cognition-based trust condition ($M = 3.49$, $SD = 1.45$), $F(1, 233) = 702.69$, $p < 0.001$, *Cohen's d* = 3.07, 95% *CI* = [2.69, 3.44]. As expected, the cognition-based trust manipulation did not affect feelings of affect-based trust toward the target, $F(1, 233) = 1.95$, $p = 0.164$, *Cohen's d* = 0.10, 95% *CI* = [-0.15, 0.36].

Affect-based Trust Manipulation This manipulation was also successful. Participants in the high affect-based trust condition experienced higher levels of affect-based trust toward the target ($M = 6.85$, $SD = 1.29$), than participants in the low affect-based trust condition ($M = 3.37$, $SD = 1.38$), $F(1, 233) = 413.17$, $p < 0.001$, *Cohen's d* = 2.63, 95% *CI* = [2.28, 2.97]. In addition, the affect-based trust manipulation had a significant effect on cognition-based trust attitudes: Participants in the high affect-based trust condition reported higher levels of cognition-based trust toward the target ($M = 5.98$, $SD = 2.49$) than participants in the low affect-based trust condition ($M = 4.67$, $SD = 2.33$), $F(1, 233) = 69.11$, $p < 0.001$, *Cohen's d* = 0.54, 95% *CI* = [0.28, 0.80]. Notably, the effect of the cognition-based manipulation was 5.69 times stronger than the effect of the affect-based manipulation on cognition-based trust attitudes. Thus, with more rigorous trust manipulations in Study 2, we found the same pattern of results as Study 1 in that the manipulation of affect-based trust affected both affect and cognition-based trust attitudes. Once again, the manipulations of cognition-based trust (*Cohen's d* = 3.07) and affect-based trust (*Cohen's d* = 2.63) were similar in strength (overlapping confidence intervals).

Table 3 presents the descriptive statistics and correlations between the Study 2 variables. Note that cognition-based trust attitudes and affect-based trust attitudes were

Table 3 Means, Standard Deviations, and Correlations with Confidence Intervals for Study 2

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Age	20.12	4.00	—					
2. Gender	1.22	0.44	.08 [-.05, .20]	—				
3. Cognition-based trust	5.32	2.49	-.01 [-.14, .12]	.13 [.01, .26]	—			
4. Affect-based Trust	5.10	2.20	.08 [-.05, .21]	.02 [-.10, .15]	.37** [.25, .47]	—		
5. Reliance Intentions	3.38	0.82	.09 [-.04, .21]	.11 [-.01, .24]	.64** [.56, .71]	.53** [.42, .61]	—	
6. Disclosure Intentions	3.17	0.89	.17* [.04, .29]	-.01 [-.13, .12]	.34** [.22, .45]	.63** [.54, .70]	.51** [.41, .60]	—

N = 238. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. Gender is coded as 1 (females), 2 (males), and 3 (other)

p* < .05. *p* < .01

moderately correlated, $r(237) = 0.37$, $p < 0.001$, and reliance and disclosure trust intentions were moderately correlated, $r(238) = 0.51$, $p < 0.001$.

Main Results

In a two-way multivariate analysis of variance (MANOVA), the overall multivariate effect of condition on the combined trust intentions was not significant for the interaction, Pillai's trace = 0.01, $F(2, 233) = 0.88$, $p = 0.417$; but it was significant for the cognition-based trust condition, Pillai's trace = 0.23, $F(2, 233) = 35.50$, $p < 0.001$ and the affect-based trust condition, Pillai's trace = 0.30, $F(2, 233) = 50.16$, $p < 0.001$. We then examined the univariate ANOVA effects of condition on each of the trust intentions. All cell-level means for both reliance and disclosure intentions are provided in Table 4.

Reliance Intentions Supporting hypothesis 1, as in Study 1, we found that participants in the high cognition-based trust conditions were more willing to engage in reliance behaviors ($M = 3.79$, $SD = 0.73$) than participants in the low cognition-based trust conditions ($M = 3.08$, $SD = 0.745$), $F(1, 234) = 70.59$, $p < 0.001$, *Cohen's d* = 0.96, 95% *CI* = [0.69, 1.23]. In addition, as in Study 1, participants in the high affect-based trust conditions were also more willing to

engage in reliance behaviors ($M = 3.74$, $SD = 0.78$) than participants in the low affect-based trust conditions ($M = 3.03$, $SD = 0.69$), $F(1, 234) = 74.19$, $p < 0.001$, *Cohen's d* = 0.97, 95% *CI* = [0.70, 1.24]. Notably, the effect sizes for the cognition-based trust conditions and the affect-based trust conditions on reliance were equivalent (i.e., overlapping confidence intervals). The interaction between affect-based and cognition-based trust conditions was not significant, $F(1, 234) = 1.76$, $p = 0.185$, $\eta^2 = 0.00$, 90% *CI* [0.00, 0.04]. Thus, with a more rigorous manipulation of affect-based trust in Study 2, we again find that inducing both cognition- and affect-based trust leads to greater intentions to rely on a co-worker (See Fig. 2).

