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1 **Exploring the Concept of Psychological Distance and Its Impact on**
2 **Intention to Settle in Construction Dispute Negotiation**

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11
12 **Abstract**

13 Negotiation is the most frequently used and economical way of resolving construction disputes. However,
14 negotiators are not always rational decision-makers. It is not uncommon to find that negotiations fail
15 despite the tabling of notable settlement options. Having the intention to settle is paramount in achieving
16 an amicable settlement. To improve the success rate of construction dispute negotiations, this study posits
17 exploring negotiators' intention to settle from the perspective of how they perceive failure. Applying
18 construal-level theory (CLT) and the concept of psychological distance (PD), it is hypothesized that
19 construction dispute negotiators having the proximal psychological distance of negotiation failure would
20 raise the respective concern that mediates intention to settle. With data collected from experienced
21 construction dispute negotiators, the results of the partial least squares structural equation modeling
22 (PLS-SEM) supported the hypothesis. The findings of the study indicated that the negotiators' distal
23 perception of and low concern for failure can obscure their intention to settle. Furthermore, the results
24 indicated that a reduced psychological distance could enhance negotiators' intention to settle. This
25 finding explains why reality testing is effective in steering negotiators' decisions along a rational course.

26 In practice, a realistic assessment of the consequences of a negotiation failure by either the negotiation
27 team or a neutral third party would raise attention to failure. The resulting proximal psychological
28 distance would lead to a stronger intention to settle. The study is novel in (1) offering a vital theoretical
29 link between the perception of failure and the settlement intention and (2) anchoring the functions of
30 reality testing with the concept of psychological distance.

31

32 **Keywords:** Construal-level theory; Construction dispute negotiation; Intention to settle; Negotiation
33 failure; Psychological distance.

34

35 **Practical Applications**

36 The resolution of construction disputes typically starts with negotiations. Negotiated settlements are the
37 most economical outcome, as a high price can be paid if resource-laden resolution mechanisms are
38 deployed. It is disappointing to see promising negotiations fail because the negotiators were not prepared
39 for a settlement. This study addresses the practical issue of how to make the best use of construction
40 dispute negotiations. Having the intention to settle is paramount should positive negotiation outcomes be
41 envisaged. The concept of psychological distance explains that if one perceives failure not to be imminent,
42 the concern for failure will be low, and thereby no pressing need to settle. This proposition was supported
43 in this study. The practical application of the study could be the intervention strategy of reality testing,
44 which has been proven instrumental in facilitating negotiations. Third-party neutrals, particularly
45 mediators, have high regard for the effectiveness of reality testing. The function of realistic assessment
46 in enhancing settlement is the result of reframing negotiators' subjective cognition and raising the
47 concern for failure. This study contributes to negotiation practice by offering a solid theoretical base to
48 explain why and how reality testing is one of the most versatile tools to assist negotiations.

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56 **Introduction**

57 Dispute-free construction projects are rare. Negotiation is the typical means through which disputing
58 parties can exchange proposals and hopefully end their differences (Cheung and Chow 2011). Most
59 construction disputes are negotiated before the parties revert to more formalized proceedings as specified
60 in the contract dispute resolution clause. Parties in dispute seldom resist negotiations (Yiu et al. 2018),
61 not simply because it is cost efficient but also because its informal and voluntary nature is a notable
62 attraction. While negotiators are free to withdraw at will, this may make negotiators enter negotiation
63 under-prepared (Lieberman et al. 2010; Macfarlane 2001). Another obstacle against settlement through
64 negotiation is the irrational decisions of the negotiators. With reference to field observations, the 2021
65 Global Construction Disputes Report identifies “owner/contractor’s willingness” as the most critical
66 element for the early resolution of disputes (Arcadis 2021). On the theoretical front, the theory of planned
67 behavior explains the relationship of the intention to act to the choice of strategies and decisions (Ajzen
68 1991). Accordingly, this study advocates that the intention to settle is an indispensable element of
69 achieving a negotiated settlement.

70 Negotiation is only meaningful if a space exists called the Zone of Potential Agreement (ZOPA)
71 that contains acceptable settlement options (Kim and Fragale 2005). Notwithstanding, negotiators
72 commonly miss the chance to end the dispute in the presence of acceptable offers. In fact, negotiation
73 breakdown would happen when reasonable settlement proposals are not reciprocated with positive
74 responses. The economic view of negotiation assumes that negotiators can make rational assessments
75 and decisions (Lim and Benbasat 1992). For example, Priest and Klein (1984) proposed that the choice
76 of settlement or litigation is dependent solely on economic determinants such as the expected returns,
77 direct costs, and the likelihood of winning. However, negotiators are human, and their decisions are
78 inevitably subject to cognitive limitations (Cheung and Li 2019; Murtoaro and Kujala 2007). The ideal
79 “rational economic man” may not represent reality. In this regard, the socio-psychological view of
80 negotiation highlights that negotiators can deviate from optimality or rationality due to their bounded
81 cognition (Bazerman et al. 2000; Caputo 2013). Furthermore, even when signs and symptoms of failure
82 are noticeable, negotiators may choose to ignore them (Bazerman and Chugh 2005). Bandura (1993)
83 argued that individuals’ responses to an event depend on how they interpret the event. Similarly, Tversky
84 and Kahneman (1985, 1986) used the “framing effect” to explain why alternative descriptions or
85 cognitions of a problem give rise to different preferences and decisions. In light of these concepts, it is

86 proposed that negotiators with varying perceptions or predictions of the occurrence of negotiation failure
87 are likely to adopt different strategies that reflect their levels of the intention to settle the dispute. Thus,
88 if they frame negotiation failure irrationally because of bounded cognition, their settlement intention will
89 accordingly be impeded. To improve the efficiency of construction dispute negotiation (CDN), it is
90 crucial to identify how negotiators perceive negotiation failure and how it affects their intention to settle.

91 One attribute of failing negotiations is the negotiators' feeling that failure is not imminent.
92 Bazerman and Neale (1982) explained that negotiators commonly overestimate the probability that their
93 offers will be accepted. Negotiators tend to be overconfident, especially for outcomes over which they
94 have better control (Moore and Cain 2007). Cheung and Li (2019) found that negotiators who have
95 optimism bias tend to overestimate their assessment of the dispute. Negotiators' irrational cognition of
96 the situation could be a barrier to effective negotiation management. Psychological distance (PD) is a
97 key construct that can represent people's subjective perception that an event is near or far from happening
98 (Liberman and Trope 1998). Construal-level theory (CLT) explains that different dimensions of
99 psychological distance can affect a mental construal that guides the perceivers' predictions, evaluations,
100 and behaviors (Trope et al. 2007). People in different frames of the potential threat express different
101 behavioral intentions, thus influencing how they engage with uncertain events (Jones et al. 2017).
102 Analogically, negotiators with different psychological distances of failure will generate different mental
103 construal about the negotiations, resulting in different levels of settlement intention.

104 Furthermore, from a review of the climate change literature, Jones et al. (2017) proposed that
105 decisions are not singularly affected by perceptions and that considering one's concern or positive coping
106 attitude would improve prediction accuracy. Likewise, prior studies have found that concern for failure
107 can enhance preparation, reveal insights, and change mindsets to avoid failure (Cannon and Edmondson
108 2005). When these findings are applied to CDNs, concern for failure may mediate the psychological
109 distance and intention to settle. Moreover, little exploration has been made of the application of
110 psychological distance to understanding negotiation failures. No reported investigation has been
111 undertaken of the relationship between different levels of perceived psychological distance and concern
112 or intention to settle.

113 This study investigates why negotiators may miss the chance to settle, resulting in negotiation
114 breakdowns. For this purpose, the study is developed based on the following conceptualizations: (1) the
115 intention to settle is the deciding element of fruitful negotiations; (2) CLT and PD explain how

116 negotiators perceive and frame negotiation failure; and (3) negotiators with remote perceptions of the
117 psychological distance of negotiation failure would lead to low concern for failure and hence lowering
118 their intention to settle. Accordingly, the relationships among the psychological distance of negotiation
119 failure, concern for failure, and intention to settle are tested in the CDN context. This research contributes
120 to the analysis of the psychological dimensions of construction dispute negotiators. The findings are
121 examined to identify managerial implications in promoting settlement intentions by regulating
122 negotiators' subjective evaluation of failure. Furthermore, it informs ways of alleviating negotiation
123 failure due to human errors.

124

125 **Literature Review**

126 To put the theoretical bases of the study in perspective, the constructs of negotiation failure, construal-
127 level theory, psychological distance, and intention to settle are detailed in what follows.

128

129 ***Construction Dispute Negotiation Failure***

130 CDNs usually happen at two distinct project stages: precontract, over contract terms, and postcontract,
131 over time and cost claims (Yiu et al. 2015). Precontract negotiation failure terminates a potential
132 contractual relationship. Postcontract failure may escalate into more time-consuming and formal dispute
133 resolution processes. Apart from the monetary losses, Lu et al. (2015) summarized the hidden transaction
134 costs—including reputation, cooperation and trust, and time—of negotiation failures. More significantly,
135 as negotiation failures do not end the contractual relationship, the related construction project still needs
136 to continue. The extra efforts to restore the working relationship outweigh the benefits derived from
137 leaving the negotiation table (Brooks 2008).

138 To understand the causes of construction dispute negotiation failure, Yiu et al. (2015) revealed that
139 negotiators' mental conditions inform negotiating behaviors. Chow et al. (2012) pinpointed three
140 behavioral primers (i.e., motivation, cognition, and personality) that trigger negotiators' loss of interest
141 in continuing the negotiations. Bazerman and Chugh (2005) highlighted that if negotiators' judgments
142 fall systematically short of rationality, they will ignore valuable information that is readily available.
143 People always believe they are rational without realizing that their rationality is bounded (Zwick and Lee
144 1999). These studies improve our understanding of how negotiators make inappropriate decisions and
145 provide a theoretical basis for introducing CLT and PD to identify negotiators' psychological states.

146 Negotiation failure can be defined differently. For example, Zartman and Faure (2005) used “halt,”
147 “stalemate,” “break off,” and “protracted standstill” to represent failures in international negotiations.
148 Yiu et al. (2015) defined negotiation failure as the gap between what is accomplished and what could
149 have been accomplished. However, identifying this gap in negotiations over complex issues is quite
150 difficult. As we aim to measure negotiators’ psychological distance of failure, a certain event or scenario
151 should be articulated to represent a negotiation failure. Given these views and to avoid ambiguity, from
152 the perspective of settling or not, this study defines *negotiation failure* as failing to put an end to the
153 issues in dispute, which is a complete failure. It can also be represented as a negotiation breakdown in
154 the context of CDN.

155

156 ***Construal-Level Theory and Psychological Distance***

157 CLT explains how psychological distance causes people to go beyond direct experience when they make
158 decisions (Liberman and Trope 1998). Psychological distance is egocentric, and its reference point is the
159 self in the here and now (Trope and Liberman 2010). Trope and Liberman (2010) suggested four
160 dimensions of distance: geographical, social (distance between the perceiver and another individual or
161 group), temporal, and uncertainty (how certain it is that an event or object will happen). According to
162 CLT, individuals can mentally construe events with these dimensions. For psychologically distant events,
163 individuals form a high-level construal with general decontextualized features; conversely,
164 psychologically proximal events are represented by a low-level construal with specific contextual details
165 (Liberman et al. 2007; Spence et al. 2012).

166 Furthermore, Trope et al. (2007) highlighted the effect of psychological distance on task
167 engagement and behavioral issues. For example, when participants were asked to contemplate a task in
168 either the near or distal future, reducing the psychological distance of the task could cause people to
169 imagine pursuing the task sooner (Liberman et al. 2007). Liu et al. (2017) revealed that the distal
170 psychological distance of project failure hampered construction participants from learning through
171 failure. Several studies have also been conducted to examine the relationship between individuals’
172 psychological distance of natural disasters and their willingness to take corresponding actions (Borick
173 and Rabe 2014; Jones et al. 2017; Weber and Stern 2011). These studies come to a common thread; if
174 people perceive an event at a concrete construal level (psychological closeness), their intentions to
175 become involved in the event are higher. Accordingly, psychological closeness enhances one’s

176 willingness to act (Oettingen et al. 2001). As CLT explains that negotiation failure can be perceived with
177 psychological distance, it is suitable to use PD and CLT to develop hypotheses about how the
178 psychological distance of negotiation failure relates to negotiators' concern and intention to settle in
179 CDN.

180

181 *Intention to Settle*

182 Intention is the mental representation of one's desire for a certain outcome (Bagozzi 1992). Intention
183 represents "a person's immediate instructions toward engaging in a given target behavior" (Hagger et al.
184 2002). Intention includes both the direction (whether to act) and the investment (e.g., the amount of time,
185 money, or effort needed to pursue the target) toward an action. Researchers have studied what triggers
186 actions, and the theory of planned behavior (TPB) is one of the classical "intention-behavior" models
187 (Ajzen 1991; Trötschel and Gollwitzer 2007). The TPB suggests that the construct of intention is central
188 to the behavior predictive model, and the intention to engage in certain behavior can be seen as a strong
189 indicator of the practice of that behavior (Baldwin and Baird 2001; Liu et al. 2018; Zigarmi et al. 2012).
190 The TPB is described in Fig. 1. Our study uses the TPB to systematically propose that the intention to
191 settle is pivotal in CDN and that increasing the negotiators' intention to settle can be seen as an essential
192 step to engender settlement (Chow et al. 2012; Johari and Jha 2020).