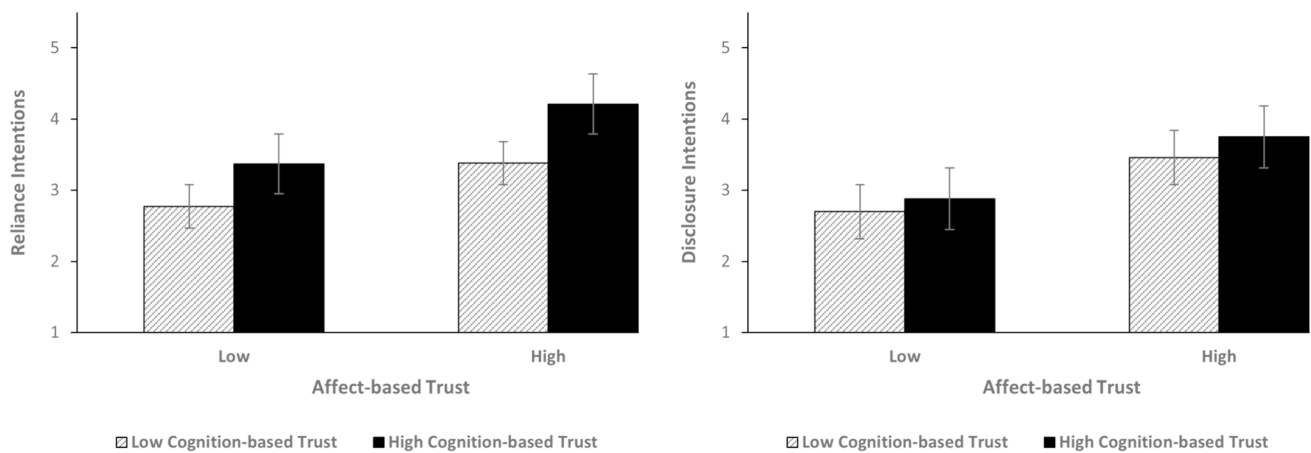
Disclosure Intentions Consistent with hypothesis 2, participants in the high affect-based trust condition were more willing to engage in disclosure behaviors ($M = 3.58$, $SD = 0.81$) than participants in the low affect-based trust condition ($M = 2.78$, $SD = 0.77$), $F(1, 234) = 62.82$, $p < 0.001$, *Cohen's d* = 1.02, 95% *CI* = [0.75, 1.29]. Participants in the high cognition-based trust condition were also more willing to engage in disclosure behaviors ($M = 3.31$, $SD = 0.83$) than participants in the low cognition-based trust conditions ($M = 3.08$, $SD = 0.92$), $F(1, 234) = 5.09$, $p < 0.05$, *Cohen's d* = 0.26, 95% *CI* = [0.00, 0.52]. The effect of the affect-based trust condition was 3.9 times larger than the effect

Table 4 Reliance and Disclosure Ratings by Condition for Study 2

Condition	<i>n</i>	Reliance Intentions		Disclosure Intentions	
		<i>M</i> (95% <i>CI</i>)	<i>SD</i>	<i>M</i> (95% <i>CI</i>)	<i>SD</i>
High Affect-based and High Cognition-based	51	4.21 _a [4.03, 4.39]	.63	3.75 _a [3.52, 3.97]	.80
Low Affect-based and High Cognition-based	52	3.37 _b [3.21, 3.53]	.56	2.88 _b [2.71, 3.05]	.61
High Affect-based and Low Cognition-based	67	3.38 _b [3.22, 3.56]	.69	3.46 _a [3.26, 3.66]	.81
Low Affect-based and Low Cognition-based	68	2.77 _c [2.61, 2.94]	.67	2.70 _b [2.49, 2.91]	.86

n = number of participants in each condition; *M* = mean; *SD* = standard deviation; Within a column, means with different subscripts are statistically significantly different. Values in square brackets indicate the 95% confidence interval for each mean

**p* < .05



Error bars represent the standard error around the mean

Fig. 2 Condition Means for Reliance Intentions (left panel) and Disclosure Intentions (right panel) for Study 2

of the cognition-based trust condition on disclosure ratings (i.e., non-overlapping confidence intervals). The interaction between affect-based and cognition-based trust conditions was not significant, $F(1, 234) = 0.25$, $p = 0.621$, $\eta^2 = 0.00$, 90% CI [0.00, 0.02].

Trust Intentions in the Mixed Trust Conditions

Finally, we examined participants' reliance and disclosure intentions in the mixed trust conditions. In support of hypothesis 3, reliance intentions were equivalent when low affect-based trust paired with high cognition-based trust condition ($M = 3.37$, $SD = 0.56$), versus when high affect-based trust paired with low cognition-based trust ($M = 3.39$, $SD = 0.69$), $t(117) = 0.15$, $p = 0.880$, *Cohen's d* = 0.03, 95% CI = [-0.33, 0.39]. This suggests that when it comes to relying on someone for work-related assistance, the presence of one form of trust compensates for the absence of the other form of trust to an equivalent degree, irrespective of which form of trust is lacking.

Consistent with hypothesis 4, in the mixed trust conditions, when low affect-based trust was paired with high cognition-based trust ($M = 2.88$, $SD = 0.61$), intentions to disclose were lower than when high affect-based trust was paired with low cognition-based trust ($M = 3.46$, $SD = 0.81$), and this difference in participants' disclosure intentions was significant, $t(117) = 4.31$, $p < 0.001$, *Cohen's d* = 0.80, 95% CI = [0.42, 1.17]. Thus, when it comes to disclosing personal information, high cognition-based trust does not compensate for a lack of affect-based trust.