193

194

Insert **Fig. 1** about here

195

196 Intention to settle (ITS) in this study represents the state of favorably engaging in ending a dispute
197 through negotiation (Lin and Cheung 2021). ITS represents the state of desire to reach a negotiated
198 settlement and is manifested by the practice of settlement facilitating behaviors. Fig. 2 presents the
199 varying negotiating behaviors that negotiators adopt under different intention levels. Negotiators with
200 high intention to settle are more likely to adopt cooperative behaviors that are manifested by proactive
201 moves toward a negotiated settlement. Typical examples include putting forward positive proposals or
202 even making apologies to make room for compromises. Aggressive or distributive behaviors suggest a
203 relatively low ITS (Cheung and Chow 2011; O'Connor and Arnold 2001). Prior studies have found that
204 the intention to settle can be affected by personal or contextual factors, such as negotiators' expectations,
205 self-efficacy, equal treatment, and risk assessment (Macfarlane 2001; O'Connor and Arnold 2001). This

206 study examines how negotiators' subjective cognition of failure (i.e., the psychological distance of
207 negotiation failure and concern for failure) affects their intention to settle.

208

209

Insert **Fig.2.** about here

210

211

212 **Hypothesis Development**

213 ***Psychological Distance of Negotiation Failure and the Concern for Failure***

214 Psychological distance of negotiation failure indicates the negotiators' mental representations of the
215 distance at which potential failure is perceived from them (i.e., distal or proximal) (Trope et al. 2007).

216 Concern for failure is another construct that shows negotiators' subjective attitudes in coping with failure,
217 i.e., whether they care about or pay attention to negotiation failure. As the CDN is a voluntary action

218 with an expectation of an unspecified future return, negotiators' attitudes toward the concern for failure
219 should be emphasized (Chan and Suen 2005; Zhang et al. 2016). When negotiators perceive failure as a

220 distant consequence, the perception of remoteness will lower their vigilance, resulting in overlooking
221 hidden dangers (Sagrignano et al. 2002). Prior studies have found that having a closer psychological

222 distance can cause an event to appear to be more realistic and likely to happen (Bar-Anan et al. 2006;
223 Jones et al. 2017), thus better arousing participants' attention and concern about the events. For example,

224 Chandran and Menon (2004), framing health hazards as daily threats (psychological closeness) instead
225 of expressing them in terms of annual statistics (psychological distance), made the risks more proximal,

226 thus heightening participants' risk perceptions. Spence et al. (2012) showed that when the public moves
227 psychologically closer to the danger of climate change, they become more concerned and worried about

228 it. These findings have shown that individuals' concern would be enhanced when they have a proximal
229 psychological distance to predict the event. Therefore, we propose the first hypothesis, as follows:

230 *H1: Negotiators' psychological distance of negotiation failure affects their concern for failure in*
231 *CDNs, and when this distance is closer, their concern is stronger.*

232

233 ***Psychological Distance of Negotiation Failure and the Intention to Settle***

234 Compared to psychological remoteness, individuals with low-level construal (psychological closeness)
235 usually attach more importance to feasibility and choose goals that are more specific (Liberman and

236 Trope 1998; Rabinovich et al. 2009). Goal-setting theory (Oettingen et al. 2001) and self-regulation
237 studies (Gollwitzer 1999) have proven that specific (vs. abstract) goals have effects that are more
238 profound on engagement actions. These findings are in line with CLT that the psychological closeness
239 of a certain event enables one to be more willing to commit to the actions that will bring about that event.
240 Darke et al. (2016) demonstrated that action taken by unfamiliar online retailers to reduce psychological
241 distance with potential purchasers could facilitate trust building and raise the intention to purchase. Jones
242 et al. (2017) noted that when negative values are attached to either distal or proximal frames, participants
243 in the proximal frame perceive the risks more seriously and show a stronger intention to act. When these
244 findings are applied analogically to CDN, psychological closeness is more likely to prompt a negotiated
245 settlement than is the distal frame of negotiation failure. Accordingly, we develop the second hypothesis
246 as follows:

247 *H2: Negotiators' psychological distance of negotiation failure affects their intention to settle in*
248 *CDN, and when this distance is closer, their intention to settle is stronger.*

249

250 ***Concern for Failure and the Intention to Settle***

251 The concern for failure is a prerequisite for coping effectively with it, which indicates that negotiators
252 have a positive attitude and stay alert against failing acts (Politis and Gabrielsson 2009). According to
253 the TPB, people's attitude toward behavior is the first factor influencing intention (Ajzen 1991). When
254 negotiators have no concern for or fear of failure, the desire to settle is obviously low. In contrast,
255 negotiators who are concerned about failure are likely much more prudent and invest more effort into
256 avoiding failure (Cannon and Edmondson 2005). Politis and Gabrielsson (2009) suggested that a failure-
257 averse negotiator would be more inclined to explore ways to move the negotiation forward. The concern
258 for failure attitude can, in this respect, promote negotiators' willingness to engage in negotiations. Based
259 on these arguments, the third hypothesis of the study is as follows:

260 *H3: Negotiators' concern for failure affects their intention to settle, and when the concern is greater,*
261 *their intention to settle is stronger.*

262

263 ***Mediating Effect of the Concern for Failure***

264 As mentioned above, psychological distance may stimulate the concern for failure (H1) and intention to
265 settle (H2). As a representation of attitude, concern for failure can be related to the intention (H3).

266 However, it is unclear what role the concern for failure plays in the relationship between psychological
267 distance and intention to settle for construction negotiators. In addition to these three hypotheses, we
268 sought to reveal the relationships among the three constructs; thus, we propose the fourth hypothesis:

269 *H4: Negotiators' concern for failure mediates the relationship between their psychological distance*
270 *of negotiation failure and the intention to settle.*

271

272 **Research Method**

273 *Data Collection Questionnaire*

274 To test the proposed hypotheses, a data collection questionnaire was developed. A pilot survey with
275 scholars and experienced construction practitioners was conducted. Revisions were made according to
276 the feedback. The finalized online data collection form was sent to prospective respondents. The research
277 background and purpose were presented in the cover letter. To encourage honest responses, assurances
278 of anonymity and confidentiality were emphasized (Paulhus and Vazire 2007). The data collection
279 questionnaire had two parts. Part A collected the respondent demographics. In Part B, the respondents
280 were asked to recall a CDN and answer questions about their “psychological distance of negotiation
281 failure” (PDNF), “concern for failure” (CNFA), and “intention to settle” (ITS) in that negotiation. The
282 respondents were also provided with the definition of negotiation failure used in this study (i.e.,
283 “Negotiation failure refers to not being able to put an end to the issues in dispute.”). The PDNF
284 measurements were adapted from the scale of the psychological distance climate change (Jones et al.
285 2017; Spence et al. 2012) and the psychological distance of project failure (Liu et al. 2017).

286 Psychological distance can be measured by four dimensions: geographical distance, social distance,
287 temporal distance, and uncertainty. In addition to the original four, considering the CDN context, we
288 added the dimension of frequency, which refers to how often negotiators feel the signs and symptoms of
289 negotiation failure that can happen during negotiations. Different from one-off transactions, construction
290 projects are long processes involving many participants. Dispute resolution can occur in multiple tiers
291 before a consensus is reached, and CDNs go through many rounds (Li and Cheung 2018). In this regard,
292 their perception about the frequency of the signs and symptoms of failure happen can be a significant
293 indicator for measuring the psychological distance to failure. Therefore, we added frequency as a relevant
294 PD dimension in the CDN context. To align the data for the proposed study, the context of the responses

295 was a negotiation in which the respondents once participated in person. Moreover, geographical distance
296 was considered insignificant because the respondents were personally involved. Accordingly, the
297 dimension of geographical distance was not included in this study. The four dimensions solicited were
298 frequency (PDFQ), social distance (PDSC), temporal distance (PDTE), and uncertainty (PDUC). Each
299 dimension had three measurement items, and respondents were asked to assess each item as far or near.
300 A seven-point Likert-type scale from 1 to 7 was used to obtain the different levels of PDNF, CNFA, and
301 ITS. The respondents were asked to mark their varying levels of psychological distance in the
302 negotiations they recalled. The Likert scale is a commonly used way of accurately demonstrating
303 respondents' viewpoints and increasing data sensitivity (Linacre 2002).

304 The targeted respondents were practicing construction professionals in Hong Kong. The contacts
305 were mainly collected from research networks and websites of professional institutes, including The
306 Hong Kong Institution of Engineers, The Hong Kong Institute of Architects, the Institution of Civil
307 Engineers, and the Hong Kong Institute of Construction Managers. In total, 490 questionnaires were
308 distributed, and 112 questionnaires were returned, of which 101 were valid. This number corresponds to
309 a response rate of 20.6%, which is close to the norm in the construction management studies (25%-30%)
310 (Easterby-Smith et al. 2001), considering that construction dispute negotiations are usually undertaken
311 by designated personnel within an organization. The respondents' profiles are shown in Table 1. Two
312 filtering questions were set to ensure that the respondents had sufficient negotiation experience to support
313 this study: years of negotiation experience and the negotiation type they recalled. Approximately 60% of
314 the respondents had engaged in CDN for more than 5 years, indicating the reliability and credibility of
315 the data sources.

316 Gender was used as a control variable because many studies have suggested that gender differences play
317 an essential role in people's intentions. For example, Okuniewski (2014) found that female students had
318 more integrative intentions than did male students in language learning. Chiu et al. (2005) also found
319 gender differences in online purchase intentions; males focused more on security, whereas females paid
320 more attention to the ease of purchasing.

321

322

Insert **Table 1** about here

323

324

325 ***ANOVA test***

326 To check for possible differences among the respondents, an analysis of variance (ANOVA) was applied
327 to detect the respondents' agreements for the constructs based on their organization types (owner,
328 contractor, and consultant), years of negotiation experience, and types of negotiations in which they were
329 involved. ANOVA results can indicate whether the group means with different factors are significantly
330 different (Acharya et al. 2006; Beddo and Kreuter 2004). Table 2 shows that most group means had
331 insignificant differences, except for the organization in the constructs of the concern for failure and the
332 intention to settle ($p < 0.05$). The concern for failure and intention to settle received significantly different
333 opinions from the owner (mean= 3.71, 3.40), contractor (mean= 4.68, 4.12), and consultant (mean= 4.04,
334 4.19). Accordingly, the owner scores were the lowest, at the 0.05 level. Compared with the other two
335 stakeholder groups, the owners were less worried about negotiation failures and were not as active in
336 settling negotiations. This finding indicates that owners are in a dominant and favorable position during
337 negotiations. This result is consistent with the fact that the construction market is a buyer's market.
338 However, the group means exhibited no significant differences for the respondents with different
339 working years and negotiation types. This result indicates that the negotiators share a similar cognition
340 when facing negotiation failures, thus reducing the chances of partiality while drawing conclusions.

341 -----

342 Insert **Table 2** about here

343 -----

344
345 ***Evaluation of the Partial Least Squares Structural Equation Modeling Results***

346 Structural equation modeling (SEM) is a multivariate statistical method for testing cause-effect
347 relationship models (Hair et al. 2017). Both the confirmatory factor analysis (CFA) and path analysis can
348 be performed simultaneously in a single structural equation model (Lim et al. 2011). The two typical
349 methods of SEM were compared (i.e., covariance-based structural equation modeling (CB-SEM) and
350 partial least squares structural equation modeling (PLS-SEM), and PLS-SEM was chosen for this study.
351 This choice was because (1) the theoretical framework can be tested from a prediction perspective with
352 PLS-SEM (Hair et al. 2019); (2) the PLS algorithm can transform nonnormal data by the central limit
353 theorem (Hamdollah and Baghaei 2016); and (3) the data volume is always tricky, especially in the

354 construction dispute negotiation domain, and PLS–SEM can address this problem by requiring smaller
355 sample sizes (Hair et al. 2017, 2019; Hamdollah and Baghaei 2016). PLS–SEM was applied in this study
356 with Smart-PLS 3 software. The evaluation procedure was conducted following the standards of a PLS–
357 SEM analysis (Hair et al. 2019). Before assessing the statistical significance and relevance of the path
358 coefficients, the measurement model and structural model were tested.

359 *1) Measurement Model Assessment.* The measurement model presents the relationships among the
360 three latent variables: the psychological distance of negotiation failure, concern for failure, and intention
361 to settle. The psychological distance of negotiation failure is a second-order variable with four first-order
362 variables. Each latent variable is measured with observable variables.

363 *Item reliability.* The first step of the measurement model assessment is to examine the item loadings.
364 Items with a loading above 0.7 are suggested to be retained, which implies that the construct explains
365 more than 50% of the item’s variance (Hulland 1999). The descriptive statistics are shown in Table 3.
366 All the loadings were above 0.7, thus providing acceptable item reliability.