With different manipulations of cognition- and affect-based trust, for the most part, the results of Study 2,

replicated those of Study 1, providing good evidence of internal validity. However, we recognize that trust (especially affect-based trust) develops over time, and reading a scenario about a fictitious person is unlikely to generate genuine trust, thus raising concerns with the external validity of our findings.

Study 3

In Study 3, we supplemented our vignette-based methods in Studies 1 and 2 with a conceptual replication that employs a guided narrative approach. In brief, we manipulated levels of cognition-based and affect-based trust by having full-time workers write about a colleague who embodies these qualities. Such a manipulation creates high ecological validity while maintaining high experimental control. The use of multi-methods allows us to determine whether our results triangulate across different forms of manipulation and samples.

Method

Participants

A sample of 414 full-time workers were recruited from Prolific to participate in Study 3. Pre-screen questions were used to confirm that all participants met the inclusion criteria: residing in North America, holding full-time employment, having at least three years of work experience, speaking English as a first language, and having regular interaction with other employees (i.e., co-workers, colleagues, co-workers,

or assistants). Four participants who failed the comprehension questions, one participant who failed the manipulation check, and five participants who failed the attention check item, were removed from the study. During data cleaning, 50 participants were removed because they did not comply with the instructions regarding what type of co-worker to describe (depending on their assigned condition).² Thus, the final sample comprised 354 participants.

Of this final sample, 175 were women (49%), 177 were men (50%), and 2 were non-binary (1%). Participants ranged in age from 20 to 77 years old ($M=41.14$, $SD=12.20$) and identified themselves as white/European (65%), Black/African/Caribbean (18%), Southeast Asian (12%), Latin American (6%), South Asian (3%), or another ethnic background (2%). Participants had completed college/university (46%), graduate education (15%), a professional degree (11%), or had a different educational background (28%). Most participants reported working in health care and social assistance (15%), finance and insurance (8%), information services and data processing (7%), retail (7%), government and public administration (7%), or construction (7%).

Procedures and Materials

The procedure and materials for Study 3 were similar to Studies 1 and 2, with the following exceptions. Participants were asked to engage in a guided writing task in which they were to recall and describe a co-worker with whom they had previously worked and who fit specific parameters.

To manipulate cognition-based trust, the description of the co-workers' competence, dedication, and reputation varied. For example, in the high cognition-based trust condition, participants were told to write about a co-worker who is competent at their job, dedicated to their work, and well-respected for their reputation of being prepared. In contrast, in the low cognition-based trust condition, participants were told to write about a co-worker who is incompetent at their job, lacks dedication to their work, is often ill-prepared, and makes careless mistakes.

To manipulate affect-based trust, information about the participant's personal relationship with the co-worker varied. In the high affect-based trust condition, participants were told to write about a co-worker who is genuinely interested in helping them succeed and with whom they have developed a caring friendship. In contrast, in the low affect-based trust condition, participants were told to write about a co-worker

who is not genuinely interested in helping the participant and with whom they have not developed a friendship. After completing the writing exercise, participants responded to two comprehension check questions and completed McAllister's (1995) affect-based trust (Cronbach's $\alpha=0.92$) and cognition-based trust (Cronbach's $\alpha=0.94$) trust scales.

Next, participants were instructed to imagine themselves in a scenario where they were working on a demanding work project with many tight timelines while also experiencing personal issues outside of work. Participants were instructed to imagine that the colleague about whom they wrote was working with them on the project. Participants were then presented with ten scenarios similar to those used to assess trust intentions in Studies 1 and 2. The scenarios were revised to make them more general and, therefore, more likely to apply to a wide variety of occupations.³ Consistent with Study 2, all reliance and disclosure items were assessed on a 5-point scale (1 = *completely unwilling*, 5 = *completely willing*). The internal reliability estimates were acceptable for the reliance (Cronbach's $\alpha=0.91$) and disclosure (Cronbach's $\alpha=0.91$) scenarios.

Results and Discussion

Manipulation Results

In a two-way multivariate analysis of variance (MANOVA) the overall multivariate effect of condition on participants' combined trust attitudes was not significant for the interaction, *Pillai's trace* = 0.01, $F(2, 349) = 1.39$, $p = 0.250$; however, it was significant for the main effects of both the cognition-based-, *Pillai's trace* = 0.69, $F(2, 349) = 387.95$, $p < 0.001$ and affect-based trust manipulations, *Pillai's trace* = 0.67, $F(2, 349) = 353.53$, $p < 0.001$. We examined the univariate main effects.

Cognition-based Manipulation Once again, this manipulation was successful. Participants in the high cognition-based trust condition reported greater cognition-based trust towards the target ($M=7.02$, $SD=1.56$), than participants in the low cognition-based trust condition ($M=3.02$, $SD=1.69$), $F(1, 350) = 342.10$, $p < 0.001$, *Cohen's d* = 2.46, 95% *CI* = [2.18, 2.74]. The cognition-based trust manipulation also had a significant – albeit smaller – effect on participants' affect-based trust, $F(1, 350) = 37.82$, $p < 0.001$, *Cohen's d* = 0.54, 95% *CI* = [0.33, 0.75], such that participants in the high cognition-based trust condition reported greater affect-based trust towards the target ($M=5.29$,

² "All analyses were conducted both with and without the 50 participants who failed to provide a relevant example for "Colleague X" that was consistent with their assigned condition. The direction and statistical significance for all observed effects remained consistent between the full and vetted samples, suggesting the exclusion of these 50 participants did not bias the results."