367 *Internal consistency reliability and convergent validity.* Composite reliability (CR) and Cronbach’s
368 alpha are the criteria that are the most recommended for testing internal consistency reliability. For CR,
369 higher values generally indicate higher levels of reliability. Values from 0.60 to 0.70 are described as
370 “acceptable,” and 0.70-0.90 are “satisfactory to good.” All constructs’ composite reliability should reach
371 the threshold of 0.60 (Hair et al. 2019). For the Cronbach’s α coefficient, a value higher than 0.70 is
372 recommended (Nunnally 1994); however, in the social science research, a value above 0.60 is also
373 acceptable (Moss et al. 1998). The convergent validity is confirmed by the average variance extracted
374 (AVE), and it is suggested to be higher than 0.50, but 0.4 is acceptable when the composite reliability is
375 above 0.7 (Fornell and Larcker 1981). The results show that all the CR and Cronbach’s α values were
376 above their respective thresholds, suggesting a satisfactory level of internal consistency reliability (Table
377 3). Furthermore, the AVE of each construct was higher than 0.50, thus supporting the measures’
378 convergent validity (Table 3).

379 -----
380 **Insert Table 3** about here
381 -----

382 *Discriminant validity.* Discriminant validity tests the extent to which one construct is distinct from
383 others in the research framework. The square root of the AVE of each latent construct should exceed the

384 inter-construct correlation, and the measurement item's loading on its respective grouping should exceed
385 the cross-loadings (Fornell and Larcker 1981). As shown in Table 4, the square root of each group's
386 AVE value was higher than its correlation with any other construct, which demonstrates the high
387 discriminant validity of the groups.

388 The results indicate that all the reflectively measured constructs' measures were reliable and valid.
389 Thus, the structural model can be assessed.

390 -----
391 Insert **Table 4** about here
392 -----

393 2) *Structural Model Assessment.* The structural model assessment includes the VIF values,
394 coefficient of determination (R^2), blindfolding-based cross-validated redundancy measure Q^2 , and
395 statistical significance and relevance of the path coefficients (Hair et al. 2019).

396 *Collinearity.* The VIF values were applied before assessing the structural model to ensure that the
397 regression results had no bias. The ideal VIF values should be below 3, while values of 3-5 are also
398 acceptable, and values above 5 are considered probable collinearity issues (Becker et al. 2015). As all
399 the results of the VIF values were below the conservative threshold (Table 3), we conclude that the
400 collinearity is not at critical levels.

401 *Explanatory power of the structural model.* R^2 is designated the in-sample predictive power,
402 representing the model's explanatory power (Rigdon 2012; Shmueli and Koppius 2011). Higher values
403 of R^2 indicate a greater explanatory power of the structural model; the three R^2 levels 0.75, 0.50, and
404 0.25 that indicate a substantial, moderate, and weak explanatory power of the model, respectively
405 (Henseler et al. 2009). The threshold of the R^2 value and adjusted R^2 are suggested to be 0.10 (Falk
406 and Miller 1992). The results of the R^2 and R^2 adjusted values are shown in Table 5, and they
407 indicated an acceptable level.

408 *Predictive accuracy of the structural model.* The Q^2 value is recommended to assess the model's
409 predictive accuracy (Geisser 1974). This metric combines the out-of-sample prediction and in-sample
410 explanatory power via the blindfolding procedure. As a guideline, Q^2 values larger than zero are
411 meaningful, and a higher Q^2 value indicates a higher predictive accuracy, with 0, 0.25, and 0.50
412 depicting small, medium, and large predictive relevance, respectively, of the PLS-path model (Hair et al.

413 2019). As the Q^2 values were all above zero (Table 5), we conclude that the structural model has an
414 acceptable level of predictive accuracy.

415

416

Insert **Table 5** about here

417

418 *Out-of-sample predictive power.* As R^2 tests only the model's in-sample explanatory power,
419 Shmueli et al. (2016) suggested that the out-of-sample predictive power should be assessed by applying
420 the PLSpredict procedure. We set 10 folds and one repetition to mimic how the model will eventually be
421 used to predict a new observation. As suggested by Shmueli et al. (2019), the interpretation of a model's
422 predictive power should mainly rely on one key target construct. To illustrate the interpretation, we
423 focused on the construct "intention to settle" (ITS) but also report the prediction statistics of the other
424 calculated endogenous construct indicators. In the first step, we find that the $Q^2_{predict}$ values were larger
425 than 0 (Table 6), indicating that the endogenous constructs' indicators outperformed the most naïve
426 benchmark (i.e., the training sample's indicator means) (Shmueli et al. 2019). Next, we compared the
427 RMSE values from the PLS–SEM analysis with the naïve LM benchmark. The data in Table 6
428 demonstrate that the PLS–SEM analysis produced lower prediction errors for the indicators, thus
429 showing that the model has high predictive power.

430

431

Insert **Table 6** about here

432

433 *Significance and relevance of the path coefficients.* The bootstrapping technique was employed to
434 test the significance of the path coefficients and verify the hypotheses (Davison and Hinkley 1997; Efron
435 1987). In this study, the number of bootstrap samples was 5,000, as recommended by Hair et al. (Hair et
436 al. 2011), and the number of cases was equal to the number of responses (i.e., 101). The critical t-value
437 for a two-tailed test was 1.96 (significance level = 0.05). Hypothesis 1 was supported (path coefficient=-
438 0.456**, $p=0.001$), indicating a direct and negative relationship between the psychological distance of
439 negotiation failure and the concern for failure. The results also supported Hypothesis 3 (path
440 coefficient=0.502***, $p=0.000$), suggesting a positive relationship between the concern for failure and
441 the intention to settle. Interestingly, the results did not support Hypothesis 2. The path from the
442 psychological distance of negotiation failure to intention to settle was not passed (path coefficient=-0.250,

443 $p=0.067$), which means that the direct effect was not significant of psychological distance on the
444 intention to settle. Furthermore, the mediating effect was statistically significant of the concern for failure
445 on the relationship between the psychological distance of negotiation failure and the intention to settle
446 (path coefficient=-0.229**, $p=0.005$), indicating that Hypothesis 4 was supported. The concern for
447 failure had a mediating effect, as shown in Table 7. In addition, the path coefficients of the four PD
448 dimensions were significant. However, the control variable, gender, had a low path coefficient (path
449 coefficient=-0.028, $p=0.634$), indicating that gender was not a significant factor in the relationship
450 framework. Negotiators who represent their organizations or companies receive proper training, so their
451 individual demographics, such as gender, have relatively less of an impact (Thompson 1990). Fig. 3
452 shows the PLS-SEM analysis results.