³ Materials for the trust attitude manipulations and trust intention scenarios are available from the authors.

$SD=2.63$), than participants in the low cognition-based trust condition ($M=3.95, SD=2.32$). The effect of the cognition-based manipulation was 2.89 times stronger than the effect of the affect-based manipulation on cognition-based trust attitudes.

Affect-based Manipulation This manipulation was also successful. Participants in the high affect-based trust condition reported greater affect-based trust towards the target ($M=6.78, SD=1.50$), than participants in the low affect-based trust condition ($M=2.67, SD=1.57$), $F(1, 350)=395.07, p<0.001, Cohen's d=2.67, 95% CI=[2.38, 2.95]$. The affect-based trust manipulation also had a significant – albeit smaller – effect on cognition-based trust, such that participants in the high affect-based trust condition reported greater cognition-based trust towards the target ($M=6.08, SD=2.30$), than participants in the low affect-based trust condition ($M=4.08, SD=2.44$), $F(1, 350)=76.52, Cohen's d=0.85, 95% CI=[0.63, 1.06]$. The effect of the affect-based manipulation was 4.94 times stronger than the effect of the cognition-based manipulation on affect-based trust attitudes.

Table 5 presents the descriptive statistics and correlations between the Study 3 variables. Note that cognition-based trust attitudes and affect-based trust attitudes were moderately correlated, $r(352)=0.60, p<0.001$, and reliance and disclosure trust intentions were moderately correlated, $r(352)=0.49, p<0.001$.

Main Results

In a two-way multivariate analysis of variance (MANOVA), the overall multivariate effect of condition on participants' combined trust intentions was significant for both the

cognition-based, $Pillai's trace=0.52, F(2, 349)=189.00, p<0.001$ and affect-based trust manipulations, $Pillai's trace=0.51, F(2, 349)=183.60, p<0.001$. We also observed a significant cognition*affect-based trust manipulation interaction on participants' combined trust intentions, $Pillai's trace=0.03, F(2, 349)=4.80, p=0.009$. These main effects – as well as the potential for an interaction – were further explored by assessing the univariate effects of the cognition and affect-based trust manipulations on both reliance and disclosure intentions.

Reliance Intentions

Consistent with Hypothesis 1, we found that participants in the high cognition-based trust condition were more willing to engage in reliance behaviors ($M=4.13, SD=0.95$) than participants in the low cognition-based trust condition ($M=2.44, SD=0.85$), $F(1, 350)=231.56, p<0.001, Cohen's d=1.87, 95% CI=[1.62, 2.12]$. Consistent with Studies 1 and 2, participants in the high affect-based trust condition were also more willing to engage in reliance behaviors ($M=3.72, SD=1.17$) than participants in the low affect-based trust condition ($M=2.90, SD=1.16$), $F(1, 350)=64.48, p<0.001, Cohen's d=0.70, 95% CI=[0.48, 0.91]$. However, the effect of the cognition-based trust manipulation on reliance intentions in Study 3 ($Cohen's d=1.87$) was 2.67 times larger (i.e., non-overlapping confidence intervals) than the effect of the affect-based trust manipulation on reliance intentions ($Cohen's d=0.70$).

In addition, we found evidence for a statistically significant – albeit small – interaction between cognition and affect-based trust manipulations on reliance intentions, $F(1, 350)=8.59, p=0.004, \eta^2=0.01, 90% CI=[0.00, 0.04]$, which was explored testing the simple effects of

Table 5 Means, Standard Deviations, and Correlations with Confidence Intervals for Study 3

Variable	M	SD	1	2	3	4	5	6
1. Age	41.14	12.19	—					
2. Gender	1.51	0.51	.02 [-.09, .12]	—				
3. Cognition-based Trust	5.03	2.58	-.08 [-.19, .02]	.02 [-.08, .13]	—			
4. Affect-based Trust	4.62	2.57	-.08 [-.19, .02]	.09 [-.01, .19]	.60** [.52, .66]	—		
5. Reliance Intentions	3.29	1.23	-.04 [-.14, .06]	.06 [-.04, .17]	.78** [.74, .82]	.51** [.42, .58]	—	
6. Disclosure Intentions	2.85	1.31	-.10 [-.20, .01]	.01 [-.09, .12]	.52** [.44, .60]	.86** [.83, .89]	.49** [.41, .57]	—

$N=354$. M and SD are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. Gender is coded as 1 (males), 2 (females), and 3 (non-binary)

* $p<.05$. ** $p<.01$

cognition-based trust with post-hoc tests. Among those in the low affect-based trust condition, those in the high (vs. low) cognition-based trust condition were more willing to engage in reliance behaviors, $F(1, 232.94) = 231.56, p < 0.001$. Similarly, among those in the high affect-based trust condition, those in the high (vs. low) cognition-based trust condition were more willing to engage in reliance behaviors, $F(1, 232.94) = 138.51, p < 0.001$ (see Fig. 3). Thus, high affect-based trust may strengthen the effect of cognition-based trust on reliance intentions because people are particularly willing to rely upon a co-worker when they have an emotional bond with the co-worker and a rational basis for their trust. However, this interaction was not hypothesized; therefore, it should be interpreted cautiously and requires replication to confirm its validity.

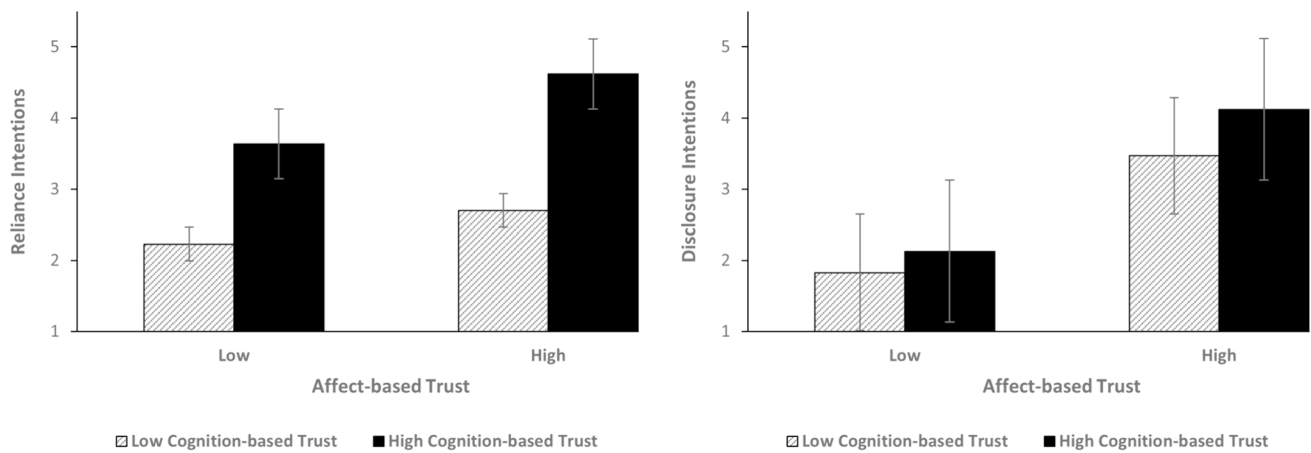
Disclosure Intentions

Consistent with Hypothesis 2, participants in the high affect-based trust condition were more willing to engage in disclosure behaviors ($M = 3.81, SD = 0.95$), than participants in the

low affect-based trust condition ($M = 1.98, SD = 0.91$), $F(1, 350) = 217.84, p < 0.001, Cohen's d = 1.98, 95\% CI = [1.72, 2.23]$. Participants in the high cognition-based trust condition were also more willing to engage in disclosure behaviors ($M = 3.13, SD = 1.35$), than participants in the low cognition-based trust condition ($M = 2.57, SD = 1.20$), $F(1, 350) = 21.98, p < 0.001, Cohen's d = 0.44, 95\% CI = [0.23, 0.65]$. Unlike Studies 1 and 2, both forms of trust affect intentions to engage in disclosure; however, the effect of the affect-based trust manipulation was 4.5 times larger (i.e., non-overlapping confidence intervals) than the effect of the cognition-based trust manipulation on disclosure intentions. The interaction between the two trust manipulations was not significant, $F(1, 350) = 3.33, p = 0.069, \eta^2 = 0.004, 90\% CI = [0.00, 0.02]$.

Reliance and Disclosure Intentions in the Mixed Trust Conditions

Finally, we examined participants' reliance and disclosure intentions in the mixed cognition/affect-based trust



Error bars represent the standard error around the mean

Fig. 3 Condition Means for Reliance Intentions (left panel) and Disclosure Intentions (right panel) for Study 3

Table 6 Reliance and Disclosure Ratings by Condition for Study 3

Condition	n	Reliance Intentions		Disclosure Intentions	
		M (95% CI)	SD	M (95% CI)	SD
High Affect-based and High Cognition-based	89	4.62 _a [4.51, 4.73]	0.52	4.12 _a [3.94, 4.30]	0.85
Low Affect-based and High Cognition-based	89	3.64 _b [3.43, 3.85]	1.02	2.13 _c [1.93, 2.33]	0.98
High Affect-based and Low Cognition-based	79	2.70 _c [2.52, 2.88]	0.82	3.47 _b [3.26, 3.68]	0.94
Low Affect-based and Low Cognition-based	97	2.23 _d [2.07, 2.40]	0.83	1.83 _c [1.67, 1.99]	0.82

n = number of participants in each condition; M = mean; SD = standard deviation; Within a column, means with different subscripts are statistically significantly different. Values in square brackets indicate the 95% confidence interval for each mean

conditions. Cell-level means for both reliance and disclosure intentions are provided in Table 6. We found a statistically significant difference in reliance intentions between groups, as determined by a one-way analysis of variance (ANOVA), $F(3, 350) = 152.70$, $p < 0.001$, $\eta^2 = 0.57$, $90\% CI = [0.51, 0.61]$, which was further explored using the Games Howell post-hoc test.

Contrary to Hypothesis 3, we found that reliance intentions were higher when high cognition-based trust was paired with low affect-based trust ($M = 3.64$, $SD = 1.02$), than when high affect-based trust was paired with low cognition-based trust ($M = 2.70$, $SD = 0.82$), $t(164) = 6.62$, $p < 0.001$, $Cohen's d = 1.01$, $95\% CI = [0.68, 1.33]$. Unlike Studies 1 and 2, there was no evidence of a substitution effect in predicting reliance intentions. Thus, it appears that when thinking about relying on a real colleague to do a presentation or complete a work task, high competence and reliability are requirements.