453 -----
454 **Insert Table 7** about here
455 -----
456 -----
457 **Insert Fig. 3** about here
458 -----

459

460 **Discussion and Implications**

461 ***Discussion***

462 In this study, CLT and PD were used to explain the effect of psychological distance of negotiation failure
463 on the intention to settle. In addition, the concern for failure has a mediating effect on the PDNF-ITS
464 relationship. Specifically, the results indicate that reducing the psychological distance of negotiation
465 failure is effective in raising the concern for failure and, thereby, raising the level of intention to settle.
466 The empirical results illustrate the applicability of the concept of psychological distance in construction
467 dispute negotiations: the proximal psychological distance of negotiation failure can motivate the intensity
468 of affective responses and potential coping actions. Negotiators will take mitigation measures if i)
469 negotiation breakdown becomes likely to happen (uncertainty); ii) failure signs frequently occur
470 (frequency); iii) the time is quite close to negotiation breakdown (temporal distance); or iv) the failure
471 results will negatively affect them (social distance).

472 However, it is interesting to find that psychological distance may not directly influence intention.
473 This finding can be explained by the contextualization of CDN. CDN is voluntary, and negotiators take
474 no direct responsibility if negotiations fail. Moreover, the final decision in CDN is usually made by the
475 senior management level (Mitropoulos and Howell 2001). In this context, noncommitted negotiators may
476 not take failure seriously. Even if they foresee impending failure, they may not have unwavering intention
477 to settle. Real action will not occur until the negotiators can shift their proximal feelings about the danger
478 to a positive attitude to respond. Only when negotiators in the proximal frame can consider negotiation
479 failure as a severe threat can they feel higher pressure or urgency about the situation, which is when they
480 form substantial concerns; until then, they generate strong intentions to avoid failure (Jones et al. 2017).

481 Overall, our results are broadly in line with prior psychological distance studies (Borick and Rabe
482 2014; Jones et al. 2017; Weber and Stern 2011). As Bar-Anan et al. (2006) suggested, when people are
483 in the proximal psychological distance condition, they focus more on the details and feel the event as
484 more likely to happen, which forces them to consider the aftermath and how to engage in related
485 behaviors. The findings match the proposition of goal-setting theory, which highlights the importance of
486 specific detailed goals (psychological closeness) to increase the likelihood and performance of the related
487 action (Locke and Latham 2002). The findings also echo the findings of Smallman (2010) that content-
488 specific pathway functions are more effective when the relevant behavioral intention is related to specific
489 and concrete details (psychological closeness). In summary, being mindful of failure causes negotiators
490 to be more prudent and concerned about the negative consequences and thus reinforces their settlement
491 intentions. However, when negotiators develop a distal psychological distance of failure, the converse
492 occurs, which sheds light on why some avoidable negotiations eventually fail. Negotiators with distal
493 psychological distance form a high-level or decontextualized construal and assume that failure is remote.
494 This overconfident cognition causes negotiators to devalue the chance of failure and to be less
495 concerned about it. Furthermore, they may overestimate their assessment of the situation and ignore the
496 potential pitfalls of failure. In this case, negotiators may engage in opportunistic moves and make
497 ambitious requests, such as proposing exorbitant offers or pressing for concessions, which is likely to
498 lead to retaliatory responses (Cheung et al. 2008). A distal cognition toward failure causes negotiators to
499 relax their vigilance and take risky actions, thus hindering the chance to settle.

500

501 *Implications*

502 One frustrating happening in construction dispute negotiations is the missing of a notable chance of
503 reaching a negotiated settlement. This study explains why this happens. The concept of psychological
504 distance indicates that distal perception of and low concern for failure can impede negotiators' intention
505 to settle. The empirical findings not only provide crucial theoretical guidance for understanding how
506 negotiators assess failure but can also imply some managerial implications to reframe negotiators'
507 subjective cognitions of the failure to improve the intention to settle. The concept of psychological
508 distance provides invaluable theoretical support for using the intervention strategy of reality testing. By
509 bringing the disputants back to reality in assessing the consequences of a failure, disputing parties can
510 reignite their settlement intentions. Two ways are suggested:

511 (1) Introducing third-party neutrals

512 Deflating overoptimistic expectations and judgments at the negotiation table is critical to creating a
513 negotiation landscape that is conducive to settlement (Ben-Yoav and Pruitt 1984; Patton and
514 Balakrishnan 2010). This is also the purpose of reality testing. Reality testing is a tactic that stimulates
515 disputing parties to review and re-estimate their decision making hence reframing their judgment and
516 improving the quality of decisions (Holaday 2002; Li and Cheung 2020; McCorkle and Reese 2018;
517 Richbell 2009; Yiu et al. 2007). According to the Hong Kong Mediation Handbook (Leung 2014),
518 mediators are identified as the "agent of reality" who commonly employ reality testing to provoke a
519 change in the parties' assessments and assumptions by offering fresh perspectives. Furthermore, Yiu et
520 al. (2007) identified reality testing as one of the disputant perception-related tactics. Qu and Cheung
521 (2012) developed a web-based logrolling system to assist "win-win" settlement in which reality testing
522 is the first step to encourage parties to consider their position in the dispute. Li and Cheung (2020)
523 suggested that reality testing plays the function of debiasing that provides an opportunity for negotiators
524 to acknowledge their unrealistic cognitions and expectations. The devaluation of negotiation failure can
525 be negotiators' irrational judgment of the negotiation situation, which should be regulated by reality
526 testing. In this regard, including third-party neutrals to intervene with the reality testing technique is
527 suggested to help negotiators reconstruct their subjective cognition of failure (i.e., the psychological
528 distance of negotiation failure and concern for failure).

529 In practice, reality testing involves asking thought-provoking questions about the parties' interests
530 and positions. Questions leading negotiators to perceive failure and rethink their expectations of
531 negotiation outcomes can therefore be incorporated as a form of reality testing. Such questions can be

532 considered as, “What will be the possible outcomes if the negotiation fails? What then?”, “What are the
533 best and worst alternatives to a negotiated agreement (BATNA and WATNA) if a negotiated settlement
534 cannot be reached? Are these better than the current situation?”, “What would be the impact on future
535 cooperation with the counterpart if the negotiation fails?”, and “Do you need to take some responsibility
536 if settlement is not achieved?”. These questions can help negotiators walk through the consequences of
537 failed negotiations, shorten the distance to failure, uncover potentially biased cognition, and see the value
538 in reaching an agreement. The effect of failure-relevant reality testing can help negotiators form a
539 proximal psychological distance and deepen the concern for negotiation failure, thus keeping the
540 negotiating parties on rational courses.