Consistent with Hypothesis 4 and mirroring the findings of Studies 1 and 2, when low affect-based trust was paired with high cognition-based trust ($M = 2.13$, $SD = 0.98$), participants' disclosure intentions were lower than when high affect-based trust was paired with low cognition-based trust ($M = 3.47$, $SD = 0.94$), $t(165) = 8.99$, $p < 0.001$, $Cohen's d = 1.38$, $95\% CI = [1.04, 1.72]$.

General Discussion

Our research addresses the call from trust scholars to clarify the nature of the relationship between different trust components (Dietz & Den Hartog, 2006; Ferrin et al., 2008; McEvily & Tortoriello, 2011; Schilke, et al., 2023). Drawing on Mayer et al.'s (1995) and Rousseau et al.'s (1998) widely accepted definitions of trust, we distinguish trust attitudes (i.e., positive expectations of others) from trust intentions (i.e., the willingness to be vulnerable). Across three studies, we find evidence that affect-based and cognition-based trust attitudes have differential effects on reliance versus disclosure intentions. Our research indicates there is both theoretical and empirical utility in distinguishing between trust attitudes and trust intentions – and supports the validity of multidimensional conceptualizations and measures of organizational trust.

Manipulations of Affect-based and Cognition-based Trust

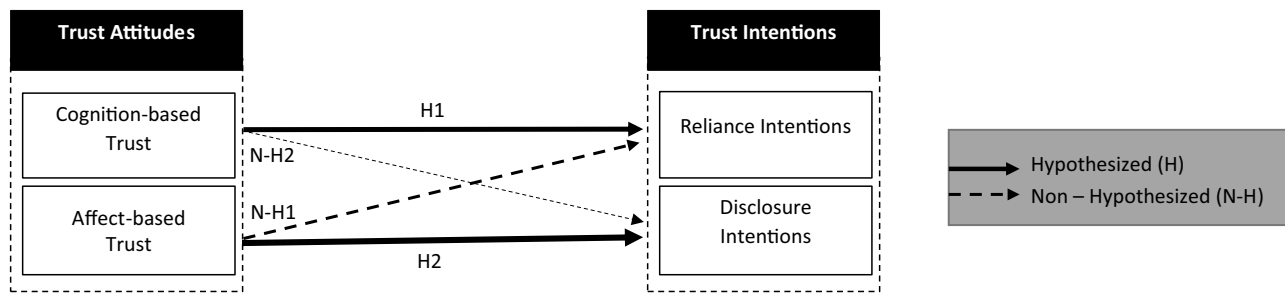
Across all three studies, we were able to successfully manipulate affect-based trust and cognition-based trust. The intended manipulations had strong effects (ranging from $Cohen's d = 2.42$ to $Cohen's d = 3.07$) on the intended base of trust attitudes. However, there was also

evidence of weak cross-over effects. In all three studies, the manipulation of the affect-based trust also had a small effect on cognition-based trust attitudes (effect sizes ranging from $Cohen's d = 0.38$ to $Cohen's d = 0.85$). Furthermore, in Study 3, there was a weak effect of the cognition-based trust manipulation on ratings of affect-based trust. Although these effects were weak, it does raise questions about the orthogonality of these constructs. Indeed, in the two vignette studies, moderate correlations were found between participants' ratings of affect-based and cognition-based trust attitudes (i.e., $r = 0.29$ and $r = 0.37$, respectively), and a moderate correlation was found in the guided narrative study ($r = 0.60$). This reveals that having one form of trust in a person—particularly in the context of real workplace relationships—often leads to holding the other form of trust in that person. Given that this effect might be stronger in the real world, a strength of our tightly controlled vignette-based manipulations in Studies 1 and 2 is that they did a good job of disentangling these constructs and allowed us to investigate their unique effects.

Effect of Trust Attitudes on Trust Intentions

We hypothesized (H1) that higher cognition-based trust would lead to greater intentions to engage in reliance behaviors. This hypothesis was supported across all three studies with both vignette-based and guided narrative manipulations. Greater willingness to rely on a co-worker for work-related assistance (reliance behaviors) was predicted by manipulations of the co-worker's competence and dependability (cognition-based trust). Notably, this effect was particularly strong among participants who were thinking of relying on a real-world colleague to help with their work tasks. In addition, across the three studies, all manipulations of the emotional closeness with the co-worker (i.e., affect-based trust condition) similarly affected intentions to rely on a co-worker. Thus, it appears that both trusting a co-worker to be competent and feeling a close personal connection with a co-worker can foster reliance intentions.