541 (2) Internalizing review

542 As suggested by CLT, detailed and contextualized information can help people form proximal
543 psychological distance of the event (Trope and Liberman 2010). As such, management is advised to
544 continuously search for further and better information, especially those that may become available from
545 the counterpart. First, negotiators are suggested to widen their information search to include different
546 perspectives, so they do not strongly emphasize the information that only affirms their formal
547 assessments. The opposite view can help negotiators find blind spots and reconsider whether their
548 judgments are overly optimistic. Moreover, specific signs and symptoms of a negotiation breakdown
549 should not be neglected. Verbal messages and written materials are not the only focus of negotiation;
550 sometimes, nonverbal language conveys more information about participants’ real thoughts. For example,
551 unpleasant facial expressions, late arrivals and early departures, inactive responses to issues, or
552 absenteeism from meetings can be signs of failure that should be considered when predicting the
553 negotiation situation. This internalizing review can help negotiators attune to the latest conditions of a
554 negotiation.

555

556 ***Limitations and Further Research***

557 This study has several limitations. First, the findings were reached based on data collected in Hong Kong.
558 Thus, the results should be read with this regional factor in mind. Moreover, the research framework
559 developed through CLT and PD can be applied in other settings. Psychological distance is a
560 multidimensional construct, and geographic distance is not included in this study. Further studies can be
561 undertaken to examine the circumstances under which geographic distance may play a role in

562 construction dispute negotiations. Furthermore, longitudinal self-reporting would make the data more
563 reliable and relevant. The study can be extended with qualitative research such as case studies.

564

565 **Conclusion**

566 The intention to settle is the pillar of a fruitful negotiation. This study explains why negotiations fail
567 because negotiators are unconcerned with failure, which washes down the settlement intention level.

568 Based on construal-level theory and the concept of psychological distance, it is hypothesized that the
569 proximal frame of negotiation failure could foster negotiators' intention to settle, which is mediated by
570 concern for failure. The PLS–SEM analysis of the data from the practicing constructional professionals
571 supports this proposition. The key findings of the study are that negotiators with distal psychological
572 distance may devalue the chance of failure, which will result in less of a concern for failure and a low
573 intention to settle. To alleviate negotiation failure and improve negotiators' settlement intention, the
574 findings suggest closing negotiators' psychological distance and raising their concern for failure. Reality
575 testing has been proven a useful tool for mediators to bring disputants back from unrealistic expectations
576 and make them aware of the consequences of failure. The use of third-party neutral or internalizing
577 reviews can result in reality-checks. This study contributes to the body of knowledge in construction
578 dispute negotiation mainly in two aspects. First, the use of psychological distance provides a
579 psychological view of how negotiators predict failure. Negotiation failure can be minimized through
580 proximal psychological distance to enhance negotiators' settlement intentions. Second, the concept of
581 psychological distance explains the functioning of the intervention strategy of reality testing.

582

583 **Data Availability Statement**

584 Some or all data, models, or code that support the findings of this study are available from the
585 corresponding author upon reasonable request.

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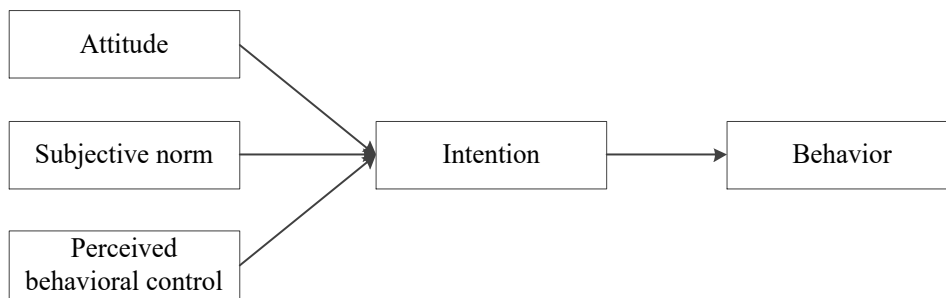
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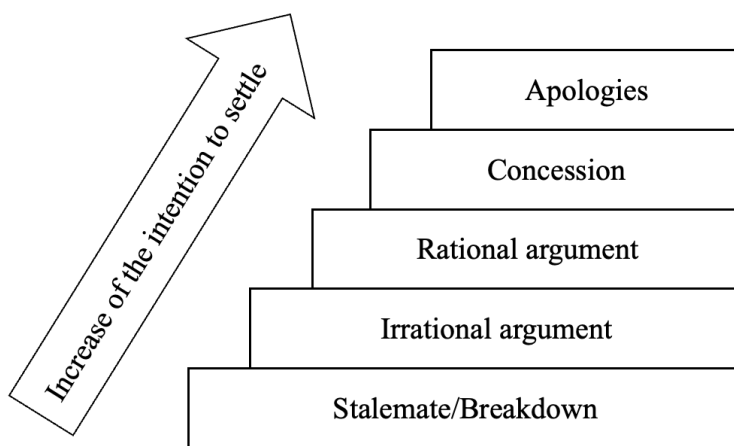
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Fig. 1. Model of the theory of planned behavior

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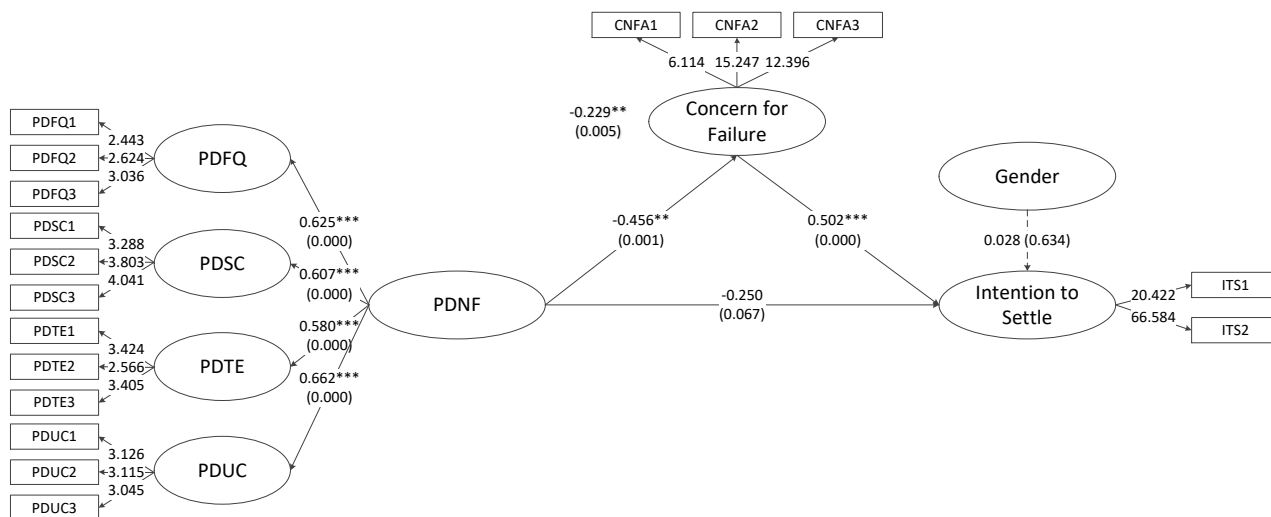
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Fig.2. State of intention to settle and negotiating behaviors