We hypothesized (H2) that greater affect-based trust would lead to greater intentions to disclose to a co-worker. As predicted, across all three studies, participants who read about or who wrote about a co-worker with whom they had a close relationship (i.e., high affect-based trust condition) reported being more willing to share personal or sensitive information with them (i.e., higher disclosure intentions), compared with those in the low affect-based trust condition. In addition, in Studies 2 and 3, greater cognition-based trust also predicted greater disclosure intentions; however, these effects were small (i.e., about 4 times smaller than the effects of affect-based trust). Thus, it is primarily affect-based trust that fosters disclosure intentions. Our observed effects of



	Cohen's d [95% CI]			
	H1	N-H1	H2	N-H2
Study 1	0.72 [0.45, 0.99]	0.48 [0.21, 0.75]	1.31 [1.02, 1.60]	0.01 [-0.25, 0.27]
Study 2	0.96 [0.69, 1.23]	0.97 [0.70, 1.24]	1.02 [0.75, 1.29]	0.26 [0.00, 0.52]
Study 3	1.87 [1.62, 2.12]	0.70 [0.48, 0.91]	1.98 [1.72, 2.23]	0.44 [0.23, 0.65]

Note. Effects are presented as Cohen's d effect sizes: very small (< 0.19); small (0.20 - 0.49); medium (0.50 - 0.79), and large (> 0.80). Values in square brackets indicate the 95% confidence intervals for each effect size. The thickness of the lines is proportional to the effect size (thicker arrows denote larger effects).

Fig. 4 Empirical Test of the Relationships between Trust Attitudes and Trust Intentions

cognition-based and affect-based trust attitudes on reliance and disclosure intentions across all three studies is presented in Fig. 4.

We also hypothesized (H3) that reliance ratings will be similar in mixed trust conditions (i.e., high affect-based trust and low cognition-based trust condition and low affect-based and high cognition-based trust condition). This is because relying on others to help with work tasks may be perceived as low risk; therefore, people are willing to rely on others when either cognition- or affect-based trust is high. In the vignette studies, participants were equally willing to rely on their colleague whether high cognition-based trust was paired with low affect-based trust or vice versa. However, in Study 3, participants reported greater reliance intentions when they thought their colleague was competent and dependable (despite not having a relational bond) than when they thought of their colleague as incompetent and unreliable (but shared a relational bond). In other words, affect-based trust was *not* a substitute for cognition-based trust in predicting reliance intentions (despite the stronger correlation found between the two in this study). Only when participants thought the employee was competent and dependable did they report greater intentions to rely on them. One explanation for the difference in the studies is the added realism in Study 3. Reflecting on an actual work colleague

may have made the costs of relying on them in a work context more salient than would be the case when reading about a hypothetical fictional colleague. If so, the Study 3 results may more accurately reflect real-world trustor/trustee work relationships, given the higher ecological validity of this manipulation.

Finally, we hypothesized (H4) that in the mixed trust conditions, disclosure ratings will be higher in the high affect-based trust (and low cognition-based trust) condition than in the low affect-based trust (and high cognition-based trust) condition. Indeed, across all three studies, when high affect-based trust was paired with low cognition-based trust, participants' disclosure intentions were greater than when low affect-based trust was paired with high cognition-based trust. Thus, cognition-based trust cannot substitute for affect-based trust when deciding whether or not to disclose personal information to a co-worker.

By and large our findings suggest that affect-based trust is more consequential than cognition-based trust. Manipulations of affect-based trust had strong effects on disclosure intentions and consistent effects on reliance intentions. Furthermore, when the bases of trust are mixed, the presence of high affect-based trust can substitute for low cognition-based trust to determine reliance intentions. In contrast, manipulations of cognition-based trust had strong effects on reliance

intentions but inconsistent and negligible effects on disclosure intentions. Furthermore, when the bases of trust are mixed, the presence of high cognition-based trust cannot substitute for a lack of affect-based trust to determine disclosure intentions.

Cognition-based and affect-based trust may have differential effects on trust intentions due to differences in perceived risk. Greater trust is required for greater risk-taking (Mayer et al., 1995). Affect-based trust is theorized to be a deeper form of trust (Lewicki & Bunker, 1995, 1996; McAllister, 1995). Perhaps knowing that a co-worker genuinely cares about you and will act in ways that are supportive and considerate allows one to extend trust to that person in a wider range of situations – even those where the element of risk is relatively high. Further research is needed to test the role of perceived risk.

Theoretical Implications

Although Mayer et al. (1995) and other trust researchers have distinguished between trustworthiness beliefs, trust intentions, and trust behaviours, our research suggests a fourth component – trust attitudes. We propose that trustworthiness beliefs lead to trust attitudes, which in turn lead to trust intentions. Although theoretical work (Ajzen, 1991) provides a strong foundation for expecting trust attitudes to lead to trust intentions, we provide important empirical evidence to establish the causal relationship between these two constructs.

Our clarification of the trust construct addresses the disconnect between the dual conceptualization of trust and the unidimensional measurement of the construct. McEvilly and Tortoriello's (2011) review of trust measures found that close to 80 percent of researchers used unidimensional measures to assess trust attitudes (e.g., Cook & Wall, 1980; Mayer & Davis, 1999), despite trust being conceptualized as a multidimensional construct (Cummings & Bromiley, 1996; Jones & George, 1998; Lewis & Weigert, 1985). Although some researchers have justified this approach by suggesting that cognition and affect-based trust attitudes overlap and may be considered redundant (e.g., Clark & Payne, 1997; Cummings & Bromiley, 1996; Legood et al., 2023), our results call this idea into question; and provide evidence that while these attitudes are related, they are also distinct given that they differ in terms of their consequences. These results are also consistent with prior theoretical and empirical work, which argues that reliance behaviors are distinct from disclosure behaviors and have different antecedents (Gillespie, 2003) and consequences (Lam et al., 2013). Thus, our research findings provide evidence to support the use of multidimensional measures to assess both trust attitudes and trust intentions.