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Fig. 3. Research framework and path coefficients

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Table 1. Profile of respondents

Characteristics	Category	N	%
Gender	Male	81	80.20
	Female	20	19.80
Negotiation type	Building Services Installations	14	13.86
	Building (Foundation) Work	20	19.80
	Building (Superstructure) Work	34	33.66
	Civil and Infrastructural Project	21	20.79
	Maintenance Work	9	8.91
Years of negotiation experience	Others	3	2.97
	< 5 years	36	35.64
	5-10 years	22	21.78
	11-15 years	14	13.86
Type of organization	> 15 years	29	28.71
	Contractor	62	61.39
	Owner	16	15.84
	Consultant	18	17.82
	Others	5	4.95

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Table 2. ANOVA for various demographical groupings

Constructs	Type of organization		Years of negotiation experience		Negotiation type	
	F	p	F	p	F	p
Frequency	1.94	0.13	1.42	0.23	1.12	0.36
Social distance	0.75	0.52	0.32	0.87	1.14	0.35
Temporal distance	1.03	0.38	0.13	0.97	1.28	0.28
Uncertainty	1.77	0.16	0.39	0.81	0.09	0.99
Concern for failure	4.22	0.01*	0.49	0.75	0.97	0.44
Intention to settle	2.67	0.05*	1.78	0.14	1.74	0.13

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Table 3. Result of CFA for research framework

Constructs and items	Factor loading	CR	Cronbach's alpha	AVE	VIF
Frequency: Never-Very often (reverse)		0.833	0.704	0.627	
During the referenced construction dispute negotiation, how often did you feel the happening of the followings					
PDFQ1 Unable to prioritize issues according to importance	0.702				1.306
PDFQ2 Unable to make reciprocal concessions	0.776				1.389
PDFQ3 Progress not up to expectation	0.886				1.585
Social distance: Definitely-Not at all		0.873	0.785	0.697	
In making major decisions during the referenced construction dispute negotiation, how tangible were your assessments of impact of a negotiation failure on (Tangibility is the extent to which you can sense the object or event)					
PDSC1 Me	0.784				1.633
PDSC2 My colleagues	0.876				1.912
PDSC3 My group (i.e., working group or department)	0.844				1.547
Temporal distance: Immediate-Very remote		0.856	0.756	0.666	
In making a major decision during the referenced construction dispute negotiation, what were your assessments of how close the followings would happen					
PDTE1 Communication breakdown	0.876				1.714
PDTE2 No integrative results achieved	0.721				1.460
PDTE3 Escalate to arbitration or litigation	0.843				1.496
Uncertainty: No way- Very likely (reverse)		0.857	0.750	0.667	
During the referenced construction dispute negotiation, what had been your assessments of how likely the followings would happen					
PDUC1 Communication breakdown	0.829				1.518
PDUC2 No integrative results achieved	0.776				1.437
PDUC3 Escalate to arbitration or litigation	0.843				1.575
Concern for failure: Strongly Disagree-Strongly Agree		0.825	0.688	0.612	
CNFA1 In this negotiation, considering the possible effects that might be on me personally, I was really worried about a failing negotiation	0.757				1.439
CNFA2 In this negotiation, considering the possible effects that might be on the project, I was really worried about a failing negotiation	0.832				1.398
CNFA3 In this negotiation, the more I thought about negotiation failure, the more worried I became	0.756				1.246

Intention to settle: Strongly disagree-Strongly agree		0.906	0.794	0.829
ITS1 In this negotiation, I was fully prepared to avoid the happening of negotiation failure	0.898			1.766
ITS2 In this negotiation, reasonable concessions were prepared to make in order to settle	0.923			1.766

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Table 4. Discriminant validity of the groupings

Construct	CNFA	ITS	PDFQ	PDSC	PDTE	PDUC	GENDER
CNFA	0.782						
ITS	0.616	0.910					
PDFQ	-0.391	-0.268	0.792				
PDSC	-0.309	-0.299	0.096	0.835			
PDTE	-0.071	-0.220	0.102	0.319	0.816		
PDUC	-0.032	-0.374	0.342	0.087	0.127	0.816	
GENDER	-0.005	0.017	0.023	0.004	0.028	0.036	1.000

Notes: CNFA is concern for failure, ITS is intention to settle, PDFQ is frequency, PDSC is social distance, PDTE is temporal distance, PDUC is uncertainty; diagonals represent the square root of AVE, which indicates discriminant validity of the variables, while the other matrix entries represent correlation coefficient.

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Table 5. Results of R^2 , R^2 Adjusted and Q^2 value

Construct	R^2	R^2 Adjusted	SSO	SSE	$Q^2 (= 1 - SSE/SSO)$
CNFA	0.208	0.200	300	268.417	0.105
ITS	0.430	0.412	200	138.198	0.309
PDFQ	0.391	0.385	300	238.540	0.205
PDSC	0.368	0.361	300	232.503	0.225
PDTE	0.337	0.330	300	241.736	0.194
PDUC	0.438	0.432	300	218.330	0.272

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Table 6. PLSpredict assessment of manifest variables

Item	PLS-SEM		LM	PLS-SEM - LM
	RMSE	$Q^2_{predict}$	RMSE	RMSE
ITS1	1.061	0.112	1.180	-0.119
ITS2	0.722	0.191	0.798	-0.076
CNFA1	1.623	0.071	1.693	-0.070
CNFA2	1.320	0.139	1.361	-0.041
CNFA3	1.255	0.109	1.378	-0.123

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Table 7. Path coefficients and significance

Hypothetical path	Path coefficients	t-statistics	<i>p</i> value	Interpretation
H1: PDNF→CNFA	-0.456**	3.326	0.001	Supported
H2: PDNF→ITS	-0.250	1.848	0.067	Not supported
H3: CNFA→ITS	0.502***	3.665	0.000	Supported
H4: PDNF→CNFA→ITS	-0.229**	2.841	0.005	Supported
PDNF→PDFQ	0.625***	4.246	0.000	Supported
PDNF→PDSC	0.607***	3.639	0.000	Supported
PDNF→PDTE	0.580***	4.443	0.000	Supported
PDNF→PDUC	0.662***	3.988	0.000	Supported
GENDER→ITS	0.028	0.468	0.634	Not supported