Importantly, the pattern of findings in the current study illustrates that affect-based trust and cognition-based trust are distinct phenomena from simple person perception. People tend to judge others along two key dimensions: competence and warmth (Fiske et al., 2007). Although one could assume that perceptions of warmth and competence serve as a basis for forming affect-based trust and cognition-based trust, respectively, a differential pattern of relations is found. Much research shows that people tend to judge more competent others as less warm and more warm others as less competent, an effect termed the competence-warmth trade-off (Fiske et al., 2016). However, we find that affect-based trust and cognition-based trust are positively related, particularly when people think about their real-world co-workers, suggesting that holding affect-based trust in a person facilitates the development of cognition-based trust in that individual. Thus, cognition-based trust is not simply a reflection of judgments of competence, and affect-based trust is not simply a reflection of judgments of warmth.

Practical Implications

Understanding the relationship between trust attitudes and trust intentions/behaviors may provide organizations with concrete advice for building trust in their organizations. For example, organizations can enhance cognition-based trust with careful hiring of new employees, succession planning, and providing professional development and coaching opportunities to ensure that all employees have the knowledge, skills, and abilities they need to complete their tasks successfully. When supervisors and co-workers are confident in the competence of other colleagues, they should be more likely to engage in reliance behaviors. In addition, given the relationship that affect-based trust has with both reliance and disclosure intentions, organizations may want to pay special attention to fostering this base of trust attitudes.

Organizations can facilitate the development of affect-based trust by providing opportunities for employees to get to know one another in informal events (e.g., a company picnic or baseball team) or get-togethers (e.g., appreciation events or holiday parties). Organizations can increase affect-based trust by encouraging employees to engage in respectful, transparent, and frequent communication with their supervisors and co-workers. However, an important caveat is that these social events will only lead to greater affect-based trust if employees like each other.

Our distinction between trust attitudes and trust intentions has implications for researchers. Measures of trust intentions should be more proximal to trust behaviors (Gillespie et al., 2006) or other work outcomes than trust attitudes, which are more “distal” antecedents of behavior. Consequently, when the goal of trust research is to *describe* trust (e.g., when

using organizational surveys to assess levels of organizational trust) or to *explain* trust (e.g., when examining antecedents of trust), measures that assess trust attitudes (e.g., McAllister, 1995), may be most appropriate. Conversely, when the goal of trust research is to *predict* with trust (e.g., when examining how trust relates to job performance), measures that assess trust intentions (e.g., Gillespie, 2003), may be most appropriate.

Limitations and Future Directions

One key advantage of employing our vignette-based experimental design in Studies 1 and 2 was that it allowed us to manipulate, both realistically and effectively, participants' cognition-based and affect-based trust toward the target co-worker. This manipulation would have been difficult to achieve in an organizational context for ethical reasons. However, the vignette method does have its limitations. Vignettes are criticized because they only require participants to imagine being in a situation; and thus, their choices do not have any real consequences (Collett & Childs, 2011; Eifler & Petzold, 2019). To address this limitation, we conducted a third study using a guided narrative approach, in which participants identified a real colleague with whom they worked and who fit their assigned trust condition (e.g., high affect-based and low cognition-based). Although the guided narrative method was an improvement from the vignette method, future research is needed to examine longitudinally how cognition and affect-based trust predict actual behavior, as mediated by trust intentions.

Although our experimental design allowed us to examine the direct causal relationship between trust attitudes and trust intentions, trust researchers argue that the relationship between trust attitudes and trust behaviors is reciprocal (Mayer et al., 1995; McAllister, 1995). Consistent with self-perception theory (Bem, 1972), it would be expected that when employees engage in trust behaviors, their perceptions of their cognition and affect-based trust attitudes will increase as well. Additionally, as Mayer et al. (1995) and Zand (1972) note, if the trust behavior confirms that the decision to trust was correct (e.g., the co-worker completed a delegated task well), it will lead to increases in cognition and affect-based trust. Future longitudinal research could, therefore, also examine the reciprocal effects of trust behaviors on trust attitudes.

Lastly, the differences in context between the measurement of reliance and disclosure trust intentions might be a confound. All the reliance items tap into reliance with work-related scenarios, whereas the disclosure items tap into scenarios that are mostly about non-work-related disclosures. It is possible that differences in the content of the

disclosures may impact the willingness to be vulnerable or perceived risk. An interesting future research direction would be to examine if there are differences when the content of reliance and disclosure intentions are work-related versus non-work-related.

Conclusion

In this paper, we separate the trust construct into trust attitudes and trust intentions, and clarify the causal nature of the relations among its components to facilitate the comparisons and synthesis of trust research across studies. Our findings indicate that trust attitudes, both cognition-based and affect-based, had differential effects on trust intentions, such as reliance and disclosure. In particular, we found that affect-based trust played a crucial role in shaping intentions at work. Organizations that create supportive environments that foster close personal relationships among employees stand to see a cascade of positive benefits, including increased harmony, communication, and collaboration, all of which have the potential to contribute to enhanced productivity and well-being of their workforce.

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Data Availability The data that support the findings of Study 1 and Study 2 are available from the corresponding author upon request. The processed and anonymized dataset used for Study 3 of this paper is available in the Journal of Business and Psychology's Open Science Repository (<https://osf.io/collections/jbp/discover>). Alongside the processed dataset, the authors have also uploaded annotated R code that replicates all of Study 3's analyses.

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